









7 Action Plan




The latest version of the Action Plan is updated until September 2016. It will be completely updated as each EIA/PAGA is presented and approved by the ANLA. It is important to clarify that some of the actions do not correspond to an ongoing non-compliance, but they are aimed to strengthen the current measures. The Action Plan was also included in the biannual report.

The current status of the Action Plan has been evaluated with the following color coding:

Solved  On Track  Pending 

Proposed Action (As set in the ESDD)	Current Status (Updated August 2016)	Color code
<p>Pending Licenses: Once the Environmental license is obtained for UF 2 and UF 3, the independent engineer must identify the risks and impacts. UF: UF2 and UF3. PS/EP: PS1 Deadline: Expected date: November 2016 (License approval of UF2.2)</p>	<p>The EIAs for UF2.2 and UF3.2 were submitted to the ANLA. The risk and impacts have been properly identified. The License of UF3.2 was obtained in July 2016 while the license of UF2.2 is pending.</p>	
<p>Prevention of Pollution: Neither the management plan for prevention of water pollution due to the construction of Tesalia tunnel, nor the monitoring and follow-up are going to be defined until the approval of the EIA. UF: UF2.2 PS/EP: PS3 Deadline: Expected date: November 2016 (License approval of UF2.2)</p>	<p>The approval of the EIA for UF 2.2 is pending. However, the Concessionaire has done the baseline monitoring of bacteriological, physical and chemical characteristics. Also, it has set prevention, correction and mitigation measures. A detail hydrogeological review to evaluate the potential impacts was presented in previous monthly monitoring reports. In Arup's opinion the Concessionaire has included sufficient measures for pollution prevention. However, they will be evaluated during construction monitoring.</p>	
<p>Prevention of Pollution: The PAGAs do not established the baseline for water quality, air quality and noise. UF: 1,2, 3.1, 4 y 5 PS/EP: PS3</p>	<p>The baseline for each PAGA has been performed. The monitoring are being done according to the established frequency.</p>	
<p>Calculations of gas emission. The Concessionaire needs to calculate the CO2 emissions and publish a report each year. UF: All PS/EP: PS3</p>	<p>The Concessionaire has performed the quantification of CO2 emissions and it submitted the report for the first year of construction. The report will be updated on a yearly basis.</p>	

Proposed Action (As set in the ESDD)	Current Status (Updated August 2016)	Color code
<p>Deadline: Annually, during construction phase.</p> <p>Prevention of pollution. Set the base line and monitoring for PM2.5, ozone.</p> <p>UF: ALL</p> <p>PS/EP: PS3</p> <p>Deadline: Action Completed</p>	<p>Despite the monitoring of PM2.5 and Ozone was set in the ESDD, this action needs to be reconsidered. At first instance, the Project is not a major source of pollution. According to the baseline monitoring, the Project emissions are well below the maximum permitted levels. Additionally, in the area of influence of the Project there are no sensitive receptors or degraded atmospheres. Moreover, the Concessionaire conducted a modeling with two different scenarios where it is found that the expected emissions do not exceed the established limits for PM10, SO_x, and NO_x. According to the Environmental, Health and Safety (EHS) Guidelines of the IFC, PM 2.5 and Ozone only when the Project is a major contributor of pollution, therefore, this action does not apply to the Project and is marked as solved. Here, it is important to clarify that the Concessionaire is performing the air quality monitoring with the parameters that were set in the baseline: PM10, SO_x, and NO_x.</p>	
<p>Compensation – Resettlement. The system for social compensation offered by the Project to the communities located along the road is not clear.</p> <p>UF: ALL</p> <p>PS/EP: PS5</p> <p>Deadline: Action Completed</p>	<p>Socio-economic compensations are being performed under the Socioeconomic Compensation Plan, which complies with Resolution 545 of 2015. The real estate portfolio and the neighborhood minutes are being developed. The compensation will be evaluated in parallel with the property acquisition process.</p>	
<p>Prevention and conservation of biodiversity. The PAGA sets an area of influence and a base line with the abiotic and biotic characterization, but it does not define the follow-up and monitoring</p> <p>UF: 1.2, 3.1, 4.1 y 5</p> <p>PS/EP: PS5</p> <p>Deadline: Action Completed</p>	<p>The PAGAs have set various programs for the prevention and conservation of biodiversity. Including: recovery of affected areas, Project wildlife protection and protection of sensitive ecosystems. Each program has a set of actions and monitoring indicators which are being followed by the Concessionaire.</p>	
<p>Supply Chain. There is no evidence in the ESDD that the source of the supplies is directly generated by the concessionaire or the suppliers, and given the case, if these ones have the permits required, in such a way that the habitat is not going to be affected negatively.</p> <p>UF: ALL</p> <p>PS/EP: PS6</p> <p>Deadline: Every 6 months, during construction phase.</p>	<p>The Concessionaire has submitted the certificates of the suppliers and they comply with legal requirements. The certificates were verified for the UF under construction and will be evaluated during all construction phase.</p>	

