

Compliance Assessment Report CAR_NRW0039964

Permit being assessed: BV4223IE.

For: Llanelli Plant , held by Huntsman Corporation (UK) Ltd

At: LLANELLI PLANT BYNEA , LLANELLI, LLANELLI, DYFED, SA14 9TE.

Type of assessment carried out: Site Inspection, Reason: Routine.

On 15/03/2022 between 10:00 and 14:30.

Parts of permit assessed: Monitoring data

NRW Lead Officer: Andi Kemp.

Report sent to: Grant Wood, EHS Manager on 27/05/2022.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
A1 - Specified by permit	Action only (X)	
B1 - Infrastructure - Engineering for prevention and control of emissions	Assessed (A)	
B4 - Infrastructure - Containment of stored materials	Assessed (A)	
C2 - General Management - Management system and operating procedures	Assessed (A)	
E1 - Emissions - Air	Action only (X)	
E3 - Emissions - Surface water	Assessed (A)	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
A1	Action 2 Huntsman 27th May 2022: Provide the regulator with a response to the bullet points above. Due: 31st July 2022	31/07/2022
E1	Action 1 Huntsman 27th May 2022: Provide the regulator with the reason for these periods of CEMs downtime and address the question below. Due: 31st July 2022	31/07/2022

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Compliance Assessment Report: Huntsman Corporation, Llanelli Plant – EPR/BV4223IE, 27th May 2022

Purpose Of Compliance Assessment

This compliance assessment report (CAR1) covers the following regulatory aspects:

- Routine emissions monitoring data – January 2021 onwards
- Annual reporting of thermal oxidiser (TO) performance
- Annual performance indicators
- Annual report
- Introductory inspection by Andi Kemp (AK) Lead Specialist Industry Regulation – 15th March 2022

Routine Monitoring Data

Permit conditions 3.1.1, 3.1.2, 3.5.1 and 3.5.3 and Tables S3.1, S3.1a, S3.2, lay out what parameters are to be monitored, with what method and what the emission limits are. Condition 4.2.3 covers when these emission data are to be submitted to the regulator.

Data covered in this CAR1 includes: W1 Quarterly data for releases to surface water from January 2021 – March 2022; six monthly data for emissions to air via A1 Thermal Oxidiser (TO) and A2 (boiler), January 2021 – December 2021.

W1 Data - The W1 data is all compliant except for a minor exceedance in flow in the reporting period Oct. – Dec. 2021, where the declared result was 120.1 m³/d – NRW will not raise a non-compliance for this minor exceedance.

For air emissions there are two sets of 6 monthly data: CEMs data and periodic data for either biannual or annual samples.

CEMs Data – There are no non-compliances reported. However, there are large gaps in some of the data, for example: particulate matter – 24 days no data, Jan. 2021, similar for Feb and 17 days no data, Sep. 2021; no VOC data for May – July, Sep. and Oct. 2021; CO 17 days no data, Sep; NOx 17 days no data, Sep. 2021. Unless the operator has previously notified a previous regulatory officer, the regulator raises the action below.

Action 1 Huntsman 27th May 2022: *Provide the regulator with the reason for these periods of CEMs downtime and address the question below. Due: 31st July 2022*

The operator has listed the days the TO was not operating in the annual report, but is this the same as the periods of no monitoring data?

A minor point to note is on the particulate matter submissions the daily average has been entered in the data boxes as 30 mg/m³, which is the 30 minute average.

6 Monthly Data – The 6 monthly periodic data for the TO and the boiler are also compliant, however on the reporting forms the HCl limit is written as 20 mg/m³, when the limit in the permit is 10 mg/m³; sulphur dioxide is written as 100 mg/m³, when the limit in the permit is 50 mg/m³. This may be because there was variation to the permit beyond the 2011 V005 AK has been referring to. AK has asked the SW Industry Regulation Team to track down if there any post 2011 variations. However, despite this, the emissions are all compliant. Another thing to point out (again AK has sought clarification from the SW IR Team) is the HF limit. In the permit the limit is 2 mg/m³, when the WID limit is 1 mg/m³. All other parameters reflect the WID limits in the IED.

