

Annex 1.

ENVIRONMENTAL AND SOCIAL ACTION PLAN (ESAP)

PROJECT: 12048-01 Porto de Sergipe LNG-to-Power Plant (CELSE)

Number	Applicable Performance Standard	Action	Deliverable	Due Date
1	PS01	CELSE will develop and implement a corporate environmental, social, health and safety policy consistent with PS1 requirements.	Submit copy of final board-approved policy, in form and substance acceptable to lenders	December 7, 2017 or Condition Precedent (CP), whichever occurs first
2	PS01	CELSE will augment and update the cumulative impact assessment (CIA) contemplating at least: a) air quality, including wake effect; b) noise; c) water resources (e.g. intake and effluents), d) increment of traffic and informal settlements along the road.	Submit a comprehensive CIA in form and substance acceptable to lenders	Draft for November 7, 2017 and final version for November 21, 2017
3	PS01	CELSE will commission a skilled and experienced consultant to monitor project-related impacts on fish resources and habitats, fisheries, and fishing communities during the construction and operation of the project. If impacts on fishing-based livelihoods resulting in economic displacement are identified, CELSE will develop and implement a livelihood restoration plan, consistent with PS5 requirements.	Monitoring consultant approved by Lenders; Approval of TOR for monitoring Frequency of monitoring will be quarterly during construction and annually during the first five years of operation	November 30, 2017 Approval of specialist and study TOR

4	PS01	EPC contractors will be required to develop detailed environmental pollution control and occupational health and safety measures based on project-specific ESMPs and in compliance with Brazilian regulations and IFC PS requirements, including duty of care procedures	Detailed environmental pollution control and occupational health and safety measures specific for the project	December 7, 2017
5	PS01	O&M contractors will develop EHS plans and implement them through environmental, health and safety management systems consistent with IFC PS requirements, including duty of care procedures.	EHS plans and implementation of ESMS consistent with IFC Performance Standards	July 31, 2019 or 6 months prior to beginning of operation, whichever occurs first
6	PS01	CELSE will develop and implement an ESMS based on the Brazilian regulations and IFC's PS requirements. The ESMS will include: (a) procedures for identifying social and environmental risks and impacts; (b) development and implementation of environmental and social management plans (ESMP); (c) monitoring and internal audits; and (d) development and implementation of a stakeholder engagement program.	Implemented ESMS	March 1, 2018 or Prior to first disbursement, whichever occurs first
7	PS01	CELSE will ensure that all EPC contractors will prepare and implement an emergency and preparedness plan in accordance with Brazilian regulations and IIC requirements	Evidence of Emergency Response Plan implementation	October 22, 2017
8	PS01	For the operational phase, CELSE will ensure GE and GOLAR LNG will develop emergency preparedness and response plans for their respective facilities, and will coordinate with CELSE to develop offsite emergency operations, taking into consideration emergency scenarios from potential fire/explosion, gas leak, oil spills, etc. The offsite emergency preparedness and response plan will identify likely emergency scenarios, appropriate response equipment, emergency training and drill frequencies,	Emergency Preparedness and Response Plan for the operations	October 31, 2019 or 3 months prior to start of operation, whichever occurs first

9	PS01	<p>identification of potentially affected communities and appropriate external resources, etc. CELSE will ensure that qualified personnel to respond to any emergency are available at all times during the O&M phase of the project. CELSE's social staff will ensure that community awareness programs are tailored to reflect potential impacts on specific communities, based on the results of the emergency scenario models and additional QRAs that will be prepared upon final project design.</p> <p>CELSE will report the monitoring results of key environmental and social performance indicators to the Brazilian environmental authorities, ILC, and affected communities, based on its own internal and third party performance assessment.</p>	<p>Periodic reports to IBAMA, Lenders and stakeholders</p>	January 31, 2018 Recipients specific deadlines
10	PS02	<p>CELSE will review and enhance its local workers' recruiting program to ensure local workers are being prioritized and to identify and provide training and skills development opportunities among local community members.</p>	<p>1) Revised Plan, including detailed workforce selection process 2) Report with indicators of performance such as actual # of local workers employed by localities and function compared to the total project workforce, on a monthly basis</p>	October 31, 2017 for Preliminary Plan
11	PS02	<p>CELSE will develop and implement human resources policies and procedures appropriate to its size and workforce, consistent with IFC PS2 and national law. The company will ensure that relevant parts of CELSE's human resource policies and procedures will be extended to cover the labor practices of construction contractors and their sub-contractors (e.g., compliance with local laws, provisions to ensure timely payment of salaries, no child and forced labor, occupational health and safety plans and procedures, etc.). CELSE will develop a Code of Conduct defining</p>	<p>Copy of Code of Conduct and evidence of training Human Resources Policy and procedures consistent with IFC's PS2</p>	December 31, 2017 November 30, 2017 or Closing

