ATTACHMENT 7

MINIMUM ENVIRONMENTAL GUIDELINES

Index

1. INTRODUCTION

The purpose of this ATTACHMENT is to present the minimum environmental guidelines to be considered in the provision of SERVICES and to serve as a base document for the preparation of SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAMS (PGS), an integral part of the OPERATION AND MAINTENANCE PLAN, an integral part of the MODERNIZATION PLAN, as set forth in ATTACHMENT 5 (SERVICES SPECIFICATIONS).

Throughout the CONCESSION TERM, the CONCESSIONAIRE shall promote the adequacy of its procedures and technical instructions for carrying out the SERVICES whenever the environmental legislation changes, bearing the respective expenses.

The CONCESSIONAIRE shall act in such a way as to preserve the environment in all activities carried out involving the SERVICES under the terms of the CONTRACT and its ATTACHMETES, and shall adapt to the socio-environmental requirements of the International Finance Corporation - IFC, specifically the provisions of the applicable Socio-environmental Sustainability Performance Standards (PD)[1] , whatever they may be:

- Performance Standard 1: Socio-environmental Management and Evaluation System
- Performance Standard 2: Employment and Work Conditions Health and Safety
- Performance Standard 3: Resource Efficiency and Pollution Prevention and Reduction
- Performance Standard 4: Community Health and Safety
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Natural Resources
- Performance Standard 7: Indigenous Peoples
- Performance Standard 8: Cultural Heritage

[1] Source: Performance Standards on Socio-environmental Sustainability. International Finance Corporation (IFC), World Bank Group, January 2012.

2. PROPOSITION OF MITIGATING MEASURES (PREVENTIVE AND REDUCTION) AND CONTROL/MONITORING OF RISKS AND SOCIO-ENVIRONMENTAL IMPACTS

This item presents the socio-environmental programs indicated as measures for the adequate management of the activities related to the different phases of the project, aiming at the prevention and/or reduction of the occurrence of risks and impacts and their adverse effects on people (workers and communities) and the environment.

The main preventive measures, reduction, compensation, control and monitoring of impacts are presented in the proposed programs, and must be an integral part of the Socio-environmental Management System (SGSA), which will be the verification tool of the Socio-environmental Management Programs.

The proposed Socio-environmental Management Programs should therefore be detailed from the identification and evaluation of the socio-environmental risks and impacts associated with each activity/service front in the project planning phase and reviewed throughout its useful life. They include actions aimed at their mitigation (prevention and reduction) and control, in an appropriate manner and proportional to the types and scale of risks and impacts. Performance Standard 1 establishes the importance: (i) of the integrated assessment to identify socio-environmental impacts and risks and project opportunities; (ii) effective community engagement through the dissemination of information related to the project and consultation with local communities on issues that directly affect them; and (iii) the organization's management of socio-environmental performance throughout the project's life cycle. Performance Standards 2 to 8 establish objectives and requirements to avoid, minimize and, where residual impacts remain, compensate risks and impacts to workers, affected communities and the environment.

Within the scope of the project under analysis, the following are considered Socio-environmental Management System Programs:

- **Institutional Articulation Program** (associated to the PD1): The Institutional Articulation Program aims at maximizing the benefits that PUBLIC LIGHTING brings, since the planning must be intersectoral as a way to ensure the correction of actions and meet the different demands of public power and society, ensuring their integration with local and regional development actions promoted by entities and institutions from different spheres of government present in the region.
- **Population Nuisance Mitigation Program** (associated to the PD1)**:** The Population Disturbance Mitigation Program is associated with the Communication and Engagement

Program with Stakeholders, and has as its objective the dissemination, clarification and interlocution about the actions that are part of the project's activities, including the main risks and impacts that may interfere with the population's daily life.

- **Traffic Management Program** (associated to the PD1)**:** Presents the guidelines of the Traffic Management Program and establishes technical and administrative procedures to be adopted by the CONCESSIONAIRE and, if applicable, the contracted companies, in situations related to the project's modernization, expansion, operation and maintenance activities.
- **Communication and Engagement Program with Stakeholders** (associated to the PD1): The CONCESSIONAIRE should identify potential stakeholders in its actions and consider how external communications can facilitate dialogue with all stakeholders.
- **Human Resources, Employment and Working Conditions Program** (associated to the PD2)**:** The Human Resources, Employment and Working Conditions Policy should be based on Performance Standard 2, which recognizes that the pursuit of economic growth, through job creation and income generation, must be accompanied by the protection of workers' basic rights.
- **Program of Socio-environmental Management of the Activities of Modernization, Expansion, Operation and Maintenance** (associated to the PD3)**:** This program presents the basic guidelines that must be adopted by the CONCESSIONAIRE and eventual contracted companies aiming the prevention, mitigation, compensation (if applicable), control and monitoring of the impacts on the environment, on aspects of the physical environment (impacts to the soil, atmosphere and water bodies) and to the society.
- **Solid Waste Management Program** (associated to the PD3)**:** The Solid Waste Management Program includes guidelines for the definition of procedures aimed at the correct segregation, collection, classification, conditioning, storage, transportation, reuse, recycling, treatment and final disposal of waste.
- **Community Health and Safety Program** (associated to the PD4)**:** The Community Health and Safety Program shall be based on Performance Standard 4, considering that the activities, equipment and infrastructure of the project may expose the community to risks and impacts.
- **Emergency Action Program - PAE** (associated to PD1 and 4)**:** The Emergency Action Program – PAE determines the response actions of those responsible for the project during emergencies, in situations that require the adoption of logical, technical and

administrative procedures, structured, to be applied quickly in emergency situations, to minimize impacts on the population and the environment.

- **Turtle Spawning Program** (associated with PD6): The objective of this topic is to provide a reference for meeting and adapting to technical standards, legislation and current environmental recommendations, in relation to the elaboration of PUBLIC LIGHTING projects in areas of spawning turtles.

The CONCESSIONAIRE shall develop and implement the Socio-environmental Management Programs mentioned above. The CONCESSIONAIRE shall manage the compliance with the Socio-environmental Management Programs through the SGSA, which, in turn, shall be the tool to be used by the INDEPENDENT VERIFIER, which may propose corrective actions in case of noncompliance with the socio-environmental performance defined in this ATTACHMENT. Therefore, it is verified that the planning phase of the activities corresponds to a crucial stage for a good social and environmental performance on the part of the CONCESSIONAIRE, also impacting the CONCESSION AUTHORITY as the ultimate responsible for the project's results.
The SGSA and the other social and environmental programs presented are initial binding references that should be considered by the CONCESSIONAIRE for their detailed development and implementation.

3. SOCIAL AND ENVIRONMENTAL MANAGEMENT SYSTEM (SGSA)

3.1. Presentation of SGSA

The SGSA is fundamental to the entire process of identifying and managing risks and socio-environmental impacts of the project, including actions of prevention, mitigation, compensation (if applicable), control and monitoring in line with Performance Standard 1 and must be developed and implemented taking into account all other Performance Standards applicable to the project. The process will consider all socio-environmental risks and impacts pertinent to the project, including the problems identified in Performance Standards 2 to 8 and the people who are likely to be affected by such risks and impacts.

The SGSA should be developed in a manner that is aligned with and as integrated as possible with the Centralized General System and CCO/Call Center (Control and Operation Center) presented in the Communication and Engagement Program with Stakeholders.

3.2. Application of the Socio-environmental Management System and its Programs

The Socio-environmental Management System should incorporate the following elements: (i) policy; (ii) identification of risks and impacts; (iii) management programs; (iv) organizational capacity and competence; (v) emergency preparation and response; (vi) monitoring and analysis; (vii) stakeholder engagement; (viii) external communications and complaint mechanisms; (ix) ongoing reporting to affected communities.

It should meet the objectives of Performance Standard 1: Evaluation and Management of Risks and Socio-Environmental Impacts and shall be foreseen as an obligation of the CONCESSIONAIRE in relation to the activities of modernization, expansion, operation and maintenance, and shall be developed in accordance with the ABNT NBR ISO 14001 standard: Environmental Management System – Requirements with guidelines for use. Thus, through the Socio-environmental Management System, the CONCESSIONAIRE shall present operational plans and procedures that contemplate the evaluations of the risks and impacts involved in the activities during the project's life cycle, as well as specify the actions to prevent, mitigate, compensate (if applicable), control and monitor the impacts for the workers, the environment and potentially affected communities.

Through the development and implementation of the Socio-environmental Management System (SGSA), the CONCESSIONAIRE may consistently foresee and act on activities with

potential to generate socio-environmental risks and impacts during the different phases of the project and throughout the concession period, in order to prevent the adverse effects of risks and impacts from being uncontrolled, avoid the occurrence of additional risks and impacts, as well as minimize the negative effects of socio-environmental impacts inherent to its activities.

In addition, the implementation of the SGSA may produce direct benefits. Conserving and using energy and materials more efficiently helps to reduce costs. Reducing waste and disposal and recycling can minimize waste transportation and disposal costs. The same tangible benefits can be obtained on the social side, through the application of specific training and capacity building to workers and to the community, promoting the development of knowledge related to the main themes of the project and aligning the activities of each phase with the improvement of the relationship and participation of society in general.

One way to improve the guarantees of proper implementation of a SGSA is through the establishment of a comprehensive Socio-environmental Policy, which defines the environmental and social objectives and principles that guide the project to achieve a solid socio-environmental performance. The Socio-Environmental Policy will provide the structure of the project's socio-environmental assessment and management process. The Socio-environmental Policy shall be consistent with the principles of the Performance Standards and shall indicate who, within the organization, will ensure its fulfillment and will be responsible for its execution and communication at all levels of your organization.

The following are key elements for the development of the SGSA, objectives and main guidelines, procedures, goals and indicators, based on the preliminary identification of socio-environmental risks and impacts previously presented in this document, legal and regulatory requirements applicable at the federal, state and municipal levels, and the provisions of the Performance Standards (PDs) in principle applicable to project activities. It should be noted that the CONCESSIONAIRE should consider such provisions for the preparation of its SGSA, considering all the phases of the project previously listed and during its entire useful life, i.e., during the concession period of the IP system.

It should be emphasized that this system will encompass all other programs that present their objectives, goals and indicators in a specific manner. The management system will be responsible for the expanded vision and the maintenance and guarantee of integration among all the project information.

3.3. SGSA Action Descriptions

The implementation of the SGSA should consider:

- The definition and implementation of an operational management system, which allows the integration and fluidity between all the project information, besides formatting results in evaluation and performance indicators;
- The implementation of a Sustainability Policy, which aligns environmental considerations to the needs and attentions to social aspects and is the focus of commitment from top management;
- Identification and analysis, on an ongoing basis, of the risks and impacts concerning each project activity;
- Monitoring of socio-environmental programs according to the risks and socio-environmental impacts identified in each phase of the project;
- Follow-up of environmental actions during the development of modernization, expansion, operation and maintenance activities;
- Follow-up and compliance with the installation and operation standards of the work fronts and living areas for modernization and expansion activities - if necessary, for the installation of the site;
- Monitoring of compliance with the Workers' Code of Conduct, which should also be followed by the workers of outsourced/contracted companies;
- Monitoring the environmental supervision mechanisms of the proposed modernization, expansion and operation of environmental programs;
- Verification of the procedures adopted by the contracted parties to comply with the contractual requirements, applicable legislation, related standards and other aspects of Health, Environment and Safety;
- Monitoring of Community Health and Safety actions;
- Monitoring and management of complaints, according to ATTACHMENT 5.

