South Caucasus Pipeline Expansion Project, Georgia

Environmental and Social Impact Assessment Addendum

Non-Technical Summary

South Caucasus Pipeline Company

SEPTEMBER 2014
Contents

Introduction 1–3

Stakeholder Consultation 4

The Project Setting 5–8

Engineering and Route Selection 9–10

Environmental and Socio-Economic Issues 11–14

Management and Monitoring 15

Contact Details 16
Introduction

This document is the non-technical summary (NTS) of the environmental and social impact assessment addendum (ESIA Addendum) for the proposed Project design updates of the South Caucasus Pipeline Expansion (SCPX) Project in Georgia. It describes the Project design updates and the potential impacts they may have on the physical and biological environments and on people. It also addresses the measures that the Project will implement to reduce adverse impacts and to enhance potential social benefits, and how environmental and social issues will be managed during construction and operations.

BP, on behalf of the SCP Company, is planning to develop an expansion to the South Caucasus Pipeline (SCP), which has been operating since 2006, to increase the pipeline’s gas transport capacity by 16 billion cubic metres of gas per year. The ESIA for the SCPX Project (called the SCPX Final ESIA in this document) was prepared and submitted to the Ministry of Environment and Natural Resources Protection (MENR) of Georgia and approved on 28 June 2013.

However, refinement of the SCPX Project design has led to a decision to change the diameter of the pipeline from 56” to 48”. This in turn has resulted in a number of updates to the SCPX Project design, in order to achieve the required gas flow rate. These changes and other additional changes are collectively referred to as “Project design updates” in this document.

The original draft of the ESIA Addendum was disclosed in April 2014. Since then, further routing reviews have resulted in minor alterations to the proposed pipeline route and the ESIA Addendum has been amended to reflect these. This amended NTS has also been updated to reflect the minor alteration of the pipeline route. In this document the term ‘ESIA Addendum’ is used when referring to both the original and amended drafts of the addendum or when there is no need to distinguish between the two drafts. Where necessary, the terms ‘original draft ESIA Addendum’ and ‘amended draft ESIA Addendum’ are used to distinguish the drafts.

SCPX Project Design Updates

The Project design updates comprise:

- An extension of the SCPX pipeline westwards by a further 5.7 km (the proposed additional eastern section of pipeline) to KP62.3 and relocation of the pigging station (a facility to receive pipeline integrity gauges (pigs) that perform internal pipeline monitoring and cleaning) to the end of this additional section.

- A new c.2.5km-long section of pipeline (the proposed additional western section of pipeline, PRMS KP0-2.5) from the planned SCPX pressure reduction and metering station (PRMS) (which is collocated with the existing SCP facility) to the Georgia–Turkey border where it connects to the planned Trans Anatolian Gas Pipeline (TANAP).

- Minor re-route, 1.7km long, on the proposed additional eastern section in the vicinity of KP59-60.

- Other minor changes that are either associated with the above or as a result of ongoing design work. These comprise changes to the number and size of the water-bath heaters proposed to be installed at the PRMS, the addition of a pig launcher at the PRMS to enable inspection of the proposed additional western section of pipeline, and changes to the way power will be generated at the pigging station.

This amended NTS of the amended draft ESIA Addendum provides the details for the Project design updates including the minor re-route. For all other details of the proposed SCPX pipeline and associated aboveground facilities, such as the two compressor stations to be installed (CSG1 and CSG2), the block valves and other aspects of the design of the pigging station and PRMS, please refer to the SCPX Final ESIA for Georgia, published in June 2013.
Introduction

Additional eastern section of SCPX pipeline route within Georgia

Additional western section of SCPX pipeline route within Georgia
Introduction

Programme

Construction works on the SCPX pipeline will begin in 2015 and operations are expected to begin in 2018.

The anticipated Project schedule, which reflects the Project design updates, is shown below. Construction of the additional sections of pipeline is expected to occur in 2016, as part of the overall pipeline construction activities.

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Project Overview

The Project design updates will, in common with the overall SCPX Project, be designed, built and operated in accordance with the provisions of the SCP host government agreement (HGA) and BP health, safety, security and environment policy, which is presented in the NTS of the SCPX Final ESIA.

