

Rookery South CLP Meeting 29 Draft Notes

Monday 15th July 2024 – 6.00 pm, Stewartby Room, Rookery South
ERF

Present:

CLP Members – Cllr Sue Clark (Cranfield & Marston); Chris Martin (Marston Moretaine PP); Neil Wright (Brogborough PC); Clive Baker (Wootton PC); Jennie Thomas (Millbrook PM); Grant Sorrell (Marston Vale Forest Centre); Jean Peall (Lidlington PC); Robina Chatham (Lidlington Resident).

Observers/Presenters – Rookery South Ltd: Patrick Murray (PM); Anita Taylor (AT); Mark Terry (MT); Louise Greenwood (LG), Environment Agency; Facilitator: Bob Fisher.

Apologies: Paddy Kelly; Nick Henderson (Encyclis); Dee Walker (Central Bedfordshire); Neil Goudie, Emma d'Avilar, (Environment Agency); Marc Frost (Bedford Borough Council); Stephen Sleight (MVCRP); Sally Law (Stewartby PC).

1. Introductions

Louise Greenwood from the EA was introduced to the CLP.

PM announced that the new General Manager for Encyclis will be Richard Hollidge, who will be formally introduced at the next meeting.

2. Approval of Notes from Meeting 28 and matters arising

The notes from Meeting 28 were approved.

Wootton PC: Was there any update on carbon neutral fuel for start-ups?

PM noted a trial will be starting at the plant at Newhurst (nr Loughborough) in September.

MT – if all goes well this would be implemented at RSL probably next year, during the planned outage.

Wootton PC: Regarding the review of emissions limits, e.g. the reduction in NOX by EU directive, is there anything similar in the pipeline?

LG: These reviews occur on a cycle of every 4-5 years. Possibly new limits will be established after the next review. Controls can only improve this.

Wootton PC: There was also a question pending on dust emissions, re particles of < 2.5; any response?

MT: Apologies – this had not been followed up, but he promised to do so.

3. Facility Manager's Update (MT) – see attached slides

Slide 3 (Environmental Summary) indicates one Schedule 5 incident notification which has been sent to the EA – on 15/3, the water valve that supplies the circuit became stuck open, which meant the boiler drum overfilled and tripped the boiler, which caused a daily spike in CO. This was dealt with rapidly by the shift team and normal operations were quickly restored. See also details of non-reportable – but trackable - environmental incidents (in April and June).

There were two environmental near-misses: 1) spikes in CO₂, HCl & SO₂ caused by unstable combustion; these were below thresholds but not the usual day-to-day operations 2) before the planned outage, an ammonia slip on line 1, caused by a valve fitted incorrectly during commissioning (before Encyclis took over the plant). Issues dealt with during planned outage and no further slips have been detected. NB, these slips were well below the threshold necessary for reporting.

EA Submissions – Periodic stack testing took place and no issues were reported. New BREF guidelines introduced at the end of 2023 & RSL conducted some dioxin monitoring - dioxins and pherons (sic) not trackable in emissions data; RSL already conducts biannual testing for these, but not during shut-downs/start-ups. Results not yet available, as testing was conducted in May, but will be published as soon as they are available.

There will also be an EA placement scheme in September at RSL ...

LG - ... This provides a training opportunity for EA officers to help build understanding of operations of sites such as RSL.

SC: Please clarify the difference between and Environmental Incident and a Near-miss.

MT: An incident refers to a Schedule 5 notification, which needs to be reported to the EA, whilst a near-miss does not need to be reported, as it was controlled and dealt with in good time.

Qu: Brogborough PC - Re the incorrect installation of the ammonia supply valve, had this affected operations prior to this?

MT: No – there are 3 different operational levels set at different heights in the boiler. The plant finds its operational level and will operate at the same level all year round (normally at the highest of the 3 levels). This is based on the temperature range of the combustion process and is normally quite stable. However, in this instance, the temperature had dropped, which had resulted in a drop in dosage. This coincided with the revised BREF guidelines, which brought the issue to notice and hence it was investigated.

Operations – Q1 & Q2

Boiler availability was 89.3%, which was slightly lower than usual. However, all planned outages for the year have taken place, and it is anticipated this percentage will rise during Q3 and Q4.

Turbine availability was similar but should now be up to 100% for the rest of the year.

So far in 2024, performance of the plant has been good; the outages have taken place on a good tight schedule and good level of quality.

Marston Moretaine PP: The plant produces 55 mw hours of electricity per month?

MT: Approx 60 mwh X 24 (i.e. daily output) X 1 month gives the total mwh of 232,376.