The CONCESSIONAIRE shall propose actions to meet the aspects of the project activities throughout its useful life and periodically submit the entire system to an evaluation in its operation, considering the adoption of "lessons learned" solutions and resembling the PDCA process: PLAN / DO / CHECK / ACTION, which means Plan / Execute / Check / Act), ensuring control and continuous improvement of the System.

4. SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAMS (PGS)

4.1. INSTITUTIONAL ARTICULATION PROGRAM

The CONCESSIONAIRE will have to structure, together with the CONCESSION AUTHORITY, a matrix of responsibility and actors to be involved in the process;

- Proceed to the hearing of the different public sectors investigating demands;
- Proceed to the hearing of sectors of the civil society;
- To subject the planning and prioritization of the interventions to the approval of the City Council pertinent to the subject, in what it fits, to promote the integration of agendas and to improve the project in all its phases, taking advantage of the intersectoriality already installed, the participation of representatives of the already existing civil society and legitimacy of these instances;
- The future CONCESSIONAIRE shall participate in person as a listener to the meetings of these councils;
- Inclusion of this program in the SGSA - Socio-Environmental Management System and in the Program of Social Communication and Engagement with Stakeholders.

4.2. POPULATION NUISANCE MITIGATION PROGRAM

4.2.1. Nuisance Control and Time Constraints

Mitigating measures aimed at ensuring the well-being and comfort of people in the community should include:

- To seek to reduce activities in the main access routes during peak hours;
- The implementation of signs of activities, when pertinent, in stretches of the roads and near workplaces, as provided in NR-26;
- The adequacy of the number of machines and equipment in order to meet the standards recommended by current legislation regarding particulate emissions, noise and vibration in the vicinity of residential areas;
- Noise Monitoring of the activities: it may be necessary and when it is, it shall be executed according to specific guidelines and adequate methodology for the activities in question. It will be conditioned to specific situations where the duration, type and place of work

intensify the noise generation caused by the project activities and interfere with the well-being of the communities. This evaluation should be made during the project planning phase.

It should be ensured that all necessary and targeted measures in this program can be implemented by the SGSA and other associated programs.

4.2.2. Contact with Public Authority and the general population

To alert the Public Authorities responsible for the road system or locality, and the population in general about the activities, the following actions are proposed, in line with the actions described in the Program for Communication and Engagement with Stakeholders:

- Communication to local authorities about the beginning and duration of activities, requesting support for possible interventions that impact access, services and local traffic, especially in the ROADS WITH TELEMANAGEMENT SYSTEM;
- Communication with residents and users of buildings in the area to be impacted, for more impactful and/or long-term activities that imply interruption of the PUBLIC LIGHTING service for a long period.

Depending on the type of activity to be developed, the CONCESSIONAIRE shall agree with the authorities on the minimum period required for communication in the event of blockage of access to buildings or temporary interruption of roads and services.
In the case of activities that do not require such interruptions, the CONCESSIONAIRE may define the best form of communication about the activity.
The sign with information about the activities and other signs must be kept fixed until its end, as provided in NR-26, being immediately replaced when its natural wear and tear, vandalism action or other problem that impairs the understanding of the information is identified.

4.2.3. Contact with Affected Communities

The team responsible for the execution of this Program, as provided in the Program of Communication and Engagement with Stakeholders, shall have several communication tools to make the appropriate contact with the population providing information about the project, its

risks and impacts, importance, motivation, clarify doubts and collect suggestions, complaint channels, among others.

4.2.4. Workers Integration Meeting

An integration meeting should be held with the workers who will participate in the activities, with adequate time for all to prepare themselves adequately for the specificities that will have to be addressed there.
In this meeting, workers should be guided on the following topics, among others established for the work routine:

- Socio-environmental Management System;
- Relationship with third parties and the community;
- HR Policy and Code of Conduct;
- Security arrangements in line with the relevant human rights principles, especially in areas with high levels of violence;
- Main norms and procedures to be followed;
- Records in case of observations, non-conformities and suggested improvements;
- Communication tools;
- Emergency Action Program - PAE.

The integration meeting should take place at intervals appropriate to the duration of the activities.

4.2.5. Communication Channel

In order to answer questions, complaints and suggestions, communication channels foreseen by the Communication and Engagement Program with Stakeholders should be made available.
These should be widely publicized, such as sign plates, stickers on vehicles used by workers, during presentations and face-to-face meetings, etc., in addition to being periodically publicized in field actions by the team responsible for Social Communication.
The complete detailed records of the calls and contacts made will be included in the monthly reports that will serve as a subsidy to the managers' decision making, including a review of the procedures aimed at improving the actions developed.

4.3. Descriptions of Traffic Management Program Actions

The detailed procedures of the Traffic Management Program shall be carried out by the CONCESSIONAIRE in order to minimize or even eliminate risks and impacts on local traffic in the project areas. Thus, this program shall contain, at a minimum, the items described below.

4.3.1. TRAFFIC SCHEDULING

Traffic scheduling should be carried out in order to previously define routes, times and places for entry, exit and movement of vehicles related to the transportation of personnel, machinery, equipment, supplies and other vehicles used for the project, in order to minimize impacts on traffic on the roads to be used and/or mitigate accident risks.
This schedule may be recorded in the form of a vehicle routing system, being revised periodically or whenever the need is detected. For this purpose, the measures listed below must be followed, without being restricted to them:

- Definition of pre-established routes and times and places for the entry and exit of vehicles and transportation of personnel, materials, equipment, etc. to the support areas and service fronts;
- Planning of relocations and redefinition of local traffic, if necessary;
- Implementation and operation of traffic support process, with communication with vehicles in service to identify situations that may require intervention;
- Verification system and respective authorization for entry into service of drivers;
- Use of vehicles suitable for the cargo conditions and transport route, in terms of weight, capacity, power and other characteristics, in addition to their proper maintenance and good working order, with the aim of avoiding damage to the roads used (e.g. excessive axle weight), as well as undue interference with traffic (excessively low speed, insufficient braking, smoke, crashes, tire stripping and other incidents that may be caused);
- Use of vehicles fitted with signs and equipment for action in the event of accidents and other emergency scenarios, such as equipment and materials to assist other vehicles in service that show failure.

4.3.2. Traffic Support and Control

The process of traffic support and control must be implemented and operated by means of information collected and passed on by the drivers at the service of the project, to identify situations that may require intervention.
The following actions must be taken to support and control traffic:

- Monitoring of local road conditions before and during vehicle traffic;
- Traffic planning considering times of greater road flow, avoiding them whenever possible;
- Provide, if necessary, traffic control support with barriers, traffic lights and traffic operators as provided in NR-26.

4.3.3. Interference Mitigation with Third Parties

In order to minimize interference with third parties, the program should include procedures for the use of vehicles in a good state of repair, maintenance and operation appropriate to the cargo conditions and the transport route.
The CONCESSIONAIRE and its subcontractors shall carry out periodic inspections of the state of repair and maintenance of the vehicles, keeping an updated record (checklist) of these procedures. Containment and sealing processes should also be adopted for the cargo transported by the vehicles at the enterprise' service, in order to prevent them from spilling on the road, on people or on other vehicles.
This way, it is intended to avoid damage to the roads used (by excess weight or speed, for example), as well as undue interferences, such as excessively reduced speed, insufficient braking, emission of black smoke, emission of dust, situations of breakdown with the vehicles and obstruction of roads, stripping of tires and other incidents that may be caused. In addition, it should also be implemented:

- In all urban areas and intersections of public roads, as well as in the vicinity of highways, appropriate procedures should be adopted to ensure traffic control with signs and traffic safety measures in order to also safeguard possible passers-by and other vehicles not involved in the project activities.
- In order to minimize any inconvenience to neighboring communities, the use of access roads at peak times should be avoided whenever possible.

- If necessary, disclosure of relocations and redefinitions of local traffic and the definition of pre-established and local times for the entry and exit of vehicles for the project.
- Prior communication to road users affected by local traffic interventions.
- Signs in the vehicles serving the project clearly presenting the CONCESSIONAIRE information (logo) and free contact phone number, for communication and alerting the community about accidents and dangerous driving.
- Inclusion of speed reducers in trucks for the areas with the highest pedestrian flow such as shopping centers and places close to schools and hospitals.

4.3.4. Training and Capacity Building

Training and capacity building shall be developed on a continuous basis with drivers and traffic assistants in relation to the equipment to be used, roads to be used, operating procedures and procedures adopted based on the other measures foreseen for traffic control of project activities, pertinent traffic regulations and safe driving, as present in this Program.

4.3.5. Road Signs

The existing road infrastructure must be used to access the project's activity sites.
When applicable, there shall be adequate signs, pursuant to NR-26, by means of:

- Traffic signs with speed control signs, crossings, indication of the work, schools, pedestrian crossings, among others. The traffic signs should be made with reflective paint, obeying the standards established by the Brazilian CONTRAN Signaling Manual;
- Signs of support places: service fronts and other points used for activities;
- Signs to the accesses, circulation of vehicles, machines and equipment;
- Identify places for pedestrian crossing and vehicle crossings;
- Identify places for parking, loading and unloading of materials;
- Keep communication through notices, posters or similar;
- All signaling structures should maintain contact information.

4.3.6. Transportation of Materials, Equipment, Waste, Chemicals, Fuels and Lubricant Oil

The transportation of materials, equipment, waste, chemicals, fuels and lubricating oil and diesel fuel shall follow the following guidelines:

- Any utility, cargo transport vehicle, machine or equipment operating in reverse shall be equipped with an audible alarm coupled to the gear system and with mirrors in good condition;
- Vehicles shall be equipped with a radio or mobile phone for the driver, and shall have speed control with tachograph, thus proving compliance with speed limits on public roads and those established on the service fronts;
- Containment and sealing processes should also be adopted for the cargo transported by the vehicles at the project' service, in order to prevent them from spilling on the road, on people or on other vehicles.
- When transporting materials and equipment, trucks with bodywork that prevent accidental falls must be used, which may cause environmental and safety problems for the surrounding community;

Heavy vehicles shall have a hydraulic system that uses Type A (composed of primary and secondary safety devices) or Type B (primary and tertiary safety devices).

4.3.7. Attention to Pertinent Risks of Traffic Activities

- Risk of traffic accident (through the mobility of project teams): activity of greater frequency during the movement of vehicles or pedestrians;
- Risk of commuting accident (occasional commuting accident): high frequency activity during the movement of vehicles or pedestrians where workers move from their homes to work and from work to their homes.