			principles and expected conduct of its direct employees and workers engaged by contractors and subcontractors.		
12	PS02	CELSE will ensure that all EPC contractors have human resources policies and procedures specific to the project, consistent with the Brazilian labor law and IFC PS2.	Documented evidence of EPC contractors' HR policies	November 15, 2017	
13	PS02	CELSE will monitor the performance of the EPC contractors to ensure that labor conditions are in compliance with the contractual requirements and consistent with IFC PS2 requirements	Monthly monitoring reports	First report on October 31, 2017	
14	PS02	CELSE will map current migrant workers' accommodations and commission a qualified company approved by IIC to develop and implement a Workers' Accommodation Management Plan to: (i) ensure that workers' accommodations meet the Brazilian regulatory standards (applicable Ministry of Labor's NRs) in relation to worker accommodation and (ii) monitor and manage migrant workers' interactions with local communities.	<ol style="list-style-type: none"> 1) Mapping of current migrant workers' accommodations 2) Signed contract with qualified company and TOR approved by lenders 3) Results of initial housing options assessment and well-defined strategy to comply with Brazilian NRs and IFC PS requirements 4) Evidence of implementation of workers' housing strategy 	<p>October 22, 2017</p> <p>October 30, 2017</p> <p>November 15, 2017</p> <p>November 30, 2017</p>	
15	PS02	CELSE will also implement robust measures to address the risk of gender-based violence. This will include: (i) developing policies on non-discrimination, inclusion, sexual harassment, gender-based	<ol style="list-style-type: none"> 1) Policy and Code of Conduct approved by the lenders 	1) October 31, 2017	

		<p>violence; (ii) developing and implementing explicit codes of conduct for direct workers, contractors and subcontractors that address gender-based violence, strengthen supervision and implementation of such codes, and provide incentives for reporting inappropriate behavior. The code of conduct should clearly state a zero tolerance policy for gender-based violence;</p> <p>(iii) conducting induction and training program on HR policies and procedures, Code of Conduct, local laws, and awareness raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women, (iv) the grievance mechanism should ensure proper handling of gender-based violence related grievances, including but not limited to sexual harassment; (v) contractors adopting a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence.</p>	<p>2) Evidence of training</p> <p>3) Grievance mechanism</p>	<p>2) February 28, 2018</p> <p>3) October 31, 2017</p>
16	PS02	<p>CELSE will implement a workers' grievance mechanism ensuring:</p> <p>(i) a clear procedure to receive, register, and address grievances,</p> <p>(ii) a comprehensive mechanism at the construction site to allow contractors and subcontractors' employees to submit grievances and/or concerns, using an understandable and transparent process that provides timely feedback to those concerned, and</p> <p>(iii) that the mechanism is extensively communicated throughout the company and construction site. The mechanism should allow for anonymous complaints to be raised and addressed. CELSE will maintain a database with information regarding grievances and results, which will be reported monthly to IIC.</p>	<p>Workers' grievance mechanism in place</p> <p>Monthly Reports on grievance mechanism</p>	<p>October 31, 2017</p> <p>November 30, 2017</p>
17	PS03	<p>To better understand and characterize the ambient air quality and baseline conditions, CELSE will immediately supplement the ambient air quality baseline for NO, NO₂, VOC and O₃.</p>	<p>Results of air quality monitoring on a quarterly basis during construction</p>	<p>November 25, 2017</p>
18	PS03	<p>CELSE will establish and maintain an ambient air quality monitoring program during O&M that complies with WBG EHS Guidelines</p>	<p>Results of air quality monitoring</p>	<p>January 31, 2020</p>