Proposed Action (As set in the ESDD)	Current Status (Updated August 2016)	Color code
<p>Materials disposal. The documentation for the design of the rubble and excavation material Management Area (ZODME) was not at the level of a detail design.</p> <p>UF: All</p> <p>PS/EP:PS6.</p> <p>Deadline: Every 6 months, during construction phase</p>	<p>Detailed design of the ZODME's are being developed. So far, the Concessionaire has acquired the majority of the volume needed. To date, the following ZODMES are being used: Mirolindo, El Cuervo and Calamar. They are meeting the technical specifications and designs approved by the environmental authority. The material disposal will be evaluated during all the construction phase.</p>	
<p>Archaeology: According to the results obtained during the archeological field studies phase, which determined that the Project area has an archeological potential qualified as medium-high, and estimated the probability of archeological findings, the area is considered to have a risk of significant findings.</p> <p>UF: All</p> <p>PS/EP:PS8</p> <p>Deadline: Every 6 months, during construction phase</p>	<p>In the UFs under construction, the Concessionaire has an Archaeological Management Plan approved by the ICANH which includes monitoring and rescue activities. To date, there are 7 archaeologists involved in the Project. Likewise, interagency agreements have been made in cultural centers and museums.</p> <p>The Archaeological Management Plan for UF2 was approved by the ICANH in May 2016.</p> <p>In Arup's opinion, the Concessionaire is having an adequate archeological management. Compliance will be evaluated during construction monitoring.</p>	
<p>Reporting: A summary of EIA and PAGA must be available through internet</p> <p>UF: All</p> <p>PS/EP:EP10</p> <p>Deadline: Action Completed</p>	<p>The Concessionaire updated the webpage with relevant environmental and social information. In addition, it is utilizing social media for the disclosure of information.</p>	

8 Queries from previous reports

This Section aims to give answer to the queries received in September 2016.

UF1 – *EL JARDÍN* NEIGHBORGOOD

- 1. Why is the lack of progress with the property acquisition of *El Jardín* in UF1. Which are the impacts that the above implies, considering that UF1 should be the first UF to complete works.**

The owner of the corresponding property of the Neighborhood El Jardín, is the National Roads Institute - INVIAS. The purchase of this property was held in 1969 for the road construction and to ensure the strip of withdrawal. To date, 100 houses are located in this property in an irregular situation.

Given the legal conditions of the property, the Concessionaire is not qualified to carry out the purchase of these improvements neither to implement the Socioeconomic Compensation Plan, established under Resoluton 545. The competent authority to carry out the eviction of this population is the Virginia Town Hall. However, the Mayor has stated to be disabled to perform the eviction since this population has invaded the property for more than 40 years, and has public services, local businesses and community action board.

Given the legal impediment of the Concessionaire, in August 2016, the Concessionaire requested to the ANI an Exculpatory Event (“*Eventos Eximentes de Responsabilidad*”). The Exculpatory Events are those events that are deemed to affect the works under construction due to causes outside of the Concessionaire’s control. For more details, please refer to the Document *CPT-C-748-2016RAD ANI ANEXOS Fuerza Mayor Barrio el Jardín*, uploaded by the Concessionaire in the Debt Domain. The Exculpatory Event has not been approved by the ANI yet. The Concessionaire is expecting to have an answer in 1-2 months.