ESIA Process and Methodology

This ESIA Addendum has been undertaken using the same approach as described in Chapter 3 of the SCPX Final ESIA. Both have been prepared in accordance with European Union Directive 85/337/EC on environmental impact assessment, as required by the HGA. The methodology is outlined in the NTS of the SCPX ESIA.

Baseline Surveys

Baseline environmental and social conditions were identified from a range of sources including additional surveys conducted specifically for the additional sections of pipeline, namely

- A review of studies of geohazards and soil erosion potential
- Soil sampling
- A contaminated land inspection
- Landscape and visual impact assessment
- Botanical and zoological surveys
- Baseline noise measurements at the proposed pigging station
- Cultural heritage surveys
- Community leader and household surveys in communities close to the proposed pipeline route
- A traffic survey.

The baseline information gathered for the original draft ESIA Addendum was further reviewed for the area of the re-route to assess whether existing data and surveys provided sufficient information on the re-route. It was concluded that the majority of the baseline data was sufficiently comprehensive with the exception that further ecology and cultural heritage surveys of the area of the re-route were needed, which were conducted in spring and summer 2014.

The sensitivity of the environmental and social receptors, and the magnitude of the potential impacts of the Project design updates were then identified and used to determine impact significance. Potential and residual impacts (i.e. those remaining after the application of mitigation measures) were characterised as being of low, medium or high significance or as beneficial. Wherever practicable, additional mitigation measures were identified to reduce further those adverse residual impacts that were considered to be of medium or high significance.

The supplementary mitigation and enhancement measures that have been proposed in the ESIA Addendum to reduce adverse impacts and enhance potential benefits of the Project design updates have been captured in a commitments register. In addition, many of the generic commitments made in the SCPX Final ESIA, are relevant to and hence will be applied to the Project design updates.
Stakeholder consultation is of crucial importance in gaining an understanding of how a Project will impact on stakeholders and to obtain their ideas and opinions on how the impacts should be managed. The feedback from consultation is an important influence on project design and implementation. The Project recognises the importance of consultation and that it is also an early opportunity for stakeholders to become better informed about planned Project activities.

Comprehensive consultation with a wide range of stakeholders was undertaken in 2011–2012 during preparation of the SCPX Final ESIA. Following the identification of the Project design updates, additional consultations were undertaken with the following organisations and communities:
- National and local government authorities
- Four communities that were identified as being closest to the additional sections of pipeline (three of these communities had already been consulted as part of the SCPX Final ESIA).

**Box 1: Stakeholder Consultation and Disclosure**

Four settlements have been consulted through a series of face-to-face consultation meetings; copies of a Georgian-language community pamphlet were printed and distributed in advance of these meetings. Trustees and residents representing a cross-section of the community attended each community consultation meeting. At the beginning of each consultation meeting, there was a brief presentation of the SCPX Project, focusing on the Project design updates, followed by a session for attendees to ask clarification questions, and provide views and comments on the proposed Project design updates.

Details of the participants and the key views and comments raised were documented to provide a record of all community meetings and have been recorded in a database and taken into consideration during the preparation of the ESIA Addendum.

Meetings have been held with representatives of the Georgian Oil and Gas Corporation (GOGC), Ministry of Environment and Natural Resources Protection (MENR) and Ministry of Economy and Sustainable Development and the design updates communicated to other Ministries including the Ministry of Energy and Ministry of Culture and Monument Protection as part of the scoping exercise undertaken for the ESIA Addendum.

This NTS of the ESIA Addendum has been prepared specifically for disclosure and comment. The NTS of the original draft ESIA Addendum was disclosed in April 2014 to a wide variety of stakeholders and public meetings were held in Tbilisi and with local communities. Due to the relatively minor scale of the updates to the ESIA Addendum the amended ESIA Addendum is available for a period of 14 days in communities affected by the re-route (Khaishi and Kotishi) and via the Internet and will be followed by public meetings. The ESIA Addendum will then be revised as appropriate to address comments received and any legitimate omissions or errors identified during both periods of disclosure and submitted formally to the Georgian Oil and Gas Corporation and the Ministries of Economic and Sustainable Development, and Environment and Natural Resource Protection for approval.
The Physical Environment

The proposed additional eastern section of pipeline is located approximately 7 km north-west of Marneuli at an altitude of approximately 560 m above sea level. The area has mild winters, warm summers and moderately high rainfall. The proposed additional western section of pipeline is to connect the PRMS with the proposed Trans Anatolian Gas Pipeline (TANAP) at the Georgia–Turkey border. This area is situated on an elevation of around 1230 m, and it has cold winters and mild summers.

