

Chapter 14 Overall Project Assessment



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14 Overall Project Assessment

14.1 Introduction

The proposed WREP-SR Project represents the results of years of feasibility studies and detailed assessment of a number of alternative technical options to ascertain the preferred course of action in order to ensure continued safe operation of WREP. These studies have included identification of environmental and social constraints and concerns along the route to assess pipeline re-routing options and to obtain relevant baseline data for pipeline design, construction and operation.

14.2 Development of the ESIA

14.2.1 *Adopted Process*

An environmental and social impact assessment (ESIA) in line with current international practice has been undertaken for the WREP-SR Project. The aim of the ESIA process has been to ensure that all potential impacts on environmental, social and cultural heritage that could be attributable to the Project are fully investigated, reported and, where necessary, managed.

This ESIA has been undertaken and reported as an independent and objective process. In this regard, RSK Environment has worked closely with Dzelkva and ACT Research, two specialist Georgian consultancies, together with cultural heritage experts of international repute.

In line with the relevant provisions of the host government agreement (HGA), the approach adopted in this ESIA is in accordance with EC Directive requirements (2011/92/EU as amended by 2014/52/EU).

A feature of the process undertaken for this ESIA has been the extent to which it has been underpinned by stakeholder engagement and public consultation. The focus of consultation has been to understand as far as possible how the Project will impact all stakeholders, and to obtain their ideas and opinions on management of impacts in order to influence Project design, implementation and follow-up. In this regard, a Public Consultation and Disclosure Plan (PCDP) has established the framework for a structured and accountable programme of ongoing public engagement and participation that commenced in 2009 and which is anticipated to continue throughout future Project development and implementation.

The ESIA team has had the opportunity to work closely with the engineering design team and with BP on behalf of GPC with the common objective of fully assessing potential impacts and building mitigation into the Project's design.

The construction phase mitigation measures that have been identified as part of this ESIA will inform the Project environmental and social management plans and procedures. Development of such plans and procedures will be included as contractual responsibilities in the project construction phase contracts. Operational commitments will be carried forward into operational management plans.

14.2.2 *Challenges Faced by ESIA Process*

In common with most environmental and social assessments, the ESIA for the WREP-SR Project has faced challenges in a number of areas in terms of the reliability of predicting impacts and in development of appropriate mitigation measures for such impacts. These challenges generally centre on the following factors:

- Uncertainty due to gaps in knowledge of the baseline. Where these difficulties have materialised, desk data or preliminary survey data have had to be relied upon as an interim measure and the ESIA as a result has identified locations where pre-construction surveys and further data acquisition will be required
- Evolving detailed design. While an ESIA is generally a process that parallels and interacts with design, it relies on design for certain data to facilitate identification of potential impacts. In a project of the scale and complexity of the proposed WREP-SR there are inevitably some outstanding issues that remain to be resolved in terms of the precise nature of project activities. The majority, if not all, of these are construction related and are, by implication, short-term in most instances. These are discussed further below
- Reliability of impact prediction. In recognition of the level of uncertainty inherent in some of the findings, the stated level of significance of identified impacts in this ESIA where uncertainty exists, has been conservative (i.e. significance may be over-stated).

14.3 Issues Arising from the Environmental and Social Assessment

14.3.1 Identified Issues

The ESIA has methodically undergone a process of identification of all potential impacts and assessment of their significance against a structured set of criteria that have been specifically developed for this Project and which reflect current international practice. All residual impacts and benefits have been identified and summarised to assist decision makers in forming a view of the relative attributes of the Project. These are summarised in Table 14-1.

Table 14-1: Summary of Key Residual Impacts

Higher significance residual impacts	
Community safety	
• Communities will be exposed to an increased risk of injury because the volume of road traffic will increase	
Medium significance residual impacts	
Ecology	
Habitats and protected areas	
• Loss and severance of natural habitats supporting protected or valued species (IUCN, GRL, CITES, Caucasian endemic)	
Landscape	
Visual impact	
• Visual intrusion into landscape particularly where the pipeline is within or close to historic landscape protection zone (LPZ) associated with the Mtskheta World Heritage Site (part of RR-001 and access roads AR69, AR69a, AR69b and AR67)	
Water Resources	
Surface Water and Groundwater	
• The most sensitive surface watercourses crossed by the WREP-SR sections are the Jachviskhevi river, which flows into the Mtkvari river, and the river Supsa. At these locations water quality, aquatic organisms and downstream receptors may be adversely affected by: ○ Loss of containment of crude oil into surface water during de-oiling ○ Discharge of hydrotest water or trench water (contamination / sediment)	

