

Application SCR evaluation template

Name of activity, address and NGR	<p>Invicta Merchant Bar Limited. Queenborough Bar Mill, Rushenden Road, Queenborough, Kent, ME11 5HS.</p> <p>National Grid Reference (NGR) of the approximate centre of the former milling building – TQ 91183 71722.</p> <p>Permit Ref: EPR/KP3838SD. Surrender Application Ref: EPR/KP3838SD/S003.</p>
Document reference of application SCR	A Report by ENVIROS Consulting Limited: March 2005 for Istil (UK) plc. PPC Permit Application Site Report.
Date and version of application SCR	March 2005.

1.0 Site details

Has the applicant provided the following information as required by the application SCR template?

Site plans showing site layout, drainage, surfacing, receptors, sources of emissions/releases and monitoring points.

The Operator has provided information and plans as part of the supporting documents which were submitted with the original application as follows:

- PPC Permit Application Site Report, March 2005.

Details and plans were provided by the Operator and reviewed and accepted by the Environment Agency at the application stage.

2.0 Condition of the land at permit issue

Has the applicant provided the following information as required by the application SCR template?

- a) Environmental setting including geology, hydrogeology and surface waters
- b) Pollution history including:
 - pollution incidents that may have affected land
 - historical land-uses and associated contaminants
 - visual/olfactory evidence of existing contamination
 - evidence of damage to existing pollution prevention measures
- c) Evidence of historic contamination (i.e: historical site investigation, assessment, remediation and verification reports (where available)
- d) Has the applicant chosen to collect baseline reference data?

a) – A Conceptual Site Model (CSM) was presented in Sections 4 and 6 of the PPC Permit Application Site Report (ASR). This included a review of the site hydrogeology, hydrology and geology. The installation was originally consented under earlier regulatory regimes and a baseline intrusive investigation was not undertaken at the time of regulation under PPC. The underlying geology of the site comprises Made Ground, Alluvium, London Clay, pebble beds, Woolwich Beds (sands and clays), Thanet Sands and Chalk at varying depths and thicknesses across the site. There was an on-site borehole approximately 2.7m deep which drew water from the underlying aquifer to use for on-site manufacturing processes. Its location at the site is shown on Figure 1 in the ASR.

b) and c) – a review of historical information and potential legacy contamination was provided in the PPC Permit ASR Sections 3, 5 and 6 and presented on Figure 1. This detailed the potential for historical contamination at the site prior to the introduction of permitting regulations as the site was in operation before Environment Agency environmental permits were required. The original EnviroCheck search is provided in

2.0 Condition of the land at permit issue

Has the applicant provided the following information as required by the application SCR template?

the ASR appendices.

A map extract from 1894 shows the site on agricultural land. By 1933 a tramway ran through the centre of the site and buildings were located in the south-west corner. By 1956 the tramway had been converted to a railway and between 1965 and 1975 a coal yard had been developed in the north of the site and a scrap metal yard to the south. A slag heap overlapped the south-eastern site boundary. By 1991 the mill was present. Additional information obtained stated that the mill dates from the 1970's with the warehouse constructed in the mid-1980s. The workshop at the front of the mill was completed around 1996.

The railway within the installation boundary was utilised to transport shipped steel billets to the installation from the dock and for the transport of rolled bars from the main mill building to the product storage and dispatch areas. Records of known pollution incidents do not exist pre-PPC permitting of the site. Therefore, there is the potential that pollution incidents had occurred at the site prior to the permitting regulatory regime that were not documented.

A site reconnaissance was undertaken to identify any visual evidence of contamination and allow discussions with staff familiar with the history of the site. The type and condition of hardstanding varied across the site. The floor of the rolling mill building was observed to be in a fair condition with no notable cracking. Where concrete was visible its thickness was up to 0.5m. Outside the mill the surrounding hardstanding was constructed from concrete or hardcore rubble overlain by mill scale up to 1m thick. Some small areas of concrete outside the mill were noted as being in poor condition. The water within the settlement lagoon was observed as being discoloured in relation to the presence of suspended mill scale and hydrocarbon residues.

d) – only a CSM was undertaken based on a desk top study. The site was operational pre Environment Agency environmental permitting requirements therefore no intrusive investigation baseline data was reported as part of the original application and there have been no intrusive investigations previously carried out at the site.

3.0 Permitted activities

Has the applicant provided the following information as required by the application SCR template?

Response (Specify what information is needed from the applicant, if any)

- a) Permitted activities
- b) Non-permitted activities undertaken at the site

a) The Environment Agency determined that the installation comprised the following activity as listed in Part 2 of Schedule 1 of the PPC Regulations at the time of the original application determination:

- 2.1 A(1)(c) - processing ferrous metals and their alloys by using hot-rolling mills.
The site manufactured steel bars from steel billets. The core manufacturing activities were undertaken within the main mill building which housed a re-heat furnace and 32 horizontally aligned rolling stands.