Geohazards

No significant geohazards were identified along the route of the proposed additional sections of pipeline. However, on the proposed additional eastern section of pipeline, hard rock is likely to be present at shallow depth in some locations. The ROW passes relatively close to a gully at one location on the proposed western section of pipeline.

Soil and Sediment Conditions

Along the proposed additional eastern section of pipeline, the soil was found to be fine to very fine silt. At the PRMS and the additional western section of pipeline, the subsoil is stiff clay and the topsoil is deep-brown, slightly sandy clay containing basalt gravel. The soil survey identified low levels of municipal waste and fragments of asbestos-cement sheet in a few small areas along the proposed additional sections of pipeline.

Landscape and Visual

Landscape field surveys were undertaken at the new location for the pigging station and along the proposed additional sections of pipeline route. Overall, the route of the proposed additional sections of pipeline is considered to be of low landscape value.

The proposed additional eastern section of pipeline is located in a predominantly flat area of natural landscape that has been strongly degraded and modified by cultural land uses, such as arable and pastoral agriculture and industrial. The village of Khaishi and a few houses and farm holdings will have a clear view of pipeline construction works. The re-route between KP59 and KP60 is further away from the village of Khaishi but residents of the small number of houses and farm holdings north of the proposed route at KP59 will be slightly closer (300m) from the pipeline works.

At the proposed location of the pigging station, the landscape comprises flat intensively grazed land with a few distinctive man-made features, of low landscape value. Houses on the western boundary of Khaishi, approximately 500 m south-east of the proposed location, will have a permanent view of the station.

The landscape along the proposed additional western section of pipeline generally comprised heavily grazed grassland that is heavily modified by man-made features associated with the border crossing. Owing to its elevation, pipeline construction works will be visible from several mainly non-residential receptors along the route.
The Project Setting

Surface Water Resources
The proposed additional sections of pipeline cross two very small streams considered of low importance and sensitivity owing to their small size and low flow rates. No other surface water resources were identified in the area likely to be affected by work.

Groundwater Resources
The more sensitive water bearing horizons in the region of the additional eastern section of pipeline, which are associated with alluvial sediment, are not present under the pipeline route and those groundwater resources that do exist are located beneath impermeable layers. The depth to abstracted groundwater at the PRMS (considered representative of the additional western section of pipeline) is approximately 80m.

Biodiversity

Habitats
The proposed additional sections of pipeline cross mostly semi-natural, agricultural land and pastures of low to no conservation value. The proposed western section of pipeline route crosses an area of deciduous woodland close to Turkish border. The woodland has already been fragmented and modified by man but is considered to be regionally rare.

The proposed PRMS expansion is located on agricultural land, scrub and grassland where six endemic plant species grow. They are widespread in Georgia and not considered to be threatened.

Deciduous woodland with a mixture of conifers at the proposed western section of pipeline

Fauna
A survey of the proposed additional eastern section of pipeline identified that the area supports low fauna diversity, although three Georgian Red List (GRL) species – Ibera Greek tortoise, Egyptian vulture and long-legged buzzard – were recorded. However, it is unlikely that the two birds breed on or close to the pipeline route and the area is not considered to be of key importance for the tortoise as there is abundant suitable habitat for this species in the surrounding area.

Along the proposed western section of pipeline, only fauna common to the area were recorded during any of the surveys; no important or protected species were found.
Air Quality
Baseline air quality conditions at the PRMS are likely to represent a conservative estimate of conditions along the proposed additional western section of pipeline (PRMS KP 0-2.5) as the pipeline will be further away from the existing facilities. These concluded that nitrogen dioxide, sulphur dioxide and benzene levels were within international health standards. Along the additional eastern section of pipeline, the predominantly rural location means that baseline air quality is likely to be good.