Among other situations that may occur for activities related to traffic, the CONCESSIONAIRE should have the support for the situations, always with the due alignment to the pertinent Norms and Legislations and guidelines of the Socio-environmental Management System, as detailed in its other Programs. For this purpose, the CONCESSIONAIRE shall evaluate the adoption of online electronic control equipment of routes and speeds to be integrated with the management system and other control mechanisms of the project.

4.4. SOCIAL COMMUNICATION PROGRAM AND ENGAGEMENT WITH STAKEHOLDERS

4.4.1. Stakeholder Engagement (IP)

Identification and Analysis of Stakeholders

According to the segments of society identified, an analysis should be carried out on the degree of interest and influence that the actors may have on the project, in order to provide strategic bases for participation and engagement. The collection of information and analysis of IP should be carried out in two stages:

- Survey of general information from localities, including existing infrastructure, demographic data, available services, basic sanitation, social organization, living conditions, economic base, among other topics, which will allow an analysis of the global context, also allowing a clearer understanding of the vulnerability of the population and its susceptibility to the potential impacts of the project;
- Understanding of the characteristics of each Stakeholder based on the interactions performed.

It is relevant to point out that a Stakeholder Matrix is different from the Risk Analysis Matrix related to each of the Stakeholders, as explained below.

It is suggested to maintain a database containing only representatives of interest groups and stakeholders that are strategic for the development of activities by those responsible, provided that all interest groups of the project are covered.

To identify the level of risk associated with each PI, it is suggested to use a tool of the "Influence/Interest Matrix" type, because from this it is possible to define a strategy for action with the parties, through their classification in relation to the power they exercise and how much they are likely to show interest in supporting or opposing to a specific strategy.

Stakeholder engagement strategies

Engagement is one of the possible techniques to mitigate the risks involved in the project. It relates to involving the community in the project's implementation process in a way that brings understanding about the benefits of the strategy and ensures that this support is replicated in their communities and social groups.

Engagement requires dialogue and openness, a place for listening and speaking between the parties. Dialogue creates a zone of security and trust between the parties to move forward in achieving shared objectives. Once a relationship of trust has been established, there is likely to be less resistance in the course of the project. As effective strategies, it is proposed:

Engagement Strategy 01: holding meetings with representatives of public authorities (municipal and legislative government departments), control bodies and other actors (DISTRIBUTOR COMPANY, class entities, community councils, city leaders and academics) to meet with teams responsible for providing information and also to collect insights into the project guidelines.

Engagement Strategy 02: dissemination of the project on websites, portals and institutional social networks, publication of periodic press releases on the main advances of the project and press service to disseminate the main characteristics of the project and benefits to be assessed with the implementation of the project.

Engagement Strategy 03: To present the project and its benefits to the management of the CITY and, above all, the benefits and improvements to the quality of life and safety of the population, in addition to informing about the progress of the project, through the publication of news on the CONCESSIONAIRE website and the dissemination of news in the media with greater circulation in the city.

Engagement Strategy 04: To disseminate the main characteristics of the project and benefits to be achieved with its implementation, clarify the questions presented, gather perceptions and contributions, understand and respond to the main concerns of stakeholders about the project, convey the solidity of technical and legal studies and transmit the public interest and political will towards the project.

Engagement Strategy 05: Commitment to the lightning of monuments and public spaces and their surroundings, which promote greater use of these spaces (squares, sidewalks, circulation and permanence spaces of the population) and a greater sense of security. This strategy aims to demonstrate the public and collective gains of the Public-Private Partnership (PPP) strategy, allowing the lighting to be seen from the perspective of the appropriation of public spaces by users.

It should be noted that some information may also be disseminated by the CONCESSION AUTHORITY through a press conference, the publication of news in newspapers with wide circulation, the propagation of news on the website and social networks of the CONCESSION AUTHORITY.

4.4.2. Communication Program

These are the communication strategies that make it possible to expose and clarify the strategy defined by the CONCESSIONAIRE. An effective communication program takes into consideration who are the receivers of the message and what you want to communicate, and the message sent is fully understood by the receiver. In the age of mass information and through social networks and media, it is essential to have clear and objective strategies so that plans can be implemented more effectively. Communication allows:

- To establish links between the people and groups involved;
- To disseminate ideas and relevant information;
- To collect information for the development of the project.

The communication strategies are complementary to the engagement strategies, and it is expected that the combination of the two lines of action will be able to mitigate the risks mapped.

Since the first two stages are the responsibility of the CONCESSION AUTHORITY, it is essential that the CONCESSIONAIRE maintains active and open channels of communication for the participation of users, hearing complaints, among others.

Communication Strategy 01: Elaboration of digital material for dissemination in electronic media and social networks, such as small animated films, images and short texts. The possibility of replication of the material will be greater from the combination with engagement strategies. The material should clarify the benefits of the PPP for the population and all the communication actions that will be implemented by CONCESSIONAIRE.

4.5. HUMAN RESOURCES, EMPLOYMENT AND WORKING CONDITIONS PROGRAM

The actions of this program are defined by the legal precepts, provisions of the PD2 and good practices of Occupational Health and Safety (OHS) both in the national and international sphere. Bibliographical references and pertinent legislation to the subject are presented ahead in this program.

4.5.1. Descriptions of the Actions – Procedures

Below are the items and general guidelines for the implementation of the Human Resources, Employment and Working Conditions Program, highlighting that all impacts that arise from particularities not foreseen during the planning of project activities must be considered by the CONCESSIONAIRE throughout the life of the project.
Another aspect refers to the SGSA, which should encompass the activities and results of the SSO, grouped in a single system.

- Develop and implement a Human Resources Management System within the SGSA. The CONCESSIONAIRE should:
    - Develop and follow a Human Resources Policy and a Code of Conduct based on the objectives and goals of this Program. It should include human resource procedures

appropriate to its size and workforce, which define its approach to worker management in accordance with the requirements of the PD2 and national laws;

- Include in the HR Policy and Code of Conduct, to be followed by direct and indirect workers, explicit clauses on non-discrimination, inclusion, intimidation and/or exploitation, sexual harassment, gender-based violence and responsibility for reporting inappropriate behavior.
- Ensure periodic induction and training on HR Policy and procedures, Code of Conduct, local laws and workforce awareness of unacceptable conduct towards workers in general and local community members, specifically women. In such opportunities, the importance and responsibility of each worker to report inappropriate behavior through the complaints mechanism should be highlighted, particularly those related to gender-based violence, including, among others, sexual harassment;
- Ensure adequate inspection of the implementation of the HR Policy and Code of Conduct obligations, clearly indicating the premise of zero tolerance for gender-based violence;
- Make available workers in the quantity required to provide services and duly registered on the labor card;
- Provide workers with individualized, documented, clear and understandable information about their rights in accordance with national labor and employment laws and any applicable collective agreements, including their rights to working hours, wages, overtime, compensation and benefits at the beginning of the employment relationship and when any significant changes occur;
- Ensure that employment decisions are not made on the basis of personal characteristics unrelated to the requirements of the service, such as gender, race, national origin, ethnic, social and native origin, religion or belief, disability, age or sexual orientation. The employment relationship shall be based on the principle of equal opportunity and fair treatment and shall not discriminate in any aspect of the employment relationship, such as recruitment and hiring, remuneration (including wages and benefits), working and employment conditions, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. Special measures of protection or assistance to correct previous discrimination or selection for a particular job based on the requirements inherent to the service shall not be considered discrimination, as long as they are compatible with national legislation;

- Hiring employees and service providers, equipment, materials and inputs in accordance with current labor legislation, in compliance with specific labor, social security, tax, fiscal and occupational safety laws, as well as collective bargaining/convention/dissidence agreements for the professional category;

- Personnel Reduction: before making any collective dismissals, the CONCESSIONAIRE should make an analysis of alternatives for the reduction. If the analysis does not identify viable alternatives to personnel reduction, a reduction plan should be formulated and implemented to mitigate the adverse impacts of the cut on workers. The reduction plan must be based on the principle of non-discrimination and reflect the CONCESSIONAIRE's consultation with workers, their unions/organizations and comply with collective bargaining agreements, if any. The CONCESSIONAIRE shall observe all legal and contractual requirements relating to notification to public authorities and consultation and provision of information to workers and their unions;
- Make available previously trained labor for the function, promoting, periodically and at its expense, general and specific training of the entire work team, with record of evidence and presentation of annual schedule necessary to ensure the execution of the work within the desired levels of quality;
- Instruct workers on the need to comply with the guidelines of the CONCESSION AUTHORITY, including compliance with internal and occupational safety and medicine standards;
- Provide PPE and EPC equipment to all employees;
- Strictly comply with the safety engineering and occupational health norms, in accordance with the legislation in force, and always aiming at the prevention of accidents at work;
- To provide personal insurance against risks of accidents at work for direct workers;
- Assume all the responsibilities and take the necessary measures to assist its injured or suddenly ill personnel. In case of accidents, the CONCESSION AUTHORITY must be immediately notified by the CONCESSIONAIRE. The provision of information on accidents to the mass media bodies is exclusive the CONCESSION AUTHORITY.
- The CONCESSION AUTHORITY reserves the right to make other requirements to the CONCESSIONAIRE, through reasoned decisions, with respect to work safety, including considering any contractual changes, whenever it deems necessary for the protection of people, property and assets;
- Exercise control over the attendance and punctuality of its personnel;

- Supervise daily the personal hygiene and the cleaning of the workers' uniforms;
- Ensure that the team selected to provide the services that are the object of the contract meets the following requirements: qualification required for the function; compliance with legal requirements (licenses, certificates, legal authorizations, etc.), for the performance of the function; sufficient knowledge for the proper provision of services that are the object of the contract;
- Identify all personnel involved in rendering the services that are the object of the contract, ensuring that all employees are duly uniformed and carry, at all times, an identification badge with a recent photograph;
- Offer solutions, in the event of a strike of employees, that guarantee the minimum essential services determined by the CONCESSION AUTHORITY;
- Counting on labor safety technicians, who must stipulate the necessary guidelines for compliance with the rules in force in this area;
- Provide medical examinations, required by the rules in force, every 12 months or in shorter periods for the cases foreseen in specific legislation of a certain category;
- Control the state of health of the personnel responsible for providing the SERVICES, providing immediate replacement in the event of illness incompatible with the function performed;
- Present, when requested, a copy of the programs of medical control of occupational health - PCMSO and prevention of environmental risks - PPRA, containing at least the items in NR 7 and 9;
- Keep medical check-up before being hired and upon being discharged, periodicals, changes of function and return to work, as recommended in NR 7;
- Keep a record of safety and occupational health, as recommended in NR 32;
- Ensure that all workers receive timely notice of dismissal and the termination values determined by law and collective agreements. All payments due, social security contributions and benefits pending shall be paid (i) to the workers at the end of the labor relationship or before, (ii) when appropriate, for the benefit of the workers or (iii) the payment shall be made according to a schedule guaranteed by means of a collective agreement;
- Establish and implement an "emergency/contingency plan" in the event of possible deviations and non-conformities, such as interruptions in the supply of electricity, gas, steam, equipment breakdown, strikes and others, ensuring the maintenance of services;

