

Environmental and Social Review Summary (ESRS) Aegea Project / Águas do Rio – 13679-01

Original language of the document: Portuguese
Issue date: August 2022

1. General Information of the Project and Overview and Scope of IDB Invest’s Review

In April 2021, Aegea (“the Sponsor”) and its subsidiary, Águas do Rio (the “Client”), won a concession auction from the Rio de Janeiro Potable Water and Sanitation State Company (CEDAE) to provide for 35 years potable water and sewage services for 99% and 90% of the population, respectively, living in Concession Blocks 1 & 4 in Rio de Janeiro State, Brazil (the “Project”). Block 1 includes 18 municipalities in Rio de Janeiro State and Rio de Janeiro’s South Zone (State Capital), while Block 4 will cover 8 additional municipalities including Rio de Janeiro’s North Zone (State Capital).

Project activities will include the construction, operation, recovery, and maintenance of sanitation infrastructures, including new water pipelines, potable water and sewage treatment plants, interceptors, elevation and charge towers, water reservoirs, dams, etc. Existing infrastructure will be recovered, operated, and maintained throughout the concession period. The Project will be mostly implemented in urban areas, including vulnerable communities in the city of Rio de Janeiro.

The Environmental and Social Due Diligence (ESDD) included: i) virtual and in-person meetings with the Client; ii) visits to the Project site; iii) contact with interested parties; and iv) document analysis related to: (a) the environmental licensing process; (b) health and safety aspects; (c) environmental and social management; (d) waste management; (e) human resources aspects; and (f) contractor management, etc.

2. Environmental and Social Categorization and Rationale

Although the Project will generate a series of positive impacts, especially for the population’s health and safety, the Project was classified in Category A in compliance with the IDB Invest Environmental and Social Sustainability Policy. This category was selected because the Project may produce, among other things, the following impacts, and negative risks: i) involuntary resettlement of families; ii) changes in land use and occupancy; iii) changes in traffic and the road network; iv) solid waste and sewage emissions; v) contamination of the ground and water; and vi) changes in air quality.

Most of the impacts and risks are considered medium-high intensity and in general they are limited to the immediate vicinity of the Project implementation areas. They can be reversed and mitigated with available measures and viable implementation in the context of the operation.

The Performance Standards (PSs) activated by the Project are: i) PS1: Assessment and Management of Environmental and Social Risks and Impacts; ii) PS2: Labor and Working Conditions; iii) PS3: Resource Efficiency and Pollution Prevention; iv) PS4: Community Health, Safety and Security; and v) PS5: Land Acquisition and Involuntary Resettlement.

3. Environmental and Social Context

3.1 General Characteristics of the Project's Site

The Project will be implemented in 27 municipalities of Rio de Janeiro State, Brazil. The sanitation facilities will be built mostly in urban contexts, including vulnerable urban communities. One part of the infrastructure includes existing equipment that the Client is to recover and maintain, and the other part consists of sanitation infrastructure expansion works to meet the concession contract requirements. The main land use and occupancy typologies include: i) nonvulnerable urban areas, with existing sanitation networks and adequate coverage of basic services; ii) vulnerable urban areas (communities) that have no sanitation networks and that are lacking in basic services infrastructure such as sanitation, electricity, public health facilities, education, security, etc., and iii) rural areas with native vegetation, pastures and agricultural activities.¹

3.2 Contextual Risks

The population and interested parties are generally in favor of sanitation facilities because of the improvements in environmental quality and public health indicators they generate. However, the Project is subject to contextual risks due to the actual use and occupancy characteristics of the land where the facilities will be located.

The municipality of Rio de Janeiro has high crime rates.² This is also the case in neighboring municipalities,³ where many areas are occupied by vulnerable urban communities controlled by organized crime and militias.⁴ These areas are subject to high risks for residents, workers, and visitors due to the frequent and violent conflicts that involve criminals and police forces.

Another important contextual risk is the possibility that building sanitation facilities may lead to involuntary resettlement of families, loss of means of subsistence, social conflicts, and impacts on biodiversity. All the above may cause the people to mobilize against the Projects, as well as protests organized by nongovernmental organizations (NGOs), associations of residents and other civil organizations.

¹ Most Project interventions will be in urban areas. There may be a few interventions in rural areas.

² <https://g1.globo.com/rj/rio-de-janeiro/noticia/2021/07/15/rj-tem-7-entre-as-10-maiores-cidades-com-as-mais-altas-taxas-de-letalidade-policia-do-pais.ghtml>

³ According to the Anuário Brasileiro de Segurança Pública (Brazil Public Safety Directory), published by the FBSP (Brazil Public Security Forum), 24 of its 30 cities with populations of over 100,000 have crime statistics that are above the average for Brazil (<https://noticias.uol.com.br/cotidiano/ultimas-noticias/2021/07/16/24-das-30-grandes-cidades-do-rj-tem-media-de-mortes-acima-da-nacional.htm?cmpid=copiaecola>)

⁴ Armed groups that conduct unauthorized and illegal control activities and that use force in some regions of Brazil.

4. Environmental Risks and Impacts and Proposed Mitigation and Compensation measures

4.1 Assessment and Management of Environmental and Social Risks

At this point, the Sponsor has developed most of the systems and operational procedures for managing the Project's socioenvironmental risks and impacts. Since the Blocks 1 and 4 Concession of Rio de Janeiro State is recent, the Client is now incorporating the corporate guidelines for integrating the Sponsor's environmental and social risks into its daily routine.

4.1.a E&S Assessment and Management System

The Client has Environment and Health and Safety Departments that address compliance with the laws and regulations in their respective operating areas. When the assets⁵ were received from the public sanitation services concession holder (CEDAE⁶) in 2021, the Client assumed responsibility for the respective environmental licenses, environmental certificates and water abstraction permits.

Under the terms of concession contract, the assets are to be transferred to the Client as holder and responsible for compliance with environmental regulations. The period for beginning the official registration for the environmental licensing of the assets received from the public concession holder ended in August 2022 when ownership was transferred and the procedures with the competent environmental entities began to officially register 150 processes for 110 assets. Twenty other assets or facilities were in the installation stage and the application for the transfer of ownership was submitted.

