



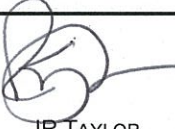

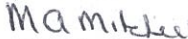
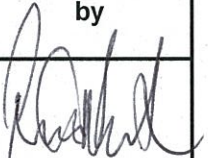
# **MGT TEESSIDE LTD**

## **TEES RENEWABLE ENERGY PLANT**

### **TRAFFIC MANAGEMENT**

**NOVEMBER 2008**

## LIST OF REVISIONS

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APPENDIX A HIGHWAYS AGENCY LETTER TO DECC

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## **LIST OF ABBREVIATIONS**

AADT	Annual Average Daily Traffic
DECC	Department for Energy and Climate Change
EIA	Environmental Impact Assessment
ES	Environmental Statement
ha	hectare
HGV	Heavy Good Vehicle
Km	kilometre
Ltd	Limited
m	metre
MGT	MGT Teesside Ltd
MW	megawatt
PB	Parsons Brinckerhoff
Tees REP	Tees Renewable Energy Plant
TMP	Traffic Management Plan

## **1. INTRODUCTION**

### **1.1 Project description**

MGT Teesside Ltd (MGT) proposes to construct and operate a new 300 MW biomass fired renewable energy power station (Tees REP) on land adjacent to the main southern dock at Teesport on the south bank of the River Tees in the Borough of Redcar and Cleveland.

The site is located on 14 ha of land approximately 5 km east of Middlesbrough and 6 km west of Redcar. Immediately adjacent to the site is Teesport which makes the site ideal in terms of any necessary import of fuel for the proposed plant .

In addition to deep water access the site is well served by A roads and is directly connected to the A66 which is a primary road for access to the site and which leads to the A1. The site is also served by a rail connection to the wider National Rail network.

Initial construction works will comprise of site clearance and removal or remediation of any existing contamination present within the site. In parallel with the site clearance, a temporary construction compound will be located within the proposed fuel storage area. This lay down area will be used to house temporary construction site offices, material and equipment storage, fuel storage and car parking, and may also be used for component fabrication works.

Construction of the new plant is expected to commence in 2009 and last around 32 months.

To ensure that the project has taken in to consideration the potential environmental and social issues associated with the development MGT commissioned PB Power to undertake an Environmental Impact Assessment (EIA) for the project. The findings of this assessment have been summarized in an Environmental Statement (ES) which has been submitted to the Secretary of State at the Department for Business, Enterprise and Regulatory Reform (now Department for Energy and Climate Change) (DECC) in support of the application for consent to construct and operate the plant under Section 36 of the Electricity Act 1989.

### **1.2 Purpose of this document**

This document has been prepared by PB Power, on behalf of MGT, as a response to issues raised by the Highways Agency in its role as a Statutory Consultee for the Section 36 application process.

The Highways Agency have sought clarification on certain aspects of the Transport and Infrastructure section of the ES in a letter to DECC dated 7 October 2008 (included as Appendix A). MGT and PB Power met with the Redcar & Cleveland Borough Council and the Highways Agency on 16 October 2008 to discuss the content of this letter.

In the meeting concerns were expressed by the Highways Agency regarding the impact of the additional traffic associated with the construction of the plant. It was agreed that the information presented in the project ES be supplemented by:

- the provision of further information regarding the staff requirements over the entire construction period;
- more detailed analysis of the existing traffic flow patterns on an hourly basis, specifically the impacts of construction traffic on the AM and PM peak flows;
- clarification of the proposed working day for construction staff;
- further investigation into the road safety connotations of the additional traffic; and
- the provision of outline detail of the proposed Traffic Management Plan.

### **1.3 Operational traffic impact**

No perceivable impact is expected during the operation of the proposed plant. During operation 150 two way trips are predicated, which will be spread throughout the day by the shift system. When comparing this figure against current traffic levels shown in Figure 2 a minimal impact is predicted. It is also considered that the existing local road network will have sufficient capacity to accommodate this level of increase in traffic volume. This view is further justified by the improvement schemes required as part of the approved planning application for the Northern Gateway deep water container terminal. Condition 33 of the approved planning application require highway improvement works to ensure that the A19, A174, A1053 and A66 trunk roads continue to fulfil their purpose as part of a national system of routes for through traffic. When the Tees REP starts operating the road improvements will be in place thereby minimizing any predicted impact further.