It is worth mentioning that once the Exculpatory Event is approved, the deadlines for execution of works in affected sectors are suspended, until alternative solutions are determined. Therefore, no delays are expected in UF1 work schedule.

Impacts: It will not be possible to deliver the improvement work under this road section, including 300 meters of the Jardín Neighborhood and the Francisco Jaramillo Bridge. The alternatives proposed by the Concessionaire include: 1) Construction of a new bridge and variant , 2) Rehabilitation and milling 3) that this sector will not become part of the Concession Agreement.

According to Arup the Concessionaire has made multiple efforts to find a feasible solution. It has advanced communications with all relevant authorities: ANI, Town Hall, Ministry of Housing; for defining the criteria for the land management of this property. However, the Concessionaire it is expected that the Exculpatory Event comes out on their favor. For further information, Arup recommends to consult your legal advisor.

2. **We request clarification on the veracity of the information published by the newspaper "El Diario" on the disagreement between the affected community and the Concessionaire, on the methodology for socioeconomic compensation. In addition, please include the impact generated by the fact that households do not agree on the form of compensation proposed by the concessionaire.**

The information published by the newspaper “El Diario”, is not valid. As aforementioned, the Concessionaire is not enabled to offer any improvement or socio-economic compensation. The Concessionaire has not offered any kind of compensation.

3. **Acquisition of property and socio-economic compensation: (i) information about households that will be or have been socioeconomically compensated, along with information on compensation factors will be applied and (ii) monitoring the land management and the compensation of the 140 households affected in the neighborhood the Jardín of in UF1.**

The Concessionaire is not legally able to offer any kind of socio-economic compensation.

Other QUERIES

1. **Regarding the licensing process of UF3.2, we expect an analysis of the effects on the approval, if there are significant changes in the license and additional obligations. The same situation for UF2.2**

Due to the condition of UF3.2, the ANLA did not requested additional information for the License. As aforementioned, the License was obtained in July 2016, under the Resolution 0704. Arup does not consider any risk situation with this License and the Concessionaire is complying with the Environmental Mangament Plan as well as with Equator Principles III.

In the case of UF2.2, the ANLA requested additional information which has been referenced in the body of this report.

2. **Discuss the advancement of the property acquisition procees of el Jardín.**

This queries has been ansered along this report.

3. **Hydrogeology of Tesalia Tunnel**

- a. **Water infiltration flow shoud have a Concession Permit.**

Water Concession Permit: According to national legislation, a water concession permit should be requested to the environmental local authority in order to obtain the right to use surface water for the following purposes: domestic supply, irrigation, thermal, hydroelectric,

geothermal or nuclear generation of electricity, oil and mining activities, aquaculture and fisheries, recreation and sports, medicinal use among other similar purposes. In this sense, the water infiltration in Tesalia tunnel should not need to have a water concession permit as the Concessionaire will not be using this water for any of the aforementioned purposes. This point has been exposed in previous reports and in Arup's opinion does not suppose a risk for the Project. Please refer to Environmental Licensing Monitoring Report 6, June 2016, Pg 21.

b. In addition to the socio-economic impacts, are there any other ecosystemic impacts?

The Concessionaire presented the Environmental Impact Assessment for Tesalia Tunnel and established preventive and contingency measures to handle these impacts. The impacts were identified hand in hand with local communities through participatory workshops. For hydrogeological aspects the following impacts were considered:

- Changes in surface and subsurface water quality and supply.
- Alteration of watercourses.
- Change in flow regimes.
- Affectation of rural water systems.
- Appearance of drain effect.
- Infiltration of surface water.
- Drop in phreatic level.

In addition, from a social perspective, the conflict with communities due to the possible affectation of water supply was evaluated. As a preventive measure, the community that depends on the aqueduct of El Cairo, which has a major risk of affectation, will be connected to the regional aqueduct operated by EMPOCALDAS. Moreover, as a contingency measure, 2000 l tanks will be provided to families in order to guarantee water supply. Please refer to Section 5 for further information.