The Sponsor has an environmental and social management program called the "Interact Program," consisting of the following: i) 64 environmental, health and safety procedures; ii) a policy; iii) standardization of procedures; iv) management tools; and v) monitoring and evaluation procedures for compliance with the system, including external audits. The program per se covers the following aspects: i) compliance with environmental laws and regulations; ii) environmental conservation; iii) identification, assessment and control of environmental aspects and impacts; iv) ongoing innovation and improvement; v) monitoring of employee working and health conditions; vi) prevention of health risks; vii) identification of occupational risks and hazards; viii) accident prevention; ix) standardization of health and safety rules; x) mapping and evaluation of social risks; xi) engagement with interested parties; xii) ongoing communication with interested parties, and; xiii) contact with traditional communities.

The Interact Program addresses the main requirements of IFC Performance Standard 1. The Client will prepare a specific Environmental and Social Management System (ESMS) for the Project that will incorporate into the Interact Program and add to it as needed to meet all the requirements.

⁵ The concession assets consist of water treatment plants, sewage treatment plants, elevation towers, reservoirs, dams, water, and sewage distribution networks, etc.

⁶ Rio de Janeiro State Potable Water and Sanitation State Company.

4.1.b Policy

The Sponsor and Client have the same Sustainability Policy, which reaffirms their resolve to conduct their business in accordance with statutory requirements, best market practices, economic efficiency and respect for the environment and persons, while contributing to the population's quality of life and health.

The Sustainability Policy is based on three pillars: economic, environmental, and social. The environmental and social pillars aim to: i) prevent pollution and protect the environment; ii) manage the aspects and impacts of their activities; iii) use energy efficiently; iv) use water and natural resources sustainably; v) curtail water waste; vi) make ongoing improvements in environmental performance; vii) prevent employee illnesses and injuries; viii) make ongoing health and safety improvements; ix) ensure ethical and transparent conduct; x) ensure the human development of the communities where they operate; xi) promote human rights; and xii) prevent discrimination and respect diversity.

4.1.c Identification of Risks and Impacts

The Sponsor and Client have corporate procedures to identify risks and impacts that include: i) a spreadsheet for identifying the aspects and impacts of their operations; ii) an instruction for managing environmental aspects and impacts; iii) operating procedures to survey social risks; and iv) procedures for expected and unexpected contacts with traditional communities.

To obtain environmental installation and operating licenses for the assets in the sanitation systems, the licensing entities (INEA⁷ or Municipal Environmental Secretariats) may require specific Environmental and Social Impact Studies ("ESIA"), depending on the characteristics of the projects and their implementation context. In such cases, the process of evaluating socioenvironmental risks and impacts takes place during ESIA preparation by hired consultants.

For some types of assets such as water storage dams, the laws of Brazil⁸ and environmental licensing procedures require the preparation of an ESIA⁹ that must include the assessment of technical and location alternatives to select those with the fewest socioenvironmental risks and impacts. The Concession Contract provides for building a water storage dam in the locality of Guapiaçu. To that end, an ESIA¹⁰ was prepared, in which site and technical alternatives were studied. However, Rio de Janeiro State Government is revising the State Water Security Plan¹¹, which may confirm, revise, or eliminate the need to build the dam. If it is confirmed that the dam is to be built, the Client will update the technical studies, including an update of the ESIA, which must address and revise the

⁷ Rio de Janeiro State Environment Institute.

⁸ National Environment Council. CONAMA Resolution N°. 01 of January 23, 1986.

⁹ In Brazil, an Environmental Impact Study and Environmental Impact Report (EIA/RIMA) is required for dams that are built as part of sanitation projects pursuant to CONAMA Resolution 01/1986.

¹⁰ Análise da Viabilidade Ambiental da Implantação da Barragem do Rio Guapi-Açu com Vistas à Ampliação da Oferta de Água para a Região do Conleste Fluminense, localizado no Município de Cachoeira de Macacu/RJ. Ambiental Engenharia e Consultoria. September 2013.

¹¹ The State Water Security Plan is linked to the State Water Security Program, established in February 2021 by the Government of Rio de Janeiro State. (<http://www.inea.rj.gov.br/prosegh/>).

following aspects: i) the dam project; ii) the assessment of technological and site alternatives; iii) the social and environmental baseline assessments; iv) the socioenvironmental risk and impact assessment; v) the Socioenvironmental Management Plan (“SEMP”); vi) the consultation procedures with the affected communities; and vii) the results of the public hearing. Authorization to build the reservoir will be given as soon as it is confirmed that doing so meets IDB Invest’s Environmental and Social Sustainability Policy requirements.

4.1.c.i Direct and indirect impacts and risks

The main direct negative risks and impacts of the Project occur while Project facilities are being built and, to a lesser extent, during assets operation. These may include, among others: i) involuntary resettlement of families; ii) soil and water contamination; iii) traffic disruptions; iv) accidents involving workers and others; v) localized changes in air quality; vi) noise disturbance; vii) odor disturbance; and viii) increased solid waste production. There may also be the following positive impacts: i) cleanup of degraded water resources; ii) reduction of waterborne illnesses; iii) creation of direct and indirect jobs; iv) better water quality in rivers, lakes, streams, reservoirs, and groundwater; v) increased availability of basic sanitation services for vulnerable communities; vi) inclusion of populations not served by basic sanitation systems, etc.

4.1.c.ii Analysis of alternatives

The Project intervention areas are defined in the concession contract so that the sanitation systems should be built inside these areas. The contract provides for the operationalization of preexisting assets with a defined location, which are not subject to an analysis of site alternatives. In addition, the Client is developing Master Plans in the municipalities covered by the concession, which will identify the sites for building the new assets in the basic sanitation systems. In these plans, prepared with the participation of representatives of public institutions, members of local communities and the services sector, planning the location of the new assets will take the following aspects into consideration: i) social; ii) environmental; iii) safety; iv) technical viability; and v) economic viability to control socioenvironmental risks and ensure adequate conditions for operating the assets.