At this time the effect on the wider strategic road network (SRN) is unknown as it is not possible to know where the majority of employees will be travelling from. The operational Traffic Management Plan will identify those areas and if considered desirable mitigation measures such as minibuses could be introduced to reduce any impact on particular roads of the SRN.

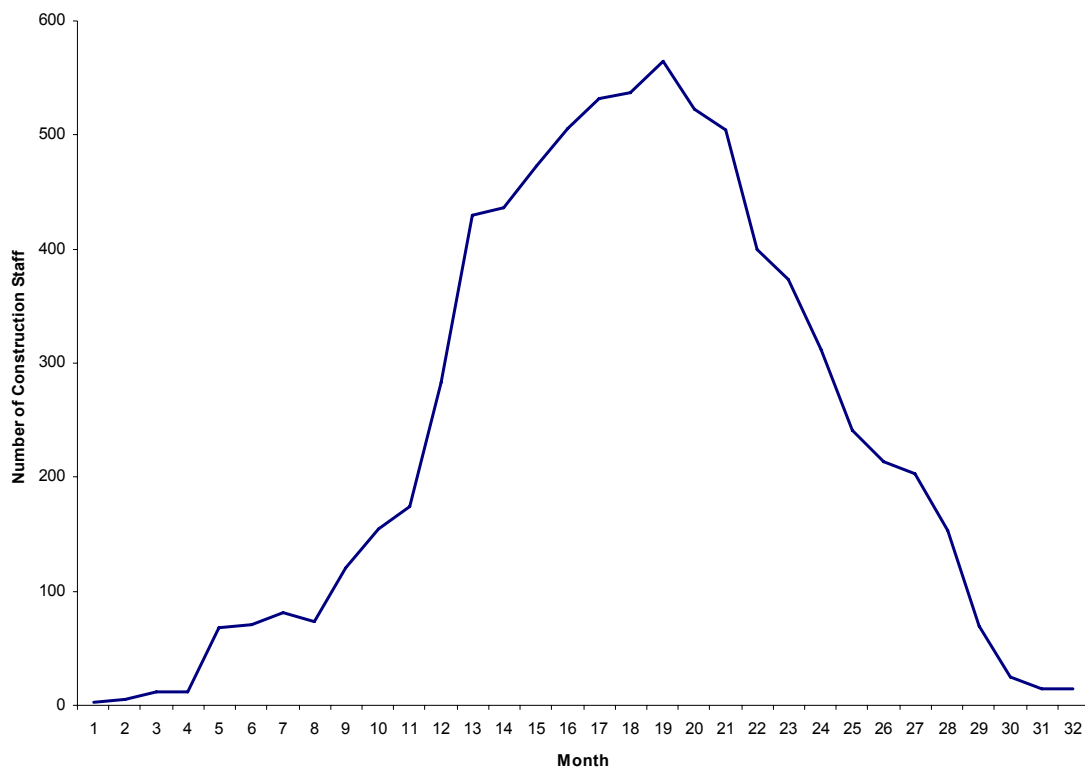
Section 11 of the EIA provides further details on the findings of the operational traffic assessment. The Highways Agency and Redcar & Cleveland Borough Council are satisfied that the impact of the proposed Tees REP during operation will be negligible and therefore the operational impact has not been discussed any further in this report.

## 2. FURTHER INFORMATION

### 2.1 Construction Programme

Subject to the award of the various consents and permits required for the proposed Tees REP, the construction phase is expected to commence during the summer of 2009 and will last for approximately 32 months. The proposed construction programme is presented as Appendix B of this document and details the anticipated timescales for each element of construction such as initial site clearance, civil works and mechanical/electrical erection.

The ES states that the construction workforce will peak at around 600 people, as shown in Figure 1. Applying the current mode share census data for people travelling to work in the Teesport area to the peak workforce estimate would result in approximately 440 vehicles per day travelling to and from site, with a person to car ratio of around 1.17. This figure is extremely low for the nature of the construction work for the proposed plant with an experiential ratio of around 2.3 persons per vehicle considered more likely, prior to the implementation of additional schemes for managing construction traffic volumes through the Transport Management Plan (TMP) (see Section 2.5).



