

PERMIT NUMBER BR9685IX

DOW CORNING LTD

SCHEDULE 5 INCIDENT NOTIFICATION

To:	Process Industry Inspector
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From:	Judith Sartor
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Date Information Provided:	13 th January 2021

Part A

Permit Number	EPR/BR9685IX
Name of Operator	Dow Silicones UK Ltd
Location of Facility	Barry, South Glamorgan, Wales
Time and Date of Detection	Q4 2020

a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified immediately	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substance(s) potentially released	
Best estimate of quantities or rate of release	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident	

b) Notification requirements for the breach of a permit condition	
To be notified immediately	
Emission point reference source	W1
Parameter(s)	Copper
Limit	95th % 0.1 mg/l
Measured value and uncertainty	95th % 0.12234 mg/l
Date and time of monitoring	Q4 2020
Measures taken, or intended to be taken, to stop the emission	There were issues with elevated Suspended solids and Copper at a couple of points during Q4. Whilst the suspended solids remained just below the 95th % limit, the copper was over. This was caused by 7 out of spec samples. The average for the Quarter was 0.05173 mg/l. An investigation is being carried out to establish the causes for these high results.

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment: To be notified immediately	
Description of where the effect on the environment was detected	
Substance(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B- to be submitted as soon as practicable

Any more information on the matters for notification under Part A	Elevated copper results were examined with the following observations made: 04/10/2020: On this date, we had an issue with the bioreactor Vitox pump, which led to settling in the bioreactor. This led to an inadvertent overdosing of flocculant, which resulted in a higher than normal amount of suspended solids feeding forward in the final effluent. Once the Vitox pump issue was resolved and mixing returned to normal. As a result of this overdosing one of the FST/clarifiers on SWWT was fully emptied and cleaned. The result is strange as suspended solids was only 18.9, but copper was high (if solids are low as in this case then so is copper normally). A subsequent RCI has been carried out, which has highlighted the need to get the offline bioreactor available asap, to allow the repair of known issues on the online bioreactor. Troubleshooting section of SWWT SOP was also updated to include several steps to deal with poor mixing on bioreactor. 16/10/2020: There was an issue with a failed suspended solids probe, which coincided with the poly dosing rate being incorrect. The probe was fixed, and polymer rate adjusted, which corrected the issue 24/10/2020: There is nothing in the log, for any issues on the plant which may have led to this result. From the plant trends the plant appears to be running stably, with no real increase in suspended solids. 04/11/2020 – 06/11/2020: There is nothing recorded in the log, for plant problems on the 04/11. From the plant trend the plant appears to be running normally. On the 06/11 we isolated the failed final effluent filter. This shouldn't have had a major effect, as it had been partially isolated for the previous few weeks. We did have an issue on this date with the flocculant dosing. A low-level switch on the AE1138 make up tank failed, preventing the flocculant pumps from dosing. This was repaired and normal dosing resumed 29/11/2020 – 30/11/2020: There is nothing mentioned in the operator logs, to explain the two high results on these dates. From the trend there is a bit of an increase in the suspended solids probe reading, on the second day, but we wouldn't have expected this to give the results we had. We checked/cleaned the autosampler after the second result, and there was a significant drop the following day. 22/12/2020 – 23/12/2020: There is nothing in the operator log which would explain either of these results. There were several issues on the PWWT/SWWT diesel pumps, but from the plant trend the
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	suspended solids probe reading was reading relatively steady, so we wouldn't have expected the composite sample to be as high as it was. Through all these issues and timeframe the bioreactor pH control (Magmex) system was unavailable (blocked pipes and failed pumps). In the past, we have found that low bioreactor pH will lead to elevated copper readings. This may have contributed to the issues.
Measure taken, or intended to be taken, to prevent a recurrence of the incident	A pump has been replaced to get the Magmex system operational again but it cannot run in automatic control at the moment and blockages are still proving to be an issue. Dosing of caustic is ongoing as a back-up contingency measure. We are awaiting a repair on the second Magmex pump. The Nutrient dosing was also being done manually throughout this whole period. While it doesn't directly affect the running of the process, we know that insufficient nutrient can also hinder settlement of the biomass. This has now been repaired and is operational. In summary 3 of the elevated copper results can be explained by plant conditions. The remaining results are not well understood but may have been due to contamination of the autosampler again. As a results we have increased the auto sampler planned maintenance to fortnightly and the laboratory are reporting if the demin water for the container clean is not collected (this is a weekly operator task). We will be following up with the relevant shifts, if the clean has not been completed.
Measure taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment, which has been or may be caused by the emission.	0.052mg/l average Cu result for the quarter is well below the 0.1mg/l 95 th percentile limit so no long term damage or significant short term damage is thought to have resulted from the Q4 copper excursions. None of the excursions were not orders of magnitude above the permit limit.
The dates of any unauthorised emissions from the facility in the preceding 24 months.	Q2 2020 Cu 95 th %ile was 0.101 mg/l v limit of 0.1 mg/ml

Name	Jude Sartor
Post	Environmental Specialist
Signature	
Date	2nd March 2021