4.1.c.iii Cumulative impact analysis

The preliminary analysis of cumulative impacts shows that the Project will be beneficial for some important Valued Socioenvironmental Components¹² (“VESC”) such as: i) water resources that currently receive untreated domestic sewage, such as Guanabara Bay, the Guandu River, the Rodrigo de Freitas Lagoon and many other waterways; ii) aquatic biota in waterways that have historically been affected by untreated sewage; iii) vectors of waterborne illnesses that will be controlled by the basic sanitation systems¹³; iv) public health that will benefit due to the provision

¹² Valued Socioenvironmental Components are environmental and social attributes that are considered important. They may be: i) physical characteristics; ii) habitats; iii) wild animal populations; iv) ecosystem services; v) natural processes (water, nutrient cycles, and microclimate); vi) social conditions (health, economic, etc.) or cultural values. Guía Práctica para la Evaluación y Gestión de Impactos Acumulativos en Latinoamérica y el Caribe. IDB Invest, 2022.

¹³ Examples of waterborne illnesses include cholera, leptospirosis, amebiasis, bacterial dysentery, typhoid fever, schistosomiasis, etc.

of potable water where this service is not currently available; and v) beaches and waterways decontaminated by the Project.

4.1.c.iv Gender risks

To support the process of identifying gender risks, the Client used the IDB Invest Gender Risk Assessment Tool.¹⁴

The Sponsor's Code of Conduct establishes zero tolerance for moral and sexual harassment in its business units and in any area where their employees are present. The Moral and Sexual Harassment Prevention and Control Policy support this code. The Code also conveys the Sponsor's commitment to zero tolerance to discrimination in hiring, compensation, access to training, promotion, dismissal, and retirement based on race, ethnic group, cast, religion, disability, gender, sexual orientation, and membership in unions or political entities.

Every quarter, the Sponsor's Human Resources unit prepares statistics on its employees, in which it observes gender diversity as it relates to jobs and compensation. The Sponsor issued a Bond on ESG goals with three objectives: i) decrease energy consumption by 15% measured in kWh/cubic meters; ii) increase from 32 to 45% the number of women in leadership positions; and iii) raise from 17 to 27% the number of persons of color that serve in leadership positions.

Stakeholder engagement activities cover the mapping of formal and informal community leaders, including female leaders (that amount to nearly 35%). Hence, the Client is incorporating female participation in stakeholder engagement activities. This inclusion is observed in the results of mapping community leader positions.

4.1.c.v Climate change exposure

The Project has moderate-to-high exposure to acute natural risks, including river floods, especially in the northeast region of Rio de Janeiro State, which will also partially affect the municipalities in the southwest. According to the IDB,¹⁵ most of the hazards to which this area is exposed are chronic, such as moderate-to-high exposure to higher sea levels in the southwestern area of the State.

It is believed that the entire area of influence will experience moderate changes in precipitation patterns, and that there is a low-to-moderate risk that the State will experience water shortages (exposure to droughts is moderate according to historical data). There is also a high risk that a few municipalities will experience heat waves at the turn of the century.

Since the Project aims to use resources for the universal distribution of water, sensitivity to droughts and water shortages to which it is exposed may be a major risk. Other risk factors are related to the higher temperatures and heat waves to which it is moderately exposed. They may be problematic for managing odors and general infrastructure performance, such as sewage treatment, given

¹⁴ <https://www.idbinvest.org/en/publications/gender-risk-assessment-tool>

¹⁵ Barandiaran *et al.* Disaster and Climate Change Risk Assessment Methodology for IDB Projects. A Technical Reference Document for IDB Project Teams. Technical Note No. TN-01771. 2019.

potential changes in user behavior. Likewise, it can be expected that temperature changes will also affect the performance of biological systems and other temperature-sensitive processes.

Given this exposure to natural risk and the sensitivity of the activities, the Client will prepare a Climate Change Risk and Impact Management Program that will focus on activities to predict, prioritize, and adapt the sanitation infrastructure.

4.1.d Management Programs

The Sponsor developed a series of corporate management programs that the Client is gradually implementing in the Project. The main socioenvironmental risk and impact management programs include: i) the Interact Program, which aims to manage risks and impacts in the areas of the environment, health and safety; ii) the Afluentes Program, which aims to map, engage community leaders and receive complaints from interested parties; iii) the Vem com a Gente Program (Come with Us), which aims to control water losses and operates in vulnerable urban communities; iv) the Respeito dá o Tom Program, which promotes racial diversity and equality; and, v) Saúde Nota 10 Program, which provides environmental education for school-age children.

In addition to the corporate programs, the Client is developing specific environmental monitoring and recovery programs to preserve water quality, replant forests and control impacts that could affect the water retention capability at water sources used by the Project.

Other socioenvironmental programs specific to some assets are required by environmental licensing procedures. They are necessary to mitigate risks and impacts and ensure compliance with environmental regulations. These include especially: i) water quality monitoring programs; ii) waste management programs ("WMP"); iii) effluent monitoring programs; iv) the Greenhouse Gas Monitoring Program; v) and the Vector Control Program.

4.1.e Organizational Capacity and Competency

Both the Sponsor and Client have an organizational structure, capacity, and competencies for the management of socioenvironmental and health and safety risks and impacts.

The Sponsor has a Corporate Environment, Health, and Safety Office (EHS), which deals with the strategic management of topics, EHS policy and guideline formulation, preparation and updating of EHS corporate programs, and other functions. This unit is led by an EHS manager who will head the workplace medicine, work safety and environmental management units. The unit teams are formed by trained professionals and support staff, including nurses, workplace safety technicians, environmental analysts, and administrative staff.

Given the Project's expansive geographical coverage, the Client's EHS teams have been organized into regional units.¹⁶ Each unit has an environment and health and safety structure. The managers

¹⁶ Seven regional units were established: i) Communities (specifically vulnerable urban communities); ii) Rio de Janeiro North; iii) Rio de Janeiro South; iv) Interior; v) Lakes Region; vi) Baixada 1; and viii) Baixada 2.

are assisted by: i) environmental, medical and health and safety coordinators; ii) occupational safety engineers; iii) occupational safety technicians; iv) nurses; v) nursing technicians; vi) environmental analysts; vii) environmental specialists; viii) project analysts; and ix) administrative technicians.

Each regional unit also has a Social Responsibility team in charge of implementing the following: i) a social responsibility strategy; ii) a social risks management survey; and iii) stakeholder engagement. The teams are comprised of coordinators, social analysts and assistants who oversee the Sponsor's Corporate Social Responsibility Unit.