Annual Reporting Of Thermal Oxidiser Performance

Permit condition 4.2.2(d) requires the following data to be submitted: gas temperature near the combustion chamber, exhaust gas temperature, exhaust gas pressure, exhaust gas oxygen content and exhaust gas water vapour content. The operator has reported these. The most important one being a combustion chamber temperature of at least 850 deg. C and this is the figure reported.

Annual Report

Condition 4.2.2(b) and (c) require the data listed in Tables S4.2 and S4.3. These have been reported and record the COD as 0.23 COD Kg / tonne product and periods of WID abnormal operation as zero hours. The strong effluent incinerated in 2021 was 13,093 tonnes and amine C8, 307 tonnes.

Condition 4.2.2(a) requires a report on performance and review of monitoring results. The document is a useful summary of results and performance with a graph for releases via W1 covering volume, production and kg COD per tonne production. It is noted that this report states the CEMs had no periods of abnormal operation – see Action 1 Huntsman 27th May 2022.

Introductory Inspection Due To Change In Appointed NRW Regulatory Officer

AK was given an overview of the site, it's processes, storage, containment, abatement and effluent. Several presentations were also seen: Site Process Safety Management, Llanelli Plant Environmental Management and Business Case for PEA Multi-tube Reactors.

This was just a familiarisation visit, and as such no particular aspect was scrutinized in detail. Several elements were visually assessed, such as the ammonia off-loading set up, several bunded areas serving reactors, columns and storage tanks, several storage tanks themselves, the thermal oxidiser, boiler and reed bed. Some elements of the drainage and effluent system were also pointed out. Overall, it can be confirmed that the majority of the equipment is in a good external condition. It was noted that the weak amine effluent tank was not bunded – this will be looked at in a future inspection. Operatives were out on site carrying out routine maintenance tasks. The central control room was not looked at – when a more detailed

inspection is made, the control room displays and procedures will prove valuable, e.g. emergency response, monitoring key process parameters, tank loading. The computerised maintenance planning and recording system was not looked at, but this would also be a key piece of regulatory assessment work.

The operator is looking to replace their existing boiler (18 MW Th), because at the moment this boiler would not meet the MCPD emission limits. There is also the possibility of an additional ammonia bullet – COMAH change notification probably required. The site water comes from town's mains and this system also feeds the emergency deluge curtain system.

If the thermal oxidiser trips the amine rich feed is stopped and the EHS manager receives an email and presumably an alarm output alerts operatives in the control room. An email is also produced for the EHS Manager, if the CEMS trip.

There have been no incidents or complaints at or about the site since March 2020, when a minor odour complaint was received due to ammonia. An ammonia release is the site's most significant accident scenario.

Another item discussed on site was a proposed change to the site reactor configuration. This proposal is designed to improve volume, yield, better process control and avoid poisoning the Ni catalyst, by having guard reactors installed ahead of the two new multi-tube reactors and the last remaining fixed bed reactor. This does not alter the chemistry, raw materials, products, by-products, emissions or new emission points.

However, some additional information is needed, before a decision can be made to agree this change in writing or to formally vary the permit via an application from the operator:

- Does this change introduce any other process safety issues, e.g. loss of cooling – would that be relevant, or other major accident scenarios?
- Will this lead to additional inventory?
- COMAH emergency plans and EPR accident management plans – would they need reviewing?
- Does the change constitute a significant enough change to inform the COMAH CA?

Action 2 Huntsman 27th May 2022: *Provide the regulator with a response to the bullet points above.* **Due: 31st July 2022**

It is recommended that the operator include in the response to Action 2, a formal request for NRW to decide whether to accept the letter as agreeing to the changes or instruct that the operator make a formal variation application – bearing in mind NRW permitting service current backlog, leading to delays.

END

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):

A: Permitted activities

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.