**FIGURE 1  
CONSTRUCTION STAFF PROFILE**

The assessment on the local infrastructure, presented in the ES, has used the peak of construction as a worst case scenario. The nature of the construction of the Tees REP is such that the peak staffing level will not be a requirement for the entire phase. Figure 1 details a likely staffing profile of the plant based on PB Power's experience in power station construction and development.

Contractors will be required to promote sustainable travel arrangements amongst their staff. Obligations negotiated at the tender and contractual stages of the development will ensure that measures such as car-sharing and the use of mini buses will be actively encouraged to increase the person to car ratio as far as possible.

Upon the confirmation of staffing levels and locations, after tenders are awarded and contracts are let, MGT will develop a Green Travel Plan as part of the site TMP that will include measures such as minibus provision designed to compliment the local public transport systems as necessary.

## **2.2 Working day**

The ES states that construction work will only take place during daylight hours and will be limited to:

Monday to Friday	07:00 – 19:00 hours
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Saturday	07:00 – 17:00 hours.
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The assessment of the impact of construction traffic on the local road network has been conducted on the basis that the majority of traffic will arrive or depart the site over the hour preceding the working day and the hour after the end of each day. Given the length of the construction period, the Highways Agency expressed concerns that the limitation of work to daylight hours will reduce the length of the working day, particularly over the winter months, and mean that these vehicle movements will coincide with the peak traffic flows experienced in the area.

It has been agreed that construction work will not be restricted to daylight hours and will be as per the schedule above. Should a need arise, due to technical constraints or similar, with regard to carrying out certain construction work outside the times indicated above, prior written approval from the Local Authority will be sought.

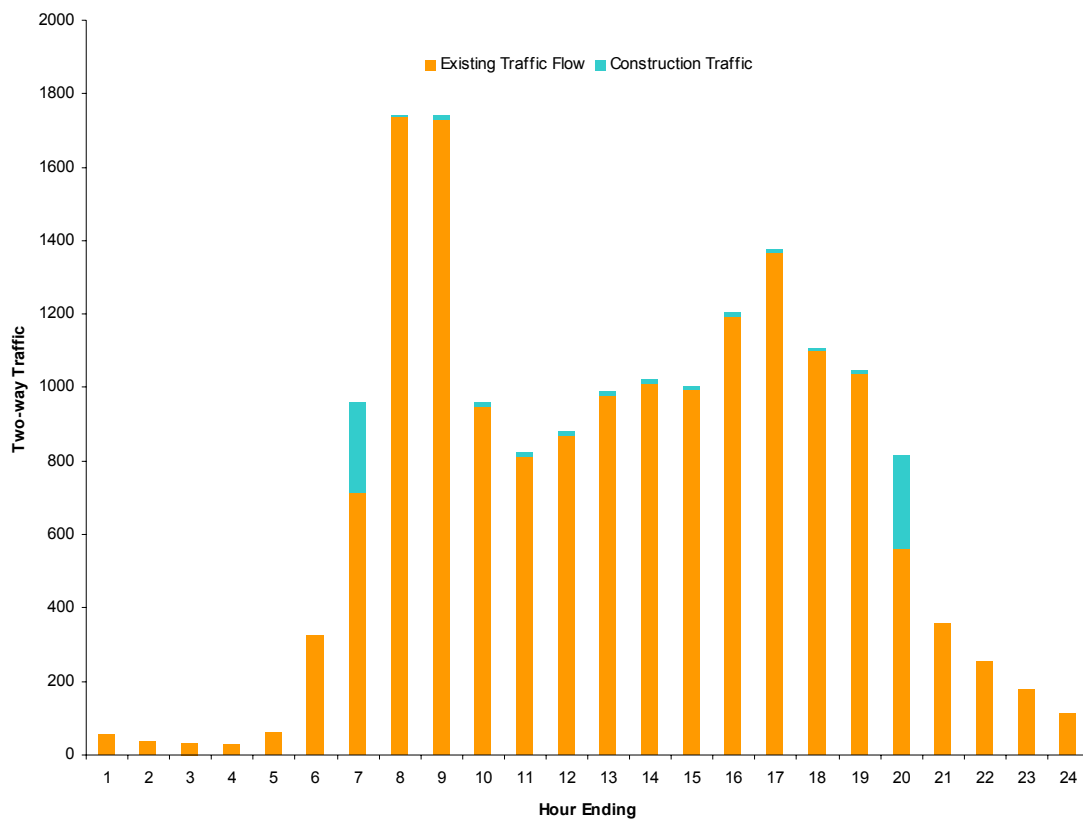
The site will incorporate appropriate lighting to ensure that the all construction work can be carried out safely.

