Land Reclamation, Surface Coal Mining and Restoration at the Former Tower Colliery Site

ENVIRONMENTAL STATEMENT

Non-Technical Summary

July 2010
Introduction

Tower Regeneration Limited (Tower), a joint venture partnership between Tower Colliery Ltd and Hargreaves Services Plc, is seeking planning consent for land remediation and reclamation, including surface coal extraction, and land restoration of the former Tower Colliery site, near Hirwaun. The land reclamation works include removal of structures and residual contamination, re-profiling of colliery spoil tips, removal of coal workings and mine entries, provision of surface drainage, and creation of landscaped development plateaux.

Site Background

Tower Colliery was purchased by the workforce in December 1994 as part of the privatisation of the Coal Industry. The deep mine was successfully operated until the exhaustion of the workable underground reserves through deep mining methods, with production ceasing in January 2008.

Tower surface lands, together with adjacent land areas, have for several years been identified as a potentially strategic regeneration opportunity by the Welsh Assembly Government and Rhondda Cynon Taf County Borough Council. With the closure of the deep mine, the redevelopment and remediation of the 253 hectare brownfield site containing tips, a disused coal washery, coal blending and loading areas for the benefit of the locality is now being progressed. The ultimate aim is to re-develop the site for the wider use of the community and provide employment opportunities in the short, medium and long-term.

The Need for Coal

The UK generates approximately one third of its electricity by burning coal and currently uses over 63 million tonnes of coal a year. Of this 69%, 43 million tonnes, is imported from countries such as Russia, Australia and South Africa. The growth in the Chinese and Indian economies over the last ten years has led to a greater global consumption of coal, which has in turn led to fluctuations in the international price of coal. A continued reliance upon imported coal may lead the UK to become exposed to increasing coal prices which in turn have lead to knock on consequences for industrial users and energy suppliers. The coal produced from the Tower site will go towards securing the needs of local coal users, such as Aberthaw Power Station, as well as meeting the needs of other users.

Whilst the UK continues to develop alternative forms of renewable energy, such as wind power, coal will play an important role in meeting the country’s energy needs for at least the foreseeable future and the long term with the development of Carbon Capture and Storage technologies.
About the Project

The mining phase of the Project will last for a period of seven years, involving excavation to a maximum depth in the east of 90m and 165m in the west of the site. Excavation will be undertaken as a continuous operation.

Site Boundary Plan

The mining operations will commence in the east of the site, moving sequentially westwards with systematic backfilling of the mined void. It should be noted that, at any one time, only a small proportion of proposed excavation area will be an operational void.

Mine Phasing Plan

![Mine Phasing Plan Diagram](image-url)
On completion of the coal extraction, the site will be restored to create development platforms to support future built development on the site. For the purpose of this planning application, the platforms in Tower’s land ownership will be restored to nature conservation and public access, with the built development being the subject of a separate planning application. Land not in the ownership of Tower will be returned to agriculture.

This application also includes the permanent development of a new visitor / environmental resource centre and the provision of structural landscaping and green corridors as part of the restoration proposals for the land. The green corridors will be created connecting to areas of open access, local communities and sites of interest. A series of ecological enhancements will also be undertaken including the creation of some water bodies and wetlands to provide new habitats for locally important species.

The ability to re-develop the site without mining has been considered at length but the constraints, which include the presence of recorded and unrecorded mine workings in the coal and ironstone measures, historical and active coal tips, and unsuitable topography have proved to be extremely difficult to overcome.
Community Involvement

Key stakeholder organisations, including all relevant statutory bodies were engaged on the Project. Additionally, significant effort was made to ensure that all members of the local communities were aware of the proposed Project and had the opportunity to comment on the proposals through a variety of accessible means. This involved public exhibitions, street interviews, focus groups and a Project website. A telephone hotline has also been operated so that residents and other interested parties can make contact with the consultation team; all enquiries have been responded to on an individual basis.

Public Exhibition at Hirwaun Community Centre

Public consultation focussed upon the communities of the four local villages closest to the Project (Hirwaun, Penderyn, Penywaun and Rhigos). These villages were selected to ensure that all those most likely to be affected were made aware of the proposed Project and were informed of the programme of development and consultation related to it.

The consultation scope encompassed both the mining phase, which is the subject of the current planning application, and the subsequent development phase which will be the subject of a future application. Consultation undertaken by Environmental Resources Management (ERM), on behalf of Tower, as part of a Health Impact Assessment is documented in a separate report.

Environmental Impact Assessment

An Environmental Impact Assessment of the effects of the proposed scheme has been conducted by ERM, on behalf of Tower.