Finally, prep works have been completed for the *district heating system*, with a couple of outstanding jobs to be done to make RSL '*district heat ready*'. All the valves and configurations have been set up to facilitate the export of heat and steam, so there won't be any need for further shutdowns.

AT: Vital Energi are open to any available receptors who may want this. Some potential receptors have been identified. VE are also looking at heat off-take from the Newhurst plant, as Loughborough Univ have shown interest in utilising heat from the ERF.

Wootton PC: Has RSL heard anything from Universal Studios?

AT: RSL has had limited communication with Universal but understands that heat requirements would not be in the short / medium term. RSL is ready to provide the service at any time, e.g. to receptors such as the O&H Housing Project, but as yet this hasn't taken place.

Millbrook PM: Is Center Parcs no longer a possibility?

AT: That has been stalled for some time. RSL is working through their partner VE to progress any suitable heat off-take.

PM: The key is finding a strong anchor to subsidise the infrastructure.

MT: One final point about the Tipping Hall doors sustaining damage and remaining open for some time – in addition to the main doors, RSL has now fitted fast acting fabric doors which operate more quickly, so that all doors should now remain closed at the end of the day.

4. General Manager's Update (PM)

PM covered four points – Section 106; Employment Opportunities; RSL Enquiries & new RSL General Manager (see slides 5-6).

PM – The Community Trust Fund (CTF) is approaching round 2, so invitations are invited by Grantscape for deserving causes. All payments have been made for the previous round (Jan – March).

Also, vehicle movements data have been submitted for the first half of 2024.

Q – Marston Moretaine PP: Noted that a number of sub-contractor lorries are arriving early – before 7.00 am – and parking up by Marston Roundabout. The PC has sent comments about this to RSL; no real pattern to this.

PM: **Action point** – Contact Fuel Supply Manager to contact hauliers.

Q: Wootton PC: Can't the hauliers park up on the RSL slip way?

AT: The DCO red line boundary goes to Green Lane, so all the requirements RSL has to adhere to go to this red line.

Marston Moretaine PP: Rather than Veolia lorries, these might well be sub-contractors' vehicles.

PM: Re. vehicle movements, RSL has to submit to the planners twice a year. In the first half of this year, the plant was compliant with hours and vehicle numbers (averaging around 330 per day, as compared with a maximum of 594).

In addition, there is some remedial work being done in early August at the C94 Green Lane junction.

Other points:

- For any employment opportunities at RSL, please refer to the website
- The WhatsApp group is to be dissolved – instead, please contact via the website, or ...
- See final slide for key contacts, including EA.
- Confirmation of Richard Hollidge's appointment as General Manager from 1st August.

Marston Moretaine PP: won't that mean RSL is inundated with queries about "black smoke" from the stacks, etc?

PM: A recent study on the coloration of steam by light refraction from the stacks was conducted by Cranfield University; **Action: PM will make this available.**

PK/MT: **Action** – to update CLP re plan of action for delivery hours.

Q: Wootton PC – Will there be a review of the RSL data on emissions?

PM: These were included in information relating to the new BREF limits.

MT: The latest data (i.e. June) is available on the RSL webpage.

PM: NH normally puts this data up and June's data was uploaded on to the webpage on 5th July.

LG: Confirmed that the EA checked data for January – March and there was only one exceedance reported (for CO); everything else was fully compliant with the permit.

Q: Wootton PC – According to a report (on Rookery South media) there is continuous reporting of CO₂ emissions at RSL – there has been no data before from RSL on this; how long has RSL been able to monitor for CO₂?

MT: There have been no changes to emissions reporting. RSL has always been able to report on this, as it is on the monitoring system.

PM: There is no requirement to report CO₂ levels – what's reported on the webpage is only the data referring to set limits as measured against the permit.

Q: Wootton – How much CO₂ is produced by the plant per tonne of waste?

PM: This was covered in a previous meeting – for every tonne of waste, this will produce roughly ½ tonne of anthropogenic CO₂ and ½ tonne of biogenic CO₂.

Q: Marston Moretaine PP – Has there been any difference noticed since CBC started charging for green bin delivery?

PM: This probably won't have much of an impact as it would be a small tonnage.

5. RSL & Carbon Capture (AT)

AT: Explained that UK is expanding the scope of its emission trading scheme (UK-ETS) to include EfW facilities, as EfW is considered to be more environmentally friendly than landfill (see separate slide deck). As a consequence, RSL is exploring the potential for carbon capture, although it is still at the very early stages of this.

