

N5SCHEDULE 5 Notification

Part B

Permit Number:	BL7108IM
Name of Operator:	Tata Steel UK Ltd
Location of Facility:	Port Talbot Works
Part A details	S5N/22/56A
Date Part A submitted	18/07/2022

Any more accurate information on the matters notified under Part A

- This Part B applies to Part A notification S5N/22/56A.
- In week 28 (10/07/2022 – 16/07/2022) the Long Sea Outfall (LSO) thiocyanate (CNS) level was breached with a measured value of 4.79 mg/l for the weekly average, and an emission value of 4.39 mg/l with uncertainty applied.
- The results included in the weekly average are listed below.

10/07/2022	8.96
11/07/2022	8.36
12/07/2022	8.41
13/07/2022	0.88
14/07/2022	1.52
15/07/2022	2.15
16/07/2022	3.3

- In August 2020 aerator 1 was taken out of service and switched over to Aerator 2 for work to be carried out on Aerator 1. On switching over to aerator 2, the performance of the bacteria removal decreased so that the outlet concentration was similar to the initial inlet concentration.
- CNS concentrations in effluent are reduced by bacteria in the aerator as the bacteria consume these pollutants as a food source. These bacteria are sensitive to the aerator environment: dissolved oxygen, temperature, pH, composition etc. therefore their performance can be inhibited if certain conditions aren't met, leading to higher concentrations downstream. Measurements taken from aerator 2 suggest that the dissolved oxygen levels were too low to support healthy bacteria in the aerator, and as a consequence solids concentrations in the aerator (a proxy for biomass) dropped below the recommended 10,000 – 20,000 ppm level. Aerator 1 is thought to perform better in terms of providing oxygen to the effluent due to the paddle operation and effluent levels in the basin.
- In week 28, Aerator 1 was brought back online and Aerator 2 taken offline. Effluent was transferred from Aerator 2 to Aerator 1.
- The subsequent LSO results are shown below in Figure 1: a significant drop has been observed in the results a few weeks following the switch between the Aerators (indicated by the red line). A slight lag in improvement was expected, as it usually takes a few weeks for the biomass to establish and adapt to its new environment.

Measures taken, or intended to be taken, to prevent a recurrence of the incident	- Aerator 2 is to be brought back online and run simultaneously with Aerator 1. Samples will be taken from the outlets of both aerators and will be analysed. This is to understand operational differences in the Aerators, and how/if dissolved oxygen concentrations could be improved in Aerator 2. - starting CY Week 46. - Creation of standard settings, standard operating procedures for aerators, and training resources – 31/03/2022 - Weekly governance calls held with the Morfa Coke Ovens weekly, to discuss improvement progress and review performance data.	
Measures to be taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	The Environment Department has applied for funding for a Submerged Aerated Filter (SAF) unit in FY23-24. This could be placed between the clarifier and Sump no.6 to act as a polisher, and will also allow for contingency during maintenance periods. A decision will be made on whether funding has been awarded in April 2023.	
The dates of any Part A notifications in the previous 24 months	Please see attached Excel sheet.	

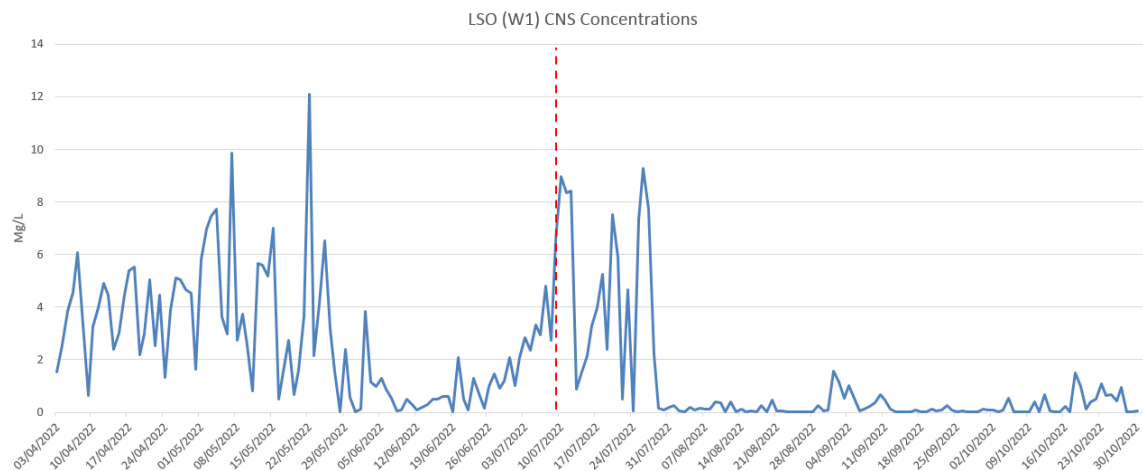


Figure 1: CNS Concentrations at the LSO.

Name*	Ellie Harrison
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Signature	
Date	17/11/2022
Reference	S5N/22/56B