18 November 2019

Director – Industry Assessments,
Planning and Assessment, Department of Planning, Industry and Environment,
Locked Bag 5022
PARRAMATTA NSW 2124.

RE: Objection to Minto Resource Recovery Facility Proposal (SSD-5339)

Origin Energy Retail (NSW) LPG Pty Limited current lessee of 22-26 Pembury Street, Minto, being a subsidiary of Origin Energy Limited (a publicly listed corporation) ('Origin') hereby tender our objections in respect of the Minto Resource Recovery Facility Proposal (SSD-5339) annexed to this letter as "Enclosure A".

In summary, whilst Origin is generally supportive of sustainable local business operations, we hold serious concerns about this proposal for the following reasons (please refer to "Enclosure A" for full details):-

- The various assessments submitted as part of the application for expansion have failed to appropriately demonstrate how impacts arising from the proposal will be managed.
- The applicant has made no attempt to consult with Origin prior to lodging this proposal
- Air quality is currently a concern. There is no appropriate provision for the management of dust and fine particulates (particularly from concrete crushing and screening activities) which present a risk to workers in the area.
- Dust on the road from the operation and the trucks entering the site will increase the amount of sediment flowing into Bow Bowing Creek.
- The proposal will put a strain on traffic and infrastructure on all road surrounding the proposal site and will increase safety risk of other road users.

Origin staff have witnessed firsthand the significant environmental impacts (noise, air quality and water pollution) and traffic issues caused by the former Bingo Resource Recovery Centre located at 13 Pembury Street, Minto. The Bingo Resource Recovery Centre, which preformed similar recycling operations as outlined in the proposal (which only processed 30,000 tonnes of material per annum at its peak), was closed by the EPA in 2019 as a result of deficiencies in its' operations leading to breaches of environmental regulations. Origins main concern is that the proposal (450,000 tonnes of material per annum) shows similar deficiencies that will lead to significant environmental impacts on both the Origin site and the surrounding area.

Yours sincerely,
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This is “Enclosure A”

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1.1 About Origin and the Origin LPG Terminal at Minto

Origin Energy (ASX: ORG) is the leading Australian integrated energy company with market leading positions in energy retailing (approximately 4.2 million customer accounts), power generation (approximately 6,000 MW of capacity owned and contracted) and natural gas production (1,093 PJ of 2P reserves and annual production of 82 PJe). Through Australia Pacific LNG, its incorporated joint venture with ConocoPhillips and Sinopec, Origin is developing Australia's biggest CSG to LNG project based on the country's largest 2P CSG reserves base.

Origin's NSW state office for LPG operates from the Minto terminal and services the wider Sydney area. Up to 58 staff, with an average 40 employees access the office each weekday which equals an average of 80 vehicle movements per day. 28 Origin cylinder delivery trucks are in and out per day equalling additional 56 vehicle movements. LPG tankers access the terminal twice a day and 10 delivery trucks/couriers. In total, 160 vehicle movements in and out of the terminal are made each working day. The terminal's hours of operation are from 5am to 10.30pm

1.2 The proximity of the Proposal to Origin's LPG Terminal at Minto

Origin's LPG terminal is located at 22-26 Pembury Road, Minto. A section of the Origin terminal (outlined in blue) adjoins the Proposal site (outlined in red) as shown in the arial map below.

2.1 Air Quality Impact

Given the nature and scale of the operation, the potential for wind-blown dust is a key concern for Origin's staff who spend a lot of time outdoors in their day to day work. The EIS appears to have proposed a number of measures for managing dust such as the 6m high walls around the perimeter of the site, restriction on stockpile heights and mention of a water cart and sprinklers. However, it is unclear where and how each of these measures will specifically be implemented to provide an effective control for dust. Some of the following measures proposed do not appear to be consistent with best practice for dust management and are unlikely to be effective:

- Wall and stockpile height – the maximum height of the wall around the site is only 6m, yet the Applicant is proposing to have stockpiles which are 6m in height at the boundary of the site with other stockpiles in the centre of the site reaching 8m in height. This leaves zero margin of error for managing stockpile height and also for implementation of mitigation controls. If the stockpile at the boundary is 6m high and the wall is only 6 m high - in the event that the Applicant finds itself in need to water the stockpiles on a windy day – this is likely to mean that spray drift from sprinklers or water cart is a likely scenario for neighbour properties.
- It is best practice for stockpiles to have wind barriers on at least 3 sides – yet the only barrier proposed is the boundary wall.
- It's unclear what part of the site and process will have sprinklers installed versus being reliant on a single water cart.
- While most of the conveyors are enclosed within the crushing plant – there are a number areas where the conveyors extend beyond the enclosed space and out into the open to the stockpile area.
- The baghouse is a key control for dust and fine particulates for crushing and screening activities in the crushing plant – but no information is provided about the proposed baghouse or expected performance specifications for this control equipment.
- The crushed material has a high potential to contain dust fines. It's unclear whether the sections of the conveyors extending out into the open will be covered and whether there will be any operational measures or equipment installed to minimise the drop height.
- One of the products described is road base (sand and crushed aggregate mixed together) - it's unclear how this "mixing" is going to be achieved and whether it will be undertaken within the enclosed plant or more manually out in the open.
- The sand washing plant which includes a generator and screens was not included as an air emission source. This plant is near Origin terminal boundary and should be considered assessable under the Proposal.
- Dust from the vehicles transporting construction and demolition waste to the site is also a significant concern which is discussed in further sections below.

Air Quality Impact Assessment Report dated February 2020 from Wilkinson Murry

The Proposal will have a significant adverse air quality impact on the Origin site. This impact was demonstrated during the operation of Bingo recycling plant located at 13 Pembury Road, Minto which the EPA closed down in 2019. The Bingo recycling facility only processed up to 30,000 tonnes of material per annum. Furthermore, the air quality impact assessment report issued as part of the

proposal is deficient and cannot be relied upon as an accurate assessment of the potential air quality impact of the proposal.

Section 4.2 (Local Ambient Air Quality) of the abovementioned report issued by the proposal applicant states:-

"*No site-specific data are available to determine the existing concentrations of dust and particulate matter at sensitive receptors near the Proposal. The NSW Office of Environment and Heritage (OEH) operates a network of air quality monitoring stations across NSW. The nearest OEH monitoring station is located at Campbelltown West. The Campbelltown West monitoring station is located approximately 2.2 kilometres south of the Proposal site*."

and

"*There are no readily available site specific Total Suspended Particulates (TSP) and deposited dust monitoring data. The Campbelltown West monitoring site does not measure these components; however, estimates of the background levels for the area are required to assess the impacts of the Proposal on TSP and deposited dust*."

Section 7 (Assessment of Impacts) of the report states:-

"*This section presents the predicted impacts on air quality arising from pollutants generated by activities related to the Project for each relevant metric. Table 7-1 presents the dispersion modelling results at each of the discrete receptors shown in Figure 2-1. The incremental impacts refer to the potential impacts from activities only associated with the operation of the Project (i.e. those activities associated with the emissions detailed in Table 6-1).*

The total impacts refer to the cumulative impacts of the Project and the estimated background levels as described in Section 4."