AT summarised why carbon capture utilisation & storage (CCUS) is necessary (slide 2); e.g. it diverts waste from landfill (which produces methane), and it's possible to generate "negative emissions" from the biogenic portion of the waste stream, thereby eliminating c 50% of CO₂ from the atmosphere.

AT then explained how CCS is achieved - through the use of amine solution (see slide 3) - and what can be done with it once it has been captured; e.g. transporting it in pipelines to underground storage facilities and/or for use in the food industry.

Q: Wootton PC – Is amine a toxic solution?

AT: Certain amines may be classed as a "contaminant" in terms of environmental legislation and as such amendments to the Environmental Permit would be necessary.

Q: Brogborough PC: Is steam used to reheat the amine solution and if so, would this require a lot of steam energy?

AT: Yes – the process is quite energy-heavy

Q: Brogborough PC ... and how is this related to the district heating project (see previous meetings)?

AT: Rookery South ERF produces a fairly consistent amount of energy, be electrical or thermal. RSL is balancing the use of that energy.

Q: Brogborough PC: Would there be a need for additional gas boilers if you were already using them for CCUS?

AT: No – a report looking at both RSL and the Protos facilities suggests that it would be possible to run the two operations (CCUS and District Heating) in parallel – but it would be energy-heavy.

MT: This would mean a drop in the export of electricity from the plant. Steam is essentially a commodity (rather than a waste product). As it goes through the Turbine, at the back, it is around 50 deg C, which is useful for heating, but not so much for electrical conversion. Carbon capture needs much higher-grade steam. It's all about energy conversion and the need to waste as little as possible.

Qu: Brogborough PC – Re the District Heating project [with Vital Energi], will there be a need for additional gas boilers?

PM: The back-up boilers are there to produce energy, e.g. following a planned outage.

Brogborough PC: VE noted that they estimated a total energy output of 46MW (*sic* – it was 48MW) at peak demand of which 30MW would come from the incinerator energy; a further 18MW would be from running the installed gas boilers. He recalled that Vital Energi said gas was the most cost-effective way of reaching peak demand for this scheme.

Action: AT to contact VE to clarify

Addendum – *since the meeting, a clarification was sent from Vital Energi which stated that:*

The heat offtake from Rookery South ERF (which we expect to be at a maximum of 34MW) would be supported by natural gas boiler plant (45MW), with a gas supply available from the nearby Millbrook Power facility. We did consider electric boilers and a large grid connection to facilitate this, but the proposal was not financially viable. It is important to note that the energy centre would incorporate 300m³ of thermal storage at full build out. This would allow the heat offtake from the ERF to be utilised for higher peak loads i.e. the boilers wouldn't necessarily be enabled every time the demand was raised above the ERF off-take capacity.

Qu: Wootton PC: At what point are other contaminants separated from the CO₂ and what happens to them?

MT: All the gases would be taken off after emissions monitoring systems, go through the CCS unit and then back through the furnace area and flue gas treatment again and be measured.

AT: Showed what the CCUS unit might look like – based on the project at Protos (see slide 4). See Cheshire West & Chester Council - https://participatenow.cheshirewestandchester.gov.uk/climate-emergency?page=1&tool=news_feed

Q: SC – How high would the tower be?

AT: Similar height to the Protos plant, although it's difficult to say, given the different topography of RSL.

AT showed the area of land proposed for the CCS unit – the area identified for the IBA (Incinerator Bottom Ash) processing facility in the DCO. There is no need now for that facility, as there is an IBA processing facility at Wellingborough. As noted, these are very early discussions and have not reached the planning stage. A planning application and environmental permit will be required. The planning application could be submitted within 12 months, along with a full suite of assessments and will probably be processed by CBC.

HZI – who have the EPC contract with Protos - have approached RSL and will be installing a very small pilot plant, which will be used for testing amine solutions & information-gathering, lasting for 12 months. NB: this will be very small and will not require additional regulations for the existing permit. Expected deliver is Jan 2025.

Qu: Brogborough – Is there a possibility that, once this is up and running, there will be so much stored carbon that no one will want the carbon?

AT: That depends on what is being done with the carbon. The aim here, though, is to have a pipeline which is connected to a national infrastructure, but this is dependent on the Government creating this. There are alternative solutions being considered by DESNEZ, e.g. non-pipeline transportation routes.

PM: The ETS is an emissions trading scheme in which lots of businesses in the UK (and Europe) are involved. The 2028 deadline is not set in stone; it's a dynamic space – essentially an ongoing consultation with DESNEZ.