In undertaking the EIA, current best practice has been followed, and in particular the guidance set out in Environmental Impact Assessment: A Guide to Procedures (1) and IEMA (2) Guidelines for Environmental Impact Assessment.

Summary findings are presented below, concentrating on the impacts likely to occur during the proposed scheme:

(1) Source : www.communities.gov.uk
(2) Institute of Environmental Management and Assessment
**Socio-economics**

The Project has the potential to create around 205 new jobs of which 144 are likely to be taken up by local people. To ensure local people benefit as far as possible, it is proposed that a Local Labour Provision Strategy will be devised and agreed with the local planning authority to maximise the employment opportunities for local people.

The site restoration has the potential to improve the health and wellbeing of the local community, and potentially provide education opportunities through the planned environmental resource centre.

Overall, the assessment considers that the Project will have a moderate positive impact on the identified impact areas.

**Landscape and visual**

A detailed Landscape and Visual Impact Assessment has been undertaken to determine the potential effects of developing the surface mine as well as the restoration works.

Photomontages were used to illustrate the Project at various stages (existing, operational and restored) from eleven viewpoints. In terms of the operational phase, the montages include a view at operational year 6 (maximum height of overburden mound, which will be the most visible feature of the mine) and a comparison with the existing situation.

![Photomontage: view from public footpath south of Moel Penderyn during Year 6](image)

The storage of excavated materials from the mine will screen the majority of mining activities. The main overburden mound is predicted to impact on the character and visual amenity of the area during the operational phase. However, this will exist for a comparatively short period. The overburden mound reaches a maximum in Year 6 and removal commences in Year 7 for site restoration.

The restoration proposals will result in overall beneficial residual impacts for the majority of landscape and visual receptors and resources. This is mainly due to the fact that the existing landscape character and visual amenity is already negatively affected by the existing site.

It is considered that there will be no significant cumulative impacts arising from the Project.

**Geology, hydrogeology & contaminated land**

The assessment addresses the potential effects with regard to the geology, hydrogeology, soils and the presence of historic land contamination and the potential effects of any risk management or mitigation measures which may be required.

The investigation and history of activity on the site indicate that the potential for presence of contaminated soils and water and risks related to the demolition of structures and excavation of tips is generally low. Weathering of pyrite exposed in the old workings can lead to increased concentrations of sulphate and iron within rising minewater which might show as ochre deposits where water comes to the surface.
However, the proposed excavation will remove old workings and reduce the potential for ochreous discharges. Thus, minor, long term, positive impacts may result.

The design of temporary topsoil, subsoil and overburden mounds (including screening bunds) and the surface mine void will comply with the relevant code of practice for surface mines and appropriate legislation.

The topsoil and sub-soils, which have previously been stripped and stockpiled, together with additional soil forming material will be re-used within the restoration phase. All areas will undergo improvement due to restoration.

The classification of the coal means there are no risks of combustion of waste content being compacted and covered on site.

Pollution prevention measures will be addressed within a Construction Environmental Management Plan. The proposed mitigation measures to be adopted will comprise a combination of monitoring, measures and controls.

Water resources

A new drainage system and water treatment areas will be built before mining commences. This will control and treat all water flows associated with the mining operations. The Nant y Bwlch, which crosses the site, will be diverted around the surface mine and the diversion will be isolated from untreated water associated with the site. Other mitigation measures to protect the water environment have been incorporated into the design of the various phases, and best practice measures (i.e. to prevent sediment laden runoff entering watercourses) will be followed.

Restoration will include modification to the drainage system including creation of ditches and ponds, as well as the re-instatement of the Nant y Bwlch. The works will enable considerable ecological and landscape enhancement, increased flow attenuation and increased amenity/recreational value. The residual impacts may be considered to be moderately positive due to the long term benefits to the area as a result of improvements to the watercourses and provision of water features for nature conservation and public access.

Plans and procedures will be developed to enable a swift response in the unlikely event of an emergency, such as large leaks and spills, drainage system malfunctions (with associated secondary impacts to water quality and flooding) and extreme flood events. The excavation void can be used as temporary storage during the mining phase if required. However, the residual impact of emergency and unforeseen events during operation is not considered to be significant due to the small volumes of potentially polluting materials to be stored on-site, and the low sensitivity of the restored site to flooding.

Ecology

Ecological receptors identified include the statutory designated site, Blaen Cynon Special Area of Conservation (SAC). The scheme was re-designed at an early stage to avoid earthworks in proximity to the SAC.

A Habitats Regulations Assessment screening was undertaken and mitigation measures to avoid adverse impacts on the SAC and locally designated sites are discussed in the EIA. [Air quality impacts on the SAC are considered to be insignificant.]

