



HYDRO ALUMINIUM DEESIDE LIMITED T/A HYDRO WREXHAM

Bridge Road
Wrexham Industrial Estate
Wrexham LL13 9PS

22nd October 2025

Alice Burrows
Permitting Service,
Natural Resources Wales,
Crown Buildings,
Cathays Park,
Cardiff,
CF10 3NQ

Application reference: PAN-027261 (EPR/BK3638IF/V007), request for further information

Dear Ms Burrows,

Further to your letter dated 01/10/2025, please see further information below, as requested:

- An environmental risk assessment for the proposed process change (namely, removing three baghouse filtration plants and installing one new baghouse for abatement of furnace emissions from aluminium recycling operations).
- Map showing designated sites within 500m and 2km of the installation.
- Map showing sensitive noise receptors.

Please do not hesitate to contact me if you require any further information.

Yours sincerely,

A handwritten signature in black ink that reads "Joel Priest".

Joel Priest
HSE Manager
Hydro Aluminium Recycling, on behalf of Hydro Aluminium Deeside Ltd

1. Environmental Risk Assessment for replacement bag plant

Ref	Hazard	Source	Pathway	Receptor	Mitigation	Consequences				Likelihood	Overall Risk
						People	Environment	Property	Highest		
1	Releases to air	Bag plant stack: discharge point after emissions abatement from aluminium recycling furnace	Airborne / ground deposition beyond site boundary	Human population, habitats & ecology in surrounding area	Operation of bag plant, continuous dust monitoring and periodic monitoring in-line with permit requirements. Releases to air are further detailed and assessed in Section 3 of the "Supporting Information Document" submitted as part of the variation application in October 2024. This assessment concludes that both permit ELVs and statutory air quality standards are not at risk of being breached from operation of the new bag plant.	2	4	1	4	3	12
2	Visible smoke / plume	Bag plant stack	Airborne - visibility beyond site boundary	Nearby residents / public	Abatement of furnace off-gases in new bag plant, replacing old filtration plant. No visible releases during normal operation. Continuous dust monitoring in place with alarms on "approach to limit" and procedures in place to respond to alarms.	1	1	1	1	1	1
3	Release of bioaerosols	Bag plant stack	Airborne	Nearby residents / public / employees	No organic matter handled in the process that could give rise to the formation and emission of bioaerosols	1	1	1	1	1	1
4	Release of odours	Bag plant stack	Airborne	Nearby residents / public / employees	No detectable odour released from fume treatment operations	1	1	1	1	1	1

5	Releases to surface water, groundwater and land	Improper storage of lime or spent lime from fume treatment Run-off containing hazardous substances	Site drainage to nearby surface waters	Field drain to north-west of site flowing to Redwither Brook	No releases to water from the fume treatment process.	1	2	1	2	2	4
6	Releases to surface water, groundwater and land	Improper storage of lime or spent lime from fume treatment Run-off containing hazardous substances	Infiltration to soil and groundwater	Soil / groundwater	Closed system: lime silo and sealed pipework for new lime / spent lime silo, sealed pipework and enclosed screw feed for spent lime Site area surfaced in concrete No bedrock faults or other linear geological features within 500m of the site. Site is not within a groundwater source protection zone and nearest groundwater abstraction is >500m to the SE	1	2	1	2	2	4
7	Generation of noise & vibration	Equipment used for fume extraction, lime dispensing & bag plant operation, e.g. fans, motors, valves	Transmission through air (noise) or ground (vibration)	Nearby residents / public	Main fans are fitted with silencers. Bag Plant is subject to planned preventative maintenance, including condition monitoring on the fans every three months. Annual environmental noise survey undertaken. Complaint reporting and investigation procedures in place.	2	1	1	2	3	6

8	Accidental or fugitive release of lime or spent lime	Failure of equipment during lime delivery, distribution and waste collection	Airborne dust may be inhaled or settle on skin and clothing	Employees, contractors (exposure to lime)	Maintenance of lime handling equipment; bulk road tanker used for delivery & collection; PPE worn during deliveries; concrete surfacing throughout; housekeeping standards and spill response procedures and training in place	2	2	1	2	3	6
9	Accidental or fugitive release of lime or spent lime	Failure of equipment during lime delivery, distribution and waste collection	Deposition to ground in bag plant area	Soil	Maintenance of lime handling equipment; bulk road tanker used for delivery & collection; PPE worn during deliveries; concrete surfacing throughout; housekeeping standards and spill response procedures and training in place	1	2	1	2	2	4
10	Release to air of unabated emissions incl. dust	Filtration plant failure e.g. burst bag	Airborne / ground deposition beyond site boundary	Human population, habitats & ecology in surrounding area	Continuous monitoring of dust emissions including alarms. Differential pressure monitoring of filter bags Preventative maintenance of bag plant equipment	2	3	2	3	2	6
11	Fire in bag plant	Ignition of filter plant materials by incandescent materials or excessively high air temperatures	Airborne smoke, particles, fume	Nearby residents / public / employees	In-line cyclone separator for removal of large particles prior to filtration. Spark detection and alarm system in place. Emergency deluge system is manually activated to avoid false alarm activation. Bag plant interlinked to furnaces - furnaces will not operate if bag plant is in fault e.g. too high temperature.	3	3	5	5	2	10
12	Fire in bag plant	Use of water or foam during firefighting	Runoff to land, surface or groundwater	Soil, groundwater, surface waters	Spill response kits include drain covers for sealing of site surface drains. On-site balancing pond equipped with penstock valve enabling collection of contaminated water	3	3	5	5	2	10

