

MUSHROOM SUBSTRATE PLANT, MULGRAVE APPLICATION TO MODIFY APPROVALS FOR PROJECT AND CONCEPT PLAN (08_0255 MOD 1) RESPONSE TO SUBMISSIONS

Issues raised in submissions have been summarised and shown in italics. A response is provided below to each issue, with reference where necessary to other attachments.

LANDOWNER/OCCUPIER SUBMISSIONS

Submission No 1 - Phil Nevin

a) The proposal is really an application to increase capacity.

Response:

As explained in the Environmental Assessment (EA), the proposed modification is for the purpose of introducing newer technology to substrate production and odour control. Approval of the modification will not result in any increase in approved capacity at the substrate plant. There is already a process under the existing approval for the Department of Planning and Environment to permit production to increase, provided certain pre-conditions are met. The modification proposes no change to that process.

b) Enclosing the plant will create greater concentration of odour which will be impossible to contain.

Response:

The proposed odour management system has been designed to receive and process all of the extracted air from odour-generating parts of the plant. Extracted air will be treated to remove odour by passing through ammonia scrubbers and a biofilter before exhausting to atmosphere. The new buildings are designed to prevent fugitive emissions from the plant.

c) The light industrial IN2 zoning was not intended for substrate production and prohibits this use.

Response:

Most of the substrate plant site is located on land zoned IN2 under Hawkesbury LEP 2012. Within this zoning the substrate plant is permissible development with consent from the consent authority. As explained in the application to modify the concept plan, as a result of a cartographic oversight when the zoning plan was drawn, a very small portion of the substrate plant site extends onto land zoned RU4, where the substrate plant is not permissible development. The application to modify the concept plan seeks approval to undertake some of the modification works on that small part of the substrate plant site that is within the RU4 zone.

Ultimately it is preferred that the cartographic oversight will be corrected so that the zone boundary aligns with the boundary of the substrate plant, placing the entire substrate plant within the IN2 zone. However, this is a matter for Hawkesbury City Council.

d) In view of the number of populated areas nearby, consideration should be given to relocating the plant.

Response:

Substrate plants with biofilters operate in Europe in similar proximity to populated areas. The modification will introduce newer technology, already proven in Europe, to ensure the substrate plant can continue to co-exist with its neighbours.

Submission No 2 - Bill Sneddon

- a) *As background, Mr Sneddon explained his experience living with the plant over approximately 25 years and stated that he is now on the Elf Farm Supplies' Community Liaison Committee.*

Response:

Noted

- b) *Largely in favour of the modification as presented*

Response:

Noted

- c) *The plant must be maintained and operated in an appropriate matter to ensure continued compliance.*

Response:

Noted

- d) *Potential for spill from stored sulphuric acid to reach South Creek*

Response:

Detailed design of the acid storage and handling system is underway and will be carried out in accordance with relevant Australian Standards.

The installation will comply with Condition 11 of Schedule 3 of the existing approval requiring that all dangerous goods and hazardous substances are stored and handled in accordance with the Dangerous Goods Code and AS 1940-2004

- e) *The biofilter should be ducted to discharge its emissions through the existing chimney.*

Biofilters are designed to have a large surface area to permit direct venting to atmosphere. They have been developed in this configuration and operate successfully in other parts of the world.

- f) *Increased plant complexity requires regular maintenance and staff training*

Response:

Noted.

- g) *EPA guideline limits of 5 and 2 odour units are too generous. Residents want zero odour beyond the boundary. Increasing development will bring more people to the area and complaints will increase.*

Response:

The EPA odour guidelines have as a goal “a system that will protect the environment and the community and at the same time promote fair and equitable outcomes for activities that emit odour and people affected by odour emissions.” The guidelines also note that:

- sensitivity to odours is variable
- odour emissions are variable; and
- the impact of odours can be subjective

The Protection of the Environment (Operations) Act refers to *offensive odour*, placing increased emphasis on the nature or quality of an odour. The odour from a biofilter is not normally considered offensive, being frequently described as reminiscent of the forest floor.

In view of the variability and subjectivity associated with odour, a requirement of zero odour of any type at the boundary at all times would not seem to meet the “fair and equitable outcome” described in the goal. The limits recommended in the EPA guideline attempt to cater for the variability and subjectivity inherent in odour impact.

The EPA, in its submission, has requested that the odour assessment adopt two odour units as the criterion for all surroundings, whether residential, industrial or rural. This matter is addressed in the response to the EPA submission.

- h) *Complaint fatigue has set in with affected residents. Residents consider regulator actions to have been inadequate.*

Response:

Noted

- i) *The existing bioscrubber has significantly reduced odour and Mr Sneddon has stopped reporting odour from his residence.*

Response:

Noted

- j) *There is much new residential development in the area placing more people within reach of emitted odour. In particular the Vineyard urban growth area could be affected by odour if the odour controls failed during westerly winds.*

Response:

Substrate plants with biofilters operate in Europe in similar proximity to populated areas. The modification will introduce newer technology, already proven in Europe, to ensure the substrate plant can continue to co-exist with its neighbours.

k) Previous observations (submitted to the Department) on local meteorology have been dismissed.

