

ASSESSMENT REPORT

TRANSPACIFIC RESOURCE RECOVERY AND RECYCLING FACILITY, RUTHERFORD SECTION 75W MODIFICATION MP05 0037 MOD 2 – MONITORING REQUIREMENTS

1. BACKGROUND

On 4 July 2006, the Minister granted project approval (05_0037) to an application from Transpacific Industries (Transpacific) for the construction and operation of a resource recovery and recycling facility at Rutherford in the Maitland Local Government Area (see Figure 1). The site is located in an established industrial area.

Under this approval, Transpacific is allowed to produce approximately 36,000 tonnes of refinery grade base lubricant oil a year from approximately 40,000 tonnes of waste oils.

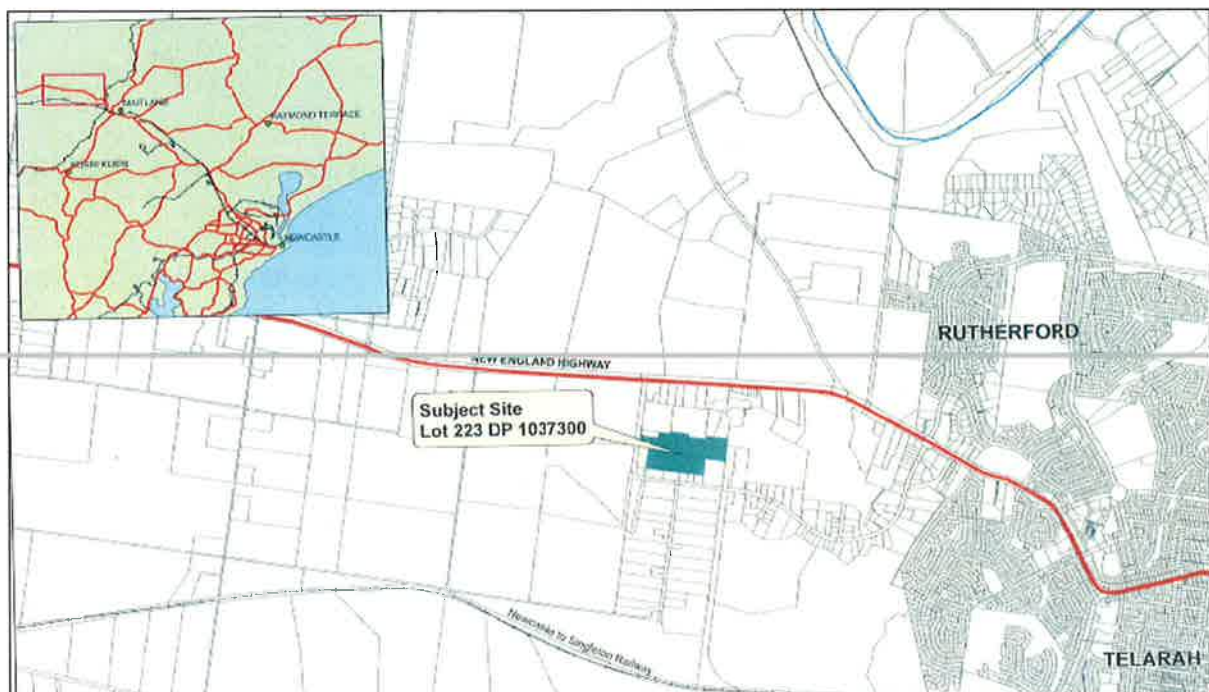


Figure 1 – Site Location

Major components of the approved project include:

- a lube oil Hydrogenation Plant;
- an industrial cleaning services depot;
- an environmental recovery services depot;
- a truck wash, transport vehicle depot and fuel depot; and
- an on-site laboratory.

The Hydrogenation Plant, which produces lubricant oil, is the only component of the 2006 approval that has actually been installed on site. 'Hydrogenation' involves the addition of hydrogen atoms to unsaturated oil under elevated temperature and pressure. The result is a stable saturated product (mostly refinery grade base lubricant oil) with impurities removed. Other products resulting from the process are gases, solvents and water.