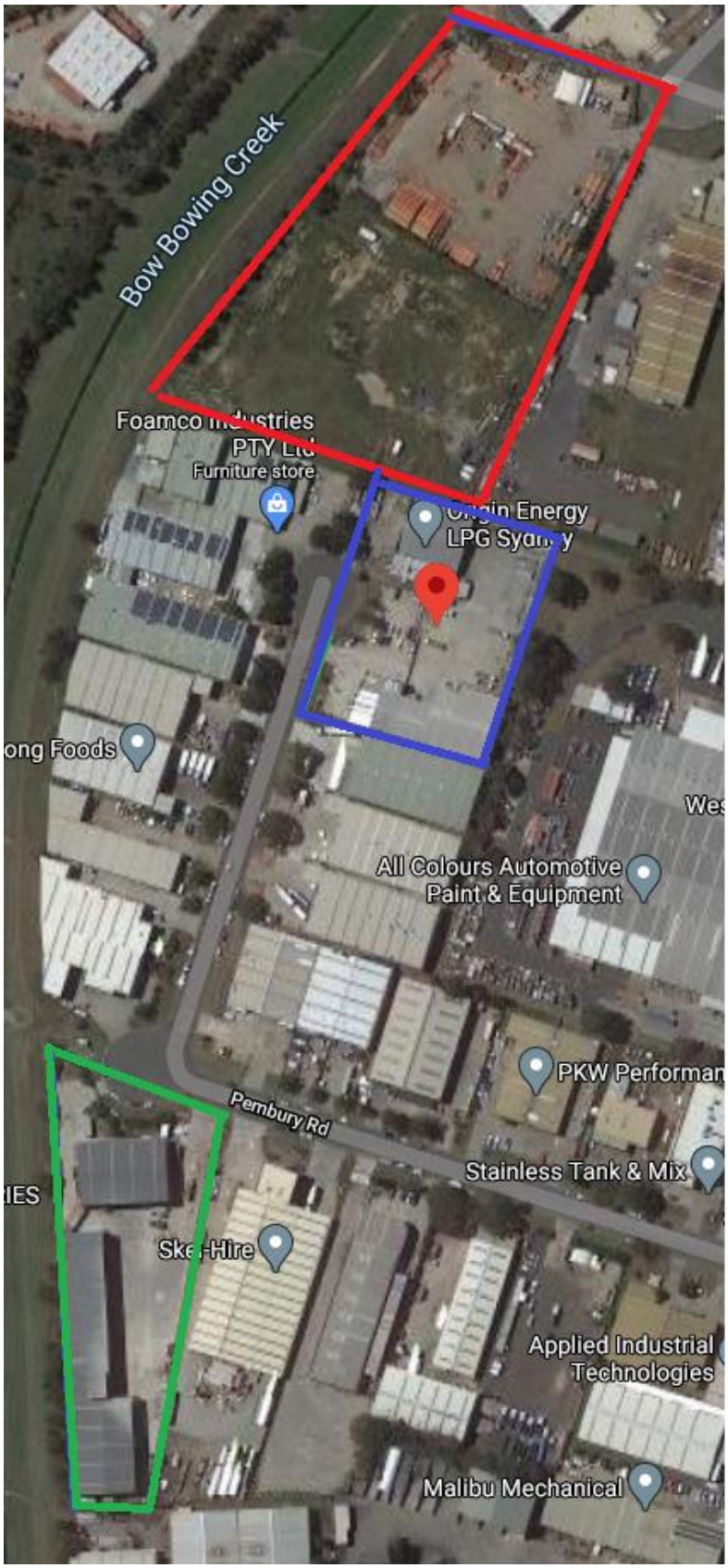
Comments

The report concedes that here are no monitoring devices near the Proposal site and that the OEH monitoring station is located at Campbelltown West is 2.2km away from the site. It is submitted that the lack of site specific data renders the report assessment of existing air quality incomplete namely because the report omit to undertake any site specific readings.

2.2 Bingo recycling plant located at 13 Pembury Road, Minto

The Bingo recycling plant at 13 Pembury Road, Minto only reached a maximum processing throughput of 30,000 tonnes per annum before the plant was closed by the EPA due to breaches to environmental regulations(even though the plant was approved for 220,000 tonnes per annum) . During the Bingo facility's operations air quality was negatively impacted together with any environmental issues in the area. The Proposal for a recycling operation of 450,000 tonnes per annum capacity, being 15 times the capacity of the Bingo facility, could significantly impact air quality in the area based on Origin's experiences with the Bingo facility. It is submitted that any assessment of the Proposal **must be** considered in conjunction with the environmental issues caused by the Bingo recycling plant during it's operation.

Below is an aerial view of the Proposal site (outlined in red), Origin LPG terminal (outlined in blue) and the Bingo recycling plant (outlined in green)



Despite having an overhead and doorways mist system (designed to suppress the dust by encapsulating the particles and dropping them from the air) and sprinklers across the yard, significant amounts of dust escaped the Bingo facility. The Bingo facility had similar dust mitigation devices as the current Proposal, but they did not prevent the air quality impacts noted below.

Below are photos of the dust on the cars parked at the Origin Terminal hundreds of metres down the road from the Bingo facility. Permitting another recycling facility immediately adjacent to Origin's site will obviously increase the amount of dust from the operation and exacerbate the dust in the area.

Dust settled on a car at the Origin terminal several hundred metres down the road

The Proposal does not address likelihood of these same issues arising from the operation of the Proposal site.

2.3 Fine particulates and crystalline silica – health impacts

The potential health impacts from exposure to crystalline silica is a key concern for Origin's staff and the Applicant needs to provide more information or a more thorough assessment to demonstrate that the impacts of PM10, PM2.5 and respirable silica do not pose an unacceptable risk to offsite receptors.

