

MEMORANDUM

To: C/O Executive Director
Environmental Protection Agency
Ganges Street, Sophia, Georgetown. Guyana

From: Conservation International Foundation (Guyana) and Guyana Marine Conservation Society

Date: November 9, 2019

Re: Review of the Environmental Impact Assessment for Proposed Payara Project Development by Esso Exploration and Production Guyana Limited (EEPGL)

1. SUMMARY AND APPROACH

Overall, the Environmental Impact Assessment (EIA) demonstrated an adequate assessment of the Payara Development Project in identifying the expected impact categories to evaluate for offshore projects, and consideration of several good practice concepts, including assessing biological species in an array of regions, adhering to the mitigation hierarchy, defining an area of Influence (AOI), considering cumulative impacts, evaluating ecosystem services and conducting stakeholder engagement. However, we noted some key deficiencies and present those along with suggestions to enhance the EIA and the benefit of the implementation of the project.

As with those completed for previous projects proposed by the EEPGL and other companies in Guyana's EEZ, our review recognizes the national conditions within which the project is being proposed. As such it is influenced by the nascent stage of the oil and gas sector in Guyana, and the country's aspirations to be a global model for effective management of the interface of hydrocarbon production and inclusive and sustained green economic growth.

The continued extremely rapid pace of development of the oil and gas sector juxtaposed with the country's lack of experience with the sector and the slow pace of development of national capacity to manage and regulate the industry is of great concern. We note the continued challenges in developing sector-wide plans, guidelines and systems to ensure robust management of the sector from environment permitting to oversight and decommissioning, and the challenges in building and retaining the human capacity of key entities. These challenges continue to affect public trust in the process, even if the processes undertaken are exemplary and best-in-class. Unless the ability of the regulatory framework is enhanced at a rate comparable to that of the development of the industry, there may be further erosion of public trust based on concerns over the protection of the interest of the People of Guyana.

Our key recommendations include: conducting a cumulative impact assessment of all EEPGL Projects and non-EEPGL related activities; ensuring a good governance mechanism responsible for incorporating EIA lessons learned into Guyanese policy; developing meaningful and permanent process for stakeholder engagement ensuring information is understandable and feedback received is incorporated into Project decision-making; building capacity within local communities and potentially impacted economies in the event of an oil spill; meaningful inclusivity of Indigenous Peoples in the stakeholder engagement process in such a way that embodies the principles of Free, Prior and Informed Consent; and support mechanisms for strengthening the understanding and data collection and management of Guyana's marine natural resources and ecosystems.

This is the third EIA we have reviewed for project proposed in the Stabroek Block by EEPGL. We are pleased to see that the EIAs have progressively incorporated elements in response to some of our previous

comments. We however note that several of our comments on previous EIAs are not well addressed in this EIS. As such several comments made to previous EIAs are repeated in this review.

2. SOCIAL AND ENVIRONMENTAL BEST PRACTICES AND STANDARDS

This review of the Payara Development Project's Environmental Impact Assessment (EIA) was guided by the following best practices and standards:

- i. [International Finance Corporation \(IFC\) Performance Standards \(PS\)](#) in particular: PS1 (*Assessment and Management of Environmental and Social Risks and Impacts*); PS3 (*Resource Efficiency and Pollution Prevention*); PS6 (*Biodiversity Conservation and Sustainable Management of Living Natural Resources*); and PS7 (*Indigenous Peoples*).
- ii. [World Bank's Environmental, Health and Safety Guidelines \(EHS Guidelines\) for offshore oil and gas development](#)
- iii. [IPIECA's oil spill preparedness](#)