4.1.f Emergency Preparedness and Response

Emergency preparedness and response is organized into corporate actions and business unit level actions. The Sponsor drafted a Technical Instruction ("TI")¹⁷ that identifies the requirements for preparing Emergency Action Plans ("EAP") in the business units the Client operates. This TI sets forth: i) responsibilities for preparing and operationalizing plans; ii) the procedure for recognizing emergency scenarios; iii) implementation and preparation requirements; iv) minimum expected content for the plan; v) ongoing maintenance and improvement requirements; vi) communication procedures for emergencies; and vii) details of the necessary training.

The Client is responsible for the preparation and implementation of the EAP in the business units.

4.1.g Monitoring and Review

The Client performs various water quality and sewage monitoring activities as a routine part of its business in addition to meeting the conditions for environmental licenses for the assets. The monitoring results feed a database that is used as feedback for the operational management of the sanitation assets in an ongoing effort to improve the systems. There are also broader monitoring programs that involve the use of remote sensing and mathematical tools to evaluate: i) changes in water quality compared to the historical land use and occupancy process; and ii) projections for water quality changes in the springs and waterways that receive sewage flows in the concession's area of influence.

The Sponsor also has corporate procedures to perform periodic internal audits of the various operational units. These audits, performed using asset samples in accordance with a predetermined strategy, use checklists to verify the following: i) environmental, health and safety management; ii) occupational medicine; iii) occupational safety;¹⁸ and iv) the environment in general.

¹⁷ Technical Instruction IN013-SST99. Plan for Dealing with Emergencies. April 2022.

¹⁸ The checklist for occupational safety covers the key Regulatory Standards (NR) of the Brazilian Ministry of Labor, including the following: i) NR 01- General Provisions; ii) NR 04 – Specialized Safety Engineering and Occupational Engineering Services; iii) NR 05 – Management of the Internal Accident Prevention Commission; iv) NR 06 – Individual Protective Equipment; v) NR 10 – Electricity Services; vi) NR 11 – Transportation, Movement, Storage and Handling of Materials; vii) NR 12 – Workplace Safety for Machines and Equipment; viii) NR 33 – Workplace Safety and Health in Confined Spaces; and ix) NR 35 – Working at Heights.

4.1.h Stakeholder Engagement

The Client operates on the concept of obtaining the Social Operating License, which entails an effort to establish a relationship of trust with directly affected communities as an effort to validate its presence in the territory.

The main pillar of this process is the Afluentes Program, which aims to establish a communication and proximity among the business units and local leaders in the more vulnerable regions, whether the leaders are formal¹⁹ or informal²⁰. The first stage in the Program is mapping the local scenario to identify the priority operating regions,²¹ followed by a process of mapping local leadership. Based on the mapping, relationship and communication strategies are established, and meetings are held with the leaders to share information about the Project and obtain authorization for Águas do Rio to access the communities.

As of June 2022, Águas do Rio had mapped 3,690 leaders. Between November 2021 and June 2022, it had held 3,895 meetings/visits with community leaders in various regions where the company operates. As the concession activities progress in other territories, the Client will follow by implementing its leader mapping and relationship strategy activities in accordance with the Afluentes Program.

Águas do Rio is also implementing a series of programs and activities to unite with the local communities, primarily with users of its water supply and sanitary sewage services.

The Saúde Nota 10 Program operates in preschools, primary and secondary schools, with professors, directors, students, and family members. It promotes educational activities and games for environmental education and raising awareness of basic sanitation, mindful water use, and the correct place for sewage and waste.

Activities defined as Social Mutual Assistance or Águas do Rio com Você include holding various events in the local communities where general services are offered, such as recreation for children, haircuts, health services, etc. These are an attempt to unite the local population with the company. During these events information on services and communication channels offered by the Client is disseminated, such as power reconnection services, debt negotiation and registering for the discounted social tariff.

The Portas Abertas Program offers guided tours to administrative and operational facilities to foster a better understanding by the people of the Client's work and the complexity of operating water and sewage systems. It also reinforces the importance of connections to the sewer and water network.

¹⁹ For example, the district president, members of residents' associations, and members of services sector organizations.

²⁰ Individuals who are references in the area and are acknowledged as leaders by community members even if they have no formal responsibility.

²¹ This Program focuses on regions of greater social and economic vulnerability and covers "community" areas.

And, finally, the Volunteer Program aims to guide and incentivize voluntary activities and social actions led by employees in the regions where they operate to unite the coworkers of the communities.

All the above-mentioned programs are part of the Social Communication and Environmental Education Program. All the activities that are carried out are periodically documented in a Consolidated Social Responsibility Report.

4.1.i External Communication and Grievance Mechanisms

The Client has external communication and customer service channels that are available 24/7. Communication can take place online using the Águas do Rio website or cell phone application, Águas App, a toll-free telephone line, or WhatsApp.

Communication channels are disseminated on water bills, social media and outdoors. Once a complaint or claim is received, it is forwarded to the company's internal units based on the content of the request.

To unite the communities served by the Client and to improve communications, the company offers customized service to the local leaders of the most vulnerable communities since they may find it challenging to use traditional channels of communication. Through the Afluentes Program, mapped local leaders become focal points of direct communication between the Client and the communities. Any complaints, questions and requests can be expressed to the local leaders directly; in turn, they will use WhatsApp to contact the unit in charge of the matter in Águas do Rio or with the designated employees that provide service in that locality (identified as sector teams). This ensures that there will be prompt and efficient replies and solutions for complaints that are filed.

The Sponsor also has an Ethics Channel that is available to employees, vendors, customers, and external interested parties who receive allegations of actual or suspected activities that breach the Code of Conduct and current legislation in Brazil. All reported allegations are treated confidentially and can be received anonymously. The Ethics Channel has a toll-free telephone line and online service via the AEGEA web site. Allegations are received by an independent company and dispatched to the Ethics Committee and Investigation Committee, where they are processed in accordance with the Ethics Channel Policy and the Sponsor's Consequences and Disciplinary Measures Policy.

4.2 Labor and Working Conditions

4.2.a Working Conditions and Management of Worker Relationships

The Client currently has 5,304 direct employees as follows: 2,091 for Block 1 and 3,213 for Block 4. Currently, roughly 78% of employees are male and 22% are female.