## **2.3 Traffic analysis**

The peak traffic hours for the local road network are understood to be Monday to Friday 08:00 – 09:00 and 17:00 – 18:00. It is anticipated that the bulk of the workforce traffic, to and from the site, will occur between the hours of 06:00 – 07:00 and 19:00 – 20:00 and fall outside of the peak hours.

Figure 2 shows the effect of the additional construction traffic on the A1053/Greystone Road using data gathered from the Highways Agency Traffic Information Database.





**FIGURE 2**  
**ADDITIONAL CONSTRUCTION TRAFFIC**

As can be seen in Figure 2, the addition of 250 vehicles in the morning and evening will not have a significant effect on the road as the total traffic volume is of the same order as the average off-peak day time levels. However actual vehicle movements will only be determined following consultation with the Highways Agency and Redcar & Cleveland Borough Council and will be formalized in the Transport Management Plan.

MGT also understand that certain events may arise during the construction phase of the Tees REP that may benefit from flexibility of these vehicle movements, such as to help the road network accommodate improvement works, and will work with the above authorities where necessary.

## **2.4 Safety issues**

The major road links in the area are the A66 that runs east/west approximately 2.5 km south of the site, east of Middlesbrough, and the A174 that runs west from around 5 km approximately south-east of the site. The A66 is mainly a two- and three-lane dual carriageway that intersects with the A19 west of Middlesbrough. The A174 is a dual carriageway that runs from Thornaby on Tees to Whitby. The road is of trunk road standard between the A19 and Greystones Roundabout.

The Transport Assessment (TA) prepared by Steer Davies Gleave, to accompany the planning application for the PD Ports Northern Gateway Container Terminal, quotes accident data provided by Redcar & Cleveland Borough Council and Middlesbrough Council. The statistics relate to the five

year periods 2000 – 2004, for Redcar & Cleveland, and September 2001 – August 2005, from Middlesbrough Council. The data is reproduced in Table 1.

**TABLE 1  
SUMMARY ACCIDENT DATA**

District	Fatal	Serious	Slight	Total
Redcar & Cleveland	2	17	197	213
Middlesbrough	1	18	113	132
Total	3	35	307	345

For an initial assessment of the implications of the increased construction traffic related to the construction of the proposed Tees REP, it is assumed that, without the use of specific accident mitigation measures, accident frequency is directly proportional to the volume of traffic on the road within the study area.

As discussed in Section 2.1, the number of vehicles associated with construction staff movement to and from site is expected to peak at around 250 per day. There will also be approximately 45 HGVs per day travelling to and from site. Table 2 provides a breakdown of accident figures by road/junction within the study area.

**TABLE 2  
ACCIDENT DATA AND FORECAST INCREASE  
BY ROAD/JUNCTION**

Location	Number of accidents	AADT	Maximum increase in Traffic (%)	Forecast additional accidents
Tees Dock Road	1	4653	10.5	0.1
A1053/A66 Teesport Roundabout	5	4653	10.5	0.5
A1053/A1085 Roundabout	9	13743	3.6	0.3
A1053	5	13743	3.6	0.2
Greystones Roundabout	35	13743	3.6	1.2
A174, west of A1053	8	21080	2.3	0.2
A66 west of Teesport	18	30406	1.6	0.3
A66 Riverside to Cargo Fleet Ln	3	38730	1.3	0.0
A66/A19 Interchange	11	78989	0.6	0.1
Total	95			3.0

The increase in traffic quoted in Table 2 is calculated assuming that all the construction traffic (ie 490 vehicle movements) were to travel on the particular road or junction and, as such, represents a very much worst case scenario. In addition, the Annual Average Daily Traffic (AADT) figures for roundabouts have assumed the lowest value of each arm of the particular roundabout.

