

Permitting decisions- Surrender

We have decided to accept the surrender of the permit for **Brough Metal Treatment Facility** operated by **BAE Systems (Operational) Limited**

The permit number is **EPR/UP3237PZ**

We are satisfied that the necessary measures have been taken to avoid any pollution risk and to return the site to a satisfactory state. We consider in reaching this decision that we have taken into account all relevant considerations and legal requirements.

Purpose of this document

This decision document provides a record of the decision-making process. It:

- highlights key issues in the determination
- summarises the decision-making process in the decisions considerations section to show how all relevant factors have been taken into account

Read the permitting decisions in conjunction with the environmental permit

Key issues of the decision

Background

The installation is a surface treatment facility factory operating following scheduled activities:

- Section 2.3 A(1) (a)
Unless failing within Part A(2) of this section surface treating metals and plastic materials using an electrolytic or chemical process where the aggregated volume of the treatment volumes is more than 30 m³

- 5.4 A(1)(a) (ii)
Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment is anaerobic digestion) involving one or more of the following activities and excluding activities covered by Council directive 91/271/EEC concerning urban waste water treatment
- physico-chemical treatment.

Overview of permit history is as follows:

- The permit was issued in February 2005.
- Operations continued until December 2020 and final decommissioning was completed by May 2022.
- Installation boundary is substantially as 2005 original permit boundary. In 2011 a building 44 was added to installation boundary and removed in 2014.
- The main activity has been surface treatment from the start of the permit.

Soil & Groundwater Quality Monitoring

Baseline monitoring

The baseline boreholes utilised within the Application Site Report (ASR) were BH10, BH11, BH12, BH13 and BH14. Concerning the groundwater monitoring sampling was undertaken in:

- 1999 Baseline assessment
- 2000 (August and September)
- 2001 (March)
- 2002 (December)
- 2003 (March and June)

The final site condition for original application was dated June 2004

- 2009 Further Ground water analysis monitoring

Final surrender monitoring

The April 2023 surrender site condition report includes surrender ground water and soil monitoring from March 2022. As detailed below on our request further monitoring was carried out in August 2023.

Comparison

Soil monitoring was not obtained in 2022; operator has justified this based on no incidents during life of permit linked to soil contamination

The 2022 groundwater quality data around the installation was linked to monitoring of following parameters:

- Analytical Comprehensive Spectrum Suite – pH, EC, TOC, Sulphate, Sulphide, Monohydric Phenols, Total Cyanide, Free Cyanide, Complex Cyanide, Ammonium, Chloride, Boron, Sb, As, Ba, Cr, Hexavalent Chromium, Cu, Pb, Se,

Sn, V, Zn, Co, Mn, Mo, Cd, Hg, Ni, Be, Fe, Ca, K, Na, Mg, P, Speciated PAH, TPH2, TPH1, Mineral Oil, DRO, TPH CWG, VOC & SVOC.

The monitoring results are summarised below

- Borehole BH10 – no elevated results
- Borehole BH11 – Minor increase in dissolved Zinc against the 2009 data changing from 10 to 12 µg/l
- Borehole BH12 – Borehole covered over; not possible to complete comparison sampling
- Boreholes BH13 – 2022 elevated levels of arsenic, copper, lead and zinc compared with 2009 data
- Borehole BH14 -2022 elevated levels of copper, lead and zinc compared with 2009 data

Overall the operator states that whilst there are elevated levels no incidents during life of installation are linked to groundwater contamination . Further with the usage of containment facilities including bunding of waste storage compound there is no pathway for groundwater contamination

It is noted that BH13 and BH14 are close by the installation banded waste compound containing waste liquors in drums and IBCs.

Review

We have carried out a review of the operator surrender site condition report and 2022 surrender groundwater monitoring data

Conclusions

We have reviewed the spill and incident history linked to the installation during the permitted period. There are no records of any major spills, or incidents of site contamination. We have reviewed all the reports from site inspections and audits carried out while the permit was in place and have found no records of spillages which could have caused land contamination.

Groundwater Quality Assessment

Conclusions

Overall, for the installation area as a whole, we consider that potential ongoing risks are limited and being managed for BH13 /14 as these are some distance from the installation.

As BH10 and BH11 are more representative of the installation we requested a final round of groundwater monitoring for these boreholes after the completion of the installation decommissioning.

The additional round of monitoring was completed in August 2023 and a revised surrender site condition report submitted from the operator.

The results are summarised below:

- BH10 results; most of monitored parameters decreased or no significant increase. However zinc levels there was an increase in dissolved Zinc concentrations during the 2023 monitoring event (26 µg/l). The result is higher than the Environmental Quality Standard (EQS) of 10.9 µg/l (freshwater, bioavailable, annual average).
- BH11 results; all baseline groundwater parameters have either decreased or there has been no significant change in groundwater concentrations.

In relation to elevated zinc levels we requested a source, pathway and receptor review to establish any risk of contamination linked to the installation.

A final surrender site condition report (SCR) was submitted in September 2023 with such a zinc risk assessment.

The operator states the following:

“The review clearly shows only one potential source of zinc related to the chemical contouring activity. This liberated zinc (at low levels) came from the chemical etching of 2000 series Aluminium alloy which was the primary metal used on our Hawk aircraft platform. The chemical drag out from this particular process bath was minimised and contained via crane speed and sloped stainless steel run back covers (BAT). This minimised drag out and transfer into the rinse baths whilst also maintaining process chemicals within the process bath. The bath chemistry was subject to top-up in-line with operating specifications. All processes were designed and operated in-line with BAT. The process bath was also wholly located within a BAT compliant secondary contained system.

Our conclusion, based on the review and information provided, is there was no viable pathway or mechanism for the permitted installation to impact the groundwater in this area. More importantly, the decommissioning process did not utilise any of the installation infrastructure to handle or treat effluent or materials during the process. Therefore, it is considered unlikely that the variability in zinc groundwater concentrations was either due to the installation operation or the decommissioning activities. This hypothesis is further backed up as BH14 shows an increase over baseline conditions even though it is over 300 metres from the main installation area.”

Final Conclusion:

We have assessed this final surrender SCR zinc risk assessment.

We agree with operator conclusion that risk of zinc groundwater contamination from installation is negligible.

Hence we consider site is in a satisfactory state to allow the installation permit to be surrendered.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Pollution risk

We are satisfied that the necessary measures have been taken to avoid a pollution risk resulting from the operation of the regulated facility.

Satisfactory state

We are satisfied that the necessary measures have been taken to return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to accept this permit surrender.