Noise
Baseline noise measurements at sensitive receptors around the new location of the pigging station and previous surveys around the PRMS found that the main noise sources include agricultural noise, trains, planes and cars, bird song, noise from maintenance of the railway line.

Cultural Heritage
Georgia has a long and complex history that is reflected in the depth and nature of its archaeological record.
Research and surveys for the Project design updates identified nine potential sites within the Project area on the additional eastern section of pipeline, and five potential sites within the Project area on the additional western section of pipeline. All except three of these are currently considered of low sensitivity. However, during construction of the BTC and SCP pipelines, a large multicomponent archaeological site, Orchosani, was identified in the area around the proposed additional western section of pipeline. This site also contains modern Muslim burials.
Socio-Economic Survey Findings

The following communities are close to the proposed eastern section of pipeline and the pigging station: Patara Durnuki, Kotishi and Khaishi. Arali and Naokhrebi are the nearest villages to the proposed western section of pipeline and the PRMS. Information about these communities was obtained through meetings with community leaders and from a household survey.

**Additional Eastern Section of Pipeline**

Khaishi has a population of approximately 600 residents and 120 people reside in Kotishi. The population of both Kotishi and Khaishi is of mainly Georgian ethnicity, whereas Patara Durnuki is a small ethnically diverse settlement with approximately 28 residents. Patara Durnuki lacks key facilities of its own and has lower average monthly incomes/per household compared to Khaishi and Kotishi. Both Khaishi and Kotishi received an influx of households from Svaneti while, in addition, Kotishi received households from Abkhazia. All in-migrants from Abkhazia and some of those from Svaneti are considered to be displaced people. Agriculture is the main source of income in Khaishi, Kotishi and Patara Durnuki; many residents also depend on pensions and state benefits.

The villages have a domestic electricity supply. All residents of Kotishi and 80% of residents of Khaishi have mains (piped) gas, with bottled gas available to other residents in Khaishi and in Patara Durnuki. All households in Patara Durnuki can access potable water in their houses, whereas residents of Khaishi and Kotishi have a source of potable water within 0.5 km of their households. No households in these villages are connected to a centralised sewerage system.

**Additional Western Section of Pipeline**

The communities close to the PRMS and in the vicinity of the proposed western section of pipeline include the two relatively large settlements of Vale (population almost 6000) and Ude (population just over 3500) and several small rural villages. The ethnicity is Georgian 66.1% and Armenian 32.3%. These villages were described in the NTS to the SCPX Final ESIA so only a brief summary is provided here.

The economy is quite mixed with 46% of the working people employed in the private sector compared with almost 40% employed in agriculture. However, three-quarters of the households in these communities own land plots. Two-thirds of them use the plots for crop production and only 5% of households own plots for hay production or grazing. The main sources of income are wages and salaries but pensions and other social allowances pay an important role even in households in receipt of a wage/salary.

Most people have access to potable water from a tap in their garden or yard. Nearly a quarter of homes are connected to a centralised sewerage system. All the communities have a domestic electricity supply. Bottled gas is available. For heating fuel, people use wood almost exclusively.
Planning the Concept

Various options to expand the existing SCP pipeline in order to incorporate the additional gas from Shah Deniz were re-evaluated with regard to their technical feasibility, relative environmental and social impact, implications for health, safety and relative cost within the SCPX Final ESIA. As part of the decision to reduce the pipeline diameter to 48”, these parameters were re-evaluated. The review led to selection of 48”-diameter pipeline instead of the previously selected 56”-diameter design. Compared to the 56” design, the 48” alternative is less technically challenging and represents the optimum balance between meeting the immediate gas transport requirements whilst retaining the capability for future expansion.

Box 2: Pipeline Concept

The design team compared alternative pipeline designs using 42”, 48” and 56”-diameter pipeline. Technically the 56” is the most challenging to construct, as the pipe needs careful handling and lifting during construction and involves the most complex trenchless crossing techniques (e.g. micro-tunnelling). The 48” option is associated with reduced traffic movements owing to an increase in the number of pipe sections that can be transported on one truck, compared with the 56” option. The 48” option has the same fuel gas use and greenhouse gases and emissions of atmospheric pollutants as the 56”, with the 42” option having increased fuel gas use and associated emissions. Thus the 48”-diameter pipeline concept was selected and is illustrated below (SCP kilometre points (KPs) are shown).

