ATTACHMENT 4
SERVICES AND INVESTMENTS SPECIFICATIONS OF THE CONCESSIONAIRE

TABLE OF CONTENTS

1. INTRODUCTION 3
2. LIST OF SERVICES AND INVESTMENTS 3
3. REGISTRY OF THE MUNICIPAL STREET LIGHTING NETWORK 3
4. LIST OF REVERSIBLE ASSETS 8
5. PLANS OF THE MUNICIPAL STREET LIGHTING NETWORK 11
6. CLASSIFICATION OF MUNICIPALITY ROADS 21
7. MODERNIZATION AND STREAMLINING ENERGY GUIDELINES 28
8. EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK ..... **Error! Bookmark not defined.**
9. IMPLEMENTATION OF SPECIAL LIGHTING ..... **Error! Bookmark not defined.**
10. IMPLEMENTATION OF THE TELEMANAGEMENT SYSTEM 52
11. IMPLEMENTATION AND OPERATIONALIZATION OF OPERATIONAL CONTROL CENTER (CCO) 55
12. PERFORMANCE OF MAINTENANCE SERVICES 61
13. TREE PRUNING 69
14. OPERATIONAL AND ORGANIZATIONAL STRUCTURE 72
15. PPP TRANSPARENCY PROCESS 77
16. PROCEDURES OF ACCEPTANCE AND CHECK TERMS 80

1. INTRODUCTION

1.1. This ATTACHMENT objectively details the CONCESSIONAIRE's responsibilities, specifying performance demands, scope of activities, minimum requirements, associated deadlines, among other elements for the execution of the SERVICES throughout the CONCESSION TERM.

2. LIST OF SERVICES AND INVESTMENTS

2.1. The scope considered for this CONCESSION covers the SERVICES listed below, which will be detailed in the subitems that follow.

i. Preparation of the BASE REGISTRY and permanent updating of the REGISTRY;

ii. Preparation of the OPERATION AND MAINTENANCE PLAN (POM), the MODERNIZATION PLAN (PM) and the OPERATIONAL DEMOBILIZATION PLAN (PDO);

iii. MODERNIZATION AND STREAMLINING ENERGY of STREET LIGHTING POINTS;

iv. Implementation of the TELEMANAGEMENT SYSTEM;

v. Implementation and maintenance of SPECIAL LIGHTING;

vi. Implementation and Operationalization of OPERATIONAL CONTROL CENTER (CCO);

vii. Execution of maintenance services for the MUNICIPAL STREET LIGHTING NETWORK;

viii. Implementation and Operation of the Operational and Organizational Structure;

ix. Performance of EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK;

x. Disclosure of the main information and documents pertaining to the CONCESSION.

3. REGISTRY OF THE MUNICIPAL STREET LIGHTING NETWORK

3.1. The purpose of this chapter is to present the guidelines that should be followed by the CONCESSIONAIRE to prepare and update the REGISTRY throughout the CONCESSION TERM. The REGISTRY should be prepared by the CONCESSIONAIRE by carrying out a

physical inventory in the CONCESSION AREA and based on the guidelines and deadline indicated in this ATTACHMENT.

3.2. The REGISTRY approved by the INDEPENDENT CERTIFIER, according to the guidelines of the topic **Error! Reference source not found.** of this ATTACHMENT, shall be an integral part of the CONTRACT AGREEMENT.

3.3. The CONCESSIONAIRE will undertake full responsibility for preparing, maintaining and updating the REGISTRY during the CONCESSION TERM, and should carry out its integration with the other operating systems that will integrate the OPERATIONAL CONTROL CENTER (CCO). The CONCESSIONAIRE shall provide access, in real time and in full, to the REGISTRY for the GRANTING AUTHORITY and the INDEPENDENT CERTIFIER. Upon request, the CONCESSIONAIRE should present the REGISTRY to the ENERGY DISTRIBUTION COMPANY.

3.4. The management of the REGISTRY should provide a wide range of consultation and reporting options, including the issuance of maps at different scales, ensuring full monitoring of the MUNICIPAL STREET LIGHTING NETWORK. The direct export of the information contained in the REGISTRY to commercial applications of CAD, GIS, data bases and for the production of documents in MS-Office and CSV format should also be allowed.