4.2.a.i Human resources policies and procedures

The Sponsor has rules that govern the various aspects of human resources management, including: i) hiring and selection management; ii) integration management; iii) management of duties and

wages; iv) management of benefits; v) employee transfer management; vi) profit and revenue-sharing policy; and vii) severance management for individuals. The Sponsor also has a Code of Conduct that sets forth the principles and guidelines to be observed by all AEGEA companies and their employees. The Code covers, among other aspects, guidelines related to: ethical conduct and anti-corruption; the environment; health and occupational safety; and moral and sexual harassment.

Even though the Client does not yet have a specific human resources policy that consolidates the key human resources management aspects, all hiring and human resources management procedures performed by Águas do Rio follow the guidelines established by the Sponsor's technical instructions ("TI").

4.2.a.ii Working conditions and terms of employment

The Client's employees are hired in accordance with the provisions of Brazilian labor law as provided for in the Labor Laws Consolidation ("CLT"). Conditions for wages, benefits and dismissal procedures are formally specified in the Sponsor's TI, including: i) management of duties and wages; ii) management of benefits; and iii) severance management for individuals.

4.2.a.iii Workers organizations

The Sponsor recognizes the right of employees to join union organizations as provided for in the CLT and the Federal Constitution of Brazil. Currently, there are two unions for the Client's employees: i) the Union of Workers in Water Purification and Distribution Industries and Sewage Services (SINDAGUA); and ii) the Union of Workers in Sanitation and Environment Companies (SINTSAMA). The latter has 277 employees of the Client who are members of the union.

4.2.a.iv Non-discrimination and equal opportunity

The Sponsor's Code of Conduct has a chapter entitled "Working Environment and Professional Development," which provides that there is zero tolerance for discrimination based on race, ethnic group, cast, religion, disability, gender, sexual orientation, union, or political affiliation in procedures for hiring, compensation, access to training, promotion, dismissal, and retirement.

The Sponsor's Consequences and Disciplinary Measures Policy establishes internal procedures for investigating allegations and taking disciplinary measures if the Code of Conduct is breached.

4.2.a.v Retrenchment

The term of the concession for this Project is 35 years, during which the Company plans to maintain more than 5,000 direct employees. After the concession period, activities will be conducted by the awarding authority, Rio de Janeiro State. It is believed that the State will absorb some of these employees, while others will be transferred to other companies owned by the Sponsor based on demand.

The Sponsor has a rule for Employee Transfer Management that sets forth the procedures, criteria, and guidelines for transferring employees between the group's companies. This procedure prioritizes the transfer of employees at the specialist, coordination, management, and administration levels since local labor should be prioritized at the operational and administrative levels.

Once the Project implementation phase is completed, outsourced employees that were hired and whose main duties involve construction activities will be relocated by subcontractors to other projects.

Roughly 47% of the outsourced workers belong to the Vem com A Gente Program, which aims to train and hire local outsourced labor.

4.2.a.vi Grievance mechanism

The Client does not yet have a formal complaint and claim mechanism for its direct and outsourced employees. The only available means of communication is the Ethics Channel, which can receive allegations related to actual or suspected activities that violate the Code of Conduct and current legislation in Brazil.

4.2.b Protecting the Workforce

The Sponsor's direct employees and its outsourced workers have guaranteed working rights in accordance with current labor laws established by the CLT. The Sponsor's Code of Conduct provides for zero tolerance regarding child labor or slavery, and this applies not only to employees, but to contractors and business partners as well.

4.2.c Occupational Health and Safety

The Sponsor has procedures for the following: i) monitoring employee working and health and safety conditions; ii) prevention of health risks; iii) identification of occupational risks and hazards; iv) accident prevention; and v) standardization of health and safety technical instructions. These procedures are established based on TI that are part of the Interage Program.

The TI entitled "Survey of Hazards and Risk Assessment" has provisions for the definitions, procedures, and responsibilities for identifying and analyzing safety and occupational health risks for employees in all business units, all routine and nonroutine activities conducted, and specific routings for visitors. The identified risks include biological, physical, and chemical, as well as risks of accidents as described in the TI entitled "List of Occupational Hazards and Risks." This IT also establishes that for each operational risk, the necessary equipment, products, the waste that is generated, and the materials that are used, must be identified.

The risks that are identified must be recorded in the Occupational Safety and Health Risks spreadsheet. Based on the result of this analysis, measures must be drawn up and implemented to eliminate, curtail, or control risks, including the provision of Personal Protective Equipment (PPE) in

accordance with the TI entitled “Actions for Risk Management.” The IT²² also provides that this process must be reviewed every other year or when there is: i) a change in structure, processes, or environments; ii) when workplace accidents or illnesses occur that generate risks that have not been previously identified; and iii) when the risk management measures that were initially identified are ineffective, inadequate, or insufficient. The Client is responsible for conducting the procedures to identify, analyze and manage risks.

The Client is also responsible for conducting integration, training, and safety dialogue (DDS) activities. The TI entitled “Procedures for Sponsor EHS Training” establishes the procedures for implementing occupational health and safety training to be used in all business units. Integration training is mandatory for all employees, and other training will be determined in accordance with the activities the employee conducts. The units should produce a timeline for training, have an attendance sheet, issue a training certificate with a time sheet, and report on the employee’s ability to conduct the activity. Integration and DDS activities were observed in all the units that were visited.

Some of the training that was conducted addressed the most important regulatory standards applicable to hazardous and high-risk activities. Thus, until March 2022, 620 employee training sessions had been held.

The Sponsor has a TI entitled “Accident and Incident Disclosure.’ All accidents must be reported to the EHS unit technician and to the unit manager or coordinator in accordance with the TI entitled “Sponsor Accident and Incident Reporting.” Serious accidents must be escalated to the highest levels of management, including the EHS Corporate Department and manager, the director of the business unit, the regional vice president and the Sponsor’s president. Fatal accidents must be reported to the AEGEA Legal Department and the appropriate public institutions such as the Military and Civil Police. The Client has the following goals in accident management: i) report events within 24 hours and file a Workplace Accident Report (CAT) if there are injuries; ii) investigate accidents within 10 days; and iii) take corrective and preventive action within 90 days.