3. GENERAL REMARKS

- a. **Abide by high standards.** Given EEPGL developments are the first of their kind in Guyana, they will set the benchmark for future oil and gas exploration and development projects in the country. It is therefore paramount that the project abides by high industry standards of accountability and good governance.
- b. **Adopt the precautionary principle.** The high level of complexity in the technical aspects of this kind of project's operations, inherent high variability and complexity of oceanic systems (and more broadly, water as a medium) and the relative paucity of knowledge of Guyana's marine ecosystems, create conditions in which there could be far-reaching unknown impacts. This warrants application of the Precautionary Principle encompassed in Section 4(a) of the Environmental Protection Act, (2006). Considering this principle, we recommend the use of independent, third-party monitoring on a periodic basis to verify management plans and data, as well as structuring independent research programs to enhance the information available for improved decision-making.
- c. **Undertake a cumulative EIA encompassing all three current development projects.** We echo recommendations that EEPGL produce a cumulative EIA covering all three currently proposed or permitted projects, in addition to the stand-alone EIAs for each project. This should also be done for the at least two additional planned development projects in the Stabroek Block. This is essential since the cumulative effects of the EEPGL and non-EEPGL projects (for example, three other oil and gas operators are planning or executing exploration programs in blocks adjacent to the Stabroek Block) could exacerbate potential negative impacts to the environmental and social conditions of Guyana. Similarly, increased development along the banks of the Demerara River for increased shore-based activities will result in significant impacts to mangrove and mud flat ecosystems.
- d. **Aim at achieving net gain for biodiversity and communities.** Given the important precedent this project will set, we recommend that it adopts a net gain goal for biodiversity and communities. This is especially given the current uncertainties around Guyana's marine biodiversity and ecosystems, and the potential future additional oil and gas development which might increase the effects of indirect and cumulative impacts. We believe that this should be done regardless of whether the project would cause significant residual impacts from any planned activities. The project could

achieve net gains by identifying additional opportunities to enhance habitat, conserve biodiversity, support communities' livelihoods and well-being, and contribute to research and knowledge about the country's marine and coastal resources.

- e. **Adopt continuous and meaningful engagement with communities and Indigenous Peoples.** As per IFC Performance Standards, there should be robust stakeholder engagement during the life of the project. For each of those engagements the Project should ensure deliberative spaces and appropriate communication tools that are inclusive and tailored to the different audiences and enable effective participation of vulnerable and underrepresented stakeholders. We note the expressions of interest to present the findings of the ESIA in a user-friendly format during the 2017/2018 stakeholder meetings hosted by the EPA at the time of preparation of the Environmental Impact Assessment Guidelines for Offshore Hydrocarbon Exploration and Production. We are however of the view that this was not adequately carried out and may result in many stakeholders being unable to sufficiently comprehend the information contained in the EIA documents to constructively comment on it. This lack of follow through can no doubt negatively affected the credibility of the management processes undertaken by the company and impressions of the proposed development.
- f. **Execute on-going monitoring programs for vulnerable species to inform a Critical Habitat Assessment (CHA).** We recommend the project, following a Precautionary Principle (referenced in point 3b above), execute an on-going monitoring program for vulnerable species identified through the field studies, even if residual impacts affecting them are considered negligible. Special emphasis should also be placed on a comprehensive baseline assessment of herpetofauna along the coast, as these are usually the first indicators of ecosystem health. The results of all these additional studies should help eventually inform a Critical Habitat Assessment (CHA) to determine if critical habitats are likely be impacted and to what degree.
- g. **Support mechanisms for strengthening data collection to improve knowledge and management of Guyana's marine natural resources and ecosystems.** The development of the sector offshore in ecosystems that are poorly understood also present unique challenges especially when combined with the pace of this development. The environmental data collection that is being undertaken in the marine environment by EIA consultants for the various oil and gas developments is exceedingly valuable because of the paucity of research in Guyana's Exclusive Economic Zone (EEZ). It is therefore of great importance that measures be put in place to manage this data and result in progressively improved knowledge of the space within which these projects are being developed, especially given that the research is almost entirely new. One possible means of doing this is the establishment of a data management system to which the EIA consultants conform and use to collate and submit their data. This would allow for future research to build on prior set of work and support further research activities and identification of gaps. The Project should consider sharing the information collected from baseline and monitoring assessments more broadly in ways and formats that are useful for wider use by the EPA, the conservation community, academia and the general public. Additionally, EEPGL has a great opportunity to support research efforts and initiatives that can contribute to increasing knowledge and understanding of the marine ecosystems and natural resources of Guyana.