In the air quality assessment, the Applicant has stated that the "*Dust emissions from the proposed Project have been estimated for all significant dust generating activities based on information provided by the Proponent, using emission factors sourced from both locally developed and US EPA development document."* The report then presents PM_{10} mass emission rates as well as a range of emission estimation calculation methods. Yet is it unclear from the report as to what actual inputs have been used in the model nor any explanation of whether the estimation methods and assumptions used in the calculation are appropriate what level of conservatism (if any) exists within the emission factors, the model or the results from the model.

The key sources of fine /respirable particulates will be from crushing and screening activities, with the primary source of the crystalline silica being the crushed concrete. Therefore, one key source of fine particulate is likely to be the baghouse stack from the concrete crushing plant as well as fugitive emissions from the same plant where conveyors exit the plant – but these sources seem to have been omitted from the modelling exercise entirely.

The air quality assessment has adopted the Victorian EPA criterion for Respirable Crystalline Silica for this assessment. The Victoria EPA Criterion is in turn adopted from the California EPA Office for Environmental Health Hazard Assessment Reference Exposure Levels (REL). The Chronic Toxicity Summary for Silica (Crystalline Respirable), Feb 2005 states that this REL is for 3µg/m^3 (respirable, as defined occupationally by ACGIH). Particles of respirable size as defined by occupational hygiene methods described by ACGIH has a 50% cut off point at **4µm particle aerodynamic diameter (i.e. PM_4)**, which differs from the environmental definition of respirable, which is PM_{10}.

A few key statements of note in the Chronic Toxicity summary for Silica:

"It is generally assumed that the silicosis is induced by that fraction of the silica that reaches the alveoli. Nevertheless, no actual data exonerate the coarser particles in the 4 - 10 µm range."

"A more inclusive sampling procedure, such as that used for PM10, would overestimate the relevant exposure in any situation, and so would be inappropriate for precise risk quantification. However, PM10 would be ***useful as a screening*** *method to establish that a particular situation is unlikely to present a hazard. For example, if the silica concentration in PM10 modelled at a receptor is less than the REL (3 µg/m3), occupationally respirable silica will also be less than 3 µg/m3, so a facility would not pose a risk due to silica at that receptor. If the silica concentration in PM2.5 modelled at a receptor is less than 3 µg/m3 but PM10 is greater than 3 µg/m3,* ***further testing would be needed****."*

Given that there is going to be considerable uncertainty in the crystalline silica content of the materials brought in for processing, and in the absence of better transparency in the model inputs and an explanation of the level of conservatism within the model inputs and outputs, the results show that PM_{10} is in excess of 3µg/m^3 at all three industrial receptors – which suggests that further testing is needed.

3.1 Water Quality

Impacts of dust from the Proposal on Bow Bowing Creek

Neither the applicant's Air Quality Impact Assessment Report or Site Water Management Plan (which is limited to examining how sediment is controlled on site) has assessed the potential for accumulation of dust off –site.

In the case of the prior Bingo facility the dust suppression system was not effective in preventing dust from settling on the road, hence Bingo brought in a street sweeper (sometimes two at a time). The street sweeper was also ineffective and result in sediment in the drain directly from the road. The photo below shows sediment from the Bingo Operation coming from the street, then entering Bow Bowing Creek.

The issue is whether the Proposal will cause sediment to enter Bow Bowing Creek. This is a matter that needs to be assessed by the applicant's Proposal as this was one adverse outcome of the Bingo operation. Unless dust from the operation and vehicles transporting material to the Proposal site is addressed, then dust deposition from the site and associated transport vehicles is expected to exacerbate the sediment entering the creek from roads within the catchment.

Sediment from the road in the stormwater drain and entering Bow Bowing Creek

4.1 Management of unintended waste – asbestos

Origin is concerned about asbestos being inadvertently brought to site together with the construction and demolition waste. While the applicant has acknowledged that unwanted waste streams such as plastic, timber and scrap metal could be included in the construction and demolition waste accepted on site and made the necessary plans for storage of these waste stream for disposal off site at a later date, the EIS is silent on the potential for asbestos to be inadvertently bought to site.

Origin requests that the applicant adequately address the potential for asbestos to be bought on site (including the potential for it to enter the crushing and screening plant) and to propose some appropriate mitigation measures. At the very least, there should be an enclosed bin where any asbestos waste could be safely stored until such time that it is removed for off- site disposal.