Despite the worst case scenario, it is considered that the additional traffic associated with the construction of the Tees REP may have the potential cause an additional 3 accidents over a five year period and, therefore, only 1-2 over the full 32 month construction period.

It is considered that the impact of accident levels in the area will be insignificant.

## **2.5 Transport Management Plan**

All vehicle movements associated with the construction of the proposed Tees REP will operate under a Transport Management Plan (TMP). The purpose of the TMP will be to actively manage all potential issues resulting from the increased demand on the local transport infrastructure to ensure that all impacts are minimized or eliminated.

The preparation of a detailed TMP is not practical at present as the project has not yet entered the detailed design stage therefore the exact requirements of the construction have not yet been established. The key features of the TMP will be:

- **Transport Manager**  
MGT will appoint a Transport Manager to co-ordinate all aspects of transport associated with the construction of the Tees REP and be responsible for the effective implementation of the TMP.
- **Definition**  
Targets and objectives will be set with regard to issues including traffic volumes and the scheduling of deliveries to the site and appropriate procedures and control methods will be established in full consultation with the Highways Agency and Redcar & Cleveland Borough Council.
- **Monitoring**  
MGT will monitor the level of on-site personnel, volumes and timings of vehicles travelling to and from site and the adherence to timetables throughout the construction phase of the project.
- **Review**  
The results of the monitoring will be regularly assessed to evaluate the effectiveness of all strategies defined within the TMP and to anticipate any variance from the targets or key dates within the construction programme.

As part of the review process the Transport Manager will discuss all relevant issues with other users of the Teesport Estate to establish the scope for the provision of shared traffic management services. These discussions will also help to identify any potentially significant cumulative impacts on the local

transport infrastructure and define appropriate mitigating measures that could be mutually beneficial.

- **Reporting**  
Regular updates will be provided to the Highways Agency, Redcar & Cleveland Borough Council as to the performance of the TMP and any issues identified as a result of the review and monitoring.
- **Update of TMP**  
The TMP is intended to operate as a working document that will evolve throughout the construction phase. The Transport Manager will ensure that all proposed modifications to the Plan will be discussed and agreed with the Highways Agency and Redcar & Cleveland Borough Council, in advance and as necessary.

The detailed civil engineering design stage is expected to be completed early 2009 at which point it will be possible to provide a more accurate assessment of the traffic requirements and local impact of the proposed construction. The TMP will incorporate a Green Travel Plan to encourage the use of sustainable transport methods however this will only be defined once final recruitment/contractor details are known.

All details of the Traffic Management Plan will be fully agreed with the Highways Agency and Redcar & Cleveland Borough Council within an appropriate timescale an prior to the commencement of any on-site construction work.

## **2.6 Additional work**

As previously discussed, the proposed Tees REP has not been the subject of the detailed engineering phase therefore a comprehensive analysis of the impacts of the development on the local transport network is not possible, at this stage. The figures and conclusions have been based largely on the extensive experience of both PB Power and MGT in the development of similar generation projects.

Following completion of the detailed engineering of the proposed plant in early 2009, and at any point thereafter, any information that may affect the conclusions expressed within the ES, this document and any discussions with the Highways Agency and Redcar & Cleveland Borough Council will be communicated to all parties. This will be used as a basis for determining the need and nature of any further work or analysis in order to ensure that the impacts of the development are eliminated or remain as insignificant as possible.

**APPENDIX A  
HIGHWAYS AGENCY LETTER TO DECC  
(4 pages)**

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Your ref:

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Direct Line: 0113 2835497

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7th October 2008

**For the attention of Rob Pridham**

Dear Rob

**ELECTRICITY ACT 1989, SECTION 36: APPLICATION FOR CONSENT TO  
CONSTRUCT AND OPERATE AN ELECTRICITY GENERATING STATION AT  
TEESPORT, TEESIDE.**

I refer to your consultation dated 24<sup>th</sup> July 2008 in relation to the above planning application.

PB Power has produced an Environmental Statement for MGT Teesside in support of a planning application to construct a biomass fired renewable energy power station (Tees REP) on land adjacent to the main southern dock at Teesport, on the South Bank of the River Tees in the borough of Redcar and Cleveland.

