



21 August 2015

BP Exploration Operating Company Limited
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The Planning Inspectorate
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Dear Sir/Madam

This representation is submitted on behalf of Amoco (U.K.) Exploration Company, LLC a company formed with limited liability in Wilmington, Delaware, USA, and registered as an overseas company in Scotland under registered number SF000790, having registered branch number BR005086 and its registered branch office at 1 Wellheads Avenue, Dyce, Aberdeen AB21 7PB (i) on behalf of itself as owner of Central Area Transmission System ("CATS"), and (ii) in its capacity as operator of CATS for and on behalf of Antin CATS Limited (registered number 08021886) having its registered office at 15 Sackville Street, London W1S 3DJ; ENI UK Limited (registered number 00862823) having its registered office at Eni House, 10 Ebury Bridge Road, London SW1W 8PZ; and ConocoPhillips Petroleum Company U.K. Limited (registered number 00792712) having its registered office at Portman House, 2 Portman Street, London W1H 6DU; and (iii) relevant affiliates of the foregoing (together, for purposes of this representation, known as the "CATS Parties").

Each of the CATS Parties has an interest in the land affected by the DCO application in terms of ss.42 and 44 of the Planning Act 2008. In particular, the CATS Parties have statutory responsibilities under the 1996 Pipeline Safety Regulation and the 1999 Control of Major Accident Hazard Regulations (as amended 2005).

This representation has been made by the CATS Parties in accordance with the terms of the Rule 8 letter issued by the Examining Authority, dated 27 July. In that letter the Examining Authority requested representations to be provided to them no later than 21 August 2015.

BACKGROUND

CATS is one of the largest UK North Sea natural gas transportation and processing systems and can carry over 48 MCMD (1700 mmscfd) of natural gas, which represents approximately 25% of the daily UK gas demand. CATS comprises, amongst other infrastructure, a 36" pipeline, which is classified as a "Major Accident Hazard" pipeline and is operated in compliance with the 1996 Pipeline Safety Regulations. The CATS pipeline transports gas at high pressure from the central North Sea to each of the CATS terminal in Teesside and a third party processing facility in the vicinity of the CATS terminal.

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CATS, including the CATS pipeline, is essential national infrastructure necessary for the operation at any one time of approximately 34 natural gas fields in the North Sea. Any incident which results in damage to the CATS pipeline or which would require the CATS pipeline to be shut down would, amongst others, have considerable impact upon UK gas and electricity supplies to both the domestic and commercial markets.

REPRESENTATIONS ON APPLICATION

The CATS Parties are, in principle, supportive of the proposed development, and recognise the potential economic benefits it could bring, in conjunction with the Potash mine.

However, we have considerable concerns, from both an operational and a health and safety perspective, in respect of one of the two possible routes proposed for the overland conveyor system. Our principal concerns relate to the southern route option, which, as well as running adjacent to, and indeed crossing the CATS pipeline in a couple of places, actually runs directly above the CATS pipeline for almost 2km, and consequently presents a significant safety and integrity risk. We can confirm that subject to inclusion of appropriate protective provisions in the DCO, the CATS Parties would be comfortable with the proposed northern route.

SAFETY AND INTEGRITY IMPACT OF SOUTHERN ROUTE

Following discussions with the York Potash project team, the CATS Parties believe that the proposed 2km section of the southern route, which would run directly above the CATS pipeline, creates significant integrity and consequently safety risk to the buried CATS pipeline during the construction phase of the DCO project. The consequences of damage to the CATS pipeline during the construction phase could be very significant, and could represent a real risk of death or injury to those working on the DCO project and others – the CATS pipeline operates at a minimum pressure approximately 60 times higher than the delivery pressure of the UK domestic gas supply. Although protective provisions are included in the DCO, these neither remove nor adequately mitigate the risk of damage to the pipeline, as acknowledged by applicants in paragraphs 17 to 19 of the Protective Provisions in Schedule 9.