5.1 Noise Assessment

The Noise Assessment Report dated January 2019 prepared by Wilkinson Murray and submitted by the applicant as part of the Proposal does not assess the noise impact on Origin LPG Terminal. The Noise Assessment provides a detailed study of the potential impacts on surrounding residential areas but provides little detail of impacts on industrial areas around the Proposal. Section 4.4 of the assessment states:-

"4.4 Predicted Operational Noise Levels at Industrial Receivers

As discussed above, noise from various parts of the site will be intermittent depending on operations that day. Allowing for the 6m high perimeter wall along the western boundary the following noise levels are predicted at neighbouring premises based on a typical busy 15-minute period, noting the NPfI criterion of 70dBA applies to an 11-hour assessment whereby noise levels 2-3dB lower would be expected.

- *Northern 53dBA*
- *Eastern 67dBA*
- *Southern 70dBA*
- *Western 58dBA"*

However, no details are provided as to which Industrial sites will be impacted. This is a major concern for Origin as our terminal adjoins the southern boundary of the Proposal site. Noting that the Origin site includes an office facility (which requires a noise management level of 70dBA under the NSW *EPA Interim Construction Noise Guideline (ICNG)*), a predicted impact of 70dBA on the Southern boundary, per section 4.4 of the applicant's Noise Assessment, is right on the threshold of the ICNG standard and therefore a major concern for Origin.

Furthermore, Section 4.1.3 of the ICNG states that:-

"*The proponent should assess construction noise levels for the project, and consult with occupants of commercial and industrial premises prior to lodging an application where required. During*

construction, the proponent should regularly update the occupants of the commercial and industrial premises regarding noise levels and hours of work"

It is submitted that the applicant has undertaken no such assessment of noise levels on the Origin site nor has it consulted with Origin prior to making this application as required under the ICNG.

5.2 ***Inconsistency in request for SEARS and EIS.***

In the initial request for SEARS the proposal was for a resource recovery facility capable of processing up to 250,000 tonnes per annum of construction and demolition waste. However, the current EIS is now proposing 450,000 tonnes per annum which is nearly double the throughput initially proposed. Origin questions whether the scope of the SEARS would have been more onerous had the initially application been for a throughput of 450,000 tonnes per annum

6.1 Traffic Assessment

The applicant's Traffic Impact Assessment Report dated 5 March 2020 produced by McLaren Engineering has the following key omissions:-

1. The assessment of existing traffic condition is based off a single day, 13 December 2018, see exact of section 2.3 of the report below. There is no evidence to suggest that this day is a typical weekday. The observed vehicle movement on this day appear low noting the significant number of industrial and commercial operations that utilise the roads through this area. Origin alone has around 160 vehicle movement through this area on any given weekday. The applicant should be required to undertake a longer observation period and present the results; and
2. There has been no consultation with Origin or, as it appears from the report, any of the other industrial sites that operate in the area;

2.3 Existing Traffic and Parking Environment

Traffic counts were completed at the intersections of Campbelltown Rd / Rose Payten Dr, Ben Lomond Rd / Airds Rd, Airds Rd / Montore Rd, Rose Payten Dr / Pembroke Rd / Smith Street Bypass and Ben Lomond Rd / Pembroke Rd on Thursday 13th December 2018, representing a typical weekday, with results reproduced in **Annexure D** for reference.

Existing intersection performances have been assessed using SIDRA INTERSECTION 8.0. The analysis is summarised in **Table 2** below (detailed results are shown in **Annexure E**).

Section 5.1 of the report, see below, notes that there will be 342 vehicles entering and exiting the Proposal site per day. Neither the applicant noise impact report or air quality report made an assessment of the impact of these vehicle movements on levels of noise and dust production on the Origin site or the streets that surround our site.

The total number of daily truck trips (entering and exiting the site) will therefore be 342 on any given weekday. The morning peak period occurs between 8:00-10:00am with a total of 88 truck trips. The afternoon peak period will occur between 12:00-2:00pm with a total of 63 truck trips. For the purpose of analysis and as a worst-case scenario, peak hour rates of 44 vehicle trips for the AM (18 inbound; 26 outbound) and 32 for the PM (19 inbound: 13 outbound) will be adopted.