- The Emergency Action Program should include, among others: (a) fire evacuation plan, with the performance of evacuation simulations, and subsequent evaluation that should measure the adequacy of the degree of training of the team and knowledge of the measures to be adopted; (b) alternative work schemes, in order to ensure the correct continuity of services provided. The Emergency Action Program shall be updated annually, adapting the obligations and guidelines imposed by the rules in force to the changes in the guidelines of the CONCESSION AUTHORITY, to the new technologies, among others. The CONCESSIONAIRE should consult local authorities such as the City Hall, Police, Fire Department, Civil Defense, among others, to define their strategies regarding safety at work, especially with regard to the preparation of the Emergency Action Program;
- Establish "risk prevention operating protocols" sufficiently in advance of the start of SERVICES. The protocols must incorporate instructions for the use of protective equipment appropriate to the activity to be performed. The CONCESSIONAIRE is responsible for the acquisition and use of such equipment, and is also responsible for training personnel in the use of first aid equipment, evacuation systems, fire protection systems, etc;
- Establish a predictive and preventive management system in SSO, linked to the SGSA;
- Maintain and support the Specialized Services in Safety Engineering and Occupational Medicine - SESMT, according to NR 04 (in its entirety);
- If it hires other companies to provide services in its establishment, the CONCESSIONAIRE may constitute common SESMT to assist the employees of the contractors, under its own management, as long as provided for in a Convention or Collective Labor Agreement;
- The SESMT of the contractors must have its operation evaluated every six months by a Committee composed of representatives of CONCESSIONAIRE, the workers' union and the Regional Labor Office, or in the form and periodicity provided for in the Convention or Collective Labor Agreement;
- Establish the Internal Commission for the Prevention of Accidents - CIPA, according to NR 05 (in its entirety)
- Implement a Program for the Supply of Personal Protective Equipment - PPE and Collective Protective Equipment - CPE, according to NR 06 (in its entirety), and other complementary NR;

- Obey, in the execution of the CONTRACT, the Regulatory Norms - NR - of Chapter V, Title II, of the Employment Law, relative to Safety and Labor Medicine of the MTB Ordinance no. 3.214 of 06/08/78, as well as all the other Regulatory Norms pertinent to each activity;
- Adopt the necessary measures aimed at minimizing the probability of accidents involving persons, property or assets, of the CONCESSIONAIRE, of the CONCESSION AUTHORITY or of third parties, complying with the requirements of work instructions to be prepared by the CONCESSIONAIRE;
- Have and keep updated a complete program of Workplace Safety, which may be requested by the CONCESSION AUTHORITY for analysis and proposal of recommendations and improvements;
- Bear the costs related to the inspection of specialized entities indicated by the CONCESSION AUTHORITY, with the purpose of verifying, on-site, the compliance with established safety determinations;
- Keep all its employees apt and prepared to develop their functions, by means of theoretical and practical training for the provision of first aid, as well as the correct use of fire extinguishing agents and personal and collective protection equipment;
- Keep strict work safety control over loading, unloading and transportation operations of any nature, material or personnel;
- Implement the Medical Control and Occupational Health Program - PCMSO, according to NR 07 (in its entirety);
- Implement the Environmental Risk Prevention Program - PPRA, according to NR 09 (in its entirety);
- Implement the Safety in installations and services in electricity, according to NR 10 (in its entirety);
- Implement the transportation, movement, storage and handling of materials, according to NR 11 (in its entirety);
- Implement occupational safety in machines and equipment, according to NR 12 (in its entirety);
- Guarantee the prevention of unhealthy activities and operations and dangerous activities and operations, according to NR 15 and 16 (in its entirety), respectively;
- Implement the Ergonomics Program, according to NR 17 (in its entirety);
- Implement the Work Conditions and Environment Program in the construction industry, pursuant to NR 18 (in its entirety);

- Implement the Open Pit Works, according to NR 21 (in its entirety);
- Implement the Fire Protection, according to NR 23 (in its entirety);
- Provide sanitary and comfort conditions in the workplaces, according to NR 24 (in its entirety);
- Implement the Safety Signs, according to NR 26 (in its entirety);
- Implement the Work at height, according to NR 35 (in its entirety);
- Implement the Workers' Complaint Mechanism (including its unions, outsourced and contractors);
- Implement the Occupational Equality Program without distinction of values, legally applicable;
- Develop and implement legal training and training/qualification for project activities, including: admissions, periodicals, change of function, return to work, preparations for work according to each NR, or other predictive cases;
- Identify and validate at each cycle the main risks (related to SSO) and controls of the project during the Modernization, Expansion, Operation and Maintenance of the PUBLIC LIGHTING System, considering, without restricting them:
    - Risks from natural electrical discharges (work on cloudy or rainy days);
    - Risk by electric shock (risk of proximity to the high and/or low voltage network, risk of electrocution due to technical non-compliance);
    - Risk of fall from height (by use of stairs, overhead baskets, hanging baskets and other classifications of NR 12; or risk of fall due to technical non-compliance);
    - Risk of falling materials (fall of installation, replacement, or modernization materials, as well as tools);
    - Risk of traffic accidents (through the mobility of modernization, expansion and/or maintenance teams during the project in urban or rural areas)
    - Risk of commuting accident;
    - Risk of conflict (such as during attempted robbery and/or assault), especially in areas with high rates of violence;
- Implement actions and training on exposure to diseases considering:
    - Exposure to hazardous materials such as chemical herbicides, to avoid interference of vegetation in the lighting system, lubricating vehicular oils, etc;
    - Risks related to the eventual need of transformers substitution, considering the norms related to the disposal of waste from Ascarel/PCBs oil, such as ABNT NBR 8371:2005;

- Risks of contamination by mercury;
- Implement actions for the transportation of materials, equipment, residues, chemical products, fuels and lubricant oil and diesel;
- Implement, as necessary, support areas to the service fronts for storage of equipment, materials and inputs for administrative and operational services, in addition to sufficient sanitary facilities for the number of people in service. During the activities, this area shall follow signs and communication guidelines with employees and other authorized persons;
- Promote the cleanliness of support areas and service fronts.

4.6. SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAM FOR MODERNIZATION, EXPANSION, OPERATION AND MAINTENANCE ACTIVITIES

The procedures presented are in line with the prevention, mitigation, compensation (if applicable), control and monitoring guidelines related to the environment and society, also proposing measures to reduce or correct the expected impacts.
It is important that the executive program systematize a set of managerial measures necessary to guarantee, improve and expand the project's socio-environmental performance according to the risks and impacts identified by the SGSA, using established methodologies considering checklist, field inspections and supervision, registration and consolidation of information, among others.

4.6.1. Noise Generation Guidelines

The movement of machinery, vehicles and equipment tends to generate noise. However, it should be noted that for IP system activities, they are small and temporary at first.
It should be verified in the planning of the activities the sources likely to generate noise more extensively and assess whether it is pertinent to propose a monitoring of the activities.
Noise monitoring, if necessary, should be carried out in accordance with relevant legislation, technical standards and specific guidelines with appropriate methodology for the activities in question. It is important to highlight that the monitoring will be conditioned to specific situations where the duration, type and place of work intensify the noise generation caused by the project activities and interfere with the well-being of the communities. This evaluation should be made during the project planning phase.

4.6.2. Guidelines for Activity Support Areas

The need to install a project support area should be assessed when planning activities. Such areas may be used for storage of equipment, materials, supplies, vehicle parking, outpatient and administrative services. It may also include sanitary facilities appropriate to the applicable legal requirements sized according to the number of people in service. The preparation of meals, laundry, accommodation, etc. will not be allowed in this area.

During the execution of project activities, the support area must follow the signs and communication guidelines with workers and other persons authorized to accompany the project:

- Signalize the support areas;
- Maintain communication with workers through notices, posters or similar;
- Signalize access, circulation of vehicles, machines and equipment;
- Alert and signalize the speed limit of vehicles and machines;
- Identify places for circulation and pedestrian crossing, vehicle crossing, escape routes and meeting points in case of emergencies;
- Identify places for parking, loading and unloading of materials, among others.

For the living areas of workers and employees, appropriate places should be installed in the squares for modernization and expansion of the PUBLIC LIGHTING system, when necessary. They must also contain an adequate place for meals and personal hygiene, sanitary facilities, drinking and cold water, garbage bins for selective collection, among other structures, according to the legal guidelines determined in NR 18.4.

For the bathrooms and dining areas, the Regulatory Norms of the Ministry of Labor and Employment, NR 24, which deals with sanitary conditions and comfort in the workplace, must be followed.

If necessary, for the storage of oil and fuel, appropriate tanks should be used, isolated from the drainage network and with containment dams of adequate capacity depending on the storage situation; if in the open, it should have a capacity of one and a half times the volume of the storage capacity, or if in a covered place, it should have the volume of the stored capacity. Storage devices must not have drains, unless these devices flow into another containment area or reservoir, where the entire spill can be contained.

Support areas and/or service fronts must also have a mitigation kit for oil spill accidents, which may occur during vehicle maintenance or activities involving heavy machinery, basically composed of absorbent materials (sawdust), tray and plastic canvas, glove, brooms, hoe and blades. This kit should be used to collect the oily residue to be packed in a drum according to the applicable legal requirements.

Effective noise abatement systems should also be adopted for the noisiest equipment, when necessary, such as enclosures, barriers, insulation, etc.

At the end of the activities, the support structures should be demobilized according to the actions foreseen in the Degraded Areas Recovery Program.

All waste and effluent generated in the support areas shall be treated according to the Solid Waste Management Program.

4.6.3. Guidelines for Cleaning the Service Front

Whenever a service is completed, the entire work area must be properly cleaned and cannot be left on site: hazardous products; waste disposed of outdoors; unprotected equipment; materials in general use; among other measures to ensure the safety and environmental quality of the site.

The areas served by a service shall always remain clean and adequate for the circulation of workers who need to transit in the surroundings of the area, paying attention to the proper placement of signs blocking access to the spaces and the maintenance of their organization, using the body compartments of the vehicle for temporary storage of waste, equipment and other actions necessary for the control and organization of the service fronts.

4.7. SOLID WASTE MANAGEMENT PROGRAM

4.7.1. Description of Actions (Procedures)

Solid waste management should meet the following basic premises:

- Reduction: replacement of materials used, technological changes, changes in procedures in order to reduce waste generation;
- Reuse: replacement of disposable items by reusable ones, such as rechargeable batteries, in order to avoid the generation of waste and additional costs with its acquisition and disposal;

- Recycling: reuse of waste that cannot be reduced at source, whose constituents present economic value and bring advantages such as: conservation of natural resources, reduction in the amount of waste thrown into the environment, source of additional income, reduction of costs with transportation, treatment and final disposal of waste.