This letter confirms our view of the Environmental Statement and, in particular, how the potential traffic impact on the Strategic Road Network (SRN) (A19/A174/A1053) has been assessed. Our recommendations for the provision of further information from the applicant are subsequently summarised. It is noted that within the DfT/DCLG "Guidance on Transport Assessments", this development would exceed the threshold requirements for a Transport Assessment and our assessment of the Environmental statement has been undertaken with this in mind.

**Construction Phase**

The main consideration in respect of the impact to the SRN appears to be that which might occur during the construction period, anticipated to be some 32 months. Forecast traffic generation is not insignificant albeit this is a temporary situation.

The Consultant offers an indication of the likely trip generation from the site during this construction phase. It is estimated that there will be:

- 250 two-way trips into the site per day generated from a workforce of around 600 people; that
- Construction work will take place between 7 AM – 7 PM (Monday – Friday) and 7 AM and 5 PM (Saturday), though the working day will be restricted to daylight hours;
- Consequently, the major impact of construction traffic will be out side the evening peak period;
- 45 two-way, heavy, commercial vehicles trips and 15 two-way, light, commercial vehicles trips per day; and

BERR Let 07.10.2008

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Department for  
**Transport**



- 5 abnormal loads are expected during construction in total.

It is anticipated that the construction of the plant will coincide with the construction of the Northern Gateway Deep Water Container Terminal and thus, the total traffic generated for both developments will be in the order of 500 cars/vans and 90 HGV's.

The initiatives to be put in place so as to mitigate the impact of this traffic generation are suggested to be:

- A Green Travel Plan for the workforce;
- Mini buses will be used to collect the workforce so as to reduce single occupancy car trips;
- All construction traffic will be required to use the A174 and will be scheduled so as to deliver throughout the day; and
- Abnormal loads will be carefully managed and negotiated with Local Authorities.

### **Operation**

It is anticipated that the plant will operate continuously, 24 hrs a day, and will be operated by staff working on a shift rota. It is estimated that:

- There will be 150 staff, generating 120 one-way trips;
- The proposed shift pattern will result in a maximum of 30, one-way trips at shift changes;
- The majority of biomass fuels will be delivered to site by sea, though the bio-fuel sourced locally, will be delivered by road and it is estimated that this will generate around 18, 2-way trips per day by HGV's;
- The removal of ash from the plant is estimated to produce 9, 2-way trips per day but it is the intention to use the delivery vehicles for the removal of ash also, so these trips can be discounted; thus
- There will be a maximum of 250 two way trips per day, an increase of 3% on the A1053.

While, given the length of the construction day is some 12 hours, there is the potential for site operatives to access and leave the site outside traditional peak periods, the estimated 250 vehicles to be generated during construction is not substantiated with a person trip calculation and so cannot be verified at this stage, nor has the distribution of these trips, on to the SRN, been considered. The Highways Agency seeks clarity with respect the likely trip generation during the peak periods such that the impact can be mitigated accordingly through the application of appropriate conditions or the development of a bespoke Traffic Management Plan (TMP).

Similarly, the figures derived for the cumulative affects due to the construction of the Northern Gateway Deep Water Container Terminal are unsubstantiated. As committed development, this needs to be taken in to consideration in the development of any TMP.

In respect of the operation of the site, the consultant suggests that there will be no more than 150 two-way trips per day and that this results in a 3% increase in traffic locally to the A1053 and up to 2.1% elsewhere. Again, the derivation of peak hour traffic on the SRN has not been substantiated in any great detail. The Highways Agency would recommend therefore, that clarity be sought with respect to this and the material impact of such on the SRN.



### **Safety**

An assessment of safety issues relative to the Strategic Road Network has not been undertaken. It is recommended therefore, that the safety issues should be given due consideration in any further assessment or TMP, in line with Department of Transport's "Guidance on Transport Assessments".

### **Mitigation**

Albeit that the impact of the development has not been identified in respect of either the local or Strategic Road Network, the consultant mentions those road works associated with other committed developments in the area, these being at the A66/Eston Road junction, A1053/A174 junction and A1053/A66 junction. The consultant suggests that, by the time the development Tees REP is expected to be in operation, these works will be in place but does not determine the impact of this development upon their operation. Moreover, in respect of any mitigation the developer will, for the construction phase:

- Develop a TMP, deliveries are anticipated via the A174;
- Materials will be delivered outside the peak periods;
- All vehicle movements will be actively managed;
- Travel to work options will be actively promoted;
- Shuttle bus provision (assuming a joint approach to the preparation of a TMP with Northern Gateway; and
- Abnormal load routes will be confirmed through survey and discussion.