The 48” loop pipeline is proposed to start in Azerbaijan, some 23 km from the Sangachal Terminal (at SCP KP23, Azerbaijan), to a point on the SCP pipeline approximately 63 km inside the border with Georgia. In addition, a 2.5-km pipeline loop will be added that runs from the PRMS to the Georgian–Turkish border to connect to TANAP and facilitate the export of gas to markets in Turkey and onwards to Europe.

Pipeline Routing

The assessment of the existing BTC/SCP corridor confirmed that the additional eastern section of the pipeline could be accommodated alongside the existing SCP and BTC pipelines for most of its route. Two alternative routes were considered for the re-route required around KP59-60 to avoid existing water and gas pipelines. The chosen route will result in less environmental and social impacts and is less technically challenging.

Three route options in the vicinity of the BTC/SCP corridor were considered for the additional western section of the pipeline. The chosen route, which is a hybrid option, avoids a riparian (streamside) woodland of ecological value and a deep gully.

48”-Diameter Pipeline Construction

The SCPX pipeline and associated facilities will be designed to international natural gas pipeline industry standards. The 48” pipeline will comprise line pipe formed of continuously welded, high-grade carbon steel with an outside diameter of 48 inches (1219 mm) and a nominal wall thickness of 16.7 mm (or greater as determined by the risk assessment).

The Project approach to pipeline construction will remain largely unchanged as a result of the Project design updates. The only change another than the additional length is that there may be a need to blast rock to open a trench for the pipeline along the proposed additional eastern section of pipeline. This in turn has led to the widening of the right of way (ROW) for pipeline construction from 36 m to a maximum of 46 m.
PRMS, Pigging Station and Block Valve

The Project design updates have lead to some changes to the proposed design of the pigging station and PRMS as follows.

**PRMS**
The PRMS will increase in size by three hectares to take account of the new pig launcher and of the two additional gas-fired water-bath heaters required.

**Pigging station**
The batteries powering equipment at the pigging station will be recharged using two small diesel generators rather than the gas fired generators originally proposed. The size of the station has increased (by 5,500 square metres) and provision has been made for a temporary area to vent gas during pipeline commissioning and on rare occasions during pipeline maintenance.

**Block valve**
The size of the block valve has increased slightly (by 1,000 square metres) and provision has been made for a temporary area to vent gas during pipeline commissioning and, on rare occasions, during pipeline maintenance.
This section summarises the key environmental and social baseline considerations pertaining to the proposed Project design updates. It discusses potential Project impacts and mitigation measures, and the main residual impacts of various aspects such as soils, landscape, ecology, livelihoods, community health and safety, and concludes with a summary of non-routine and cumulative impacts. This section focuses on those impacts that are either new or different compared to the rest of the SCPX Project in Georgia.

Geology and Geomorphology

On the proposed additional eastern section of pipeline, blasting is likely to be required to open the trench into which the pipeline will be placed. BP will work with the construction contractor to see if rock crushing can be carried out off-site, which may reduce the additional width of the ROW required. If practicable, the rock will be reused either on- or off-site. The rate of erosion at the gully close to part of the additional western section of pipeline will be monitored and measures such as gabions installed, if necessary, to protect the pipeline.

Overall, the Project design updates are expected to have a residual impact of low significance on geology and geomorphology.

Soils

Soil is an important environmental resource that can be affected adversely by construction activities and is closely associated with the functioning of other resources. The pipeline route and areas disturbed during construction of the extension to the PRMS and the pigging station will be reinstated and reseeded if necessary to achieve Project targets for erosion control and re-vegetation. The small areas of existing contamination will be cleared away before the start of construction.

The residual impacts of the Project design updates on soil are expected to be of low significance, except the removal of fly-tipped domestic waste and asbestos from the pipeline route, which will be beneficial.

