



RISK & HAZARD MANAGEMENT

Geocycle UK Ltd

Non-Technical Summary



Safety Risk



Business Risk



Environment Risk

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1 Introduction

This Non-Technical Summary (NTS) accompanies the Environmental Permit application that has been prepared for Geocycle UK Ltd. The Company are a new entity, formed to manage operations at the proposed new fuel storage and feed platform ancillary to the main existing Caudon Cement Plant (operated by Lafarge Caudon Limited).

This NTS is prepared to supplement the permit application for the proposed increased use of alternative fuels at Caudon Cement Plant, including the proposed built development required to facilitate this. It provides details of the regulated facility and the key technical control measures, in less detail and using non-technical terminology than the rest of the supporting documentation.

2 Activities and Summary of Operations

2.1 Activities

The activities proposed at the Geocycle AFR Platform fall under Activity 1.16.6 – Household, commercial and industrial waste transfer station.

The Disposal/Recovery code that is applicable to the operation is R13: Storage of waste pending any of the operations number R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced). Geocycle is only bulking, storing and then onward handling waste. No recovery will take place at the Geocycle AFR Platform, recovery is undertaken at the neighbouring Cauldon Cement Plant.

2.2 Summary of Operations

The primary reasoning behind the proposals is to enable the neighbouring Cauldon Cement Plant to switch to a higher proportion of alternative ‘waste-derived’ materials in the fuel mix. These alternative waste derived fuels would be used in place of coal and used motor vehicle tyre chips in the production of cement.

It is anticipated that the proposed development could enable Lafarge Cauldon to utilise alternative / waste derived fuels for up to 85% of the total fuel mix, thereby reducing their reliance on less environmentally sustainable resources such as coal and tyre chips.

The fuels proposed to be increased as part of this permit application are:

- **Solid Recovered Fuels (SRF) and Refuse Derived Fuels (RDF)**

It is not proposed that any ‘pre-processing’ activities at the storage and feed platform will take place. All of the alternative fuel brought to site to be fed from the proposed alternative fuel platform is imported ‘ready to burn’.

The new platform will be receiving SRF/RDF which will be produced by a small number of reputable suppliers to a predefined specification as outlined by Geocycle UK. Whilst these sources are different, the primary feedstock will be commercial, domestic and packaging residue/waste which will go through a rigorous process to ensure it meets the high standards required by the facility. Incoming material will be subject to regular testing by each supplier to ensure the material is consistent and therefore can be fed speedily into the cement kiln from the point of discharge.

It is proposed that the fuel storage and feed facility is operated without restriction on operating hours to ensure a constant and steady supply of fuel to the Cement Plant, which is permitted to operate on a 24/hr basis. However, HGV deliveries to the site will be restricted to between the hours of 0600 hours and 2200 hours from Monday – Friday and 0600 hours and 1300 hours on Saturdays. No deliveries will be received on Sundays or bank / public holidays.

The overhead grab crane's primary role on the new platform is to load the incoming material into the feed-hoppers. As part of this operation the crane will move and reposition material away from the tipping points (to allow other material to be tipped), to the main storage area before feeding the hoppers at a feed rate set by the cement kiln. No active mixing of materials will take place and no material is treated onsite.

The storage hall contains storage bays and areas for the unloading of SRF/RDF and their transfer to conveyor facility. SRF/RDF fuels are to be delivered to the proposed fuel platform by HGV. The fuels are then stored in a sunken storage bay at a maximum depth of 5.6 m, prior to their loading onto the internal hopper for onward transport via conveyor. The conveyor then transports solid fuels over Earlsway within enclosed casing which delivers the fuels directly to the precalciner at the existing Plant's main stack. The conveyor details are below.

The purpose of the conveyor feed is to enable the direct and efficient transfer of solid fuels from the proposed SRF/RDF Storage Hall within Hurst Farm, across the public highway and directly into the preheater tower west of Earlsway.

The conveyor to be used will be enclosed within cladding to minimise the visual, dust and noise impacts of transporting solid alternative fuels over Earlsway at height. Two steel towers are proposed to support the conveyor, from which suspension cables will uphold the feed. The total length of the external feed is 79 m.