With respect to the operation of the site, the consultant suggests that there will be no perceptible traffic impact, however:

- Public transport use will be encouraged; including
- Shuttle bus provision;
- Travel plan monitoring will be undertaken;
- Ash removal will be undertaken outside of peak periods;
- Vehicle movements would be strictly kept to the inter peak periods; and
- Night time deliveries will be considered if beneficial.

### **Conclusions**

The Highways Agency has considered the transport implications set out by the developer in its Environmental Statement. Overall, it is considered that the development has the potential, i.e. during the construction phase, to have an impact upon the operation of the SRN. The scope of this impact has not however, been adequately detailed, the forecast traffic generation being based upon daily traffic flows.

That said, the consultant has put forward a number of initiatives that will act to reduce the impact and these will be considered further in a Transport Management Plan. Yet, heavy reliance is still placed upon already committed infrastructure improvements being in place at opening of the plant.

Further clarification is still required on a number of issues, particularly, the likely volume and distribution of trips made by the construction workforce during peak periods has not been assessed. Further, the assessment states that the working day, during construction, will be 7.00hrs to 19.00hrs but also that the working day will be restricted to daylight.



Thus, a 32 month construction period will fall over two winters when the working day will be reduced. Will traffic impacts therefore result within the peak periods?

Also:

- A Green Travel Plan, cycling facilities for workers and the use minibuses are planned during construction but no details of these are provided;
- The shuttle bus along the Tees Dock Road appears would have some merit but how is the service is to be implemented and maintained? Similarly, its connection to the wider bus network and connectivity is not explored.

It is recommended that:

- These issues are considered prior to the agreement to develop a Transport Management Plan (TMP);
- Any TMP incorporates appropriate assessment work and identified mitigation at locations where the development has an impact upon the surrounding local and trunk road network; and
- The TMP is conditioned;

I trust that this clarifies the Highways Agency position in relation to the above planning application, however if you require any further clarification please do not hesitate to contact me.

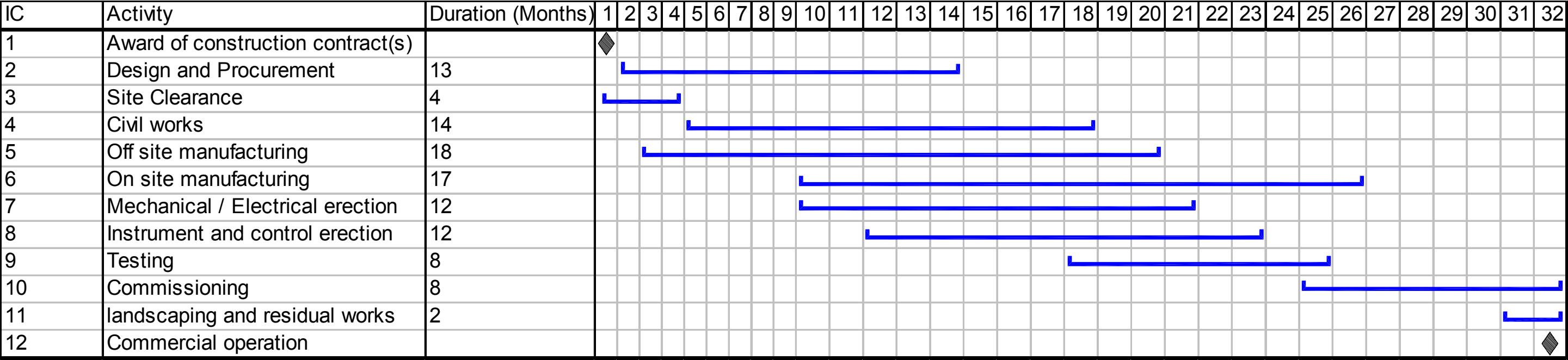
Yours sincerely



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Network Operations Directorate  
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**APPENDIX B  
PROPOSED CONSTRUCTION PROGRAMME  
(1 page)**



◆ MILESTONE  
■ ACTIVITY