No significant residual adverse impacts are expected to result from the Project and there are no cumulative impacts expected with other projects and proposals.
Targeted mitigation measures, identified through the EIA, to be implemented during the site establishment and mining stage include translocation of notable plant species, habitats and protected species to safeguarded receptor sites. Full details of proposed translocation including timescales will be presented in an overarching Environmental Management Plan for the site. Mitigation throughout the mining operations stage will result in neutral impacts to habitats and species across the site.

Restoration proposals include additional enhancement for nature conservation through the establishment and management of habitats of high value within the main site and the management of old tips for wildlife and enhanced provision for biodiversity in general.

It is considered that these measures will result in an overall positive residual impact for nature conservation.

**Transport**

The transport assessment considered the movement of Heavy Goods Vehicles (HGV), abnormal loads and personnel movement during the both pre and post mining phases.

It is anticipated that the main period of traffic generation for abnormal loads (carrying mining infrastructure and plant such as excavators) will be during the establishment of the operations at the site (a period of 13 weeks) and at the end of the Project when removed. Once on site, the mining plant will remain within the main mining areas, and will not access public roads for the duration of the Project (ie from pre-mining to the restoration phase). During and following the restoration phase the infrastructure and plant will be removed from the site.

The majority of the coal will be transported from the site by rail. The existing rail head and conveyor system will be used, and train frequencies will not exceed those experienced during the deep mine’s operational life. In addition to coal leaving the site by rail, HGV will be used to transport coal by road. HGV flows transporting coal during the mining phase will be less than the HGV flows currently generated by the Aberpergwm and Tarmac schemes which currently use the site. Both of these site users will cease operations at the site prior to the commencement of the Project. Overall, the Project will therefore reduce the amount of HGV traffic generated by use of the site.

Following the mitigation measures identified through the EIA there are not expected to be any significant adverse residual impacts as a result of traffic generated by the Project. There may be some degree of temporary disruption to road users during the arrival and exit of abnormal load vehicles depending on the timing of the movements.

A Traffic Management Plan (TMP) will be prepared in agreement with all of the relevant authorities. The TMP will consider all traffic elements. It is intended that the TMP will reflect feedback from the relevant authorities and to be consistent with any planning conditions attached to any planning consent given.
Once the restoration has taken place, the site will not generate any traffic until such time as development is brought forward. Any development brought forward will be subject to appropriate planning and traffic assessment procedures.

**Air quality**

The air quality assessment considered the potential impacts associated with the mine operations themselves; traffic associated with the operation of the proposed mine; and the operation of the conveyor system and railhead.

A review of the proposed operations has identified that of all the elements of the operation only the screening bunds and overburden stockpiles, and the conveyor and railhead are within 500m of sensitive receptors. On this basis, any dust emissions from the other elements of the proposed development are considered to be insignificant. The exception is a small portion of the excavation footprint at the extreme north-west of the mining area. In adverse conditions, such as very dry and windy weather, additional mitigation measures could be required for the short time that works take place here (ie the creation of screening bunds).

In order to ensure that dust emissions do not cause nuisance in even the worst weather conditions, a number of mitigation measures have been recommended which will further reduce the potential for dust emissions from the stockpiles.

Best practice will be implemented on site, based on the requirements of Welsh Assembly Government Minerals Technical Advice Note (MTAN2), to minimise any impacts associated with the proposed activities.

**Noise**

The noise assessment has predicted worst case noise levels at selected receptors for temporary operations, normal weekday and Saturday operations and dawn and evening operations.

Activities comprising temporary operations include the construction (and ultimate removal) of the topsoil and subsoil mounds around the perimeter of the site. The noise limit for temporary operations detailed in MTAN2 was not exceeded for these activities at any receptor.

Predictions for three types of operational scenarios were undertaken in order to fully assess both the lower background levels which were measured during the Saturday morning period, and the working during the sensitive dawn and evening periods outside of the normal working day (07:00 – 19:00 hours). The predicted noise levels have been shown to comply with the relevant MTAN2 noise limits in the vast majority of cases. Since the calculations include worst case assumptions, it is considered likely that actual noise levels will comply with the MTAN2 noise limits. Taking this into account alongside the short duration of these possible exceedances and the fact that in the majority of cases the predictions are below the measured background levels, the effects were considered to be ‘not significant’ at all receptors.

With the implementation of the recommendation to only commence dawn and evening operations towards the end of Year 1, no additional mitigation is considered necessary at this stage. The proposals for routine monitoring included as part of the Noise Management Plan will enable confirmation of compliance with MTAN2 noise limits and any exceedances to be identified and additional mitigation considered, if required.