The priority objective shall be the non-generation of waste and, secondarily, the reduction, reuse, recycling and, finally, the final disposal thereof.
The generator shall ensure the confinement of the residues after the generation, up to the collection and transportation stage, ensuring, in all possible cases, the conditions of reuse and sending for recycling.
The materials susceptible to recycling that present any kind of contamination shall not be sent to the recycling companies unless a decontamination process is previously applied to them. Otherwise, these materials should be disposed of in an appropriate manner.
Waste recycling should be encouraged and facilitated in order to reduce consumption of raw materials, non-renewable natural resources, energy and water.
For Modernization, Expansion, Operation and Maintenance activities, the CONCESSIONAIRE shall provide training and capacity building to workers, including all issues addressed by the Solid Waste Management Plan (PGRS).
It shall also adopt a program of order, arrangement, cleaning, maintenance and sanitation of the support areas, service fronts, vehicles and other facilities, specifying and qualifying the team exclusively dedicated to these activities, besides implementing a routine to minimize the generation of residues.

4.7.2. Identification of waste generation points

The main points foreseen for solid waste generation during the project activities are presented below:

- Sweeping – composed of solid waste from the sweeping of roads/access to the facilities and those impacted by activities, operational areas, and others;
- Offices and warehouses – paper, cardboard and plastic waste from the most diverse sources, free of contamination by chemical products or organic matter;
- Maintenance – material used in the workshop potentially contaminated with oil, stationary batteries, contaminated tow, fluorescent lamps, ferrous and non-ferrous

metal scrap, civil construction scrap (wood, concrete, earth, tires, etc.), grinding wheels and batteries;

- Support Areas, Service Fronts and Laboratories – various materials, such as paper, cardboard and plastic waste from various sources, lamps, electronic material; batteries; materials contaminated by chemicals and/or dangerous products; organic matter; construction scrap (wood, concrete, earth, tires, etc.);
- Outpatient (if any) - contaminated material from the medical clinic, such as syringes, bandages, gauze, ampoules, among others.

4.7.3. Waste classification

The classification of the waste shall be carried out in accordance with the following standards:

- CONAMA Resolution No. 307/02 – establishes guidelines, criteria and procedures for the management of civil construction waste, as well as its classification;
- CONAMA Resolution No. 358/05 – classifies solid residues from health services;
- ABNT NBR 10004:2004: Solid residues – Classification. This Standard classifies the solid waste as to their potential of impacts to the environment and to the public health, so that they may be adequately managed. The waste shall be identified, collected and segregated, according to their classification stipulated by the ABNT NBR 10.004/2004 standard and by CONAMA Resolutions Nos. 307/02 and 348/04. In accordance with the NBR 10.004/04 standard, solid waste are classified as: Dangerous (Class I), Non-Inert (Class II-A) and Inert (Class II-B);
- ABNT NBR 7500:2018 - Identification for land transportation, handling, movement and storage of products. This Standard establishes the conventional symbology and its dimensioning to identify dangerous products, to be applied in the units and transport vehicles and in the packages/volumes, in order to indicate the risks and the care to be taken in the terrestrial transport, handling, movement and storage.

Observe the inclusion of other Standards, Resolutions and Guidelines that are necessary to comply with this item. These norms have the following classification:

- **Class I – Hazardous waste:** These are those that present dangerousness, that is, risk to public health or to the environment when handled or disposed of incorrectly, such as

fluorescent lamps and used oils, or have one of the following characteristics: Flammability, Corrosivity, Reactivity, Toxicity and Pathogenicity.

- **Class IIA – Non-inert waste:** These are those that do not fit in the Class I or IIB Waste classifications. They may have properties such as: combustibility, biodegradability or solubility in water. Examples of these materials are wood, paper and cardboard.
- **Class IIB – Inert Waste:** These are the solid waste or mixture of solid waste that, submitted to the solubilization test (Norm NBR 10006 - "Waste Solubilization - Procedure") do not have any of their constituents solubilized in concentrations higher than the standards defined in List 8 - "Standards for the Solubilization Test". Examples of these materials are: rocks, bricks, glass and certain plastics and rubbers that are not easily decomposed. Inert waste must not be soluble or flammable, nor have any other type of physical or chemical reaction, and must not be biodegradable or adversely affect other substances with which it comes into contact in a manner likely to increase environmental pollution or harm human health.

The identification and codification of hazardous waste shall be made in accordance with the specificities of each product, by consulting the attachmentes of NBR 10.004 of 2004. Civil construction waste is classified, according to CONAMA Resolution No. 307/02, in: Class A, Class B, Class C and Class D, as follows:

- **Class A:** are the waste reusable or recyclable as aggregates, such as:
  - From construction, demolition, reforms and repairs of paving and other infrastructure works, including soil from earthworks;
  - From construction, demolition, reforms and repairs of buildings, ceramic components (bricks, blocks, tiles, coating plates, etc.), mortar and concrete;
  - From the manufacturing process and/or demolition of precast concrete parts (blocks, pipes, curbs, etc.) produced on the construction site.
- **Class B:** recyclable waste for other uses, such as: plastics, paper/cardboard, metals, glass and wood.
- **Class C:** waste for which no economically viable technologies or applications have been developed that allow its recycling/recovery, such as products from plaster.
- **Class D:** hazardous waste, such as: paints, solvents, oils, batteries, fluorescent lamps, hospital, including radioactive waste, from the radiography phases used in welding processes, among others, or those contaminated by hazardous or harmful agents, from

demolitions, renovations and repairs of industrial and other installations, as well as materials containing asbestos or other harmful products.

According to Resolution CONAMA No. 358/05, solid waste originating from health services is classified as: Group A, Group B, Group C, Group D and Group E, as follows.

- **Group A**: waste with the possible presence of biological agents that, due to their characteristics of greater virulence or concentration, may present a risk of infection. These are further subdivided into: A1, A2, A3, A4 and A5.
- **Group B:** waste containing chemicals that may present a risk to public health or the environment, depending on their characteristics of flammability, corrosivity, reactivity and toxicity.
- **Group C:** any material resulting from human activities containing radionuclides in quantities exceeding the disposal limits specified in the CNEN (National Nuclear Energy Commission) standards whose reuse is inappropriate or unforeseen.
- **Group D:** waste which presents no biological, chemical or radiological risk to health or the environment and which can be assimilated to household waste.
- **Group E:** perforating or scarifying materials.

4.7.4. Waste Handling

The handling of a waste is understood as any handling and movement from its place of origin to its final treatment or disposal.
In order to ensure safety in the process of handling the lamps, the recommendations below should be followed, without restricting them.

- PUBLIC LIGHTNING lamps containing mercury present a risk of contamination only if the discharge tube (“bulb”) is broken;
- Broken lamps (lampholders), in all phases of movement removed, stored and transported - should be handled with the appropriate protective equipment (PPE) (gloves, apron and plastic boots);
- When there is accidental breakage of a bulb in an enclosed place, the first step should be to open doors and windows so that the air circulates. The place should be cleaned, preferably by aspiration. The pieces should be collected in such a way as not to injure

those who handle them and placed in leakproof packaging, with the possibility of being sealed, in order to avoid the continuous evaporation of the mercury released;

- People should be prevented from eating and smoking during operations involving the handling of lamp waste and should undergo periodic medical examinations (including determination of the amount of mercury and neurological assessment) for those exposed repeatedly.

All handling involving waste must be performed by properly trained and qualified personnel according to the function developed, and the use of some Personal Protective Equipment (PPE) suitable for the tasks performed is required. In general, PPEs of mandatory use consist of:

- PVC gloves, waterproof, resistant, non-slip, preferably long and light colored;
- PVC boots, waterproof, resistant, with non-slip sole, low-cut, light colored;
- Goggles of protection;
- Respiratory mask for handling waste with potential to generate particles.

4.7.5. Segregation

This step consists in segregating the waste taking into account the chemical compatibility between them, in order to avoid undesirable reactions that result in adverse consequences to man, such as: generation of heat, fire or explosion, generation of smoke and toxic gases, generation of flammable gases and volatilization of toxic or flammable substances.

The wastes generated in the service fronts and support areas shall be collected daily and segregated according to the classes to which they belong, according to NBR no. 10.004/2004 and CONAMA resolution no. 307/02, altered by CONAMA resolution no. 348/04.

The collectors disposed in the support areas and service fronts shall be in conformity with the color code recommended by CONAMA Resolution no. 275/01, using devices such as: plastic drums, metal drums, big-bags, wooden bays and stationary buckets, covered with raffia or simple garbage bags, duly labeled and identified.

COLLECTOR COLOR	TYPE OF WASTE
BLUE	Paper and cardboard
RED	Plastic
GREEN	Glass
YELLOW	Metal
BLACK	Wood
ORANGE	Hazardous

WHITE	Outpatient and health services
PURPLE	Radioactive
BROWN	Organic
GREY	Not recyclable or mixed, or contaminated not separable.

Waste batteries and chemical packaging should be segregated separately from other waste.
After segregation, the waste must be transferred to the respective storage points, respecting the compatibility between products.

4.7.6. Storage and Packaging of Lamps

The storage of waste is understood as its temporary containment in an area authorized by the environmental control agency, waiting for recycling, treatment or adequate final disposal, provided it meets the basic safety conditions (ABNT - NBR 12235).
The waste storage shall consist of the physical location where it shall be deposited, pending an adequate destination.
The form of conditioning shall be compatible with the storage, transport and final disposal in order to avoid leakage and emanation of vapors harmful to people and the environment.
All waste should be conditioned in a safe manner and properly identified as to its nature, degree of risk, volume, origin and other specific guidance.
All waste classified as hazardous shall be conditioned according to NBR 11.564 of ABNT - Dangerous Products Packaging - Classes 1, 3, 4, 5, 6, 8 and 9 - requirements and test methods and Resolutions of ANTT No. 420/04, 701/04 and 1644, reissued on December 29, 2006, in the respective chapters of the packaging.
Its disposal shall be performed in covered, well ventilated areas, and the containers placed on a concrete base, in a contained area, in order to prevent the leaching and percolation of substances to the soil and underground water.
The packages used for the packaging hazardous chemical waste shall be duly labeled and contain information such as: name of the waste, characteristics, generating area, handling form, emergency procedures, etc.
The most commonly used forms for waste packaging are:

- Metal drums for solid waste without corrosive characteristics;
- Plastic drums for solid waste with corrosive or semi-solid characteristics in general;
- Plastic big-bags, usually made of braided polypropylene, with a storage capacity of over 1m3;

- Plastic containers, standardized in volumes of 120, 240, 360, 750, 1,100 and 1,600 liters, for waste that allow the return of the packaging.

