

ASSESSMENT REPORT

Section 75W Modification Weston Aluminium Briquetting Facility

1. BACKGROUND

Weston Aluminium Pty Ltd owns and operates an aluminium dross recycling facility on 22 hectares of land at Kurri Kurri, in the Cessnock Local Government Area (see *Figure 1*).



Figure 1 – Site Location

The plant has approval to process up to 40,000 tonnes of aluminium dross and 35,000 tonnes of scrap aluminium a year, for various industrial uses.

Aluminium dross is a waste produced as a result of the aluminium refining process. It can contain between 30-75 percent metallic aluminium, along with aluminium oxide, other metal oxides, traces of sodium aluminium fluoride and alloying metals. The dross is pre-processed to remove non-metallic material and impurities; it is then processed in rotary furnaces, prior

to casting. Scrap aluminium is sorted and then remelted in a reverbaratory furnace prior to casting.

Both of the aluminium recovery processes undertaken at the facility produce a low-aluminium fine-particulate ash by-product. The by-product, known as Aldex, is currently stored within the Aldex building (see Figure 2), until it is sold and transported offsite to various end-users.



Figure 2: Aerial view of Weston Aluminium's Kurri Kurri Facility

The site is surrounded by vacant land acting as a buffer between the residential areas and the plant. The buffer area assists with the management of potential noise and air quality impacts.

The closest residential area is about 600m to the south east of the site, while the closest residence is 270m to the north (in the Hydro Aluminium Smelter buffer zone). Swamp Creek runs along the northern boundary of the site.

The facility operates under two development consents, one issued by the Land and Environment Court in 1996 (10397 of 1995) and one issued by the Minister for Planning in 2001 (DA-86-04-01).

The facility is also regulated through an Environmental Protection Licence (EPL No. 6423) from the Department of Environment, Climate Change and Water (DECCW).

2. PROPOSED MODIFICATION

On 9 November 2010, Weston Aluminium submitted a modification application seeking to modify both the Minister's and Court's consent under section 75W to construct and operate a briquetting plant to enable the Proponent to process and compress the Aldex dust generated on-site into briquettes (refer to Plate 1 below).



Plate 1: Briquetting press

At present, most of the facilities in Australia that would potentially use Aldex in their operations (such as steel mills) are unable to, as the Aldex dust is too fine and interferes with plant equipment. As a result, most of the Aldex material is sold to overseas markets.

The conversion of the Aldex dust into briquettes would turn the material into a more solid form, which therefore could be utilised in other facilities in Australia, such as steel mills. In addition, the briquetting, by improving the physical characteristics of Aldex, would reduce handling and transportation risks as well as improving storage and versatility of the Aldex material.

Weston Aluminium also considers that the modification helps to meet its obligations under the existing consent namely condition 46 which states:

The Applicant shall investigate recycling options for ash and fume wastes and submit findings to Council and DECCW within 12 months of the commissioning of the development, and every 12 months thereafter, until a feasible recycling alternative is found and implemented.

The briquetting plant is proposed to be located within the eastern end of the existing Aldex building. It would comprise a feed material storage bay, Aldex feed hopper, alternative material feed hopper, binder storage tank, feed material mixing unit, briquetting press, screener, dryer and product storage bin (refer Figure 3 for proposed layout).