Moreover, the Environmental Management Plan includes three (3) programs with preventive and mitigation measurements for construction and operation phases. They are: Domestic and industrial wastewater management, water infiltration management and surface water management. The most relevant measures were reviewed in previous sections.

In Arup's opinion the Environmental Impact Assessment as well as the Environmental Management Plan elaborated a comprehensive study of possible impacts during the construction and operation of the tunnel and proposed coherent and feasible mitigation measures for all components.

Section 6, presents more information on this question. In addition, previous monitoring reports have given detailed response to these

aspects. Please refer to Environmental Licensing Monitoring Report 6, June 2016, Section 6.1.4.3, Pg 22,

c. Would the infiltration flow be in the same proportion during rainy and summer season?

The water balance was elaborated for three possible scenarios (medium, maximum and minimum flow).

The hydrogeological conceptual model assumes that surface water infiltration is the main water source for long-term groundwater ingress. The model is calibrated and adjusted to a period of five years simulation time for the construction and early operation of the tunnel. It was performed by processing data of precipitation, temperature and evaporation.

In order to manage the infiltration water and outflows, the Concessionaire proposed a lateral, superior and inferior drainage system. The systems have been designed considering the total infiltration flow rate. Details of the systems were provided and should have the capacity to attend the total water flow rate. In addition, a waste water treatment system is proposed.

In Arup's opinion, the proposed system is adequate and the selected water streams have the capacity to cope with the water flow discharge. However, it is important to advise that the system should be adjusted according to flow requirements, always guaranteeing compliance with national regulations (Decree No. 1594/1984).

Please refer to Environmental Licensing Monitoring Report 6, June 2016, Section 6.1.4.1, Pg 19, for further details.

9 General Recommendations

For this monitoring period, the Concessionaire has fully attended the improvement opportunities that were presented in previous reports and in the Action Plan. The updated version of the Action Plan has all the activities on track or with total compliance. In general terms, the social, environmental and hydrogeological management that is being given for UF 2.2 and UF 3.1 and 3.2, is adequate and is in accordance with Equator Principles and Performance Standards of IFC.

Environmental

- The current status of permits and licenses reflect that there is a significant advance in the license acquisition process of UF2.2. The License is expected to be obtained in November 2016. In Arup's opinion, the new proposed date is feasible. In addition, according to the Work Schedule the start date of works in UF 2.2 is in January 2017. Therefore, the schedule still contains a buffer (around 2 months) for the approval of the license.
- The License for UF 3.1 and 3.2 was obtained on July 08, 2016. No risks are evidenced with this license.
- The environmental management measures that were considered in the development of the EIAs for UF 2.2 and UF 3.2 comply with the terms of references established in the Resolution 751, 2015 as well as with the IFC Performance Standards and Equator Principles III. In September, the Concessionaire adjusted the EIA of UF2.2 according to ANLA requirements.

Social

- The Concessionaire has provided all the evidences of activities performed under the Contractual Social Management Plan.
- The Concessionaire is having an adequate and efficient management of PQRS. Arup reviewed the PQRS presented by the Concessionaire for this month. None of the PQRS imply a high reputational risk or affectation of the social climate of the Project.

Hydrogeological

- Overall, the geotechnical and hydrogeological investigations are comprehensive and of good quality.
- For the hydrogeological aspect the Concessionaire provided robust documentation, reflecting a deep knowledge of the area of study as well as management capacity to cope with possible environmental and social impacts. Moreover, Arup considers that the established monitoring frequency is adequate. However, it is important to advise that in case surface water reductions are evidenced, the Concessionaire should re-adjust the monitoring schedule.

Appendix A: Photographic Record

Figure 1 Characterization of street vendors – Program 5: Support for institutional capacity, Source: Concessionaire



Figure 2 Road safety socialization - Program 5: Support for institutional capacity, Source: Concessionaire



Figure 3 Training workshops on industrial safety - Program 2: Education and Training, Source: Concessionaire