4. METHODOLOGY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT, Chapter 4

- a. **Criteria for rating impacts should consider stakeholder's impact acceptability.** Best practice recognizes that the process for determining impact significance and acceptability should effectively

integrate value judgments and preferences of affected stakeholders and the general public.

- b. **Impacts determined as having negligible significance should include a robust justification.** For impacts determined to have negligible significance, the EIA should explicitly state the reasons behind this classification. For instance, it would be essential to also assess the level of uncertainty associated with the predictions. We also recommend that the significance of the projected impacts be assessed based on a matrix intersecting the likelihood of each impact occurring and the magnitude of the impact likely should it occur.
- c. **Impact reversibility should be addressed within the Impact Significance Rating Matrix.** Interpretations of Sections 4(a) and 11(5) of the Environmental Protection Act (2006) and the EPA's Environmental Impact Assessment Guidelines for Mining (2000), suggest that evaluation of reversibility of impacts is a non-negotiable component of an EIA. Therefore, it should be consistently addressed in the EIA within the Impact Significance Rating Matrix and integrated within the evaluation of the magnitude of the impact.
- d. **Most valuable environmental and social resources/receptors for relevant stakeholders (even if impacts are determined as negligible in this project) should be considered for the cumulative impact assessment.** Although negligible impacts from this project might not significantly affect a resource/receptor, when considered in combination with impacts from other ongoing and planned projects and sources of external pressure, it might become significant. We understand that the cumulative impact assessment was conducted in accordance with the IFC best practice standards, however, we recommend that the cumulative impact assessment consider the most valuable environmental and social resources/receptors determined by relevant stakeholders, independent of the significance determined by each individual EIA.

5. DESCRIPTION OF EXISTING CONDITIONS, Appendices K – T

a. Baseline assessment

- i. **Regularly conduct species surveys throughout the term of the Project.** The purpose of the biological species surveys (a 2-year long process) was to assess species abundance and status against the International Union for the Conservation of Nature (IUCN) Red list of Threatened Species. Overall, the methodology is robust, and we commend the approach of increasing survey coverage in under-surveyed portions and the survey team for their robust assessment. Further, we are pleased to see that the team plans to continuously survey for the remainder of year 2, however, we recommend monitoring throughout the entire lifetime of the Project.
- ii. **Development of a Biodiversity Action/Management Plan (BAP/BMP) to protect threatened species.** Considering the high biodiversity value of the coasts of Guyana, as well as the potential uncertainties about project impacts, a stand-alone BAP/BMP is important to communicate clearly to stakeholders the company's selected mitigation strategy, and its working philosophy and ability to operate responsibly in areas of known conservation value. EEPGL could also opt to incorporate biodiversity-related mitigation and management measures into more general Environmental Management Plans or Action Plans, but the risk in this case, is that commitments might appear less evident or buried among many others, and possibly be less focused. Five species of international conservation concern were documented during the survey: White-bellied Piculet ("Vulnerable"), Rufous Crab Hawk (*Buteogallus aequinoctialis*) ("Near Threatened"), Bicolored Conebill (*Conirostrum bicolor*) ("Near Threatened"), Semipalmated Sandpiper ("Near Threatened"), and Red Knot ("Near

Threatened”). In addition, 10 Important Bird Habitats were identified due to high bird abundance and species richness. We reiterate strong encouragement to develop Biodiversity Action Plans (BAPs) to ensure the protection of these species and their respective habitats.