The feed is proposed to enter the existing preheater tower at a height of 31 m above ground level.

Two tanks for the emergency supply of firewater are also proposed along with a firewater pump station hosting two firewater pumps, one jockey pump, compressed air foam tank and mix station, air compressors, backup power generator, and control system.

A hydrant system, consisting of four hydrants is proposed to be located around the platform.

Separate from the firewater pump station and water tanks detailed above, a rainwater/residual fire water basin with 488.1 m³ capacity is also proposed that would hold water derived from all sealed areas of the proposed site, and is sized for:

- 100% runoff volume in a 1:100 rainfall event plus climate change (1% AEP plus CC) even with 6 hours duration.
- Firewater suppression volume of 100m³.

3 Summary of key technical standards and control measures

The key technical standards that are applicable to the facility are:

- **Sector Guidance Note S5.06: Recovery and Disposal of Hazardous and Non-Hazardous Waste.**

Key control measures from the guidance note above that will be in place are:

- The site will operate a rigorous pre-acceptance and pre-qualification/ supplier approval process which ensures only approved specification material is received onsite.
- The site will operate a rigorous acceptance process before material is permitted to unload onsite and weekly/monthly sampling will take place to ensure material is fit for purpose.
- Waste will be stored in an enclosed storage hall, which has a concrete surface.
- The conveyor system used to transport to the Cement Plant will also be fully enclosed.
- Low noise idlers to minimise noise from operation of the plant.
- Equipment to handle materials and transfer it to the cement plant by the conveyor will be fit for purpose.
- The storage hall is located at distance from sensitive receptors and no adverse impact on such receptors is expected.

As part of the permit application, a Fire Prevention Plan (document reference 005 – Fire Prevention Plan) is required due to the nature of the materials. The key aspects that have been considered in relation to fire prevention (and also link to dust mitigation) are as follows:

- There will typically be a 3-day storage time of solid materials.
- During periods of prolonged maintenance, the storage hall pile will normally be ‘run down’ to substantially reduce material volumes. In the event of unforeseen failure the material may stay in the storage hall longer but monitoring will take place.
- Waste will be managed and regularly rotated by different zones via the bridge crane activity.
- Separation distances between process areas, site perimeter, occupied buildings and truck waiting areas area are a minimum of 18.5 m.
- No hot loads will be handled at the site.
- Waste will not be exposed to direct sunlight to minimise external heating.
- Routine site inspections regarding fire risk will be undertaken to ensure there are no smouldering wastes or indication that a fire has or may start.
- Ignition sources will be kept to a minimum and at least 6 m away from the storage area.
- Dust safety features installed within the hall will include APEX on the beams, cladding and protections against dust deposits.
- Natural ventilation will also be favoured in such a way there will be no fugitive emissions outside the building.
- Heat detection covers all aspects of the system in the form of triple IR flame detectors, thermal imaging detectors, linear heat detectors, IR transit heat detectors and smoke detectors.
- There will be manual Alarm Call Points and Audible Visual Alarms.

- There will be a sprinkler and foam system installed.
- Four separate zoned deluge systems for the two halves of the storage hall, unloading pit, feed hopper and an additional deluge system for the conveyor belt and return side.
- Fire hydrants and 2 firewater tanks with a combined volume of 1,140 m³, able to supply for at least 120 minutes at a rate of 9,500 l/min, 7,500 l/min for the storage hall and 2,000 l/min for the hydrant system.

As part of the permit application, an Odour Management Plan (document reference 009 – Odour Management Plan) is also required due to the nature of the activities. The key aspects that have been considered in relation to odour management are:

- Regular rotation of stock.
- All stock that is delivered is fresh stock and has to be to a certain specification.
- Typical 3 day storage time of materials.
- Material will be contained within fully enclosed building and odour emissions through open doors etc. are considered as minimal (only open during unloading) and not noticeable in remote distance.
- A feature of the bridge crane will be to carry out hall cleaning cycles during the night shift.
- No waste will be stored outside the building.
- The shape of the bunker will be designed to prevent build ups in corners and allow the grab to remove the maximum amount of material.
- There will be seals on doors and unloading points.