3.5. SERVICES relating to the REGISTRY comprise the collection, registry, maintenance, rectification, and updating of data regarding the identification, characteristics, quantification and individualized geographic positioning of all STREET LIGHTING POINTS, switchboards, transformers, and other components that make up the MUNICIPAL STREET LIGHTING NETWORK, with the respective locations and physical, technical, and operating characteristics.

3.6. The CONCESSIONAIRE shall enter in the REGISTRY and keep updated, at least, the following data for each STREET LIGHTING POINT:

i. Location characterization:

   a. Address of the street of the STREET LIGHTING POINT, and for a point with an unidentified street, the address closest to the point should be registered;

   b. District;

   c. Municipality macro-region (urban or rural area);

   d. STREET LIGHTING POINT number;

   e. Georeferenced position (latitude, longitude);

f. Photographic record of the STREET LIGHTING POINT;

g. Definition of the STREET LIGHTING POINT (Conventional, TERMINAL STREET LIGHTING POINT, ISOLATED STREET LIGHTING POINT), according to the terms defined in the CONTRACT AGREEMENT;

h. Transformer code, even if it is an asset of the DISTRIBUTION COMPANY, to which the STREET LIGHTING POINT is connected.

ii. Characterization of road:

a. Road class (Fast Transit, Thoroughfare, Collector or Local);

b. LIGHTING CLASS of vehicle lane (V1, V2, V3, V4 and V5);

c. LIGHTING CLASS of crosswalk (P1, P2, P3 or P4);

d. Indication if the STREET LIGHTING POINT is located in a SPECIAL AREA;

e. Indication of potential obstruction of the luminous flux of the STREET LIGHTING POINT in the measurement span, by external elements (tree individuals, signage, private lighting, etc.);

f. Level of obstruction of the luminous flux of the STREET LIGHTING POINT by (minimum, partial or total) external elements (trees, signage, private lighting, etc.).

iii. Lamp and LUMINAIRE:

a. Main purpose of the lighting (road, pedestrian, BIKE LANES, squares, parks, footbridge, CROSSWALK, SPECIAL LIGHTING, tunnels, others);

b. Type of LUMINAIRE (road standard, decorative, projector, embedded in the ground, safety cone or other types);

c. Lighting technology (LED, sodium vapor, metallic vapor, etc.);

d. Statement if it is an INITIAL STREET LIGHTING POINT WITH LED (yes or no);

e. Correlated Color Temperature (CCT) of the LUMINAIRE;

f. Manufacturer and model of the LUMINAIRE, only for LUMINAIRES installed by the CONCESSIONAIRE or ENTREPRENEUR, and for INITIAL STREET LIGHTING POINTS WITH LED;

g. Installation date of the LUMINAIRE, only for LUMINAIRES installed by the CONCESSIONAIRE or ENTREPRENEUR;

h. Lifespan of the LUMINAIRE estimated according to the manufacturer, in hours, only for the LUMINAIRES installed by the CONCESSIONAIRE or ENTREPRENEUR;

i. LUMINAIRE Power [W];

j. Total power loss of auxiliary equipment [W], accordingly;

k. Total power of the STREET LIGHTING POINT [W].

iv. Pole and Arm;

a. For STREET LIGHTING POINTS installed on vehicle roads: Posting topology (unilateral, bilateral frontal, bilateral alternating, median);

b. Exclusivity or otherwise of the pole for the MUNICIPAL STREET LIGHTING NETWORK, indicating, in cases of non-exclusivity, the owner of the pole;

c. Type of pole with information regarding the nature of its composition (concrete, steel or wood), only for the posts of the MUNICIPAL STREET LIGHTING NETWORK;

d. Pole type or pattern (continuous conical, telephonic, tubular, inclined, curved, etc.), only for the poles of the MUNICIPAL STREET LIGHTING NETWORK;

e. Type of installation (flanged or recessed), only for posts on the MUNICIPAL STREET LIGHTING NETWORK;

f. Pole installation date, only for poles installed by the CONCESSIONAIRE or ENTREPRENEUR;

g. Number of STREET LIGHTING POINTS on the pole;

h. Registry and identification, if any, of third-party assets currently installed on the pole (e.g.: antennas, routers, meters, sensors, etc.), only for the poles of the MUNICIPAL STREET LIGHTING NETWORK.