Response:

Noted

l) A “sunset clause” should be included in any approval, allowing say two years to demonstrate compliance or the entire operation should cease

Response:

Elf Farm Supplies believes that such a clause is not warranted.

Submission No 3 - Name withheld

a) The level of odour emitted from the plant is intolerable, at least four times per week

Response:

Monitoring results have shown that existing operations at Elf Farm Supplies’ substrate plant have remained within the licence limits. Over the last few years fugitive emissions have been addressed in consultation with the EPA. The proposed modification is driven by a desire on the part of the applicant to better co-exist with its neighbours, both present and future.

Elf Farm Supplies has undertaken to continue to monitor worldwide technological improvements in mushroom substrate production and odour management and to introduce those improvements to the Mulgrave plant where practicable. The modifications now proposed result from developments overseas and will result in improved odour control.

b) An increase in controls is required. Any reduction in requirements will result in even more impact

Response:

The proposal does not propose any reduction in controls. Proposed modifications to the plant approval will result in improved control over odour emissions.

c) Immediate action is recommended to work for the removal of the plant from this location.

Response:

Substrate plants with biofilters operate in Europe in similar proximity to populated areas. The modification will introduce newer technology, already proven in Europe, to ensure the substrate plant can continue to co-exist with its neighbours.

Submission No 4 – Neville Diamond

(The Department of Planning and Environment provided a summary of this submission)

a) Full enclosure of work areas may be a risk to the health of workers

Response:

Elf Farm Supplies will continue to ensure that safe and healthy working conditions are provided for workers in compliance with relevant legislation.

b) There is no example provided of successful biofilter operation anywhere in the world.

Response:

Attachment 5 has been received from the plant designers (GTL-Europe) and provides images and statistics for several examples of biofilters operating successfully at European substrate plants in close proximity to residential areas. In all cases cited the substrate plants have a higher weekly production than occurs at Mulgrave.

c) Removal of the existing chimney and bioscrubber will leave no backup in the event of failure

Response:

The existing bioscrubber will be mothballed after the new odour management system is commissioned and proven. There are no plans at this stage to demolish the bioscrubber and chimney. The new odour management system has been designed to include allowance for redundancy and maintenance.

d) The modification will not work to reduce odour.

Response:

The proposed odour management system has been designed by a European supplier based on similar systems that the firm has provided at European substrate plants. There is adequate evidence that the proposed system has worked successfully at other plants.

PUBLIC AUTHORITY SUBMISSIONS

Submission No 5 – Environment Protection Authority

The EPA's submission was explained and clarified at a meeting held in the EPA's office on 12 May 2015 attended by EPA, DoPE and Elf Farm Supplies. Some of the issues summarised below have been adjusted to reflect our understanding of that clarification and other issues raised at the meeting have been added.

a) Provide more clarity of the approved proposal as modified.

Response:

The environmental assessment (EA) steps through the proposed modifications to the plant, detailing the structures now proposed to be constructed and indicating which sections of the approved development will not be required to be constructed or in the case of existing structures, will be mothballed. The EA also explains the alteration to processing and odour management that will occur within the new structures, provides a

description of the various processes in substrate production and includes before and after flow charts for the plant (Appendix D).

The proposal as modified includes changes to built form and operation. To clarify the building changes, attention is firstly drawn to Figure 2 of the EA, showing the existing plant and in a different colour, structures currently approved but not constructed. This figure should be compared with Figure 6 of the EA, which again shows the existing plant, but this time with the modified structures. In this latter figure the unbuilt structures are shown in various colours according to the intended stage of construction.

In terms of operation, the project as modified is essentially the same development, being a mushroom substrate plant with processing carried out largely as described in Appendix D of the EA. The essence of the modification is a change to the manner in which the pre-wet phase of processing is carried out, a change to the 'residence' time in Phase 2 and Phase 3 processing and a substantially upgraded odour management system.

- b) Clarify statements in the EA regarding the predicted noise levels compared with current licence limits.*

Response:

The noise assessment included in the EA, prepared by Atkins Acoustics, concluded that with the proposed modification, the predicted noise levels will marginally increase but remain within the project specific noise goals at the referenced receiver locations. These noise goals were derived for the original project in accordance with published EPA guidelines.

This conclusion was reported on page 3.3 the EA as follows:

Noise emissions will be constrained to remain within existing project specific noise goals established in the noise assessment forming part of the original environmental assessment for the Part 3A project ...

The executive summary in the EA contained a minor error on the last line in that it referred to the current licence limits rather than the project specific noise goals.