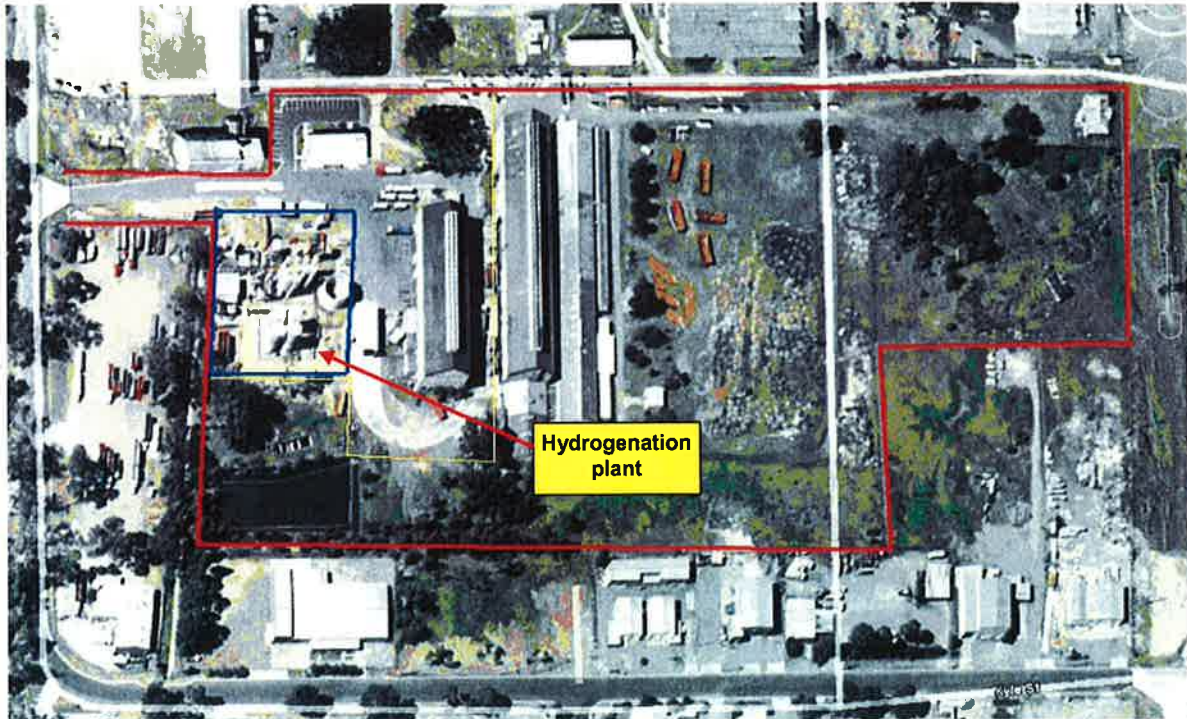


Figure 2: Existing site facilities

Construction of the Hydrogenation Plant commenced in July 2006, however in March 2007 the Department became aware of a number of non-compliances on-site including; the construction of additional tanks, cooling tower, gas fired heater, thermal oil system and Flash Point Correction Column (FPCC).



Photograph 1: Heater for the FPCC within the Hydrogenation Plant

In May 2007, following a comprehensive assessment of the non-conforming components of the plant, the Minister approved a modification under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A) to allow for the continued use of the infrastructure.

2. PROPOSED MODIFICATION

In the past Transpacific has had issues with meeting the stack emission limits for various pollutants such as Volatile Organic Compounds, solid particles, hydrogen sulfide, benzene and oxides of nitrogen (NOx) and has had a Pollution Reduction Program (PRP) placed on their Environment Protection Licence (EPL). As a result of this PRP, Transpacific commissioned air quality experts PAE Holmes to review all air and odour impacts from the project site.

Following the PAE Holmes review (2010), Transpacific is now seeking to modify the Minister's approval to:

- increase the PM₁₀ (coarse particle) limit at the Fired Heater Stack (point 19)
- align the project approval with the EPL; and
- remove monitoring requirements for dust and ground water dipping.

Transpacific consider this would enable compliance with the PM₁₀ (coarse particle) limit at the Fired Heater Stack (point 19), and would streamline the approval with the EPL in terms of monitoring and reporting requirements.

3. STATUTORY CONSIDERATION

Approval Authority

The Minister was the approval authority for the original development consent and is consequently the approval authority for this application.

However, under the delegation instrument of 14 September, 2011, the Acting Deputy Director-General, Development Assessment and Systems Performance may determine this application on behalf of the Minister. The Minister for Planning and Infrastructure has confirmed this delegation, subject to the local council not objecting to the proposal, there being no reportable political donations and less than 10 public submissions objecting to the proposal.

Transpacific's modification application meets the terms of this delegation and the Acting Deputy Director-General, Development Assessment and Systems Performance may therefore determine the application under delegated authority.

Section 75W

In accordance with clause 3 of Schedule 6A of the EP&A Act, section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects.

Under Section 75W of the EP&A Act, the Minister is obliged to be satisfied that what is proposed is indeed a modification of the original proposal, rather than being a new project in its own right.