- iii. **Expand the scope of IUCN assessment to include all observable species.** We commend the EIA’s identification of IUCN Red List species in Guyana and overlap with respect to coastal bird species, however, clarity is needed for observed marine bird, marine mammal, fishes, flora, fauna, and turtle species and whether they are on the IUCN Red List of Threatened Species.
- iv. **The marine mammal observation data presented should be strengthened.** We believe this data lacks structured attempts to catalogue these species and relies largely on opportunistic sightings from marine vessels over a period of 10 years. This method is limited as it is neither systematic nor structured and assumes that vessel captains can correctly identify species.
- v. **The turtle telemetry data presented should be strengthened.** This data was collected from few turtles and over only one nesting season. This data is therefore not sufficiently indicative of the migratory routes all nesting species utilize. More robust data is needed to formulate a clearer picture.
- vi. **Adopt recommendations that the sampling area be widened to appropriately assess baseline conditions of areas potentially impacted by indirect or cumulative impacts.** While the sampling sites were deemed to be representative of the immediate Payara project development area, they do not discuss the area that could potentially be impacted from an indirect or cumulative perspective, and therefore, do not reflect the conditions in the entirety of the project’s AOI.
- vii. **Present information on sampling dates and locations in a clearer manner to better convey their seasonal and temporal variations.** It was previously recommended that “additional sampling periods be carried out to better capture temporal variations in baseline conditions.” While additional sampling has been proposed for various studies it is still not clear whether capturing seasonal or temporal variation has been factored in the studies associated with this EIA. We suggest presenting this information in a clearer way, by including an additional column to better denote the studies done to date, and when they were done, including aspects such as the season during which they were performed. This will allow for better and easier assessment of the robustness of sampling conducted and gaps can be clearly assessed.

b. Additional studies

- i. **Continue subsea noise pollution monitoring.** We acknowledge that monitorization efforts now also include a subsea noise pollution study component to gauge and track potential impacts of sound arising from Liza and Payara project-related activities, as this was one of CI’s recommendation from an earlier EIA review. Furthermore, we are pleased to learn that the deeper water at Payara lowers the sound levels, and therefore presents less danger to marine populations.
- ii. **Establish baselines for the Shell Beach Protected Area (SBPA).** Given the potential for significant impacts to the SBPA from unplanned events such as oil spills, we recommend that baselines be establish for the protected area, especially for the elements that would be the most affected by such events. The SBPA should also be included as part of the continuous biodiversity monitoring over the life of the project.

6. PROJECT GENERATED IMPACTS

We recognize that the EIA references the World Bank's Environmental, Health and Safety Guidelines (EHS Guidelines) for the evaluation and selection of resource efficiency and pollution prevention and control techniques for the Project. However, we recommend the following:

- i. It is important to also **consider the risks and potential impacts on priority ecosystem services that may be exacerbated by climate change**, as per IFC PS4. For instance, socio-economic impacts on fisheries and fishing communities due to climate change which might also be exacerbated by the Project's exclusion zones.
- ii. **Vessel offshore anchoring** might disturb seabed habitats; this is an additional project **interaction** with environmental resources/receptors that should also be **considered**.
- iii. We welcome the commitment of the developer to not flare gas, except in cases of emergency, and to monitoring greenhouse gas (GHG) emissions of the project. This would be critical to support Guyana's low-carbon, green economic development ambitions. The Project should however **consider going beyond monitoring to offsetting its GHG emissions through investments in management of natural forests in protected areas and other effective means**.
- iv. The proposed disposal of solid waste detailed in the EIA must take into consideration the already insufficient capacity of current **landfills in Georgetown; these may not have enough capacity for the additional waste the project will generate**. Special emphasis should be placed on the efficient and effective disposal of the project's hazardous waste, taking into consideration that Guyana does not currently have a functioning commercial incinerator.
- v. Development of the **decommissioning plan should be informed by a socio-economic analysis** to better understand the cost and benefits, especially with respect to fisheries and fishing communities, of the different decommissioning alternatives.
- vi. **Impacts from unplanned events (i.e. oil spill)**: We consider that the rating of impacts on marine species, coastal habitats as well as communities and indigenous peoples from a potential oil spill or natural geological event **should be conservative and follow a precautionary principle**. We recommend evaluating these potential impacts from the perspective of the possible magnitude, alongside the likelihood of their occurrence. The likelihood of these event might be low but the magnitude and irreversibility of the impacts which would result should they occur could be very significant, as it could take decades or more for all these receptors/resources to fully recover.
- vii. An economic assessment and valuation of all resources which can potentially be impacted by an unplanned event should be conducted to ensure an accurate economic baseline exists should an unplanned event occur.
- viii. The Precautionary Principle should also be applied when assessing potential cumulative impacts, given the additional exploration projects projected by EEPGL and other companies. The **project should actively manage, where feasible, the spatial and temporal overlap of their additional projects' activities**.
- ix. **Ensuring costs of expected activities and social benefits, unplanned events and/or unanticipated**

post-decommissioning environmental and social risks are covered: Measures such as performance bonds, insurance agreements, escrow accounts, etc., should be considered to ensure costs of managing environmental and social risks from expected on-going events, unplanned events and/or unanticipated post-decommissioning risks will be adequately covered, as well as all promised social benefits are delivered.