- c) Present results and conclusions of the odour assessment with reference to the more conservative 2 ou criterion, rather than use a dual criterion based on land use as derived from the EPA guidelines.*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- d) Arrange the scenarios so it is possible firstly to see what is happening now, then step through each stage of implementation.*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- e) Specify more clearly the works and modifications to existing consent conditions for which approval is sought.*

Response:

A detailed examination of the existing project approval indicates the following conditions and inclusions that would need to be altered should approval be granted to the proposed modification:

Schedule 2 condition 2	This condition should also refer to the modified proposal contained in the modification EA.																		
Schedule 3 condition 3	Refer to the <i>odour management system</i> in lieu of <i>bioscrubber stacks</i>																		
Schedule 3 condition 3	The odour management plan will require amendment to refer to the new odour management system.																		
Schedule 3 condition 19	Operational noise limits should be adjusted to be not less than predictions contained in the EA noise assessment. The predictions are less than the project specific noise goals. The following table shows in bold the limits ($L_{Aeq, 15 \text{ min}}$) that would be modified to be consistent with the predictions <table border="1"> <thead> <tr> <th>Receptor</th> <th>Day</th> <th>Night</th> </tr> </thead> <tbody> <tr> <td>R1</td> <td>43</td> <td>43</td> </tr> <tr> <td>R2</td> <td>42</td> <td>42</td> </tr> <tr> <td>R3</td> <td>42</td> <td>42</td> </tr> <tr> <td>R4</td> <td>44</td> <td>41</td> </tr> <tr> <td>R5</td> <td>44</td> <td>42</td> </tr> </tbody> </table>	Receptor	Day	Night	R1	43	43	R2	42	42	R3	42	42	R4	44	41	R5	44	42
Receptor	Day	Night																	
R1	43	43																	
R2	42	42																	
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R5	44	42																	
Schedule 3 condition 21	As the second external bale wet area has been deleted by this modification, its concrete backing wall is no longer required for this purpose. It is suggested the condition be rewritten. The following wording is provided as an example: <i>“Prior to undertaking any further construction works on the site the proponent shall install the southern boundary noise wall adjacent to the bale storage shed on the Substrate Plant site or install other noise mitigation measures with the same or greater effect at that location to the satisfaction of the Director-General.”</i>																		
Schedule 3 condition 22	The operational noise management plan will require amendment to incorporate the new plant to be installed.																		
Statement of commitments:	Commitments No 3.6, 4.4, 4.5, 4.6 and 4.7 are wholly or partially superseded by the modification. Attachment 3 contains a replacement statement of commitments.																		
Staging plan	The revised staging plan from the EA should replace the previous staging plan in the approval document.																		

f) Provide information about the second biofilter shown to the north of the pre-wet building

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

g) Justify modelling the biofilter as a point source with emissions at inlet temperature.

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

h) Modelling should consider the stormwater overflow dam.

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- i) Identify management and mitigation measures for fugitive emissions*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- j) Explain proposals for conveyor systems to remove the potential for fugitive emissions*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- k) Provide a cumulative impact assessment of odours from the biofilter and Phase 2/3 building vents, notwithstanding different character of these odours.*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- l) Consider operation odour impacts with one and two biofilters in operation and any other cost-effective mitigation measure.*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- m) Provide a commitment that the project will be designed, built, operated and maintained in a manner that does not cause offensive odour.*

Response:

The attached revised statement of commitments (Attachment 3) includes this undertaking

- n) Nominate and commit to implementing contingency measures in the event of offensive odours emanating from the site.*

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

- o) Explain in greater detail the manner in which the emissions treatment system has been scoped and designed, starting from gas volumes extracted to maintain acceptable working conditions in the work area, capacity of the ammonia scrubbers and sizing of the biofilter. Provide more confidence that the design will work as intended.*

Response:

Please refer to the confidential design/scoping information from GTL-Europe, contained in Attachment 4

p) Explain why the biofilter emissions are modelled as not exceeding 1000 ou.

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

q) Explain how plant will be removed from the buildings for servicing without leaving the plant susceptible to odour escape.

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

r) The EPA has indicated the manner in which it would recommend the existing approval be modified should the application be approved.

Response:

Noted

s) Can the applicant suggest how the EPA might validate performance of the odour management system

Response:

Please refer to the response from The Odour Unit, contained in Attachment 2.

t) It is recommended all new structures be constructed such that they are unreactive to the atmospheric conditions inside to minimise the likelihood of corrosive action causing leaks of internal air.

Response:

Noted

Submission No 6 – Hawkesbury City Council

a) Council's environmental health officers raise no objection.

Response:

Noted

b) Fire and Rescue NSW will likely need to be involved with future construction certificates

Response:

Noted. Certification of the buildings will observe all relevant protocols and requirements.

- c) Some of the modification works extend onto RU4 zone. Council understands repealed section 75W of the EP&A Act will address this issue.*

Response:

Noted. An application to modify the concept plan has been submitted for this purpose.

- d) The submitted plans appear conceptual only, limiting a full assessment.*

Response:

Noted. Detailed building design is currently underway. The EA gave a basic description and sketch of the new buildings. In general, building designs, materials and colours are the same as already constructed on site.