No other permits, licenses, registrations and/or authorisations were associated with this installation.

b) Directly Associated Activities at the remainder of site included:

- handling and storage of associated wastes and mill scale. No disposal of waste was carried out within the installation. Refractory waste generated from furnace maintenance was recycled as low grade aggregate for on site road repairs
- a closed loop water management system which consisted of a process water flume, three internal scale pits, an external scale pit, a filtration unit (dissolved air floatation) and a settlement lagoon. The system was chemically dosed to protect against *Legionella*, scale formation and corrosion control
- a private railway and locomotive fuelling area
- handling and storage of raw materials, product, chemicals, greases, fuels and oils.

3.0(a) Environmental Risk Assessment

The H1 environmental risk assessment should identify elements that could impact on land and waters, cross-referenced back to documents and plans provided as part of the wider permit application.

The Environment Agency reviewed the Operator's environmental risk assessment (H1) including the potential for environmental impact from emissions to air and water. The H1 was reviewed at the time of the original permit determination and accepted as satisfactory.

An Improvement Programme was set within the original permit to ensure that the identified required improvements were undertaken over specified timescales at the installation.

3.0(b) Will the pollution prevention measures protect land and groundwater?

Are the activities likely to result in pollution of land?

It was concluded that there was little likelihood of pollution arising from the operation of the installation provided that it was operated and maintained correctly. An assessment of the potential for pollution from the historical and current site activities were discussed in Sections 5 and 6 of the PPC Permit ASR. Information from the original permit indicates that there were no direct releases of hazardous substances or non-hazardous pollutants to ground or groundwater.

To ensure the continued effectiveness of pollution prevention measures to protect the land the Operator was required to implement and operate under a Site Protection and Monitoring Programme.

The main activities within the installation with the potential to cause emissions to groundwater was the bar mill lagoon and diesel and liquid storage tanks. The bar mill lagoon was clay lined and there was no evidence of any leakage during its operation. However, during dredging works care would need to be taken to prevent damage to the protective clay liner barrier. Measures were put in place to prevent leaks, spills and accidental discharges of fuels from the storage tanks. The only release to sewer was surface water run-off and domestic drainage from the site.

For dangerous and/or hazardous substances only, are the pollution prevention measures for the relevant activities to a standard that is likely to prevent pollution of land?

The Environmental Management System included operational procedures covering the scheduled activity and the associated activities such as fuel management undertaken across the site. Additional measures required at the site during the life of the permit to protect the environment and prevent pollution included but were not limited to:

- oil skimming to remove oily residues on the lagoon part of the water recycling system
- automatic overflow prevention devices fitted to the two 40,000 litre diesel storage tanks
- review of the liquid storage facilities and improve those that were not constructed in line with section 2.2 of Sector Guidance IPPC S2.04
- best disposal methodology for sedimentary wastes dredged from the lagoon
- technical and economical feasibility of alternative methodologies for the disposal of coarse and fine mills scale from the installation.

Application SCR decision summary

Tick relevant decision

Sufficient information has been supplied to describe the condition of the site at permit issue

Yes

Pollution of land and water is unlikely

Yes

Date and name of reviewer:

Liz Ebbs

15/12/2014

Operational phase SCR evaluation template

Sections 4.0 to 7.0 may be completed annually in line with normal record checks.

4.0 Changes to the activities	
Have there been any changes to the following during the operation of the site?	Response (Specify what information is needed from the applicant, if any)
a) Activity boundaries b) Permitted activities c) "Hazardous pollutants" used or produced.	
There were no changes to the activity boundaries or to the permitted scheduled activities during the operation of the site under the Environmental Permit. With regards to hazardous pollutants, the main activities at the installation with the potential to cause emissions of hazardous pollutants primarily to groundwater were the mill lagoon, and diesel and liquid storage tanks. As well as the main permitted activity several other potentially hazardous polluting activities were noted at the operational site including chemical treatment and dissolved air floatation.	