The rule entitled “Sponsor’s Medical Control and Occupational Health Program” (PCMSO) establishes the requirements the Client is to meet. The PCMSO should include the identification of workplace hazards or risks, planning and scheduling of occupational medical exams (including when an employee is hired, periodically, and when an employee changes jobs, returns to work and is dismissed) and procedures for implementing and monitoring occupational health. The Client prepared two PCMSOs for the units covered in Block 1 and Block 4, which meet the requirements of the rule and current national legislation²³.

²² These procedures are aligned with requirements of Regulatory Standard No. 1 (NR-1) of the Brazilian legislation, which addresses the Risk Management Program (PGR) that is to include the identification and description of potential safety and health risks for all employees, control and management actions, and records and monitoring.

²³ Regulatory Standard No. 07 (NR-07), Occupational Health Medical Control Program.

4.2.d Provisions for People with Disabilities

The TI entitled “Sponsor’s Inclusion of Disabled Persons and Special Needs” provides for complying with Brazilian legislation on creating vacancies set aside for disabled persons²⁴. The rule establishes hiring strategies and selection and contracting procedures. It also requires that accessibility be ensured for them and that they have appropriate working conditions and environments, that occupational health and safety are ensured, and that they are included in the types of evacuation established in the unit’s Emergency Response Plan.

As the first step, the Client is mapping the current employee roster to identify and validate disability conditions. Currently, roughly 0.4% of direct employees were identified as disabled. The Client will implement hiring and contracting strategies established by the TI to raise the percentage of its disabled employees.

4.2.e Workers Engaged by Third Parties

The Client currently has 7,597 outsourced workers, hired through 93 companies that supply labor. The outsourced workers work mainly as “Sanitation Agents,” in charge of activities of implementing and maintaining the water and sewage networks. The Client also hires outsourced employees to serve in the following positions: attendants; service agents; guards; meter operators; general services assistants; drivers; bricklayers; and installers.

Of these workers, 3,630 are hired through the Vem Com a Gente Program, which has been developed and focuses on professional development and hiring local labor to serve as sanitation agents.

The Client requires that companies that provide outsourced labor submit information on compliance with the labor laws and the health and safety management of their employees. For this procedure, it has two checklists that contain the list of documents and programs that must be submitted to the human resources and the occupational health departments. Some of the required documents include: i) the employee roster; ii) a copy of the payroll sheet; iii) the certificate of occupational health upon hiring and dismissal; iv) a certificate of official registration of the Guarantee Fund for Time of Service (FGTS); and v) a training or professional development certificate in accordance with the risk of the work to be performed. For the outsourced company’s programs and documents, the following must be submitted: i) Environmental Risk Prevention Program; ii) Technical Expert Report on Workplace Environmental Conditions; iii) Preliminary Risk Analysis; iv) Verification of the Performance of Preventive Maintenance of Work-Related Equipment and Tools; and v) evidence that the Daily Safety Dialogues have been completed. In addition, all vendors must complete an Environmental Responsibility Agreement that sets forth guidelines to be observed to comply with licensing rules and environmental legislation.

²⁴ Law No. 8.213 of July 24, 1991, establishes that the goal of at least 5% of vacancies are for disabled persons in companies with more than 1,000 employees.

4.2.f Supply Chain

The following Sponsor Rules govern vendor management: i) Vendor and Client Register; ii) Payments to Vendors; and iii) Business Partner Relationship Policy. All vendors are registered using an internal online platform and they are subject to an Integrity Due Diligence (DDI) in which they will be registered. There is also quality control of materials used in the structures as well as personal protective equipment and uniforms.

4.3 Resource Efficiency and Pollution Prevention

4.3.a Resource Efficiency

4.3.a.i Greenhouse gases

The Sponsor prepared the first inventory of greenhouse gases in 2021 and joined the GHG Protocol Program²⁵ in early 2022. In 2021, Scope 1 emissions totaled 311,424.96 metric tons of CO₂ equivalent for all the group's operations. Indirect emissions (Scope 2) from energy acquisition totaled 100,101.23 metric tons of CO₂ equivalent. These calculations include emissions from the Project.

In order to curb or offset emissions, the Sponsor performed the following studies or initiatives: i) implemented the Low Carbon Engineering Unit, in charge of project viability studies and analyses, in addition to conducting research for the best and newest technologies to reduce gas emissions in the sanitation sector; ii) studies on the installation and maintenance of flares in anaerobic treatment plants (upflow anaerobic sludge blanket reactor)²⁶; iii) analyzed the technical and economic viability, impacts and benefits of converting existing sewage treatment plants (ETEs) from an anaerobic into an aerobic process, and implemented new aerobic process ETEs; iv) studies and projects to supply biogas created in anaerobic plants (such as UASB reactors); v) projects to reuse sludge, thereby preventing the disposal of sludge in sanitary landfills in the concept of a circular economy; and vi) reforestation and biodiversity conservation projects with carbon capture.

4.3.a.ii Water consumption

The Sponsor monitors both water abstraction and sewage discharges. Thus, in 2021, the total volume of water the Sponsor removed was 1,401,064.64 megaliters (ML). In the same period, sewage disposed of in wetlands, rivers, lakes, and the ocean reached 228,309.72 ML. The Client began operating in 2021 and must continue to monitor water abstraction and sewage disposal.

One very important aspect of water resource management is the Client Water Loss Management Program. In Brazil, the average loss of potable water in treatment and distribution systems amounts

²⁵ The GHG Protocol Program is a package of standards, guidelines, tools, and training to enable companies and governments measure and manage anthropogenic emissions that are responsible for global warming.

²⁶ UASB – Upflow Anaerobic Sludge Blanket – a high-efficiency upflow anaerobic reactor in which primary processes are used to establish the initial organic matter.

to about 40.89% of all water produced.²⁷ Under the concession contract, the Client must lower this loss to 25%. To this end, a Water Loss Control Program is being implemented, which involves implementing modern technologies to detect and correct leaks in treatment plants and treated water distribution systems.

Since the Client took over the concession in late 2021, electricity consumption data are available for the period from November to December of that year. For the Block 1 assets, the Client consumed 26,363,083 kWh and in Block 4 consumption was 15,637,051 kWh, for a total of 42,000,134 kWh for the entire Concession.