The Department has reviewed the scale and nature of the proposed modification, and is satisfied that it can be characterised as a modification of the original project (as modified) as the environmental impacts of the proposed modification would be negligible, the proposed modification would not change the essential function for which approval was granted and could be suitably regulated with some minor amendments to the existing conditions of approval.

It is therefore recommended that the Acting Deputy Director-General, Development Assessment and Systems Performance, as delegate of the Minister, agrees that the modification request falls within section 75W of the EP&A Act.

3. CONSULTATION

Under Section 75W of the EP&A Act, the Minister is required to make the application publicly available on the Department's website. Upon receipt, the application was placed on the Department's website and following a review of the application, the Department did not believe formal public notification of the application was necessary. Notwithstanding, the Department sought comments from Maitland City Council (Council) and the Office of Environment and Heritage (OEH).

Consultation with other neighbouring sites was considered unnecessary, as the environmental impacts of the proposal would essentially remain unchanged from the approved project.

OEH raised no objections to the proposed modification and is supportive of the alignment of the approval with the EPL.

Council did not object to the proposed modification, but did raise some concerns about the cumulative impact of particulates on nearby residents and the potential for odour impacts from the site. The Department has considered these issues in its assessment below.

(Refer to **Tag B** for a copy of the submissions).

4. ASSESSMENT

Issue

Whether the solid particle (PM₁₀) emission criteria for emission point 19 should be adjusted (or not), and alignment of the project approval with the EPL.

Consideration

PAE Holmes was commissioned by Transpacific to review air quality and odour impacts from the site. The associated report (*Air Quality Impact Assessment and Mitigation Study – TPR EPL Condition U1.1*, September 2010) recommended that the PM₁₀ limit for emission point 19 should be increased from 10mg/m³ (in the project approval and EPL) to the maximum regulatory limit of 50 mg/m³ (24 hour average), as prescribed by the *Protection of the Environment Operations (Clean Air) Regulation 2010* (POEO Regulation).

Emission point 19 is a 'Fired Heater Stack' that services a SO_x scrubber, a natural gas fired heater and a fuel gas fired heater.

The PAE Holmes report states that the limit of 10mg/m³ which is currently imposed on emission point 19 would be suitable for a natural gas fired heater, but not possible for Transpacific's Fired Heater Stack which services both a natural gas heater and fuel gas heater. The fuel gas used is of variable quality (variable calorific value and variable composition) which makes it impractical to operate the equipment at levels commensurate with best practice for equipment burning natural gas.

Further, the report states that the monitoring equipment at the Point 19 stack cannot differentiate between solid particles from the combustion of fuel gas and other material such as sulphur salts* which condense on the monitoring filter post the SO_x scrubber. The PAE Holmes report concludes that these salts appear to be contributing to the high solid particulate levels recorded in measurements - see Table 1 below.

Table 1: PM₁₀ emissions (24 hour average) from emission Point 19.

| Parameter | July 2009 | September 2009 | December 2009 | March 2010 | EPL / project approval limit | Regulatory limit |
|--|-----------|----------------|---------------|------------|------------------------------|------------------|
| Solid Particles PM ₁₀ µg/m ³ | 14 | 17 | 30 | 47.4 | 10 | 50 |

Separate to this modification application, Transpacific is working with OEH and industry specialists to determine a more accurate testing method to ensure that sulphur salts do not confound the monitoring data in the future. However even with improvements in monitoring technique it is unlikely that the measured values will fall below 10mg/m³.

It should be noted that 10µg/m³ was set as the limit for solid particles when the project was initially approved in 2006, but many changes to the approved plant and buildings have since been made (refer to Section 1).

In 2007 when OEH considered the air quality impacts of the modified plant and equipment, it did not recommend an increase to the emission limit for solid particles. The Department and OEH has reviewed the PAE Holmes report which demonstrates that Transpacific has regularly and significantly exceeded the licence and approval limit of 10mg/m³ for solid particles. In light of the new information within the PAE Holmes report, the Department and OEH now consider it necessary to adjust the emission criteria for Point 19.

* Sulphur related emissions (SO₃ &/or H₂SO₃ acid mist) are also monitored separately at point 19, so current monitoring methods are actually measuring these emissions twice (in gaseous form and in a particulate or salt form).

OEH support the proposal and has agreed to adjust the EPL to reflect the regulatory limits prescribed by the POEO Regulation. The Department also notes that the current fuel gas fired heater operates as a best practise measure as it destroys large quantities of potential pollutants (such as volatile organics). The trade off in this case is higher solid particle emissions from the stack.