5.0 Measures taken to protect land
Has the applicant provided evidence from records collated during the lifetime of the permit, to show that the pollution prevention measures have worked?
Records were kept as per the permit requirements and the processes in place during the operation of the installation recorded two incidents of leaking/broken hydraulic hoses. EMS F14 incident forms record containment and clean-up procedures as well as the dates (06 June 2012 and 12 October 2012). No other incidents were recorded or detailed by Area inspectors. Additional measures taken through-out the life of the Environmental Permit included: <ul style="list-style-type: none">➤ collection of baseline data and provision of a site condition report➤ inspection records and a summary of the findings from inspections for all pollution prevention measures on site➤ records kept of all maintenance, repair and replacement works regarding any of the site pollution prevention measures. Improvement conditions were set during the life of the permit to improve site operations and reduce the effect on the environment. These included: <ul style="list-style-type: none">➤ appropriate abatement measures for reducing releases to air of nitrogen oxides and particulate matter from the furnace➤ oil skimming options for removing oily residues on the lagoon part of the water recycling system➤ automatic overflow prevention devices fitted to the two 40,000 litre diesel storage tanks➤ best disposal methodology for sedimentary wastes dredged from the lagoon. Effluents generated at the installation were discharged via two routes: <ul style="list-style-type: none">➤ off-site to public sewer - consisted of surface water run-off and domestic effluent. This discharge did not undergo treatment prior to discharge as there were no interceptors or soakaways on site➤ bar mill closed loop water system - run-off from the mill roof and all process effluent generated from the cooling and de-scaling activities was collected and recirculated for continuous reuse of water.

6.0 Pollution incidents that may have impacted on land and their remediation
Has the applicant provided evidence to show that any pollution incidents which have taken place during the life of the permit and which may have impacted on land or water have been investigated and remediated (where necessary)?
All pollution sources associated with any on-site incidents were investigated and as such it is understood that they did not lead to any pollution at the site during its operational stage.

However, it should be noted that investigation of potential hydrocarbon groundwater contamination has been undertaken as part of the site permit surrender requirements to mirror the baseline data recorded previously (refer to section 9.0 of this report).

7.0 Soil gas and water quality monitoring (where relevant)

Where soil gas and/or water quality monitoring has been undertaken, does this demonstrate that there has been no change in the condition of the land? Has any change that has occurred been investigated and remediated?

No soil and groundwater monitoring and/or testing was carried out for the original application. No intrusive soil and groundwater background data was collected for the application. Some intrusive soil and groundwater background data and monitoring was collected in 2006.

Surrender SCR Evaluation Template

If you haven't already completed previous sections 4.0 to 7.0, do so now before assessing the surrender.

8.0 Decommissioning and removal of pollution risk

Has the applicant demonstrated that decommissioning works have been undertaken and that all pollution risks associated with the site have been removed? Has any contamination of land that has occurred during these activities been investigated and remediated?

The following report and information has been submitted by the Operator as part of the surrender application and surrender process:

- Site Closure Report and Site Closure Timetable, December 2013
- Queenborough Mill Addendum IPPC Surrender Report, March 2015.

All permitted activities have ceased and all sources of pollution risk have been removed:

- SPMP boreholes to be sampled and analysed. Completed 12-09-2013
- Diesel fuel to be removed. Completed 12-07-2013
- Lagoon to be dredged. Completed 19-08-2013
- Mill scale to be disposed of. Completed 19-09-2013
- Cooling tower to be decommissioned. Completed 05-09-2013. Certificate provided in page 14 in the Site Closure Report
- All settling pits and gullies to be cleaned. Completed 04-10-2013
- Waste oil to be disposed of. Completed 30-05-2013
- Decommission compressed air systems. Completed 05-09-2013
- Disposal of machine shop contents. Completed 17-09-2013
- Dismantling of workshop building. Completed 12-09-2013
- Dismantling of warehouse building. Completed 12-09-2013
- Disposal of mobile plant. Completed 12-09-2013
- Removal and disposal of railway track. Completed 01-11-2013
- Removal of bulk oxygen tank. Removed.
- Disposal of bulk diesel tanks. Completed 12-11-2013
- Termination of incoming gas supply. Completed 19-08-2013.

The site was decommissioned by the process below:

1. Cooling water lagoon was dredged and surrounding land returned to pre permit application state
2. Cooling water pipework drained
3. Cooling tower decommissioned according to HSC L8 2001 by Rochester Midland
4. All scale pits cleaned and chlorinated
5. All mineral oils on site removed
6. All diesel fuel drained from tanks, diesel tanks removed from site
7. All waste mineral oils removed from site by approved contractor (Greener earth)
8. Site gas supplies terminated
9. Bulk oxygen tank removed
10. General trade waste removed from site by a licensed contractor.

There was no impact on the land during the decommissioning.

9.0 Reference data and remediation (where relevant) - GWCL

Has the applicant provided details of any surrender reference data that they have collected and any remediation that they have undertaken?

(Reference data for soils must meet the requirements of policy 307_03 Chemical test data on contaminated soils – quantification requirements). If the surrender reference data shows that the condition of the land has changed as a result of the permitted activities, the applicant will need to undertake remediation to return the condition of the land back to that at permit issue. You should not require remediation of historic contamination or contamination arising from non-permitted activities as part of the permit surrender.