Once operational, an ongoing risk will be created due to the difficulties associated with accessing the CATS pipeline for purposes of its essential inspection and maintenance. The ability to access, inspect and maintain the CATS pipeline is required to enable the CATS Parties to comply with their statutory obligations. Also, it creates a major accident risk relating to the potential for dropped objects from the conveyor system which could put significant strain on the CATS pipeline ultimately leading to failure.

The requirement for a dropped object study before the southern route could be considered a possible option does not appear to be addressed in the DCO.

NORTHERN ROUTE

Subject to appropriate protections and mitigation measures, the CATS Parties are supportive of the alternative northern route option for the conveyor transport system as that requires a single crossing of the CATS pipeline. The CATS Parties would, however, expect to be fully consulted on all aspects of crossing design and construction processes to ensure the continued safe operation and integrity of the CATS pipeline in the event that route is progressed.

Whilst there are some risks with the northern route, these are considered limited compared to the significant risks posed by the southern route. As an alternative and wholly viable alternative is available (i.e. the northern route), the CATS Parties submit that the southern route should be excluded from the DCO.

COMPULSORY PURCHASE

The DCO creates extensive rights for the applicant over the land occupied and/or utilised by CATS. These rights are not subject to, nor do they take account of, the CATS Parties' obligations in terms of the safe operation and maintenance of the CATS pipeline. Any rights require to be exercisable subject to the CATS Parties statutory rights and obligations.

PROTECTIVE PROVISIONS

Schedule 9 of the draft DCO includes certain protective provisions for the protection of the CATS pipeline corridor. Whilst these provisions are welcomed, in their present form they are not considered adequate given the particular risks associated with the CATS pipeline. By way of example only and to illustrate some of the inadequacies:

- (i) where the applicants propose to excavate trenches adjacent to the pipeline, on request from CATS Parties the applicants should undertake pipeline settlement and stress analysis to demonstrate that any potential pipeline movement will not present an integrity risk. Furthermore the applicants should allow for pipeline monitoring during such activities;
- (ii) given the complexities and risks associated with frequent heavy lifts over live pipework, the applicants should be required to implement operational procedures demonstrating that the risk is as low as reasonably possible;
- (iii) the CATS Parties would expect to see reference made to the applicants' responsibility to develop site and location specific emergency response plans, which would be subject to consultation with local emergency services.

It is also submitted that the CATS pipeline should benefit from the protective provisions in Schedule 10 of the draft DCO.

The protective provisions do not take account of the fact the operator of the CATS pipeline (in accordance with the Pipeline Safety Regulations 1996) may be a different entity to the CATS pipeline owner(s).

The CATS Parties also acknowledge that they have had sight of a Technical Note, dated 12 August 2015 from Royal Haskoning DHV, a contractor of the applicant, which purports to address the constructability issues in respect of the CATS pipeline. While the CATS Parties welcome the acknowledgement by the applicants of the various issues considered in the Technical Note, these measures are not included in the DCO as protective provisions. The CATS Parties would wish to see these mitigation measures incorporated as protective provisions to provide greater certainty.

The CATS Parties reserve the right to seek further protections where required as their discussions with the applicant progress.

MARINE WORKS

The CATS pipeline crosses through the River Tees. The pipeline can be vulnerable to damage in the marine environment, and the prospect of increased shipping traffic as a result of the Project, would increase that risk. For example, in 2007 the pipeline was damaged by a dragged anchor from a vessel utilising the harbour.

The CATS Parties note the relevant representations made by PD Teesport ("PDT") (dated 20 May 2015), the statutory harbour authority for the River Tees under the Teesport Acts and Orders 1966 to 2008. The Harbour Authority is responsible for ensuring the safe use of the harbour. The operation and integrity of the CATS pipeline is reliant on PDT as Harbour Authority. It is essential, therefore, that the DCO does not prejudice PDT's ability to carry out its functions as Harbour Authority.