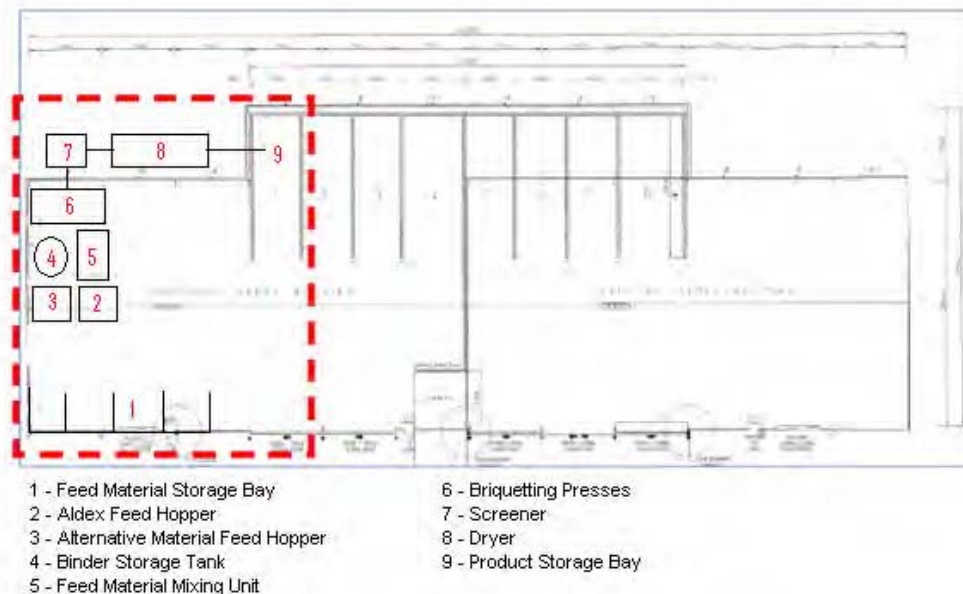


Figure 3: Proposed Layout of plant within Aldex building

Construction activities would include the installation of concrete footings for the briquetting equipment, gas line extension and installation of roof annex to cover the existing concrete slab which is located on the southern side of the building. The covered concrete slab would contain the Dryer only.

The plant would process up to four tonnes per hour, with the proposed operational hours being 24 hours a day, 7 days a week.

Weston Aluminium is not seeking to vary any emission limits contained in its current licence (EPL No. 6423).

3. STATUTORY CONTEXT

Under clause 8J(8) of the *Environmental Planning and Assessment Regulation 2000*, both the Court's and the Minister's consents are taken to be approvals under Part 3A of the Act and can be modified by the Minister under section 75W of the Act.

Section 75W of the EP&A Act confers on the Minister an implicit obligation to be satisfied that the modification request falls within this section of the EP&A Act.

The Department notes that:

- the proposed modification does not seek approval for a new and different project for which approval was granted; and
- any potential impacts would be minimal and could be appropriately managed through the existing or modified conditions of approval.

It is therefore recommended that the Executive Director of Major Projects Assessment, under the Ministers delegation of 25 January 2010, agree that the modification request falls within section 75W and the request can be determined.

4. CONSULTATION

Under section 75W of the EP&A Act, the Department is not required to notify or exhibit the modification application. However, the Department consulted DECCW and Cessnock City Council on the proposed modification. Neither agency raised any concerns with the proposal.

Cessnock City Council indicated it had no objection to the proposal, providing the operational impacts are consistent with those assessed in Weston Aluminium's Environmental Assessment.

DECCW also indicated it had no objection to the proposal and provided recommended conditions of approval.

The Department has considered Council and DECCW's comments in its assessment in section 5 below, and has incorporated their requests into the recommended conditions.

5. ASSESSMENT

The Department has reviewed the proposed modification and considers key issues to be air quality and noise. All other issues are considered to be minor.

Air Quality

The processes that have the potential to produce air emissions relate to the screening and handling of Aldex, which have the potential to produce dust, and the briquetting and drying processes which have the potential to emit both particulate matter (dust) and volatile organic compounds.

The plant would operate in the existing Aldex building and therefore air emissions would be controlled by the existing baghouse as well as extraction hoods located above potential dust generating units.

The modification application included an air quality impact assessment undertaken by GHD which identified particulate matter as the primary potential source of emissions. The assessment used the emissions factor from charcoal briquetting (due to the unavailability of specific emissions rates for aluminium briquetting) and the results of stack emission testing undertaken in August 2010 as part of requirements of the facilities existing consent conditions.

The assessment concluded that although the briquetting plant would increase particulate emissions from Stack 7 of the Aldex building by 1.32mg/m³, to 2.14 mg/m³, the proposal would comply with the 15 mg/m³ emission limits imposed by the existing consent and EPL.

Notwithstanding, the Department has recommended a condition requiring the Proponent to undertake additional stack testing at Stack 7 within 90 days following commissioning of the briquetting facility to validate the air emissions from the modification.

DECCW did not raise any concerns regarding air emissions and confirmed they are satisfied with the proposal, subject to the above condition, as the briquetting plant would operate in compliance with existing conditions.

The Department is satisfied that air emissions would be minimised and managed within existing emission limits.

Noise

GHD's noise assessment, included with the application, modelled operational noise emissions associated with the modified project. The modelling predicted noise impacts at the nearest sensitive receivers (the corner of Government and 10th Street (R1), 66 Northcote Street (R2) and Residences on Mitchell Avenue (R3)).