Groundwater data was collected by Enviro Ltd on two separate dates, 14 August and 12 September 2013. The results of this are detailed in the site closure report submitted. All boreholes came back with better results than the previous round of monitoring undertaken in 2006 with the exception of BH4. As part of the surrender application process, the Environment Agency made a request to the Operator for an additional round of groundwater sampling and testing from BH4. This was requested to ensure that the condition of the underlying groundwater had not changed as a result of the permitted activities. The requested additional groundwater testing comprised:

- basic level age estimation for hydrocarbons (HCs)
- a suite of speciated poly-aromatic hydrocarbons (PAHs) and speciated volatile organic compounds (VOCs) **or**
- speciated VOCs and speciated semi-volatile organic compounds (SVOCs).

These tests were required in addition to the full analytical testing suite as per the SCR. Groundwater levels were also required to indicate groundwater flow at the site.

Consultants were commissioned by the Operator to undertake this additional work. The consultant returned to the decommissioned site to sample BH4 but because of the site demolition works, a layer of crushed concrete about 1m thick covered the location of BH4. Therefore, with agreement from the Environment Agency, the consultant instructed a site investigation contractor to re-drill a borehole close to the location of BH4 (BH4A) in order to undertake the required groundwater monitoring and sampling. This included installing a standpipe to collect groundwater from the same stratum as BH4 previously. Two further boreholes were also re-drilled to allow the assessment of the groundwater regime beneath the site.

Monitoring and sampling was undertaken in January 2015 to establish current levels of hydrocarbon groundwater pollution at BH4. As part of the site surrender process a report 'Queenborough Mill Addendum IPPC Surrender Report' dated March 2015 was submitted with the following additional data:

- a full suite of the original determinands tested for in 2006
- groundwater monitoring and groundwater flow diagram
- ground conditions encountered whilst re-drilling BH1, BH3 and BH4 (BH1A, BH2A and BH4A)
- a suite of PAHs and VOCs.

The conclusions in the report were that no discernible concentrations of metals, PAHs, total petroleum hydrocarbons and VOCs were encountered in the vicinity of BH4 (BH4a). The contamination previously identified in 2013 was probably due to the sampling strategy employed at the time not allowing for representative samples to be collected and not considered appropriate to determine acute changes in groundwater quality. Basic level age estimation for any detectable hydrocarbons present was not undertaken due to the low level of hydrocarbon contamination present in the groundwater samples collected.

Contamination on site is considered largely to be limited to Made Ground. Recent laboratory testing has indicated minimal groundwater contamination in BH4a and the relatively low permeability of the Alluvium and underlying London Clay is considered to effectively inhibit significant migration of groundwater contamination. The additional sampling has not indicated that deterioration of groundwater quality has taken place since the previous monitoring in 2013.

10.0a and 10b Statement of site condition

Has the applicant provided a statement, backed up with evidence, confirming that the permitted activities have ceased, decommissioning works are complete and that pollution risk has been removed and that the land and waters at the site are in a satisfactory state?

The Environment Agency confirms:

- the diesel tank was emptied and had been removed from site
- the lagoon had been dredged and the mill scale had been removed
- all settling pits were cleared and chlorinated
- no visible oil or chemical storage left on site
- the process machinery has been removed from site for either reuse on other sites or recycled as scrap.

During decommissioning and subsequent demolition all sources of potential pollution risk were removed. All materials associated with the regulated activity were removed from site prior to the full surrender application being submitted with the despatching of remaining finished goods ceasing at the end of February 2013. All permitted manufacturing activities on the site ceased as of 21 December 2012, the decommissioning process is completed and all pollution risk has been removed. No deterioration of the area has occurred as a result of the sites activities. All demolition activities within the surrender area have been completed and the area has been returned to a satisfactory condition.

The Environment Agency confirm acceptance of the report 'Queenborough Mill Addendum IPPC Surrender Report' dated March 2015.

The Environment Agency concludes that sufficient groundwater monitoring and testing has taken place to investigate and verify the hydrocarbon contamination identified previously at the location of the former BH4 (BH4A). The Environment Agency confirms that the permitted installation has been returned in a satisfactory state.

Surrender SCR decision summary To be completed by GWCL officers and returned to NPS	Tick relevant decision
Sufficient information has been supplied to show that pollution risk has been removed and that the site is in a satisfactory state – accept the application to surrender the permit; or	X
Insufficient information has been supplied to show that pollution risk has been removed or that the site is in a satisfactory state – do not accept the application to surrender the permit. The following information must to be obtained from the applicant before the permit is determined:	
Date and name of reviewer	J Atkinson 24/03/2015