Containers, drums and/or canisters intended for the packaging of waste shall comply with the following criteria:
They must be made of rigid material with rounded corners, so as not to allow liquids or other waste to leak;
To have physical resistance to small shocks;

- Be made of material compatible with the waste to be deposited in it;
- Be compatible with the transport equipment in terms of shape, volume and weight, in order to avoid accidents during transport;
- To have hinged covers to the equipment itself, ensuring its complete sealing;
- To present good conditions of use, without accentuated rust nor apparent structural defects;
- Always remain closed, except when handling the waste, either in addition or removal;
- Avoid the opening, handling or unsafe storage of containers containing hazardous waste (class I), in order to avoid leakage of the waste, rupture or damage to the container;
- Use of PPE by personnel responsible for operations of transfer, storage, addition, removal, opening and closing of containers containing corrosive, toxic or harmful waste to man;
- Identification attached to each container, glued in such a way as to resist handling of the waste, or any weathering during its shipment to storage;
- The packaging of health care waste should ensure that the contents of one package are not opened, broken or transferred to another.

In order to ensure safety in the lamp storage process, the following recommendations should be followed, without being restricted to them:
Storage should be in a separate area (waste separation principle) and demarcated;
Under no circumstances should the lamps be broken for storage, due to the risk of environmental contamination and human health;
Burnt-out or useless lamps must be kept intact, preferably stored in their original packaging, protected against possible mechanical shocks that may cause them to rupture, and stored in a dry place;

If it is not possible to reuse the original packaging, it should be provided packaging made of reused cardboard, cut and glued in a format compatible with the lamps. Or it is recommended to use old newspaper to wrap the lamps, protecting them from mechanical shock;

The packaging with the burnt-out intact lamps must be stored in any portable container in which the waste can be stored, transported, or otherwise handled, in order to avoid leaks in the event of the lamps breaking, or in appropriate boxes for transport (containers) provided by recycling companies;

Broken lamps (lampholders) must be packed in a drum (portable container), hermetically sealed, made with metal plate or plastic material (plastic drum style), internally covered with a special plastic bag to avoid contamination;

Each container must be identified in terms of its contents, and this identification must be carried out in such a way as to resist their handling, as well as the conditions of the storage area in relation to possible bad weather;

The storage location must comply with the conditions established by environmental agencies, as well as be properly signalized to prevent access by unauthorized persons. It is recommended to mark the area with the words “Recycling Lamps”;

The containers and/or drums must be in a covered, dry and well-ventilated area, and the containers must be placed on a concrete or other material base (pallets) that prevent the percolation of substances into the soil and underground water. It is recommended that the area also has a drainage system and collection of contaminated liquids;

At the end of the activities, the remaining containers and/or drums, as well as the bases and soil possibly contaminated, must be properly treated and/or cleaned.

4.7.7. Waste collection

The collection of waste must be carried out in an appropriate manner, in accordance with ABNT NBR No. 13.463/95 - Collection of Solid Waste, in order to facilitate the processes of storage, treatment and final disposal of waste.

The collection must be made daily with the areas that generate waste, these being disposed in appropriate collectors, made available in order to provide convenience to the user and ease in removing their content.

Civil construction waste classified as A, B and C must be collected in appropriate, clearly identified containers, located in the support areas and service fronts, from where they must be removed daily for disposal in larger containers, disposed of in a suitable place, while awaiting removal for transport.

4.7.8. Temporary storage of waste

The definition of waste storage is its temporary containment in an area authorized by the environmental control agency, waiting for recycling, treatment or final disposal.

Sufficient areas must be built in places previously approved by the responsible for the project, areas for temporary storage of class I, IIA and IIB waste, according to NBR No. 12235 and 11.174.

Temporary storage areas must be built in accordance with NBR no. 11.174 (Class II-A - Non-Inert and II-B - Inert Waste) or NBR no. 12.235 (Hazardous Solid Waste).

The storage of waste must be carried out in a covered area, duly signalized, away from surface water, with an adequate containment system, according to the type of waste being stored in it. The waste must not be stored directly in the soil. The site should also include fire prevention measures.

Temporary storage of waste must comply with the support capacity of the bays, so as not to compromise the safety of the environment and ensure order, cleanliness and tidiness.

The waste storage location must have:

- Isolation system that prevents access by strangers;
- Safety signs that identify the installation and the risks of access to the site;
- Defined, isolated and signalized areas for the storage of waste compatible with each other;

- Lighting and power, in order to allow an emergency action, even at night, allowing the immediate use of the necessary equipment;
- Internal and external communication system for emergency actions;
- Protection of internal and external access, carried out and maintained in order to allow its use under any climatic conditions;
- Containment system, free of cracks, sufficiently waterproofed to contain leaks and spills;
- PPE needed to protect workers involved in the waste handling operations deposited there;
- Safety equipment necessary for the types of emergency to which the location is subject, such as fire-fighting equipment;
- Operation record, maintained during its useful life, by means of reports on the movement and storage of waste available there.

The storage of waste with reactive and/or incompatible characteristics must be carried out separately, protected by dikes, berms, walls. Class II-A and II-B waste must not be stored together with Class I waste, given the possibility that the resulting mixture may be characterized as a hazardous waste. According to the classification of waste, storage will require differentiated practices, as follows:

Hazardous waste

Storage must be carried out according to manufacturers' instructions, in locations:

- Away from surface waters, wetlands and/or agricultural areas;
- Paved or with a base provided with waterproofing material.
- Covered, airy and with restricted access;
- Equipped with containment devices, such as barricades (bags) of sand or straw;
- Defined and authorized by the competent area in the company, responsible for the management of its solid waste.

Non-Inert/Inert Waste

These residues must be stored in covered containers or drums, containing external identification as to the type of waste contained therein.

4.7.9. Waste transportation

All waste transportation should only be performed with prior knowledge of the risks and handling characteristics of the same. Class I waste must be transported together with the Emergency Form.

Any waste that has to be disposed of outside the place where it was generated will have to be transported according to safety standards and by companies duly licensed and authorized for that purpose, guaranteeing the protection of the environment and public health, namely:

- NBR no. 13221/94 - Waste Transport - Procedure;
- NBR no. 7500/2000 - identification for land transportation, handling, movement and storage of products. It deals with the symbols of risk and handling for the transport and storage of materials.

Among the requirements to be met in relation to the transport of hazardous waste, the documentation that will accompany the waste to its destination must be included, as follows:

- CADRI (certificate of movement of waste of environmental interest);
- Emergency Form and Risk Label;
- Generator/Recipient Label;
- Envelope to contain shipping documents;
- Emergency Kit;
- Emergency Action Program - PAE.

In addition to meeting these standards, the activities involved in the transport of dangerous products must include:

- Monitoring of waste shipment operations;
- Verification of the vehicle's conservation conditions;
- Verification of the driver's training of the vehicle.

Completion of Waste Transport Registration Sheets, containing the requirements of the relevant technical standards and other information, with emphasis on the following information:

- Name, address and number of the Environmental License (if applicable) of the carrier and the recipient of the waste;
- Characterization of the waste (quality, quantity, type of packaging, packaging status, etc.);
- Planned route, with estimated time required;
- Checklist to verify compliance with the rules regarding color coding and symbols, PPE, forms of communication in case of accidents, etc.;
- Check of the waste receipt authorization document, issued by the competent environmental agency, in case of sending waste to other States, including verification of the validity of licenses.

All companies hired to transport the waste must have their situation regularized with the competent environmental agency. Transport companies must be able to comply with ABNT NBR no. 13.221, and those that come to transport hazardous waste (Class I, according to NBR no. 10.004) must also comply with NBR 14.064 and the regulation for the Road Transport of Hazardous Products, approved by Federal Decree No. 96.044/1988.
The vehicles used for the collection and external transportation of waste from health services must meet legal requirements and ABNT standards.

Transporting and Displacement of Lamps

The internal displacement process (in the same area of the generator) and the external transport of the lamp wastes should basically cover three phases:

- 1st Phase - Lamp removal: transport of the lamps removed from the place where they were installed to an intermediate/temporary storage location;
- 2nd Phase - Intermediate: transport of the lamps removed from the temporary/intermediate storage location to a central storage location awaiting recycling, treatment or appropriate final disposal;
- 3rd Phase - Final destination: transport from the central storage location to the recycling, treatment or appropriate final disposal company.

In relation to the external transport of Class 1 waste, the procedures of the technical standard ABNT NBR 13221: 2017 must be followed, which establishes the requirements for the land transport of waste, in order to minimize damage to the environment and to protect public health. In order to ensure safety in the transport process of the lamps, the following recommendations for external transport should be presented:

- Shipment identification (container, drum and boxes) with the following information:
- Date of loading;
- No. of lamps;
- Location from where the lamps were removed (source);
- Cargo destination;
- Transport according to the segregation criteria, which determine that these materials cannot be transported together with food products, drugs or products intended for human and animal use and/or consumption, or with packaging intended for these purposes;
- Protect against bad weather and do not tip the containers, to avoid the implosion of the lamps;
- The vehicles must have a closed body so that the wastes transported are not exposed;
- The vehicles must present, on the three sides of their bodies, information on the type of waste transported and identification of the company or CONCESSION AUTHORITY responsible for the vehicle. According to the technical standard ABNT NBR 7500/2018, there is no specific symbol for cargoes containing mercury, only one called “Toxic Substances”;
- In case of contracting the transportation service, to protect itself from future responsibilities and to control the transportation of waste, the generator must complete the CADRI, as established by the responsible agency;
- The transport of waste must comply with the specific environmental legislation (federal, state or municipal), if any, as well as must be accompanied by an environmental control document provided by the competent body and must inform the type of packaging.

When the final destination is recycling, transportation is generally carried out by the recycling company and, therefore, the responsibility passes to that company, except when there are joint and several liability agreements.

4.7.10. Waste treatment

Waste that due to technical impracticability cannot be recycled or recovered may be sent for proper treatment before being disposed of (if necessary), and the choice of treatment should take into account the least impact on the environment, according to the following order priority: a) procedures that promote energy treatment, b) other treatments and c) final disposal in regular landfills.

The following are the types of treatments most commonly used in the management of industrial solid waste:

- Incineration: a method that consists of burning materials at high temperature (above 900º C), mixed with a certain amount of air, for a predetermined period, with the objective of transforming them into inert material, while reducing their weight and volume;
- Composting: useful destination given to organic waste such as food scraps and garden waste, in order to avoid its accumulation in landfills and improve soil structure;
- Co-processing: process of thermal destruction of waste in industrial ovens duly licensed for this purpose, with energy use and/or use of raw materials.

Companies contracted for the treatment of waste must be duly licensed by the competent environmental agency.

With regard to waste from health services, the following must be treated according to CONAMA Resolution no. 358/05:

- **Group A1**: must be submitted to treatment processes in equipment that promotes the reduction of microbial load compatible with level III of microbial inactivation, being sent to a licensed sanitary landfill;
- **Group A4**: can be sent without prior treatment to a duly licensed place for final disposal of health care waste;
- **Group A5**: must undergo specific treatment guided by ANVISA;
- **Group B**: waste with hazardous characteristics, when not subjected to a process of reuse, recovery or recycling, must undergo specific treatment and final disposal;
- **Group C**: any materials that contain radionuclides in quantities above the exemption limits specified in the CNEN-NE-6.02 - Licensing of Radioactive Installations, and for

which reuse is inappropriate, are considered radioactive waste and must comply with the requirements defined by CNEN;

- **Group E**: must have specific treatment according to chemical, biological or radiological contamination.