19	PS03	<p>CELSE will update the noise model to include noise emissions from the seawater-intake pumphouse and will carry out additional baseline measurements to confirm the project applicable noise limits. The company will then identify noise reduction measures that will result in compliance with project applicable noise limits in surrounding community area. As part of the modeling the company will also consider the cumulative effect of the two additional power plants that may be developed at the site.</p>	<p>1) Monitoring results of baseline noise data 2) Copy of updated noise model</p>	November 7, 2017
20	PS04	<p>CELSE will prepare a Traffic Safety Management Plan. This plan will identify the increase in number of vehicles/trucks/buses/vans required for the construction and the impacts on highway, roads and local communities and include a driver monitoring system. Alternative transportation routes and traffic management measures to reduce impacts may include infrastructure upgrades, optimum route selection, and vehicle management. Project related vehicles will be continuously monitored to ensure their quality to minimize noise and vehicle emissions and drivers will receive defensive driving training to prevent accidents involving local communities.</p>	<p>Copy of the traffic safety management plan</p>	November 7, 2017
21	PS04	<p>CELSE will develop and implement a port security assessment as required under the International Ship and Port Facility Security (ISPS) Code. The results of the assessment will be presented to relevant authorities and disclosed to affected communities in order to allow for appropriate controlled areas to be agreed and defined, to help regulate the safe movement of vessels within the project area of influence, protect affected communities from dangers arising from offshore activities, and prevent events that may result in injury to workers and the public, including fishers and recreational users.</p>	<p>Port security assessment Disclosure of Port Security Assessment to stakeholders</p>	<p>October 31, 2019 3 months before start of operations January 1, 2020 Start of operations</p>
22	PS04	<p>The QRA will be updated based on the final project infrastructure and equipment design. The results of the updated QRA, together</p>	<p>Updated QRA</p>	October 15, 2017

		with ANSI/ASME classification of the gas pipeline, will be used to either modify the pipeline design specifications to further mitigate risks and/or establish an exclusion zone for residential households living within the high-risk zone on Praia do Jatoba, offering compensation and resettlement support to affected households consistent with IFC PS5.	Depending on the result, resettlement plan	3 months before operation
23	PS04	To monitor potential health impact on the local communities, CELSE will implement a monitoring program consisting of (i) a health baseline for the surrounding communities to establish current health conditions of the municipalities included in the project area of influence and surrounding communities, and (ii) monitoring of key socioeconomic indicators. The company will jointly with the EPC contractors implement a management plan that will include: (i) appropriate medical facilities available for all labor; ii) periodic health checkup program in place, (iii) information and awareness-raising campaigns for community members (specifically women and girls) and workforce, including program on STI and HIV/AIDS, (vi) provision of information to host communities about CELSE's and its contractor policies and worker Code of Conduct, and (v) measures to control disease vectors. These should be implemented in coordination with relevant stakeholders such as the women's union, youth union, health workers, the municipal body responsible for ensuring the rights of children and adolescents (Conselho Tutelar), and representatives from affected communities.	Monitoring report on health baseline	March 31, 2018
24	PS04		Draft Management Plan Evidence of implementation of plan	November 30, 2017 January 31, 2018
25	PS04	Conduct a security risk assessment to identify the risks posed by security arrangements to those within and outside facilities and determine whether such private security personnel are being vetted, hired, equipped, and trained adequately. After the results of security personnel assessment, the company will develop a Security Management Plan for managing private armed security	Documented Assessment Security Management Plan	December 7, 2017 Closing

26	PS05	<p>force to avoid potential harm to employees, communities and other stakeholders. This plan should include formal procedures for reporting, responding to and documenting security incidents, training requirements, and review of security record of security contractors, consistent with IFC PS4. The company will put in place procedures such that complaints against security personnel are investigated and disciplinary actions implemented.</p> <p>CELSE will commission an assessment to verify if people resettled by the project were able to reestablish their living conditions and restore their livelihoods, in the event there are any gaps with IFC PS5 requirements a Supplemental Compensation Plan will be implemented to ensure compliance with PS5.</p> <p>CELSE will conduct a completion audit by an independent resettlement specialists to verify that the objectives of the Supplemental Compensation Plan for Praia do Jatoba have been met, consistent with PS5 requirements.</p>	<p>Annual report from independent monitoring (for 3 years from January 2018)</p> <p>Completion audit report from independent consultant</p>	<p>January 31, 2018</p> <p>January 31, 2021</p>
27	PS05	<p>CELSE will review the Resettlement and Livelihood Restoration Plan (RLRP) for the transmission line and connection bay to ensure full alignment with PS5 requirements. The RLRP must include the identification of vulnerable groups based on a clear definition of vulnerability criteria and the definition of specific measures to ensure such groups are assisted and properly consulted, measures to ensure compensation at full replacement cost and livelihood restoration, and a comprehensive engagement process. The revised RLRP will include specific actions to ensure (i) disclosure of entitlement matrix covering both economic and physical displacement, (ii) adequate engagement with individuals belonging to vulnerable groups, (iii) disclosure of CELSE's grievance mechanism among affected households.</p> <p>An independent monitoring and evaluation of the implementation of the RLRP for the transmission line and connection bay will be conducted by qualified independent</p>	<p>Revised RLRP</p>	<p>November 10, 2017</p>
28	PS05	<p>An independent monitoring and evaluation of the implementation of the RLRP for the transmission line and connection bay will be conducted by qualified independent</p>	<p>Annual report from independent monitoring (for 3 years from January 2018)</p>	<p>January 31, 2018</p>