PDT have expressed concerns about the DCO and, in particular, the inadequacy of the Protective Provisions. PDT have made it clear that the DCO in its current form would prejudice their functions as Harbour Authority. The CATS Parties would adopt and endorse the submissions made by PDT and support their position. It is critical that the Order addresses the issues of the Harbour Authority.


FURTHER CONSULTATION and PARTICIPATION IN EXAMINATION PROCESS

The CATS Parties also wish to be fully consulted on all aspects of the River Tees dredging proposal to ensure the integrity of the CATS pipeline tunnel crossing of the River Tees, and reserves the right to make further representations as part of the examination process. The CATS Parties will be happy to provide additional detail in respect of the matters contained in this representation.

At this stage, and subject to discussions with the applicants, the CATS Parties reserve their right to attend both the site visit, and relevant hearing sessions.

Yours faithfully



 Andy McDonald
CATS Business Manager
Amoco (UK) Exploration Company

Technical Note

HaskoningDHV UK Ltd.
Maritime & Waterways

To: James Barrie
From: RHDHV
Date: 12 August 2015
Copy:
Our reference: PB1586 - N020 - Rev 2
Classification: Project related

Subject: Constructability Issues in respect of BP CATS

1.0 Introduction

The York Potash Harbour Facilities Project is currently at a stage whereby formal consultation has been undertaken with the Consultees including Landowners and Third Party Asset Owners as part of the Development Consent Order (DCO) application process. A number of Consultees have raised similar issues and concerns. These generally fall into two categories; firstly, there are points associated with legal matters such as concerns over Compulsory Acquisition, etc. Secondly there are concerns associated with constructability issues including the interface with existing assets and infrastructure throughout the construction period of the project and ongoing operational phase.

Although BP CATS (Central Area Transmission System) have not raised any issues directly in response to the DCO process, the purpose of this document is to address the constructability issues we believe BP CATS, a Consultee in the DCO process, may have with regards to the overland conveyor. These issues will need to be addressed prior to and reviewed throughout the construction period of the project.

Below summarises our understanding of the main constructability issues as raised by a number of Consultees and consideration as to how they could be addressed by the Principal Contractor, appointed for the construction of the overland conveyor and the harbour facility. It is not exhaustive but will assist in future discussions and development with the Consultee. This information will be provided to the Principal Contractor as part of the pre-construction information which they will be contractually obliged to comply with.

2.0 Known BP CATS assets within the Order Limits

BP CATS have a 36 inch high pressure gas major accident hazard pipeline, referred to as the BP CATS pipeline, as well as the CATS Tunnel for the River Tees crossing.

The BP CATS pipeline is located underground, within an infrastructure corridor operated by SembCorp, and is in the vicinity of the overland conveyor route.

3.0 Understanding of the Issues

A number of Consultees are concerned that the construction of the overland conveyor works could damage or compromise their ability to maintain and operate their pipeline assets in the infrastructure corridor.

We have provided comments in the following sections on -

- Safe System of Work
- Control of traffic near linklines, near and over easements
- Inspection, repair, replacement and general maintenance of pipelines by the Consultee
- Working over buried assets i.e. over the BP CATS Easement
- Excavating and Piling in the proximity of the buried assets
- Roads
- Site Security

4.0 Safe System of Work

The construction project will be notifiable and carried out in accordance with 'The Construction (Design and Management) Regulations 2015'

The Principal Contractor is to conduct site inductions for all of his staff and sub-contractors. It is also his duty to appoint and engage contractors and workers and provide the right management and supervision whilst also monitoring the hazards on site.

For 95% of its route, the overland conveyor is in an existing infrastructure corridor, operated by SembCorp. All work within this corridor is controlled by SembCorp under their Safe System of Work (SSoW) as detailed in SembCorp Management Procedure "Safe Systems of Work and Risk Assessment – 1301". This is a permit to work based system. Historically, SembCorp have always insisted on the application of this process to **ALL** works within the infrastructure corridor regardless of whether it be a small maintenance task or a major capital project such as this. The SSoW is quite onerous, but given the highly hazardous nature of the assets in the area it is appropriate. The Principal Contractor appointed for the overland conveyor and the harbour facility will need to adhere to the SSoW and its requirements for works and operations within the infrastructure corridor, including access.