○ Sedimentation into rivers from soil erosion following removal of vegetation and/or disturbance of ground ○ Loss of containment of drilling fluids during construction of the Supsa river crossings
Soil
Erosion • The residual impact from soil erosion is generally considered to be low, although this increases to medium on ridges and steep slopes. However it is expected to be better than the pre-existing erosion class in all higher risk areas (erosion class greater than 3)
Cultural Heritage
Disturbance of artefacts • The residual impact on archaeological heritage is generally of low significance and the positive benefits will be maximised to the greatest extent practical. The exception is the short section of RR-001 within the Mtskheta World Heritage Site Landscape Protection zone where the residual impact is considered to be of medium significance
Social
Access roads • Increased risk of accidents • Traffic congestion and delays, particularly during the movement of long or heavy loads may potentially inconvenience other road users • Wear and degradation of road surfaces • The impact of dust, noise, vibration, safety and nuisance from access roads is considered to be of medium significance in the following areas: ○ AR63 passing by houses ○ AR65 passing by houses ○ AR to BVS28, passing by a building occupied by IDPs ○ AR to PRS1 via 20km of unsurfaced roads, passing through several villages and a number of schools ○ AR223 passing by a school, a shop and kindergarten (under construction as of February 2016) ○ AR225 passing by a group of summer houses ○ AR373 passing by houses, a shop and a farm • The residual impact of medium significance on safety is also expected at the following access roads: ○ road to Jvari monastery used by tourists and buses Pipeline construction areas • The impact of dust, noise, vibration, safety and nuisance from construction activities is considered to be of medium significance at the following locations: ○ RP-001a KP1.0, where there is a stone house/farm 40m from the proposed route; the residents of this property may also be affected by land severance ○ RR-001 KP0.0 and 2.0, where there are houses within 70m from the proposed route; the residents of houses at KP2.0 may also be affected by land severance ○ Supsa Export HDD crossing tie-in area, where there are a house and a farm within 50m Community safety • Communities will be exposed to an increased risk of injury because the construction sites will have hazards such as deep excavations and trenches • There is the potential for tension between security personnel and community members • Delays in transfer of a patient to a medical facility due to Project restrictions to access could lead to a deterioration in patient conditions Infrastructure • Accidental damage of third-party infrastructure may potentially result in temporary loss of supply to other consumers • Wear of road surface due to heavy construction traffic. Upon completion of construction activities,

the roads will be reinstated to pre-existing conditions or better, resulting in beneficial impact (see below) - Traffic congestion and delays, particularly during movement of long or heavy loads Employment - Overall, the Project is expected to have a small beneficial effect on local employment and incomes during the construction phase (as outlined in the "Beneficial Impacts" section below), but no impact once it is operational. It is considered inevitable though that some people will be disappointed not to secure employment on the Project. The impact in terms of un-met employment expectations is therefore classified as medium Livelihoods - Incomes may be affected temporarily by reduced agricultural productivity due to soil compaction or increased incidence of crop disease Community relations - Frustration and resentment if local workers perceive that foreign workers are receiving better pay or conditions for exactly the same job
Accidental oil spill
Accidental loss of containment of the pipeline inventory during de-oiling or removal from service may cause contamination of groundwater, surface water and soil. An environmental risk assessment has been undertaken to inform the planning of these activities and the siting of oil spill response equipment
Beneficial impacts
Oil spill risk
Reduction in oil spill risk The risk of oil spill due to pipe rupture should be reduced significantly by implementation of the Project. This should also reduce the risk of potential environmental, social and transboundary impacts
Land contamination clearance
Fly-tipping Cleanup and disposal of fly-tipped waste to an appropriate licensed facility will have a beneficial impact, as it reduces risk of mobilising contaminants into the surrounding environment. It also reduces risk to communities and construction personnel
Cultural heritage
Increased knowledge base Increased understanding of local archaeology following excavation and recording of any sites found during construction (by implementation of the Late finds protocol) will be beneficial
Ecology
Areas of High Biodiversity Interest The redundant sections of WREP adjacent to the Tbilisi National Park will be reinstated where not needed for pipeline inspection or used by third party vehicles
Social
Livelihoods - Increased income for those who supply goods to the Project or own land needed for temporary working areas or permanent easement Employment - Additional money injected into communities from wages and improved standard of living - Enhanced skills due to training of local workforce Infrastructure and services - Reinstatement of access roads to pre-existing conditions or better. If roads are reinstated to a better than original condition, the impact will be beneficial