		resettlement specialists to ensure full alignment with PS5 requirements.			
29	PS06	<p>A completion audit will be conducted by qualified independent resettlement specialists to verify that the objectives of the RLRP for the transmission line and connection bay have been met, consistent with PS5 requirements</p> <p>CELSE will conduct additional field surveys to better identify fauna species in the area of influence of the TL and substation bay prior to the start of any vegetation suppression.</p>	Completion audit report from independent consultant	January 31, 2021	
30	PS06	<p>CELSE will develop a biodiversity management plan, as indicated in the ESAP action 26, for the (a) terrestrial (vegetation compensation) and (b) mangrove (Offsets Strategy) loss, (c) demonstrate no net reduction in the population of the Lagartinho-de-Abaeté (<i>Ameivula abaetensis</i>), which is listed as endangered. The biodiversity monitoring plan will identify the locations for compensations, long-term biodiversity offset implementation and management, the biodiversity qualified resources to coordinate all the biodiversity aspects, the monitoring plan to determine how will 'gains' at the offset site be measured and monitored over time, among other aspects.</p>	2 nd Fauna baseline study report	November 30, 2017	
31	PS06	<p>CELSE will enter into an agreement with Projeto TAMAR to ensure proper monitoring and rescue, as needed, of turtles or nests during the construction of any project structure that disturbs the marine sediments and the Praia do Jatoba.</p> <p>CELSE will commission an impact assessment and a consultation process focused on the potential project-related impacts on CRQ Mussuca and CRQ Pontal da Barra. In the event that adverse impacts are unavoidable, a specific management plan will be developed to minimize and/or compensate for these impacts in a manner commensurate with the nature and scale of impacts,</p>	BAP	June 30, 2018	
32	PS07		Copy of agreement	December 31, 2017	
			<ol style="list-style-type: none"> 1) Copy of TOR 2) Secure qualified specialist/firm 3) Study/management plan 	<p>January 31, 2018</p> <p>March 31, 2018</p> <p>May 31, 2019</p>	

			<p>cultural characteristics, and the vulnerability of these communities, in addition to a community development plan to promote sustainable development benefits and opportunities for CRQ Mussuca and CRQ Pontal da Barra in a culturally appropriate manner, consistent with PS7.</p>		
33	PS07	<p>A participatory monitoring program will be implemented to monitor and mitigate project related impacts on fishing-based livelihoods on CRQ Pontal da Barra consistent with PS7 requirements.</p>	<p>Monitoring consultant approved by Lenders; Approval of TOR for monitoring</p>	March 31, 2018	
34	PS08	<p>CELSE will develop a Chance Find Procedure that will be applied in the event cultural heritage is discovered during construction activities. The Chance Find Procedure will be prepared in accordance with PS8 requirements and local regulations.</p>	<p>Copy of chance find procedure</p>	December 15, 2017	
35	PS01	<p>CELSE will develop a Stakeholder Engagement Plan (SEP) aligned with PS-1 requirements. The SEP should include the following elements: a) company's description; engagement principles, objectives and criteria; b) local regulations and international requirements; c) description of key social and environmental risks and impacts; d) summary of previous engagement activities; e) identification, analysis and prioritization of stakeholders, focusing on those directly affected and identifying any vulnerable individuals or groups; f) engagement program describing activities that will be conducted by CELSE during the construction phase of the project; g) description of CELSE's grievance redress mechanisms and description of how CELSE will monitor contractors' grievance mechanisms during construction; h) timetable, resources, and responsibilities. The SEP should also include cross references to other relevant management plans implemented by the company to manage environmental and social risks and impacts.</p>	<p>Final SEP</p>	January 31, 2018	