

Annual EA Information required to be submitted

1. *A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency each year. The report(s) shall include as a minimum:*

(a) A review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

CEM Systems

Spray Dried

We received four breaches in the 2016 from the Spray Dried Biomass Boiler before it became an emergency back-up in September 2016. All four breaches were 30 minute averages on NO_x (above 600mg/m³), two of these breaches were related to a sudden shutdown towards the end of a 30 minute average. A third was caused by an issues with the Oxygen CEMs equipment which affected the oxygen calculation while the fourth was related to the CEMs connection into the pipework breaking.

In September 2016 the Spray Dried Biomass Boiler was made into an emergency backup for the Freeze Dried biomass boiler. The reason for this decision was on two fronts;

1. The Freeze Dried biomass boiler is up to 15% more efficient and its capacity was underutilised.
2. The software system for the Freeze Dried system was more modern making the operation of the biomass boiler much easier

Freeze Dried

The focus for the Freeze Dried boiler has been to complete commissioning and bring the level of training and compliance to the same level as with the Spray Dried Boiler. Sessions were held with technicians and operators throughout the year concerning the conditions and expectations of the Environment Agency permit. Commissioning was on and off throughout the year with the biggest issue being the Urea dosing system

The Urea dosing system specifications were for upwards of a 65% firing rate which, due to the issues with Freeze Dried Extraction, was not being achieved. The urea dosing system in its old format was commissioned in August 2016 but was not fully affective leading to a number of NO_x breaches (there were no dust breaches), all reporting through the Part A and Part B system. For the following months the dosing points within the biomass boiler were increased, from one to four, and there position altered to allow a spread of urea dosing. The software was then updated to allow this system to run automatically with some manual control left in place to encourage the operators to look at the system periodically. The number of breaches decreased as the year progressed but more work is required, such as making the urea dosing system fully automatic.

ISO 14001 Audits

Reaccreditation of ISO 14001 was re-achieved during August 2014. Other audits undertaken raised the issues relating to the NOx breaches as discussed above and the control of IBCs around site. In response to the later more bunds were purchased and specific areas of sites were allocated for them.

Effluent

A temporary Effluent Treatment Plant was installed early 2015 to manage Freeze Dried effluent. The system was then set up and fully commissioned early August which resulted in Spray Dried effluent being sent through a combined sampling point with Freeze Dried. Various changes were made to the Effluent Treatment Plant from August including works to improve the condition of pumps, pipework improvements, bunding improvements and alteration to the presses, this continued into 2016. Improvements made upstream, such as emptying liquor tanks into IBCs, has resulted in the number of effluent consent breaches reducing over time. There are a number of planned changes for this in 2017 and 2018.

Residents

Resident meetings have continued as normal in 2016 with further reductions in noise and odour. Both noise and odour analysis reports were updated to include Freeze Dried and show where we are. Issues have mostly been from specific particulate and coffee ground releases and the speed to resolve the issues. In response to this clearer procedures, better communication practises and design alterations have been put in place to respond quicker to any releases in the future.

Water

The target for the site during 2016 was 18.2 metres cubed against total production tonnage. We achieved 17.4m³/tonne of product during 2015 meeting our target. There were no targets for the permitted area, independent of the full site.

Energy

The target for the site during 2016 was 22.8 Gigajoules against total production tonnage. We achieved 23.4GJ/tonne of product during 2016 therefore not meeting our target. The reason for this was due to the time difference between optimising the Freeze Dried biomass boiler and shutting down the Spray Dried biomass boiler caused more steam to need to be generated from the gas fired auxiliary boilers. There were no targets for the permitted area, independent of the full site.

Waste

Waste from the permitted area is largely sent for land spreading or composting. Sending coffee off site as waste has two impacts. Firstly it reduces our potential for energy generation as the coffee cannot be burned in our boiler and secondly it increases the waste sent off site. During 2016 we sent of 9,104 tonnes of coffee grounds, the main reason for this is that coffee

grounds are generated naturally as a by-product of the extraction process, and so as we were optimising the Freeze Dried biomass boiler and turning of the Spray Dried biomass boiler there was a time of higher ground waste than normal. Levels of chaff were also increased over 2016 due to the lack of a chaff handling system within the Freeze Dried Roasters but this is set for change (see projects below). There is a planned project for this (see below). Levels of Sand and Ash waste, and other wastes on site roughly doubled in line with expectations.

Decommissioning

Boiler 2 was decommissioned in April 2016 while the biomass boiler was moved to an emergency back up in September 2016

Focus for 2017 + Projects

Focus

The Focus for 2017 is to alter the effluent treatment plant for a new larger decanter as an interim to an AD plant coming in 2018 and to continue to make improvements on the urea dosing system.

Projects

There are a number of alterations and Projects planned in 2017 onwards in order to improve efficiency of the plant but also to reduce waste and improve effluent treatment. Over time updates will be sent to the Environment Agency regarding the projects and if any extra information is necessary. These projects include;

- Commissioning of chaff pellet system (Jan 2017)
- Commissioning of Coffee Grounds blowing line (Jan 2017)
- Installation of new decanter to replace ETP (Mar 2017)
- Request for EA Permit Variation – Planned submission date June 2017
- Start of ground work for AD Plant (Oct 2017)

In the event of any more information required for the above then this can be generated to supplement this summary document.