Landscape and Visual Impacts

The pipeline construction works will be temporarily visible from the village of Khaishi and from a few other houses and farm buildings north of KP59. The re-route between KP59 and KP60 is further away from the village of Khaishi, so they are likely to experience only a minor change in views during pipeline construction, but slightly closer to the residents near KP59. Once construction is complete, the pipeline will be buried and the land will be reinstated to its original use and vegetation. It is likely to merge in with the surroundings in two to five years' time.
Environmental and Socio-Economic Issues

Houses on the western boundary of Khaishi, located approximately 500 m to the south-east, may be able to view the pigging station but the station comprises low-level pipework surrounded by a security fence and wall so is expected to be only a small change in the landscape and views.

The additional land needed and equipment to be installed at the PRMS is not predicted to significantly affect the assessment of landscape and visual impact reported in the SCPX Final ESIA. This concluded that forming banks of excess spoil at the facility should help to make the facility less conspicuous and the site would be a small change in the landscape and would not make an appreciable change to views from settlements.

Overall the residual landscape and visual impacts of the pipeline, pigging station and PRMS are considered of low significance.

Surface Water Resources

The two very small watercourses will be crossed using open-cut techniques where the bed and bank of the watercourses is excavated, the pipe buried beneath the bed and the bed and bank reinstated. If needed, measures will be taken during construction of the crossings – which should only take a few days – to maintain flow or to provide an alternative supply to any users of the water.

Approximately 2500 cubic metres of water will be extracted from the Potskhov River to test the proposed western section of the pipeline. Water will be extracted slowly so less than one-tenth of the river water flow is taken. Measures such as fish screens will be used to stop fish being taken with the water. After the test, a chemical analysis and risk assessment will be carried out before the water is discharged into rivers or lakes.

Overall, therefore, the residual impacts of the additional sections of pipeline are considered of low significance.

Groundwater Resources

Pipeline construction is not expected to have any measurable impact on groundwater along the additional sections of pipeline. The pollution prevention plan will include measures to reduce the risk of groundwater contamination during construction. The expansion of the PRMS is not expected to have any significant effect on the use of groundwater during operation. The residual impacts on groundwater are expected to be of low significance.

Ecology

The pipeline will mainly disturb heavily grazed areas of steppe (flat grassland) or other areas that have been modified heavily by humans. On the additional western section of pipeline, the ROW will be set out to avoid mature trees where practicable. The existing vegetation will be cleared from the ROW and any temporary areas adjacent to the pigging station and block valve used for construction. Temporary works areas will be reinstated to near original condition as soon as practicable after construction work is complete. Biorestoration and tree planting will aim to make the reinstated areas compatible with adjacent areas. The success of biorestoration will be monitored.

If Ibera Greek tortoises are found within the work site, they will be moved a safe distance from the construction area. Animal species that are temporarily disturbed during construction are likely to recolonise the reinstated areas once construction works are complete.

Overall, the impacts of the Project design updates on ecology are considered of low significance.

Air Quality

The additional gas-fired water-bath heaters at the PRMS will lead to an increase in emissions from the site but no residents will be exposed to levels that are more than approximately 25% of human health limits. A programme to monitor ambient air quality and combustion equipment exhaust emissions will be implemented when the PRMS is in operation to demonstrate conformance with the project’s environmental standards. The small diesel generators to be installed at the pigging station will lead to a reduction in the already minor emissions from the site, compared to the gas-fired generators previously proposed.

Construction is likely to result in dust given the fine soils present. The ROW and sites will be damped down with water, vehicles will be directed to defined access routes and demarcated working areas and speed limits will all be used to minimise dust.

Overall, the residual impacts on air quality are not considered likely to result in any detrimental effects on human health, vegetation and ecosystems.
Environmental and Socio-Economic Issues

Noise and Vibration

Construction and commissioning work uses loud equipment intermittently (particularly blasters, piledrivers, large pumps and compressors). There are a number of houses close enough to the additional sections of the pipeline route to be affected by noise during construction. Ten-minute noise monitoring will be undertaken at locations considered sensitive to noise before and during construction. Mitigation measures will be provided (such as shielding noise sources) if noise is considered unacceptable.