4.3.b Pollution Prevention

4.3.b.i Wastes

The Sponsor implements solid waste management programs in the sanitation projects. In 2021 102,233 metric tons (mt) of solid waste were generated, most of which was nonhazardous (99.98%). The main types of waste generated in 2021 were: i) sludge from the water clarification process (8,632.49 mt); ii) sludge from the sewage treatment process (41,100.89 mt); iii) recyclables (111.03 mt); iv) hazardous waste – Class 1²⁸ (176.63 mt); and v) other nonhazardous waste.

Trucking and licensed companies are used for disposing of waste, and disposal in licensed landfills that are suitable for waste classification is controlled. Thus, in 2021, the Sponsor disposed of 173.84 mt of hazardous waste. Of this total, 11.77 mt was sent to incinerators; 16.31 mt went into landfills; and 145.77 mt went into other disposal operations. Nonhazardous waste totaled 100,506.66 mt. Of this total, 30,610.54 mt was sent to landfills and 69,896.12 mt went to other disposal operations.

The Sponsor's initiatives to reuse ETE sludge are noteworthy, including: i) mixed use with other plant remains as fertilizer; ii) use in composting processes; iii) use as an ingredient in manufacturing bricks; iv) processing into biofuel and charcoal; and v) electricity cogeneration studies.

Other waste management initiatives include reverse logistics operations and recycling of plastics, metals, and fabric.

The effluents generated in the assets are sent to sewage capture systems and then taken to ETEs for treatment and final disposal. The treatment produces a significant decrease in the organic load of the sewage, reaching up to 90-95% removal of BOD.²⁹ The chemical composition of treated effluent is within the limits established in the State³⁰ and Federal³¹ legislation in Brazil. In some assets located in areas that are not yet covered by the sanitary sewage network, the Client is using chemical

²⁷ GO Associados. Estudo de Perdas de Água do Instituto Trata Brasil: Desafios para a Disponibilidade Hídrica e Avanço da Eficiência do Saneamento Básico no Brasil. 2022.

²⁸ Class 1 waste is that which is hazardous and has characteristics such as inflammability, corrosiveness, reactivity, toxicity, and pathogenicity.

²⁹ Biochemical Oxygen Demand is an indicator of organic load, which is the concentration of oxygen in the sample after it is incubated at a constant temperature (20° C) for five days.

³⁰ NOP-INEA-45. Establishes criteria and standards for releasing sanitary sewage. 2021.

³¹ National Environment Council. CONAMA Resolution No. 430 of May 13, 2011.

toilets that licensed companies remove periodically and they are sent to an environmentally appropriate destination.

4.3.b.ii Hazardous materials management

Water and sewage treatment units use some hazardous chemicals, including sodium hypochlorite for disinfection, aluminum sulfate for flocculation and coagulation, diesel fuel for use in generators, etc. Although this waste is being segregated in the assets and disposed of in an environmentally friendly manner by authorized companies, the Client will adopt the Sponsor's procedures with segregation, temporary storage, shipping, and final disposal of hazardous waste.

4.3.b.iii Pesticide use and management

Pesticides are not used or handled in the Project.

4.4 Community Health, Safety and Security

4.4.a Community Health and Safety

The main risks and potential impacts of the Project on community health and safety include: i) emergencies such as fires, chemical leaks, contamination, etc.; ii) noise disturbance; iii) emission of odors from ETES; iv) traffic interference during sanitation works; v) temporary water supply cuts; vi) contamination or flooding of public roads if sewage or treated water pipelines burst; vii) air pollution from vehicles; viii) possible safety conflicts if community members invade the assets; ix) impacts caused by migration inflows; and x) possible impacts of gender violence when workers and community members interact.

Under the concession contract, the Client received a set of assets that require maintenance and, in many cases, requalification to ensure that they are operational and efficient. For this reason, most of the facilities require a series of refurbishment works, including: i) restoration of perimeter fences; ii) replacement or recovery of equipment; iii) structural recovery; iv) power grid connections; v) implementation of access and security control systems; vi) implementation of fire detection and firefighting systems; and vii) preparation of areas for proper storage of hazardous waste, etc. These are necessary not only to restore asset operability, but also to minimize possible impacts and social conflicts.

4.4.a.i Infrastructure and equipment design and safety

One of the most important safety issues for the facilities and the protection of the communities around the assets is the implementation of appropriate fire detection, alarm and response systems that meet local legislation requirements: the Fire Department Inspection Certificate (AVCB). There must be adequate systems and trained staff to respond to prevent potential internal and external damages due to possible fires in the Client's assets. In addition to adequate infrastructure, the EAP of the units must also establish procedures for communicating with outside parties, response actions, training requirements for firefighters and scheduling of drills.

ETEs can generate odors³² and noises that disturb neighboring communities. To control these impacts, the Client will evaluate whether the specific context of each ETE requires a plan to manage it.

The structures for maintaining and expanding basic sanitation infrastructure usually require temporary traffic closures on public roads. During the works there is risk of accidents when trenches are opened for installing pipelines. To minimize inconveniences, the Client will prepare Works and Traffic Management Plans specific to each construction project in order to: i) isolate and put up warning signs in the areas where work is in progress; ii) plan road works in order to minimize inconveniences to the communities; iii) inform the interested parties in advance that construction will take place; iv) adopt safety measures to minimize risks of accidents with vehicles and heavy machinery; v) check air emissions from vehicle exhausts and particle emissions and provide control measures; and; vi) manage all construction waste appropriately.

The works to maintain the sanitation infrastructure may bring about temporary water supply interruptions and pipelines may burst, causing spillage onto public roads. The Client has an Intelligent Infrastructure Program which includes recording and georeferencing of the sanitation assets. There are also pressure sensor networks to detect leaks in treated water networks. The systems are incorporated into an Integrated Operations Center (COI) so that bursts can be detected and addressed quickly. The Client also has the Afluentes Program, enabling the community to report possible pipeline bursts, and receive early notification of scheduled maintenance.