4.7.11. Final disposal of waste

The most common destinations for treated waste are:

- **Industrial Landfill Class I**: refers to a technique for the disposal of hazardous industrial waste in the soil, without causing damage or risks to public health, minimizing environmental impacts. This method uses engineering principles to confine hazardous waste in the smallest possible area and reduce it to the smallest permissible volume, covering it with plastic canvas followed by a layer of earth;
- **Industrial Waste Landfill Class II-B**: refers to a technique for disposing of inert industrial waste on the soil, without causing damage or risks to public health and safety, minimizing environmental impacts. This method uses engineering principles to confine waste to the smallest possible area and reduce it to the smallest allowable volume.

Civil construction waste may not be disposed of in household waste landfills, in “throw out” areas, on slopes, water bodies, vacant lots and in areas protected by law, as established by the legislation in force.
Construction waste should be disposed of in the following ways:

- **Class A**: must be reused or recycled in the form of aggregates, or sent to landfill areas for construction waste, being disposed in such a way as to allow their future use or recycling;
- **Class B**: must be reused, recycled or sent to temporary storage areas, being arranged in such a way as to allow their future use or recycling;
- **Class C**: must be stored, transported and destined in accordance with specific technical standards;
- **Class D**: must be stored, transported, reused and destined in accordance with specific technical standards.

The companies receiving the waste, responsible for its final destination or treatment, must provide the person responsible for waste management with the Certificate of Receipt, Treatment or Final Destination given to the waste, as well as a copy of the authorization to receive the waste, issued by the competent environmental agency when destined for other States.

The collection or final destination of the waste for disposal must follow the following periodicity:

- Quarterly collection during Phases I and II;
- Annual collection throughout Phase III.

The contracted party must have the necessary licenses and/or authorization for the proper final disposal of civil construction waste, presenting the proofs of this in its periodic reports and keeping the record updated and available.

Final destination of lamps

Recycling is the most environmentally appropriate option for the disposal of lamps containing mercury after use.

In lamp recycling, the main objective is the recovery of mercury and other elements contained in them for later reuse, avoiding soil contamination. Aluminum, glass and phosphorous powder can be reused both in the manufacture of new lamps and in the production of other products. The rest of the decontaminated material, which cannot be recycled, can be disposed of in a regular landfill.

In order to ensure safety in the final destination of the lamps, the following recommendations should be followed, without being restricted to them:

- Lamps containing mercury and other toxic components, considered useless to PUBLIC LIGHTING installations, must have an appropriate final destination so as not to endanger the environment and the health of citizens;
- Useless lamps should preferably be sent to companies specialized in recycling lamps containing mercury, duly accredited by the environmental agency;
- In the case of the absence of a company specialized in lamp recycling, or the absence of an appropriate place to make the final disposal of the waste (industrial landfill - class I), the generator of the lamp waste must contact the district environmental agency or the local public cleaning company (solid waste), to request guidance and cooperation to find the best solution for the final disposal of the waste.

After the correct final destination of the lamps, the responsible company must be duly licensed/regularized and issue a Certificate of Receipt and Responsibility that informs the correct final destination of the lamps. It should be noted that under the Environmental Crimes Law, the CONCESSIONAIRE may be co-responsible in the event of environmental damage, which is why it must have evidence on the treatment of the waste. The certificate must inform the lamp models (type and power) and the respective quantities sent or contained in the received batch.

4.7.12. Control

The generation, receipt and final disposal of waste must be controlled through the Solid Waste Management Program to be prepared to comply with the licensing of the activity with the responsible agency and in compliance with PD 1.
The CONCESSIONAIRE shall ensure, through a contractual clause and the inspection of activities, that the subcontractor(s) adopt(s) the procedures prescribed in this Program.

4.8. COMMUNITY HEALTH AND SAFETY PROGRAM

The CONCESSIONAIRE shall assess the risks and impacts on the health and safety of the Communities potentially affected during the life cycle of the project and shall establish prevention and control measures in accordance with international good practices in the sector (BPIS). The CONCESSIONAIRE shall propose mitigation measures that are compatible with the nature and magnitude of the previously identified impacts and risks. These measures will give priority to prevention and, if not feasible, to minimizing risks and impacts. Eventually, the CONCESSIONAIRE will still have to compensate for irreversible risks and negative impacts.

4.8.1. Main Activities that Generate Risks and Impacts for Communities and General Procedures

The following activities may contribute to the triggering of accidents (including fatalities) at the interface with the community/territory:

- Risks due to natural electrical discharges (working on cloudy or rainy days): bad weather can cause accidents (including fatalities): scenarios must be identified in the PAE and emergency actions must be strictly followed;

- Risks due to electric shock (risk of proximity to the high and/or low voltage network, risk of electrocution due to technical non-compliance): workers must strictly follow the maintenance and cleaning procedures of the service fronts, not leaving dangerous products in the places; waste disposed of in the open; equipment without protection; materials for general use left without proper disposal; among other measures that guarantee the safety and environmental health of the place;
- Risks from workers falling from heights, materials and equipment (such as tools): they can reach passers-by and cause accidents (including fatalities); workers must strictly follow safety procedures and use the PPE and EPCs necessary to prevent NR12 risks;
- Traffic accident risks (due to the mobility of field teams during the project in urban or rural areas): workers must strictly follow the procedures related to traffic safety and preventive maintenance of vehicles;
- Transport of materials, equipment, waste, chemicals, fuels and lubricating oil and diesel: they can lead to leaks and dispersion in areas without containment, with potential contamination and risks associated with the health of communities or ways of life if they impact ecosystem services; workers must strictly follow traffic safety procedures.
- With regard to the Community's exposure to diseases, the following should be considered:
- Exposure to hazardous materials such as chemical herbicides, lubricating carrier oils, fuels, etc .;
- Risks related to the possible need to replace transformers without considering the rules regarding the disposal of waste from Ascarel oil, such as ABNT NBR 8371:2005;
- Risks of mercury contamination of workers, communities and the environment, and the requirements of the Solid Waste Management Program must be strictly followed.
- Specifically, to the Community's risk of accidents, especially in areas of high violence, property safety must be taken into account. Professionals must be rigorously trained in the objectives and procedures of the "Manual of Good Practices - Use of Security Forces: Assessment and Management of Risks and Impacts Guidance for the Private Sector in Emerging Markets" (IFC, 2017), based on an analysis of the risks generated by its security agreements for people, whether they are inside or outside the project site. This analysis should include the risks arising from the use, by the project, of government officials responsible for security assigned to provide security services. When establishing security agreements, the Concessionaire must be guided by the principles of proportionality and international good practice with regard to hiring, standards of

conduct, training, equipment and monitoring of these workers and be in compliance with the applicable legislation. It should also ensure that security service providers have received adequate training in the use of force (and, where applicable, the use of firearms) and how to behave appropriately towards workers and Affected Communities, requiring such service providers to act within applicable law. The use of force should not be allowed, except when it is used for preventive and defensive purposes and to a degree proportional to the nature and extent of the threat;

The complaint mechanism for Affected Communities should be periodically disclosed so that they can express their concerns about security agreements and actions by security personnel, as well as their complaints regarding the project and its impacts and/or the performance of their workers. The management of this mechanism should follow the guidelines and procedures defined in the Communication and Engagement with Stakeholders Program.

4.9. EMERGENCY ACTION PROGRAM (PAE)

4.9.1. Potential Action Scenarios

Among others, some of the main potential action scenarios are mentioned:

- Fall of tree or part of vegetation on pole, luminaire; electrical wiring or other service provision;
- Falling of tools or equipment in workers, passers-by or animal or motor-driven vehicles;
- Falling of lifting equipment for people (aerial basket or suspended basket or attached basket);
- Locking equipment for lifting people at height;
- Falling of cargo lifting equipment;
- Cargo tipping during transport;
- Falling person during work at height;
- Person hanging on electrical wiring;
- Traffic accident during the transportation of people, materials and equipment in all modernization, expansion, operation and maintenance activities of the project;
- Electric shock (workers and communities);

- Atmospheric discharge in equipment or electrical wiring (or other service);
- Atmospheric discharge in person;
- Pole fall;
- Burial of person or equipment;
- External situations such as fires, seismic movements and floods;
- Among others.

4.9.2. Description of Actions (Procedures)

The detailed procedures of the PAE will be required from the CONCESSIONAIRE in order to attend to any accident or emergency scenario during the activities. Thus, the program must contain, at least, the following items:

- Procedures for consultation and alignment of all measures with the Civil Defense operating at the project site;
- Procedures for structuring the response plan within the PAE involving Civil Defense;
- Procedures for identifying those responsible for communicating and cataloging the phones/contacts of local and non-local Hospitals (specialized or clinical), Civil Defense phones, Fire Department, Civil Police, Military and Army (if any), phones/contacts of neighbors/communities potentially exposed to the specific action scenario;
- Procedures for identifying those responsible for communicating and cataloging the phones/contacts of third parties who have resources useful to the emergency response plan, such as: private or government ambulances; air ambulances; ambulance boat; water trucks; buses, among others;
- Registration in the PAE of the potential facilities involved and/or locations of operation (contact phone, email, WhatsApp, address, number of people in this location, opening hours, if there is any substance or device in this location that may aggravate the action scenario);
- Procedures for potential action scenarios and simulated as response training;
- Procedures for the potential action scenarios and the control processes for each including the appropriate human and physical resources;
- Procedures for potential action scenarios considered as insurance claims, accidents or incidents involving the community/territory or affecting or depleting;
- Procedures for accidents resulting from natural or external causes, such as flooding, seismic movements, fire, etc.;
- Definition of the procedure for each response plan to the coverage area and limitations of the plan;
- Description of the organizational structure of the PAE's human resources, considering the roles and responsibilities of those involved, making clear the name, telephone number and home address;

- Definition of the flowchart of activation of human or physical resources, proportional to the response plan for each action scenario;
- Within each response plan, the action scenarios must have minimally emergency situations compatible with the scenarios of potential insurance claims, accidents and incidents, according to the expected impacts, considering assessment procedures, emergency control (firefighting, isolation, evacuation, leakage control, etc.), contemplating the recovery actions after mitigating the action scenario;
- Procedure for the minimum necessary human resources and their respective training, capacity building and/or qualifications; as well as describing the material resources needed for the PAE;
- Procedure for the integration of the PAE with other institutions to maintain response plans to action scenarios;
- Identification of the form of communication and dissemination of this integration to the communities/territories potentially affected;
- Description of the training plan for those responsible for the PAE and those potentially affected (direct and indirect workers, as well as those in the supply chain) as well as Civil Defense and interested parties (when applicable) in case of emergencies, insurance claims, accidents and incidents;
- Definition of the schedules of theoretical and practical exercises, according to the different estimated potential action scenarios;
- Definition of the insurance claim, accident or incident communication plan to the stakeholders (Civil Defense, CONCESSIONAIRE, public agencies, community, among others);
- Inclusion, in the PAE, of attached documents such as location plans of the facility/service front and layout, including bordering land uses, people from the community at risk, activation lists (internal and external), equipment lists, communication systems and alternative electricity sources, reports, etc.