Risk Matrix used in assessment:

				Likelihood					Overall Risk	
				Highly unlikely (1 per 1000 yrs)	Unlikely (1 per 100 yrs)	Possible (1 every 10 yrs)	Occasional (1/yr)	Frequent (1-10 / yr)		
Severity	Consequences			1	2	3	4	5		
	People	Environment	Property	Score						
	Multiple fatalities	Significant irreversible damage	Massive damage > £1 mill	5	5	10	15	20	25	High
	Permanent damage or single fatality	Major effect, but long term reversible	Major damage > £200,000	4	4	8	12	16	20	Medium
	Serious injury	Serious effect, but short term reversible	Serious damage > £100,000	3	3	6	9	12	15	Low
	Medium injury	Medium effect	> £10,000	2	2	4	6	8	10	
	Minor injury / First aid	Minor effect	< £10,000	1	1	2	3	4	5	

2. Information on Designated sites

There are no European Sites or UK-designated habitats sites within 2km. The nearest are the River Dee SSSI and SAC, situated 3.2km to the southeast at its closest point, and Sontley Marsh SSSI situated 3.5km to the southwest – see Figure 2.1, below.

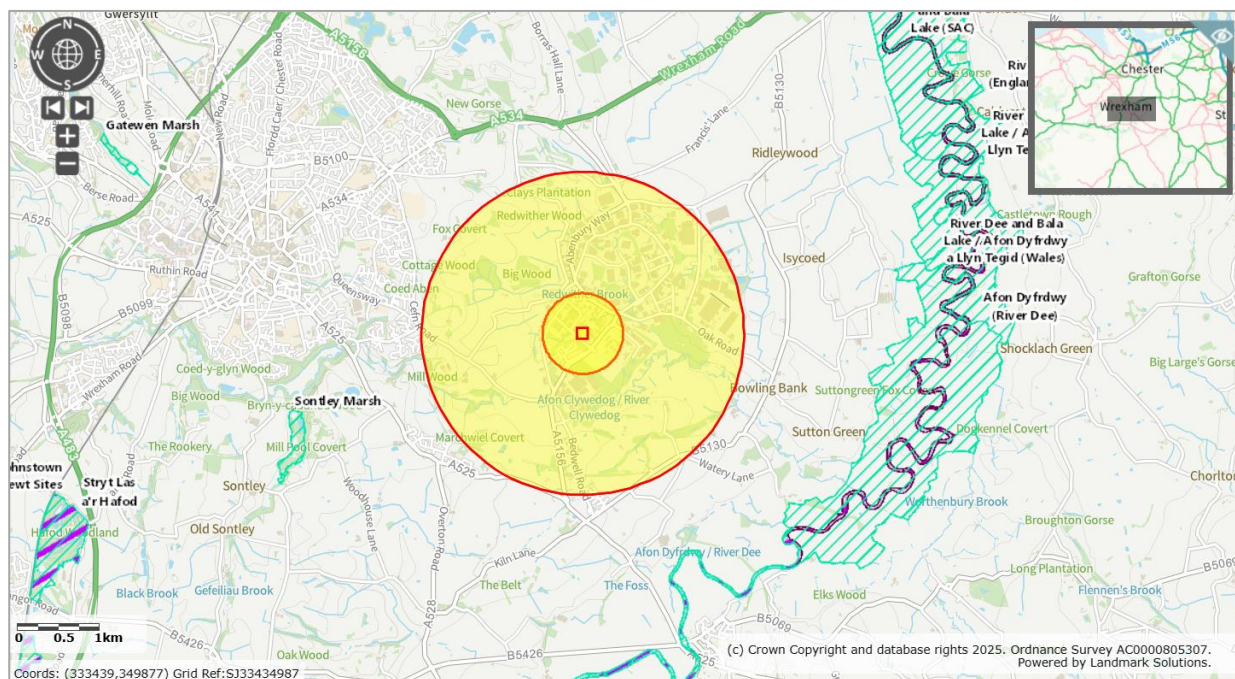
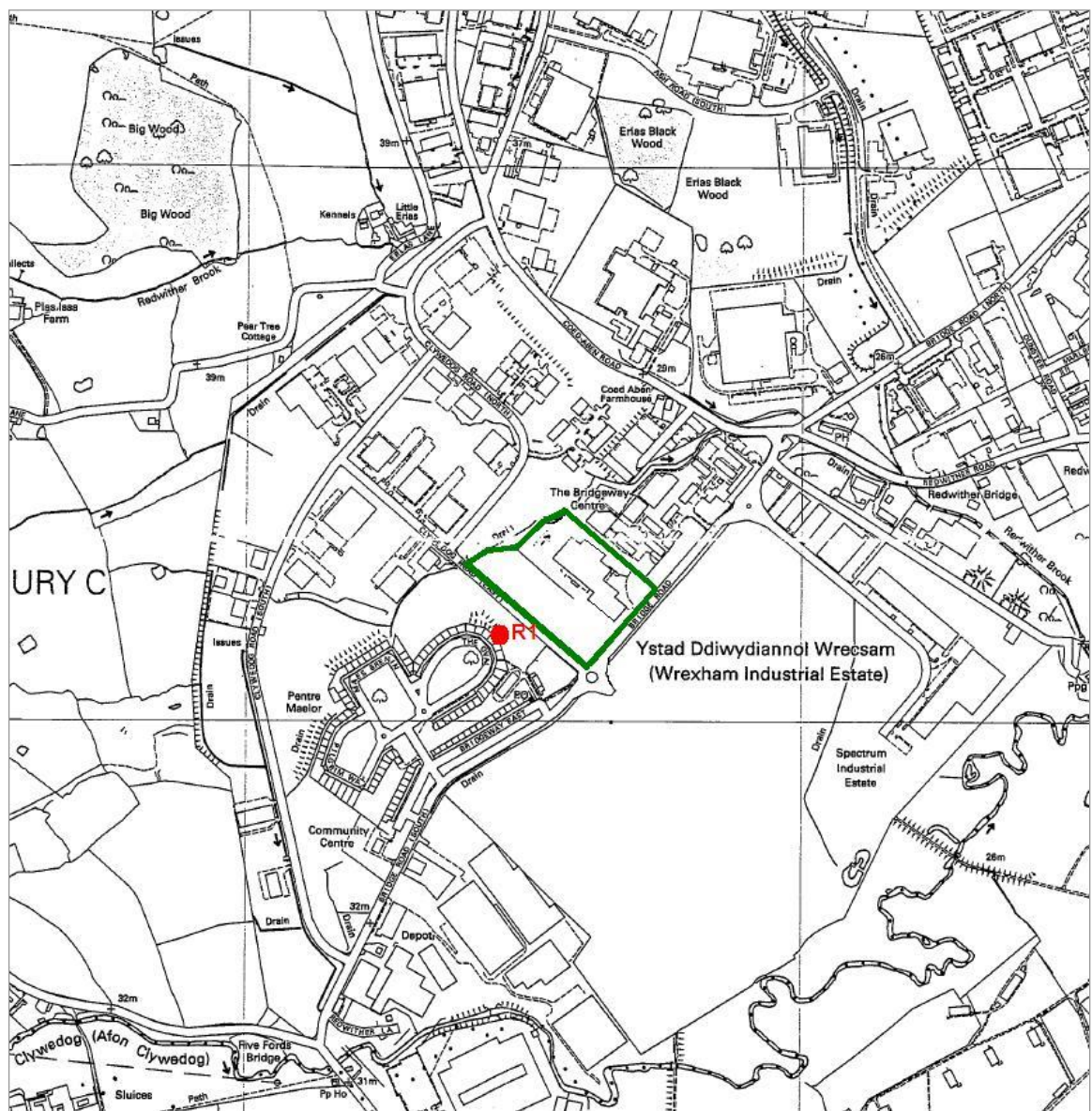
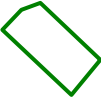


Figure 2.1, Designated sites for nature conservation (500m and 2000m buffer zones applied). Source: MAGiC Map application, <https://magic.defra.gov.uk/MagicMap.aspx>

3. Noise-Sensitive Receptors



(Source: OS Landplan Site-centred, 1:10,000 scale, centred on grid reference SJ 3765 4922, plotted 22/08/01 from Ordnance Survey digitally-derived data.)

Key	
	Hydro Aluminium Deeside
	Sensitive receptor: properties at “The Oval”, Pentre Maelor