Q: Wootton PC – The letters between RSL and DESNEZ refer to an application sent in Nov. 2023 and a response in Dec. 2023. Why has this only just been mentioned?

AT: This was not an application – it was a Section 35 request. As RSL operates under a DCO, this request provides an opportunity for the developer to see if this would fall into the remit of the Planning Act. As mentioned in Jan 2024, RSL wanted to understand the consenting strategy – what if RSL wanted to pursue the maximum possible project? DESNEZ stated that would fall under a DCO. However, as this project refers to simply setting up a CCS facility, it would fall under the Town & Country Planning Act. It is a very unique, individual assessment.

Qu: Wootton PC – When will RSL have a firm idea of what they eventually want to do?

AT: This is the idea of what RSL wishes to do – a pure carbon capture facility. RSL has briefed the local planning authority (CBC) on this project and how it has been refined over time.

PM: The letters referred to (above) were simply to understand the scope of the project.

Wootton PC noted the absence of any CBC officers at this meeting to comment on the role of the LPA.

SC: There is no obligation for them do do so at this stage – numerous pre-application discussions take place before an application is made.

6. Environment Agency Update – (LG)

LG wished first to apologise for the absence of the EA from recent meetings.

From the EA's perspective, there are very few compliance issues at RSL; at the same time. However, there are other sites in the area which do have considerable problems. As a result, it has been necessary to prioritise Ed'A's commitments elsewhere. The EA will always aim to provide a written update for ther CLP meeting. However, it cannot promise to attend every meeting in person.

In terms of updates, not much to report:

- EA conducted a visit in March and no issues were reported. Q1 data were fine (see previous slide presented by MT).
- Q2 data are due soon and will be communicated to the next CLP meeting.
- There are a number of campaigns re. the EfW sector;
 - e.g. 1. how bottom ash is dealt with to ensure compliance.
 - 2. a shut-down audit to check and monitor operational processes
 - 3 an Other Than Normal Operating Conditions (OTNOC!) audit.

All the above are examples of how the EA checks that the plant is doing what it is supposed to be doing and that the data produced is fit for purpose. These will take place over the next 12 months and updates will be provided on the outcomes in the form of audit reports and Public Register information.

Marston Moretaine PP: There is particular interest in what goes on during shut down/start up.

LG: Part of the reason for the national campaign is to inform people about exactly what is involved in these processes and what the emissions might be during that sort of activity.

MT: EfW plants have been built over the last few decades using different technology, so the aim of such a campaign is to achieve a more uniform approach.

Qu: Wootton PC – At the last meeting, there was notification of an application to increase the capacity of waste dealt with by RSL – has there been any decision on this?

PM: The Variation Application to the remit was approved in March 2024.

AT: The increase was from 585,000 tonnes p.a. to 657,000 tonnes.

Qu: Marston Moretaine PP – will this mean an increase in the number of lorries?

PM: No – last year RSL processed c. 593,000 tonnes of waste (as previously reported). The figure of 657,000 applied for is essentially a theoretical number, based on 365 days' operation (assuming no downtime at all).

However, the same number of lorries will arrive on site each day.

Qu: Marston Moretaine PP – Are the trucks limited by volume or weight of waste carried?

PM: Waste suppliers are limited by weight; the trucks are designed to carry up to the maximum weight and use a dynamic weighing device to calculate this.

Qu: Wootton PC – The Environmental Permit and the monitoring of gas emissions is the responsibility of the EA. However, CCS is the responsibility of the relevant Government department – how will this interface work in practice?

LG: In the longer term, these would be the responsibility of the EA together with the Local Planning Authority.

Local Authority Update (DW)

The following written update was received from DW:

Apologies for not being able to attend in person, please see the Local Planning Authority (LPA) update below:

Current Planning Applications

We do not have any applications currently under consideration.

Approval of Schemes

Recently received revised plans for the landscaping area adjacent to the visitor parking area to modify the approved scheme. These plans have been sent to the landscape officer for their consideration.

Monitoring Visits

The last visit took place on 27 June 2024, awaiting the final report to be issued.

Complaints / Notifications

None have been received.

7. AOB

Qu: Wootton PC – Re. the calculation of the renewable energy certificate – when did OFGEM last take a sample?

PM: The last sampling was submitted to OFGEM in November 2023.

Qu: Wootton PC – What was OFGEM's response?

PM: OFGEM update annually and reported a biogenic fraction mix of c. 53.38%. OFGEM goes through a set process and this involves an in-depth analysis.

Date of Next Meeting – Monday 13th January 2025