Identified below are the SembCorp Management Procedures which will be applied to the management of the construction activities under SembCorp's SSoW.

- Control of ignition sources and fire permits - 1303
- Lifting Activities Management and Control - 1448
- Construction operation maintenance and modification of link and vein lines - 1342
- Entry into Confined Spaces - 1304
- Lone and Isolated Workers - 1404
- Safe Systems of Work and Risk Assessment - 1301
- Management of Roads including Mobile Cranes and Abnormal Loads - 1309
- Control of Modifications - 1601
- Use of Work Control Permits - 1360
- Linkline Emergencies - 1215
- Management of Site Drainage and Effluent Systems – 1701
- Avoidance of Danger near Overhead Power Lines – 1452
- Excavations – 1308
- Review of Risk Assessments and Method Statements – 1320
- Control of Ionising Radiation for Industrial Radiography – 1424
- Prevention of River Pollution – 1217
- Prevention of Contamination of Soil and Groundwater – 1703

- Disposal of Waste Materials – 1702
- Environmental Control and Compliances with The Environmental Permitting (England and Wales) Regulations – 1746
- Management of Work Covered by the Construction regulations – 1426

There are more Procedures within SembCorp's full suite of Management Procedures, but those listed above are the ones which are most likely to be applicable to the York Potash Harbour Facilities Project.

The Consultees will be given the opportunity to review the design of the overland conveyor and, if required, have a watching brief on site when construction occurs adjacent to or over their asset.

BP CATS assets run below ground in general close proximity to the above ground pipelines which run on existing common infrastructure, these above ground pipelines generally being known as "linklines". The pipelines on these linklines are owned by several different companies and carry a mix of hydrocarbon products, industrial gases, and industrial effluents.

The route of the overland conveyor runs through an area which is intended for use as an infrastructure corridor, as such there are many assets running through the area that the project will need to take due cognisance of.

As part of the Statutory Consultation undertaken by York Potash Limited, the Health and Safety Executive have confirmed that the overland conveyor and the harbour facility does not fall within the 'Consultation Zone of Major Accident Hazard Pipelines'.

5.0 Control of traffic near linklines, near and over easements

A major concern working near or over these assets will be how to protect the linklines and below ground pipelines from accidental damage from construction traffic and during lifting activities. Lifting activities are discussed separately below.

As mentioned previously, the Construction (Design and Management) Regulations will be applicable to the project and will therefore require the production of a detailed traffic management plan. This will be developed by the Principal Contractor at the pre-construction phase of the project.

Several guidance notes exist within the pipelines and gas industries which detail steps that should be taken to protect pipelines from damage associated with traffic movement; these should be referenced to in the detailed traffic management plan:

- International Institution of Gas Engineers and Managers – IGE/SR/18 Edition 2 – Safe working practices to ensure the integrity of gas pipelines and associated installations.
- Linewatch – Special Requirements for Safe Working in close proximity to high pressure pipelines.
- Northern Gas Networks – Safe working in the vicinity of high pressure gas pipelines and associated installations.

All contain similar advice and guidance on the protection of pipeline easements from traffic and construction activities, namely the following steps:

- The easements of each buried pipeline will be pegged out well in advance to clearly delineate the easement.

- Where practical the easements will be fenced off with nominated crossing points open and clearly signed and identified.
- Protective measures such as load plates or bog mats should be placed across the easement at the crossing points. However, load plates or bog mats would only be considered following design checks to determine that the loading on the pipeline is within acceptable limits, these limits will be determined in consultation with the asset owner/ operator.
- Where heavy loads or high volumes of traffic are to cross the easement of the buried pipelines, protective measures such as a reinforced concrete slab or steel platforms bridging over the easement should be constructed at the crossing location. Similar to that mentioned above, this would only be considered following design checks to determine the loading on the pipeline is within acceptable limits, these limits will be determined in consultation with the asset owner/ operator.