4.10. TURTLE SPAWNING PROGRAM

The objective of this topic is to establish a reference for the attendance and the adaptation to the technical norms, laws and current environmental recommendations, regarding the elaboration of PUBLIC LIGHTING projects in turtle spawning areas.

For the correct elaboration of the program, the CONCESSIONAIRE must follow the guidelines detailed in the subsequent items. In the program, the procedures for the assessment, elaboration and specification by the CONCESSIONAIRE in the PUBLIC LIGHTING projects on the edge of the MUNICIPALITY, with emphasis on the turtle spawning areas, as indicated by the competent environmental agencies, should be provided throughout the CONCESSION TERM.

Upon preparation, the CONCESSIONAIRE shall integrate into the document all necessary practices, which shall be adopted during the CONCESSION TERM in order to:

- Adapt all procedures to the applicable rules, laws and recommendations, with all authorities: municipal, state and federal;
- Ensure that the procedures are in accordance with the applicable rules and legislation, with all authorities: municipal, state and federal;
- Minimize the environmental risks due to the PUBLIC LIGHTING SERVICE;
- Promote environmental awareness and encourage the CONCESSIONAIRE employees' participation and involvement.

The procedures described in the program must comply with the specifications and guidelines of the environmental monitoring and control bodies and of the environmental legislation in force.

In the elaboration of the program and for the execution of the SERVICES belonging to the CONCESSION scope, the CONCESSIONAIRE will have to adapt, at least, to the laws listed in the topic “Compliance with legal requirements” of this attachment, as well as to the possible updates or new publications that may appear throughout the CONCESSION TERM.

When applicable, the CONCESSIONAIRE must consult the competent authorities, such as ICMBIO, Centro TAMAR and others, in order to validate the need to adapt the projects to technical requirements.

5. GENERAL GUIDELINES

Programs proposed within the SGSA must follow the general guidelines set out below.

5.1. Goals and Indicators

The socio-environmental goals must be presented when detailing each proposed program, and according to the planning of activities to be carried out by the CONCESSIONAIRE.
The socio-environmental indicators must be presented when detailing the activities in the planning to be carried out by the CONCESSIONAIRE.
The INDEPENDENT VERIFIER will be responsible for assessing whether the goals and indicators proposed by the CONCESSIONAIRE are sufficient to meet the requirements of SGSA and PGS and to verify by sampling the fulfillment of socio-environmental requirements in the field.

5.2. Target Audience

The “stakeholders”, that is, people or groups directly or indirectly affected by the project, as well as those who may have different interests and/or the ability to influence its outcome, either positively or negatively.
The CONCESSIONAIRE must carry out the identification of the target audience during the structuring of each Program. Programs can be represented by several segments, which include, but are not limited to:

- USERS, the CONCESSION AUTHORITY, the CONCESSIONAIRE, the INDEPENDENT VERIFIER, DISTRIBUTOR COMPANY, RELATED PARTIES, State and Federal Government, class leaders and entities, supervisory/regulating bodies, press, universities;
- Citizens and communities impacted by the project;
- Suppliers or subcontractors;
- CONCESSIONAIRE team and its collaborators in integration with the CONCESSION AUTHORITY. Direct and indirect workers (subcontractors);
- MUNICIPALITY government departments, institutional representatives and the population of the benefited neighborhoods and their leaders and representatives;
- Drivers, traffic assistants, potentially affected communities and public bodies responsible for managing public roads.

5.3. Material and Human Resources

The CONCESSIONAIRE must have in its technical framework an internal team and/or consultants who are responsible for the subject and activities of the program. It is noted that the hiring of a minimum internal team with qualification and previous experience, including representative(s) from the senior management, is essential to ensure well-defined lines of responsibility and authority; and/or the hiring of external consultants/specialists to assist in the process of identifying risks and impacts, among other specific tasks, such as socio-environmental management, social communication, vegetation analysis, among others that may be necessary for the project.

Professionals with direct responsibility for the socio-environmental performance of the project must have the necessary knowledge, skills and experience, including knowledge of the legal requirements and the applicable requirements of Performance Standards 1 to 8. The main socio-environmental responsibilities must be clearly defined during the planning of activities and communicated to the rest of the CONCESSIONAIRE's organization, and sufficient management support and human and financial resources must be provided in a constant manner in order to achieve effective and continuous socio-environmental performance.

In addition, the CONCESSIONAIRE must also minimally follow the composition of the SESMT according to NR-4 - specialized services in safety engineering and occupational health.

5.4. Compliance with legal and/or other requirements

The CONCESSIONAIRE must comply with the current rules and legislation in all its Programs, as well as possible updates.

The following are the minimum legal requirements for the programs: Socio-environmental Management Program for Modernization, Expansion, Operation and Maintenance Activities, Solid Waste Management Program and Turtle Spawning Program:

- Federal Law No. 6.938/1981 - Provides for the National Environment Policy, its purposes and formulation and application mechanism.
- CONAMA Resolution No. 001/1986 - Deals with the basic criteria and general guidelines for the use and implementation of the Environmental Impact Assessment as one of the instruments of the National Environment Policy.

- Federal Law No. 9.605/1998 - Provides for criminal and administrative sanctions derived from conduct and activities harmful to the environment, and other measures.
- Federal Decree No. 6.514/2008 - Repeals Federal Decree No. 3.179/1999, which provides for administrative infractions and sanctions for the environment, establishes the federal administrative process for investigating these infractions, and takes other measures.
- Federal Law No. 10.165/2000 - Amends Federal Law No. 6.938/1981, which provides for the National Environment Policy, its purposes and formulation and application mechanisms.
- CONAMA Resolutions No. 357/2005 and No. 430/2011 - Provides for the classification of water bodies and environmental guidelines for their classification, as well as establishing the conditions and standards for the discharge of effluents, and other measures.
- Federal Decree No. 6.514, of July 22, 2008. Environmental Crimes Law. Provides for administrative infractions and sanctions to the environment, establishes the federal administrative process for investigating these infractions, and takes other measures;
- Federal Law No. 12.305/2010 - Institutes the National Solid Waste Policy alters Law No. 9.605, of February 12, 1998 and provides other measures;
- MINTER Ordinance 53/1979 - Regulates on hazardous solid waste;
- CONAMA Resolution No. 006/1988 - Regulates waste inventories;
- CONAMA Resolution No. 275/2001 - Color Code for different types of waste;
- CONAMA Resolution No. 307/2002 - Guidelines and Criteria for the Management of Solid Waste from Civil Construction;
- CONAMA Resolution no. 313/2002 - National Inventory of Industrial Solid Waste;
- CONAMA Resolution no. 348/2004 - Complement of CONAMA Resolution no. 307/04;
- CONAMA Resolution No. 362/2005 - Management of used oils and recovery of the constituents contained therein;
- ABNT NBR 10.004/04 - Waste Classification;
- ABNT NBR 11.174/1990 - Regulates the storage of solid waste class II - non-inert and III - inert;
- ABNT NBR 11.175 - Incineration of hazardous solid waste;

- ABNT NBR 12.235 - Regulates the storage of hazardous solid waste;
- ABNT NBR 12.807 - Standardizes the terminology of health service waste;
- ABNT NBR 12.980 - Collection, sweeping and packaging of solid waste;
- ABNT NBR 13.463 - Collection of solid waste;
- ABNT NBR 14064 - Emergency Plan for Transport of Dangerous Products.
- ABNT NBR 15.112 - Construction waste and bulky waste - Transshipment and screening areas - Guidelines for design, implementation and operation;
- ABNT NBR 15.113 - Solid waste from civil construction and inert waste - Landfills - Guidelines for design, implementation and operation;
- ABNT NBR 15.114 - Solid waste from civil construction - Recycling areas - Guidelines for project implementation and operation;
- ABNT NBR 7.503:2018 - Land transport of dangerous products - Emergency form and envelope - Characteristics, dimensions and filling);
- ABNT NBR 9.191:2008 - Plastic bags for waste disposal - Requirements and test method;
- ABNT NBR 10.007:2004: Sampling of solid waste. This Standard sets out the requirements for sampling solid waste;
- ABNT NBR 12.235:1992: Storage of solid hazardous waste - Procedures;
- ABNT NBR 13.221:2017: Land transport of waste. This standard establishes the requirements for the transportation of waste, in order to minimize damage to the environment and to protect public health;
- ABNT NBR 16.182:2013: Packaging and wrapping - Symbols of orientation for selective disposal and identification of materials;
- ANP Ordinance No. 125 of July 30, 1999 - Regulates the activity of withdrawing, collecting and disposing of used or contaminated lubricating oil;
- ANP Ordinance No. 127 of July 30, 1999 - Establishes the regulation for the collection of used or contaminated lubricating oil to be exercised by a legal entity based in the country, organized in accordance with Brazilian law.
- CONAMA Resolution No. 10 of 10/24/1996 (environmental legislation on beaches where turtles are spawned, Law No. 6,938 / 81 and Decree No. 99,274 / 90);
- IBAMA Ordinance No. 11, of January 30, 1995;
- Normative Instruction ICMBio nº 07/2014;
- Turtle Licensing Guide - MMA (2017);
- Photo polution guide prepared by the TAMAR Project;

- National Action Plan for Turtles Conservation (ICMBio-2011).

5.5. Project steps and execution schedule

The schedules of the socio-environmental programs must be presented when detailing each proposed program, and according to the planning of activities to be carried out by the CONCESSIONAIRE. The execution of the programs must occur throughout the concession period.

5.6. Systems and Registrations and Follow-up

The registration and follow-up system must be physical and electronic, it is worth mentioning that the SGSA must be integrated with the Central Management System.

As instruments for monitoring and evaluating the Programs, periodic reports should be prepared, describing the activities and critically analyzing the progress of the actions, and a final report covering the synthesis of the results. This monitoring should be part of the Service Execution Report, in accordance with ATTACHMENT 5.

In the case of legal documents, there are those that need to be filed for 20 years, as is the case with PPRA - NR 09; some other workers are subject to 5-year custody, according to CLT. All these records are the responsibility of the CONCESSIONAIRE and in case of the existence of contractors, the control of their records must also be carried out.

The INDEPENDENT VERIFIER may carry out audits to assess the mechanisms for recording and monitoring activities, as well as accessing the CONCESSIONAIRE's systems for carrying out follow-ups. During the Planning phase, the CONCESSIONAIRE must submit the Program follow-up model for approval by the INDEPENDENT VERIFIER.