14.3.2 *Unplanned Events*

A residual impact of high significance identified (during the environmental risk assessment, Chapter 12) for the Project is the contamination of soil, groundwater or surface waters that could result from an accidental loss of containment during de-oiling or removal from service operations following completion of pipeline construction. The probability of this occurring is considered to be extremely low, but the potential consequence could be high if the release is in a particularly sensitive location.

14.3.3 *Issues Requiring Finalisation*

The ESIA recognises that there are a number of activities, mainly construction related, which are not fully defined at this stage and which can only be resolved following selection of the various major construction contractors and detailed development of their work plans.

Waste disposal

The quantities and types of waste that will be generated during construction are subject to the ongoing detailed design and the construction methodology to be employed by the EPC and other contractors during construction. The Project is committed to a waste management strategy that is based on minimisation of waste at source, identification of all waste arisings, maximising recycling and re-use, use only of licensed disposal sites with adequate capacity and inspection and audit to ensure compliance in line with Project specifications.

Sourcing of aggregates and other construction materials

The Project will require a significant quantity of aggregates, which have been quantified as far as possible in this report. The focus will be to minimise the level of transport of such materials by sourcing aggregates and other raw materials locally along the route. The Project will only use licensed facilities with sufficient capacity. If new facilities are required to service Project needs, these will be subjected to the formal Georgian approvals process.

14.3.4 *Other Key Issues of the ESIA*

Protection of biodiversity

Route selection has focused on avoidance and minimisation of crossing distances through sensitive areas and in this regard it has been successful in minimising impact in these areas. For example, proposed protection measures include:

- Avoidance through re-routing and micro-routing (re-routing on a local scale)
- Construction corridor width restrictions
- Preconstruction surveys to identify the exact timing of any seasonal constraints
- Seasonal constraints (if relevant)
- Offset and abandoned corridor biorestore
- Translocation of species
- Reinstatement and ecological management plan comprising generic and site-specific requirements
- Oil spill response planning.

Protection of groundwater and surface water resources

The ESIA recognises the importance of protection of groundwater and surface water resources during WREP-SR Project. The focus of the assessment has included the following for the re-route sections:

- De-oiling and removal from service through risk assessment and input to Project design and construction planning, including, but not limited to:
 - Continuous de-oiling methodology
 - Risk assessment to inform the locations for standby oil spill response teams
 - Risk assessment to inform the cleaning process and removal from service strategy
- A risk-based corrective action approach to dealing with contamination
- Protection of surface water quality during the construction phase through HDD method of major crossings.

Cultural heritage

The route has been subjected to desk study, archaeological field surveys and extensive consultation to identify all known and readily apparent cultural heritage features of importance. In the process, knowledge of cultural heritage issues along the route has improved. In response to the findings of this work, the route alignment has sought to avoid features of cultural heritage. However, the ESIA recognises that during construction of pipelines there is some probability of encountering other artefacts or features of cultural importance that were not identifiable through desk studies and field surveys. In this regard, a framework for identifying chance finds and how work should then proceed will be defined as part of Construction phase ESMS.

14.4 Project Assessment Statement

The ESIA has systematically and comprehensively examined all identified aspects of the Project with the potential to give rise to environmental or social impacts.

There are a number of residual impacts relating to construction and operation of the pipeline. However, by careful management (and in certain cases further studies to remove or reduce current uncertainty regarding their sensitivity) and the implementation of the various mitigation measures set out in this report, these residual impacts will be managed.

The key benefit of the Project will be to reduce any potential risk of failure due to geohazards. There are also a number of anticipated direct benefits for local settlements, particularly during the construction period, in terms of short-term employment. Community development initiatives will also benefit certain impacted communities.