Council has raised a concern regarding the cumulative off-site impacts of solid particles from Transpacific and other surrounding industries. The PAE Holmes report demonstrates that the cumulative PM₁₀ (24 hour average) concentration is less than 0.5 mg/m³ near the boundary of the site (see Figure 3), which is well below the criteria of 50 mg/m³.

Notwithstanding the above, in relation to regional air quality, the Department notes Council's concerns. The Department and OEH are currently implementing a range of measures to monitor and improve regional air quality in Maitland and the wider Hunter Valley, including tightly regulating industry (such as the nearby National Ceramics site) through development consents and EPL's, establishing the Upper Hunter air quality monitoring network, and establishing a Rutherford Air Quality Liaison Committee. The Department is confident that these measures will drive continual improvement in air quality in the region.

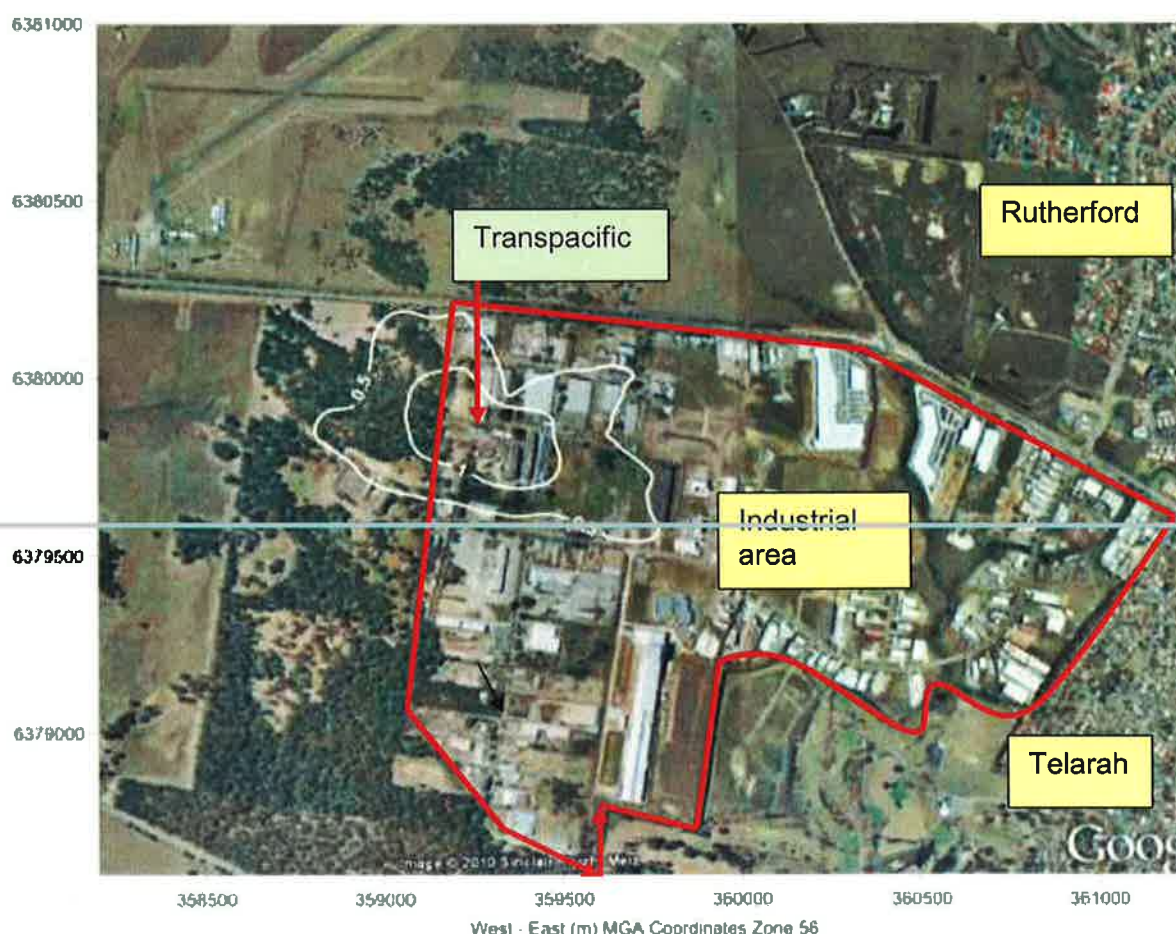


Figure 3: Predicted 24 hour average off-site PM₁₀ concentration.
Note the industrial area is highlighted in red.

Conclusion

Given the low level of offsite emissions, the Department is satisfied that off-site health impacts are unlikely to occur as a result of PM₁₀ from the Transpacific site.