**Archaeology & cultural heritage**

A number of features relating to 19th and 20th-century industrial activity were identified within the Project site. The surviving cultural heritage features that will be impacted upon by the Project are of low value. However, as the cultural heritage is a finite resource and cannot directly be replaced, a minor adverse residual impact will remain. The significance of this residual impact will be slight.
**Waste**

It is expected that the Project will generate small quantities of non-hazardous and hazardous wastes as part of the operations at the site, for example waste oil from machinery. These wastes have the potential to impact the local environment if disposed off inappropriately, however Tower will comply with current legal requirements and best practice in relation to the storage and transport of wastes for onwards recycling and/or disposal in off-site licensed waste management facilities.

Tower will apply for an environmental permit from the Environment Agency Wales under the Environmental Permitting (England and Wales) Regulations 2007 (as amended by the Environmental Permitting (England and Wales) (Amendment) Regulations 2009. As part of the application process, Tower will have to identify the quantities of wastes generated and the disposal methods to be used to dispose of these wastes. In addition, this permit will require Tower to develop and comply with a Waste Management Plan.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Scheme Description</td>
</tr>
<tr>
<td>3</td>
<td>Planning Policy &amp; Land Use</td>
</tr>
<tr>
<td>4</td>
<td>Socio-Economics</td>
</tr>
<tr>
<td>5</td>
<td>Landscape &amp; Visual</td>
</tr>
<tr>
<td>6</td>
<td>Geology, Hydrogeology &amp; Contaminated Land</td>
</tr>
<tr>
<td>7</td>
<td>Water Resources</td>
</tr>
<tr>
<td>8</td>
<td>Ecology &amp; Nature Conservation</td>
</tr>
<tr>
<td>9</td>
<td>Traffic &amp; Transport</td>
</tr>
<tr>
<td>10</td>
<td>Air Quality &amp; Dust</td>
</tr>
<tr>
<td>11</td>
<td>Noise &amp; Vibration</td>
</tr>
<tr>
<td>12</td>
<td>Archaeology &amp; Cultural Heritage</td>
</tr>
<tr>
<td>13</td>
<td>Waste Management</td>
</tr>
<tr>
<td>14</td>
<td>Abbreviations &amp; Glossary</td>
</tr>
<tr>
<td>A</td>
<td>Scoping Report</td>
</tr>
<tr>
<td>B</td>
<td>Consultation Diary</td>
</tr>
<tr>
<td>C</td>
<td>Ecology</td>
</tr>
<tr>
<td>D</td>
<td>Noise and Vibration [ENTEC]</td>
</tr>
<tr>
<td>E</td>
<td>Post Reclamation Interim Land Use Framework [Powell Dobson]</td>
</tr>
<tr>
<td>F</td>
<td>Geological Report &amp; Drawings [FWS]</td>
</tr>
<tr>
<td>G</td>
<td>Overview Contaminated Land &amp; Geotechnical Investigation [FWS]</td>
</tr>
<tr>
<td>H</td>
<td>Water</td>
</tr>
<tr>
<td>I</td>
<td>Blasting &amp; Vibration [ENTEC]</td>
</tr>
</tbody>
</table>
Copies of the Planning Application, full Environmental Statement and other supporting documentation can be viewed at the following addresses:

<table>
<thead>
<tr>
<th>Development Control</th>
<th>Tower Colliery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhondda Cynon Taf CBC</td>
<td>Treherbert Road</td>
</tr>
<tr>
<td>Sardis House</td>
<td>Hirwaun</td>
</tr>
<tr>
<td>Sardis Road</td>
<td>Aberdare</td>
</tr>
<tr>
<td>Pontypridd</td>
<td>Mid Glamorgan</td>
</tr>
<tr>
<td>CF37 1DU</td>
<td>CF44 9UF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aberdare Library</th>
<th>Hirwaun Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Street</td>
<td>High Street</td>
</tr>
<tr>
<td>Aberdare</td>
<td>Hirwaun</td>
</tr>
<tr>
<td>CF44 7AG</td>
<td>CF44 9SW</td>
</tr>
</tbody>
</table>

Copies of these documents can also be purchased in hard copy format for £200 or on CD for £5, by arrangement with Tower Colliery, or viewed online at:

W: [www.erm.com/tower_colliery_regeneration](http://www.erm.com/tower_colliery_regeneration)

Copies of the Planning Statement and Non-Technical Summary will be available at the community centres in Penderyn and Rhigos.

For further information on the Tower Colliery Project please contact:

E: [TowerCollieryRegeneration@erm.com](mailto:TowerCollieryRegeneration@erm.com)