BP CATS may have their own design standards or may require an industry design standard to be followed in dealing with protection of their asset. these standards will be sought prior to undertaking the design checks.

6.0 Inspection, repair, replacement and general maintenance of pipelines by the Consultee

For all pipelines, access will be provided to enable inspection, repair, replacement and general maintenance by the Consultee throughout the construction phase of the overland conveyor. This will be controlled and managed through routine and regular dialogue with SembCorp as the operators of the infrastructure corridor. This process will be managed by the Principal Contractor by ongoing dialogue, meetings with SembCorp and by creating working windows for tasks at specific pinch points along the project.

7.0 Working over buried assets i.e. over the BP CATS Easement

A major concern is the protection of the buried assets should a load be dropped giving rise to the potential for damage to the assets. A lifting study will be developed looking at the issues of protecting assets below the ground (i.e. crane platforms, double stropping, etc.) and determining the envisaged loads expected during the construction of the overland conveyor. The following methodology has been developed at this stage and will be considered when carrying out the lifting study.

All large lifts will be pre-planned in detail, the size of crane would be selected to allow additional spare capacity for all lifts and any tandem lifts would have a 50% down-rating in capacity rather than the normal 25% required in the codes of practice.

Suitable foundations will be designed so that they are capable of supporting the crane outriggers or track loads, positioned outside of the easement. Lifting gear would also have a greater than normal factor of safety and the use of double stropping would be followed. It is likely that the Principal Contractor will subcontract all major lifts and these will be carried out under the "CPA Contract Lifting Services Agreement" where the crane supplier supervises and takes responsibility for the lift.

The lifting of loads will be carefully planned to eliminate any possibility of the load swinging over the easement. As mentioned in section 6.0 the easement will be pegged out well and where practical fenced off, in advance, to clearly delineate the easement.

Any construction works above the buried pipeline will require the protection of the pipeline. This could be achieved by a temporary platform made with steel crane mats, these would typically be supported on steel sections fabricated to form a grillage packed up on bearers, spaced sufficiently wide apart to spread the load to the ground outside of the easement. The load applied to the ground will be calculated and within the limits agreed with the asset owner. Additional timber mats or fill material could be provided on top of the steel crane mats to cushion impacts. However, the construction of the temporary platform has to be balanced by the risk that erection and removal of the protective measures may themselves introduce. Construction plant will either work from similar platforms or be positioned sufficiently distant from the easements to avoid loads being imparted onto the pipeline in agreement with the asset owner.

Reusable temporary works, specially designed for the purpose, could be fabricated both to safely support the overland conveyor support legs and the overhead conveyor structure during erection. Hydraulically operated cross heads could be used to prevent any part of the conveyor from falling from height in the unlikely event of a lifting equipment failure.

As an absolute minimum, "Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) : Approved Code of Practice and Guidance" will need to be followed at all times with regards to the extensive lifting activities which will be associated with the overhead conveyor construction activities. SembCorp Management Procedure "Lifting Activities Management and Control – 1448" will also need to be considered in the control of lifting activities, although it is worth noting that this document is based on the LOLER Approved code of practice.

8.0 Excavating and Piling in proximity of the buried assets

Where there are buried assets, there is a concern over any activity that breaks the ground surface. We envisage that there will be no piling or excavations work within the easement. Any proposed piling operations or excavations within 1.5m of the asset, will require the asset to be physically exposed by hand digging so its location can be confirmed. The assets initial location will be positioned by referring to the asset owner's drawings and any other means on site e.g. markers posts. It may be necessary to install some form of physical separation between the asset and pile/ excavations during construction, such as a driven sheet pile between the pile and the buried asset. The means and need for separation will be agreed with the asset owner prior to the start of the construction activities.