7. STAKEHOLDER ENGAGEMENT

- i. **Adopt permanent, meaningful and inclusive stakeholder engagement.** EEPGL has been engaging with different stakeholders in a variety of ways during the development of the various projects within the Stabroek Block. We recommend moving forward that for each of those engagements the Project demonstrates engagement through deliberative spaces and simple communication tools that are inclusive and tailored to the different audiences, as well as enable effective participation of vulnerable and underrepresented stakeholders.
- ii. **Adopt ongoing reporting to potentially affected communities.** We also recommend that the project ensures ongoing reporting to potentially affected communities and transparency about consultation reports. These should capture stakeholder concerns and comments during all consultation activities and show how they were addressed or otherwise treated.
- iii. **Ensure Informed Consultation and Participation (ICP) and Free, Prior and Informed Consent (FPIC).** The Project should ensure the ICP of the indigenous peoples about the potential risks, impacts and proposed mitigation actions pertaining to the possibility of an oil spill. This can be effectively achieved through guidance and relationships with partners, such as indigenous NGOs, who have great experience and expertise in effective engagement with these communities. According to IFC PS1, an oil spill stemming from offshore drilling would constitute “(ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location.” While the offshore drilling is not being developed on indigenous peoples’ lands per se, its adverse impacts (an accidental spill) could significantly impact the lands and resources traditionally owned or under the customary use of indigenous peoples. Therefore, ICP is required, and the case for FPIC as the preferred course of action is a strong one, because of the following:
 - i. The potential unplanned event (oil spill) could impact the Indigenous Peoples’ related natural resources (particularly the marine resource, given that they are fishing communities)
 - ii. FPIC would allow the project to develop more robust required emergency preparedness plans, mitigation plans, and compensation schemes.
 - iii. The indigenous communities in question may fall into the particularly vulnerable status, thereby requiring extra measures per IFC PS1
 - iv. The benefit would outweigh the cost over the long-term

8. ENVIRONMENTAL AND SOCIOECONOMIC MANAGEMENT PLAN

- a. We echo the consultant’s recommendation that EEPGL **incorporate all imbedded controls and adopt the recommended mitigation measures** in the EIA Chapter 13.
- b. **Lessons from the Environmental and Social Management Plan (ESMP) implementation should inform policies and decision-making.** Considering the oil and gas sector within Guyana is in its infancy, we reiterate the recommendation that the ESMP and its implementation be used as an organizational learning process in which the lessons experienced are fed back into policy, institutions

and subsequent project designs, thus building the country's capacity to better manage such large-scale projects in the future. We recommend having clarity on the institution and mechanisms responsible for implementing this.

- c. **The socioeconomic management plan should include important emphasis on local capacity for delivering sector related services.** The Project should ensure assistance to build capacity of local businesses (to an accredited level acceptable to EEGPL) to cater to the needs of the sector, e.g. Solid Waste Management (incineration services, solid waste disposal, treatment of hazardous chemicals, etc.), Oil Spill Wildlife Response (training at the University, schools of Veterinary Medicine and the Guyana Wildlife Conservation and Management Commission how to care for, clean and rehabilitate oiled wildlife).
- d. **Decommissioning of equipment should ensure coral reef inoculation.** It is expected that upon decommissioning the risers, flowlines, umbilicals, subsea equipment, FPSO mooring lines, and anchor piles will be disconnected and abandoned in place on the seafloor and we recommend that the strategy encourage coral reef inoculation on substrate metals or ensure that all EEGPL equipment will not pose danger to wildlife. While it is likely that natural ecosystem succession will occur, abandoning equipment on the seafloor would potentially reduce the aesthetic quality of the area and can create safety hazards, such as injuring wildlife (e.g. sharp metal edges, ingesting inedible materials, poisonous materials, and entanglement).
- e. **Monitoring should be carried out on three levels and ensure adaptive management.** In addition to the consultant's recommended adaptive management strategy in EIA Chapter 4 to retire existing mitigation measures that no longer demonstrate value, we would like to clarify a few best practice principles for biodiversity monitorization. These are
 - i. in field monitoring of relevant biodiversity values;
 - ii. monitoring of implementation and effectiveness of mitigation measures and management controls; and
 - iii. monitoring of status of non-project related ongoing threats to biodiversity values in the project's vicinity and the extent to which the project might exacerbate them.