Any local residents will be informed in advance if blasting is needed along the pipeline route in their area. BP will investigate if the rock produced from blasting can be crushed off-site, which will reduce noise from rock handling. Blasting creates vibration waves that can damage existing buildings. A trial blast will be undertaken prior to main blasting activities to allow the size of the main blast to be calculated to reduce the risk to existing buildings and pipelines.

Local communities will be notified in advance of any venting at the block valve and pigging station if this is expected to generate high noise levels. Residual impacts of noise and vibration during construction, commissioning and operation are generally of low significance. However, during construction and commissioning impacts are expected to be of medium significance at houses in close proximity to the pipeline route.

The operation of the additional water bath heaters at the PRMS or use of diesel generators at the pigging station will not increase noise levels from these facilities. Residual impacts of noise are expected to be of low significance.

Cultural Heritage

Construction activities can physically damage archaeological sites or historic monuments. A cultural heritage management plan will be implemented so that areas of potential cultural heritage impact will be examined and if necessary, be excavated before construction begins.

Phase 2 cultural heritage evaluations are being carried out at the Orchosani archaeological site and will be carried out on sites affected by the re-route on the additional eastern section of pipeline, significant sites will be subject to data recovery studies if impact minimisation using modified construction techniques are not practicable. Consultation on modified construction measures will be undertaken prior to construction with relevant national heritage institutions. Consultation will also be undertaken with relevant national heritage institutions and local authorities with respect to the modern Meskhetian Turkish cemetery and trenchless crossing or other modified construction techniques will be used where practicable to avoid impacting the cemetery.

Through implementation of the proposed mitigation measures, the negative impacts on the archaeological resource of the areas affected will be reduced. The ongoing programme of archaeological study of the sites affected will also increase understanding and awareness of cultural heritage.

Currently, the residual impacts on cultural heritage are considered of low significance.

Social Issues

Demographics, Employment and Livelihoods

The impacts of the Project design updates will be very similar to, but will only form a small part of, the impacts of the overall SCPX Project. There is the potential for temporary employment of local people on the pipeline area during construction. However, operation of the pipeline and PRMS will require a much smaller workforce of skilled technical personnel and security staff.

A number of both positive and negative impacts may be generated by these opportunities, in common with the rest of the SCPX Project, such as the migration of individuals or families to the SCPX Project area; strain on infrastructure capacity and service delivery; tensions between communities and ‘strangers’ resulting from cultural differences and/or the antisocial behaviour of the construction workforce and social tensions e.g. if people feel that jobs are not allocated fairly.

The Project will implement measures including publication of the Project’s local recruitment strategy, regular liaison with local communities and the enforcement of an employee code of conduct and a grievance procedure that will help to keep the residual impacts within acceptable levels and considered to be of low significance. Overall, the SCPX Project will bring economic benefits to Georgia overall and to towns near the project development areas.

The residual impacts associated with employment and livelihoods are considered of low significance and medium significance with respect to certain employment and livelihood issues.
Land Ownership and Use
The SCPX Project will purchase land for the PRMS and pigging station and along the additional section of pipeline route, and will generally lease land that is needed temporarily for the construction period. Land users whose livelihoods are affected by loss of crops or restriction of access to their land will be eligible for compensation payments. With the application of these mitigation measures, the residual impacts are considered of low significance.

Infrastructure and Services
The key sensitivities and potential impacts of the Project design updates on infrastructure and services will be very similar to, but will only form a small part of, the impacts of the overall SCPX Project. These include the use of existing roads for access to project sites that may affect road condition and traffic flow; increased pressure on utility services; and the potential to damage or affect the integrity of irrigation structures and springs or wells that may be used for domestic water supply and/or irrigation water and the abstraction of water from groundwater sources that may inadvertently affect domestic water supply and/or irrigation water.

Measures taken to reduce these impacts, in common with the rest of the Project, will include communicating any disruption to services to users in advance; repairing damage within a reasonable time and selection; and the use and repair of access roads. These are considered to reduce residual impacts to a low significance.

Community Health and Safety
The key sensitivities and potential impacts of the Project design updates on community health and safety will be very similar to, but will only form a small part of, the impacts of the overall SCPX Project. The main project-related activities that may affect community health and safety are potential health impacts such as an increase in communicable diseases; safety risks to local residents, the workforce and livestock as a result of construction work and its associated activities, including blasting and increased risk of traffic accidents on roads and access tracks.