The briquetting plant was modelled as an internal noise sources within the Aldex building. All doors near the briquetting plant were assumed to be closed. The maximum predicted noise

levels from the operation of the briquetting plant were then logarithmically added to the previously predicted noise levels from the existing site operations. The results of the noise modelling are shown, alongside the noise limits contained in the consent, in Table 1 below.

Table 1 – Cumulative Noise Impacts L_{Aeq} (15 minute) dB(A)

	Receiver		
	R1	R2	R3
Existing Maximum Noise Levels	37	39	43
<i>Night time consent limits</i>	47	44	43
<i>Day time and evening consent limits</i>	48	44	43
Cumulative noise level	38	39	43

GHD's predictions showed that the modified project would increase noise levels off-site by 1 dB(A) at Receiver 1 only. However, operational noise would still be greater than 10dB below the night time noise limits imposed for this receiver by the original consent and the EPL. While for the other receivers, the noise levels are predicted to remain unchanged.

The Department is satisfied that noise impacts would be minimal, particularly as Weston Aluminium is required to comply with existing conditions. However, given that the noise assessment modelled noise sources as internal, the Department has recommended a condition requiring all doors adjacent the briquetting plant to be closed during the operation of the plant.

Weston Aluminium has advised the Department that the dryer would be the only plant contained on the concrete slab, which will be covered by a roof only. Though advised that the dryer is not a noisy piece of plant, the Department has also recommended a condition requiring the complete enclosure of the concrete slab if noise monitoring indicates that the noise limits in the consent are being exceeded. Weston Aluminium has accepted the recommended conditions.

Table 2 – Other Issues

Issue	Consideration	Recommendation
Waste	The proposed briquetting process would involve the collection and reintegration of by-products back into the production stream, thereby minimising waste production. The modification would not produce any additional waste products.	No additional conditions relating to waste have been recommended.
Noise - Construction	DECCW's Interim Construction Noise Guideline recommends a qualitative assessment of construction noise be undertaken where works will last for less than 3 weeks. The applicant advises that construction works required are not expected to last for more than one week. Due to the short duration of construction, the Department is satisfied that existing conditions and the Applicant's commitments will sufficiently manage construction noise.	No additional conditions relating to construction noise have been recommended.

Issue	Consideration	Recommendation
Soil & Water	Minor earthworks to deepen the existing foundations of the Aldex building may create some erosion and sedimentation and impact upon the water quality of Swamp Creek. Liquid binder would be stored onsite, however, it would be stored within a fully enclosed and bunded storage tank. Existing onsite stormwater management infrastructure would capture any runoff from any spill residue.	No additional conditions relating to soil and water have been recommended. Existing conditions 26 and 27 require the Applicant to prepare and implement an Erosion and Sediment Control Plan in accordance with Landcom's Managing Urban Stormwater: Soils and Construction.
Hazards	Aldex dust is classified under the criteria of National Occupational Health & Safety Commission (NOHSC) as a hazardous substance, nondangerous goods. Aldex is already produced and stored within the existing facility and transported offsite in its current form. The Proposal would not result in an increase in the amount of Aldex produced or stored on site. The Proposal would modify Aldex to a solid state.	No additional conditions relating to hazards have been recommended.
Traffic	The proposal would result in an additional two truck movements per month during operation. The construction of the Proposal would require the delivery of plant items over a one week period. The Department is satisfied that existing conditions will manage traffic impacts.	No change to project approval required.

6. CONCLUSION

The Department has assessed the merits of the modification application and considers that the proposal, as modified, still achieves the same objectives as assessed for the originally approved Development, in addition it value adds to a waste product. The modification would not increase the quantity of Aldex produced, rather it would value-add the waste product by changing its form, increasing its versatility. The modified development would therefore facilitate compliance with the existing approval which requires Weston Aluminium to implement a recycling alternative for fume and ash waste.

Consequently, the Department considers the proposal is in the public interest and should be approved, subject to conditions.

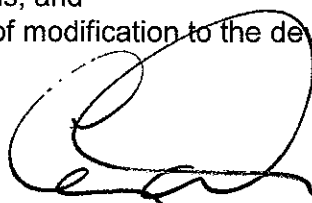
7. RECOMMENDATION

It is RECOMMENDED that the Executive Director, as delegate of the Minister:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- **approve** the application to modify the development consent under section 75W of the EP&A Act, subject to conditions; and
- **sign** the attached instrument of modification to the development consent.

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2.2.11