The guidance notes referred to in section 6.0 suggest that the proximity of piling activities to pipelines of this nature does vary, but all state that piling can be carried out near to the pipeline, provided that an assessment of the vibration levels at the pipeline is carried out. It is the intention that bored of CFA (Continuous Flight Auger) piling will be used where necessary to minimise vibration. The guidance notes suggest that the peak particle velocity at the pipeline should be limited to a maximum level of 75 mm/sec. Where the peak particle velocity is predicted to exceed 50mm/sec, the ground vibration shall be monitored using a typical monitoring device such as the Vibrock V801 seismograph and tri-axial geophone sensor. Where ground conditions are of submerged granular deposits of silt/sand, an assessment of the effect of any vibration on settlement and liquefaction at the pipeline be carried out. A trial piling study will be carried out to measure the vibration from various types of piling in these ground conditions. Research into maximum allowable peak particle velocity values for various assets will be undertaken and agreed with the asset owners. This method of monitoring vibrations will also be adopted should there be a need to use impact breakers to remove areas of hard standing over the piles or at pile caps locations. If the limits are exceeded other methods of removing hard material will then be used, such as high pressure water jetting or concrete coring using diamond drills or diamond sawing.

In terms of excavations for pile caps near buried assets, the guidance documentation referred to in section 6.0 suggests that when excavating within 3m or less of the pipeline asset, the asset owner/operator should have a representative present or available on site. This will be changed to 1.5m and the procedure followed as set out for piling i.e. the asset to be physically exposed by hand digging so its location can be confirmed. We would also recommend that design checks are performed prior to any excavating, to determine the zones of influence on the buried asset, as this may identify the need for additional protection (i.e. temporary propping). Any additional protection will be subject to the approval of asset owners/operator.

When working near ducts the main concern will be cable strikes when breaking ground. SembCorp's excavation permit system incorporates a cable search as part of the application process. SembCorp MP "Excavations – 1308" will need to be adhered to in order to control this.

In conjunction with the guidance notes, SembCorp procedure "Excavations – 1308" will need to be followed for all excavations. Excavations are defined as "any work involving breaking ground".

9.0 Roads

There are a number of roads (surfaced and unsurfaced) within the infrastructure corridor. The Principal Contractor will be required to interface with the owners and provide access for the asset owners during the construction works.

Any roads requiring temporary closure to enable construction of the overland conveyor will be planned well in advance and coordinated with the owner and asset owners. No 2 Tunnel at Bran Sands requires 24 hour unfettered access for emergency services; this requirement will be maintained throughout the construction of the overland conveyor.

A number of the roads in and around the infrastructure area are in poor condition and are not suited to large volumes of construction traffic which a project of this nature will require. The roads will be assessed by the Principal Contractor and if necessary will be upgraded in advance of the construction works. At the end of the construction works remediation works may be necessary. Development of the traffic management plan will address these issues.

SembCorp procedure "Management of Roads including Mobile Cranes and Abnormal Loads – 1309" will be adhered to, to ensure that crossing over culverts and road bridges are controlled appropriately.

10.0 Site Security

There are a number of existing fences and gates associated with providing security and control of access onto the Wilton Site, and especially the infrastructure corridor. Keeping the construction site secure will be the responsibility of the Principal Contractor during the works, and will need careful consideration. A security review will be undertaken prior to the construction works to help prevent unauthorised access and theft of equipment and materials from the construction area. The current security of the Wilton site is the responsibility of Falck, who have a wealth of experience in security in and around the Teesside Industrial Complexes and their assistance may be sought with the security review.

11.0 Conclusion

This technical note provides BP CATS with guidance on how constructability issues will be managed and controlled with regards to the overland conveyor works. The information contained within this and other technical notes on constructability will be provided to the Principal Contractor as part of the pre-construction information, which they will be contractually obliged to comply with. The Principal Contractor appointed for the overland conveyor and the harbour facility will be incentivised to comply with SembCorp's requirements and those in this technical note; by their need for ongoing cooperation and contractual obligations imposed by York Potash Limited. This technical note is intended to form the basis of future discussions and be developed with BP CATS input to address their concerns. We understand that it is imperative that BP CATS is consulted throughout the life of the project.