Finally, the Project should ensure adaptive management practices to adjust methodologies and practices to the ways ecosystems and biodiversity are being managed and monitored. Additionally, the following suggestions could ensure a robust and impactful monitoring programme:

- i. Increased training for ANY vessels (not just EEGPL associated vessels) moving to and from the FPSO and drilling ships to identify marine mammals and adjust course/speed accordingly to prevent collisions.
- ii. Better preventative protocols in place to avoid an influx of invasive alien species from untreated ballast water.
- iii. Continuous monitoring of water quality surrounding FPSO by independent labs to determine temperatures, pollutants levels, algal blooms etc.
- iv. The inclusion of measures to enable community participation, especially Indigenous People and communities, in the project's research and monitoring would be of great value to effective monitoring, amongst other things.

9. OIL SPILL RESPONSE PLAN (OSRP), Volume III – Section 9

- a. **Robust stakeholder engagement and training program**
 - i. **Conduct regular oil spill response drills.** It is critical that EEGPL commit to regular oil spill

response drills, simulations, and exercises involving appropriate Guyanese authorities and stakeholders in these activities in order to help delineate clear lines of action, roles and responsibilities for the different stakeholders. EEGPL should also document the availability of appropriate response equipment on board the FPSO and demonstrate that offsite equipment could be mobilized for a timely response. Recognizing the important role potential affected communities, local government agencies and other relevant parties could play in supporting implementation of the response plan during an emergency, it is fundamental that the project gives significant priority to the training and preparation of all entities to ensure coherent and effective emergency response when needed.

- ii. **Partner with local academic institutions and/or non-governmental organizations (NGOs) to build capacity on oil spill response.** We suggest that the Project partners with academic and training institutions, such as the University of Guyana, and/or NGOs to sustain training for implementation of response plans in case of an oil spill.
 - iii. **Comply with best practice for the use of dispersants.** In the event of an oil spill, it is critical that the use of dispersants comply with best practices and standards, given that they might create cumulative effects. Dispersants do not reduce the amount of oil entering the environment but push the effects of the spill underwater. While dispersants make the oil spill less visible, dispersants and dispersed oil under the ocean surface are hazardous for marine life. EEGPL should strive to employ the most biodiversity friendly dispersants should the need arise.
- b. **Transboundary considerations and ability to respond**
- i. **Support development of frameworks that clearly organizes roles, priorities and devote resources for responding to an unplanned event.** There needs to be a clear plan with respect to who is responsible for cleanup activities, who funds initial response, who funds recovery from culminative effects, who is responsible for loss of country revenue (sea/sand/sun product).
 - ii. **Establish an environmental bond for unplanned events.** The very limited mechanisms in place for the regulatory agencies to deal with an oil spill, along with weak legal frameworks that exist within the region, suggest that impacted countries would be in a highly disadvantageous position, and highly dependent on the developer, to respond to a transboundary oil spill event. We reiterate the recommendation for the establishment of an environmental bond or the triggering of an immediate imposition of an early payment (within the fee structure of the environmental permit) that can be immediately used by the Government of Guyana to work with its neighboring countries and other affected parties in the event of an oil spill. We note that this matter becomes increasingly important as the number of wells increases.
 - iii. We recommend the inclusion of a terrorist response scenario or plan for both offshore and shore-based sites. There are references to several emergency response plans triggered by events such as bomb threats or civil disturbances, however given Guyana's limited capacity to respond to a mass casualty event (medical, terrestrial security forces, mortuary services, emergency Coast Guard deployment, etc.), there needs to be a clear emergency plan which can be efficiently implemented.