4.4.a.ii Hazardous materials management and safety

Since some sanitation assets such as water and sewage treatment plants store hazardous substances, fuels and hazardous waste, the Client will ensure that the areas it uses for its storage have: i) impermeable floors; ii) the ability to retain volumes that have spilled; iii) adequate ventilation to prevent gas from accumulating; iv) appropriate reporting and safety information sheets about stored chemicals; v) appropriate drainage systems; vi) water and oil separator boxes; and vi) protection from inclement weather.

4.4.a.iii Ecosystem services

Most Project assets will be largely sited in urban or semiurban environments that have been substantially altered by human action. For this reason, no major impacts on ecosystem services are expected in most of the concession areas.

The Water and Sewage Master Plans will identify new areas for expanding the sanitation assets in the concession area. Although the expansion should be mostly in urbanized environments, in a few

³² For noise and odors, the key factors that influence the importance of the impact include: i) the intensity of the noise and odors that are produced; ii) the position of affected parties (neighboring residences) relative to the sources of noise and odor emissions; iii) existing mitigation systems; and iv) meteorological variables, in particular wind direction and speed, insolation, temperature etc.

situations new infrastructure may be built in places such as modified³³ or natural³⁴ habitats, or perhaps, but highly unlikely, in critical³⁵ habitats. To control the risks and impacts on ecosystems, the Client will prepare Biodiversity Action Plans to protect the natural resources the local communities use, in addition to managing possible impacts on ecosystem services.

If the Guapiaçu Dam is confirmed, construction may generate local interferences in modified and natural habitats, which local communities may be using for various purposes. If this occurs, and if the construction of the dam is confirmed, the Client will prepare a Biodiversity Action Plan that aims to mitigate interferences in these habitats in addition to other studies and instruments that must be prepared to ensure compliance with the IDB Invest's Environmental and Social Sustainability Policy. This Plan will include the control of impacts on natural resources the community's use.

4.4.a.iv Community exposure to disease

One of the key targets of the basic sanitation structures is to curb waterborne diseases by removing, treating, and appropriately arranging for final disposal of domestic sewage. It is believed that the Project will make a considerable contribution to improving public health since coverage of the sewage collection and treatment systems will be widespread, covering 90% of the population by 2033.

In a few cases, pipelines that burst may leak and there may be temporary spillage of sewage onto public roads, which may lead to localized upticks in community exposure to pathogenic agents. However, the Client has means to detect and address these events promptly through the Intelligent Infrastructure Program, the Afluentes Program and the COI that minimize the consequences of this type of occurrence.

4.4.a.v Emergency preparedness and response

The Client will prepare specific EAP for the sanitation assets based on Sponsor's corporate procedures. The EAP will have communication guidelines and a list of contacts to be informed in case of an emergency. Local community leaders will be included in these communications in accordance with the specific features of each emergency scenario.

4.4.b Security Personnel

The Client hires outsourced companies that specialize in providing guard and assets security services. Their professionals will be unarmed, and they will be trained in the moderate use of force and statutory operating rules.

³³ Modified habitats may have many plant or animal species that are not of native origin, or where human activity has substantially altered the primary ecological functions of an area and the composition of species.

³⁴ Natural habitats are areas that have viable groups of plant or animal species that are largely of native origin or in which human activity has not significantly changed the primary ecological functions and the composition of species of an area.

³⁵ Critical habitats are areas with significant biodiversity, including: (i) habitats that are particularly important for critically threatened or threatened species; (ii) habitats that are particularly important for endemic species or species whose distribution is restricted; (iii) a habitat that supports overall significant migratory species or congregating species; (iv) highly threatened or unique ecosystems; or (v) areas associated with key evolutionary processes.

4.5 Land Acquisition and Involuntary Resettlement

4.5.a General

If the Guapiaçu Dam³⁶ is built, 281 properties will be affected; of those, 72% are small rural properties and 57% are for residential use with agricultural activities. The preliminary identification and registration questionnaire on 200 properties identified 322 families and a total of 998 residents.

Therefore, the Client will submit a Technological and Site Alternatives Assessment to justify the Project from a technical, financial, environmental, and social standpoint that generates the least possible impact of involuntary resettlement of families and the loss of agricultural areas. The Project's EIA/RIMA update will also include a new social assessment so that the Client can draw up and subsequently implement a Resettlement and Livelihood Restoration Plan for families affected by the Project.

In addition to the Guapiaçu Dam, the Project may require the involuntary resettlement of some families while the sanitation assets are being expanded. However, since the site of these new assets is yet to be determined, the Client will prepare an Involuntary Resettlement and Restoration of Livelihoods Framework to be used for everyone who may be physically or economically displaced by the Project. In addition, an independent consultant will be hired after the monitoring period to evaluate the results of the resettlement and restoration of livelihood processes.

4.6 Biodiversity Conservation and Natural Habitats

4.6.a General

The Project will not generate any potentially significant impacts on biodiversity since most of the existing assets and future expansion structures will be in habitats altered by human action (urban and rural zones).

Since the sites for the new sanitation networks and assets have yet to be identified, it is believed that there may be a few situations in which the new networks and assets will be built in modified or natural habitats. It is unlikely that any will be built in critical habitats. If this type of intervention occurs, the Client will prepare the ESIA required by environmental legislation and obtain the necessary environmental licenses. In addition, Biodiversity Action Plans will be prepared to control potential impacts on modified, natural, or critical habitats.

4.7 Indigenous peoples

4.7.a General

To date, no indigenous peoples or traditional communities have been identified in the Project's areas of influence.

³⁶ The construction of the Guapiaçu Dam is a requirement in the concession contract. However, the same contract states that this facility can be reviewed, eliminated, or modified depending on the requirements of the Rio de Janeiro State Water Security Plan, now being prepared with completion scheduled for 2023.

4.8 Cultural heritage

4.8.a Protection of Cultural Heritage in Project Design and Execution

To date, no evidence has been identified of any real or potential impact on material or immaterial cultural heritage in the Project's areas of influence. The Client will prepare and implement a specific procedure for any unexpected findings of materials of archeological interest during construction.

5. Local Access of Project Documentation

Project documentation can be found on the following links:

<https://ri.aegea.com.br/debentures-companhias-abertas/aguas-do-rio/>

<https://ri.aegea.com.br/debentures-companhias-abertas/aguas-do-rio-4/>