Further, the Department considers that the project approval should align with the EPL for air quality, and that OEH (as the administrator of the POEO Regulation) is better placed to regulate monitoring and emission limit conditions through the EPL.

Section 75V of the *Environmental Planning and Assessment Act 1979* and Section 50 of the *Protection of the Environment Operations Act 1997* prevent the OEH from varying the EPL to permit an activity which is not consistent with the project approval.

As such, the Department recommends the project approval be modified to refer to the EPL for air quality criteria and monitoring. This would allow OEH to update and/or amend the air quality and monitoring requirements without the need for a modification to the project approval in the future.

Other Issues

Table 2 presents the Department's consideration of other issues.

Table 2 – Assessment of Other Issues

| Issue | Consideration | Recommendation |
|---|--|---|
| Removal of the requirement for dust deposition monitoring from the project approval | <ul style="list-style-type: none"> Although not specifically a condition of approval, Transpacific's Statement of Commitments (SoC) which form part of the project approval require dust monitoring during the construction and operation of the facility; Transpacific has requested the removal of this requirement for dust deposition monitoring; Monitoring results have shown that dust levels are consistently below the OEH criteria of 4g/m² month, except where the monitoring location was upwind of the Transpacific facility; OEH does not require dust deposition monitoring as part of the EPL and has no objection to the removal of the requirement for ambient dust monitoring from the project approval; and The Department is satisfied that the requirement to monitor dust deposition is no longer required, and condition 2.4 of the approval requires Transpacific to maintain the project in a manner that prevents and minimises air pollution including dust. | <ul style="list-style-type: none"> Comply with the Modification Application MP05_0037 MOD 2 and the controls in the EPL. |
| Removal of the requirement for groundwater monitoring from the project approval | <ul style="list-style-type: none"> Transpacific's SoC's require monthly ground water dipping; Transpacific has requested the removal of this requirement; Ground water dipping was included as a SoC to determine the direction of groundwater flow and whether there is seasonal variation in the water table; As a result of subsequent reporting; OEH now requires the monitoring of groundwater hydrocarbon pollutants at 6 locations on-site as part of the EPL; Groundwater levels are also monitored under the EPL; and The Department is satisfied that monthly groundwater dipping should no longer be required as specified by the SoC, and that monitoring under the EPL is sufficient. | <ul style="list-style-type: none"> Comply with the Modification Application MP05_0037 MOD 2 and the controls in the EPL. |
| Odour | <ul style="list-style-type: none"> Council raised concerns regarding continual odour complaints from the community near the Rutherford Industrial Estate; The Department notes however, that odour modelling in the 2010 PAE Holmes report demonstrates that odour levels near the site are significantly below the recommended criteria (2 OU at residents and 4 OU at residential receptors); and The Department has discussed this issue with the OEH and is satisfied that odour levels from Transpacific are currently acceptable. OEH are currently investigating odour impacts from other premises in the Rutherford Industrial Estate. | <ul style="list-style-type: none"> Comply with existing approval condition 2.5 for odour i.e. No offensive odours from the site as defined by Section 129 of the Protection of the Environment Operations Act. |

| Issue | Consideration | Recommendation |
|---|--|---|
| Date of submission for the Annual Environmental Management Report (AEMR). | <ul style="list-style-type: none"> Transpacific's project approval requires an AEMR; In the past, the reporting period for the AEMR aligned with the EPL annual reporting period (May to May); The EPL reporting period has now been changed from September to September, with reporting due in December; and Transpacific has requested that the AEMR reporting period now be realigned with the EPL. | <ul style="list-style-type: none"> The Department recommends the AEMR shall be submitted annually on the 22 December, unless otherwise approved by the Department. |

5. CONCLUSION

The Department has assessed the merits of the proposal in accordance with the requirements of the EP&A Act.

This assessment has found that:

- the PM₁₀ (solid particle) limit at The Fired Heater Stack (point 19) may be adjusted following consideration of the plant and equipment used, the off-site impacts and the appropriate regulatory limits;
- the conditions relating to groundwater dipping and dust deposition monitoring could be removed without changing the operations or impacts of the original project; and
- updating the relevant project conditions to refer to the EPL is consistent with more recent project approvals, given that it is OEH's role in regulating air quality emissions from the premises.

Consequently the Department believes the proposal should be approved subject to minor amendments to the existing conditions of approval (see Tag A for a copy of the modification instrument).

8. RECOMMENDATION

Under delegation of the Minister, it is RECOMMENDED that the Acting Deputy Director-General, Development Assessment and Systems Performance:

- consider** the findings of this report;
- approve** of the proposed modification under Section 75W of the EP&A Act; and
- sign** the attached instrument (**tagged A**).

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18.10.11