Communities will be informed in advance of blasting and a public exclusion zone created around the area to be blasted. Mats or other equivalent measures will be used over the blast area where needed to reduce risks of damage.

Other measures to reduce these impacts, in common with the rest of the Project, will include consultation with communities and land users and owners; establishment of a grievance procedure and raising of community health and safety awareness; using barriers and signs at areas including river and road crossings or where the ROW passes close to communities; Project speed limits; use of temporary flagmen; driver training; and controls on movements of heavy vehicles. The residual impacts associated with community health and safety range from high to low, although the mitigation measures are considered to decrease the likelihood of such events occurring.

The pipeline will be built to international safety standards and is very unlikely to rupture. Local residents will be advised of activities that could threaten the integrity of the pipeline, such as the extraction of aggregate. The pipeline will be patrolled daily and the inspectors will intervene if any third-party interference is identified under existing operations procedures.

Cumulative and Transboundary Impacts
Any other existing developments or planned construction projects that affect the areas where the Project design updates have an environmental or social impact could create a cumulative environmental or social impact that is more significant than their impact alone.

As the proposed additional sections of SCPX pipeline will be constructed parallel to the existing BTC pipeline and the SCP, many of the residents of local communities already understand the visual impact, noise and dust that pipeline construction entails. In addition, for the most of its route the SCPX pipeline takes advantage of occupying a dual corridor adjacent to the BTC pipeline and the SCP.

There is a potential for cumulative impacts to occur in the area of the proposed western section of pipeline, where the SCPX pipeline is to connect with the Trans Anatolian Gas Pipeline (TANAP) and construction is planned to take place at the same time as SCPX. Possible cumulative and transboundary impacts include elevated levels of noise and dust produced by the construction activities. Taking into account the temporary nature of the impacts, limited to the construction phase, as well as previous experience from construction of the SCP and BTC pipelines, the significance of these transboundary impacts is considered low.

The Project design updates have led to a relatively small increase (c.500 tonnes) in greenhouse gas emissions over the figures reported in the SCPX ESIA.

Hazard Analysis and Risk Management
The SCPX Project adopted the principles of hazard and risk management to reduce the risks during detailed design of the pipeline and facilities, including the Project design updates described in this NTS. For more details on hazard analysis and risk management please refer to the NTS of the SCPX Final ESIA.
This ESIA Addendum has identified measures that will be implemented to reduce and mitigate potential adverse environmental and social impacts, and to enhance the potential benefits from the construction of the Project design updates.

A commitments register has been compiled for the ESIA Addendum that provides a definitive list of the new commitments (mitigation measures) or changes to existing commitments that have been identified as a result of assessment of environmental and social impacts of the Project design updates.

These commitments in turn have been incorporated into the environmental and social management and monitoring plan developed for the SCPX Project, which will be applicable to all contractors working on the Project.

Any new or revised commitments that relate to the operating phase of the Project will be incorporated into the SCPX operations phase environmental and social management system, which will be integrated into the existing pipeline’s management system.

When the SCPX Project comes into operation, it will integrate into the Georgia export pipeline’s environmental and social management system. Operational commitments have been included in this ESIA Addendum, and new operational commitments will be carried forward into the operational management plans. The existing emergency response plan will also be updated to account for the SCPX Project (including the Project design updates).
This NTS of the amended ESIA Addendum has been prepared specifically for public disclosure and comment. The amended ESIA Addendum is being disseminated and will be available for a period of 14 days at public locations and via the Internet. The ESIA Addendum will then be revised to address comments and any legitimate omissions or errors identified during the disclosure of both the original and amended ESIA Addendum, and submitted formally to the Georgian Oil and Gas Corporation and the ministries of Economic and Sustainable Development, and Environment and Natural Resources Protection for approval.

If you have any comments on the amended draft ESIA Addendum, please send them to
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or by email to
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They will be submitted to the team implementing the ESIA, which will address any outstanding issues in the final ESIA.

The NTS and the ESIA are available in the Reports and Publications Section of www.bp.com/caspian and www.bp.com/caspian.