i. LUMINAIRES support device model (single support, double support, triple support, short arm, medium arm, long arm, prime arm etc.);

j. Date of installation of the LUMINAIRE support device, only when installed by the CONCESSIONAIRE or ENTREPRENEUR;

k. Conditions of the pole grounding system (existence of the grounding cable), only for the poles of the MUNICIPAL STREET LIGHTING NETWORK.

v. Command and Power:

a. Type of command and control device (TELEMANAGEMENT SYSTEM or relay);

b. Type of Command (group or individual);

c. If group command, group code;

d. Type of electrical supply network (aerial or underground);

e. Network Owner;

f. Consumption measurement method (estimated or measured);

g. Installation and meter number of the ENERGY DISTRIBUTION COMPANY (for measured cases);

h. Georeferenced position (latitude, longitude) of the meter (if any);

i. Manufacturer and device model of the STREET LIGHTING POINT TELEMANAGEMENT SYSTEM (if any);

j. Date of installation of the STREET LIGHTING POINT TELEMANAGEMENT SYSTEM device (if any);

k. Georeferenced position (latitude, longitude), manufacturer, model and installation date of the TELEMANAGEMENT SYSTEM concentrators, if any;

l. Relay type (if any), only for STREET LIGHTING POINTS installed by the CONCESSIONAIRE or ENTREPRENEUR.

vi. Transformers exclusive to the MUNICIPAL STREET LIGHTING NETWORK (if any):

a. Specification, identification number, and power of the transformer;

b. Setup or installation (pedestal or sheltered).

3.7. The CONCESSIONAIRE shall implement, by the end of PHASE II of the CONCESSION, a label or physical identification plate with the numeric code of the STREET LIGHTING POINT, which can be applied both to the arm and to the LUMINAIRE itself, in order to ensure easy view of the numbering by any person located at ground level. CONCESSIONAIRE

shall be responsible for replacing, including all associated costs, any damaged, removed or missing labels or plates.

3.8. The CONCESSIONAIRE shall submit models of the label or identification plate to the GRANTING AUTHORITY for approval, and may use the same standard existing in the MUNICIPAL STREET LIGHTING NETWORK, provided that the PARTIES agree. The installation of nameplates should abide by the following guidelines:

i. Adoption of a single standard for the label or identification plate and the way of fixing it at STREET LIGHTING POINTS;

ii. Fixing the labels or plates should at least guarantee the identification of the power of the STREET LIGHTING POINT for maintenance purposes; and

iii. Labels or nameplates for SPECIAL LIGHTING should not compromise the physical and aesthetic structure, aiming at not mischaracterizing the cultural property.

3.9. Data integration and communication tools may be developed between the CONCESSIONAIRE's and the ENERGY DISTRIBUTION COMPANY's information technology systems, in order to allow registry data updates to transit in an agile and secure manner.

3.10. The CONCESSIONAIRE shall continuously update the REGISTRY, during the CONCESSION TERM, in the case of alteration of any characteristic of the STREET LIGHTING POINTS owing to the provision of SERVICES, including, but not limited to, CORRECTIVE MAINTENANCE activities and EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

4. LIST OF REVERSIBLE ASSETS

4.1. The purpose of the list of REVERSIBLE ASSETS is to present the list of assets, which will revert to the GRANTING AUTHORITY at the end of the CONTRACT AGREEMENT.

4.2. A REVERSIBLE ASSET shall include, but not limited to, the following assets:

4.2.1. Items installed in the MUNICIPAL STREET LIGHTING NETWORK for the execution of SERVICES covering:

i. Exclusive STREET LIGHTING poles;

ii. Components of the STREET LIGHTING POINTS including, but not limited to, LUMINAIRES, arms with fastening hardware (straps and screws), relays, command switches and other equipment and components;

iii. Switchboards including, but not limited to, circuit breakers, contactors and other equipment and components;

iv. Exclusive STREET LIGHTING transformers;

v. Exclusive underground junction boxes for STREET LIGHTING;

vi. Other equipment and components that make up the MUNICIPAL STREET LIGHTING NETWORK, including the exclusive underground and overhead STREET LIGHTING network.

4.2.2. Items installed in STREET LIGHTING points for the TELEMANAGEMENT SYSTEM:

i. TELEMANAGEMENT SYSTEM Control Devices;

ii. TELEMANAGEMENT SYSTEM hubs;

iii. Supports;

iv. Other equipment that makes up the TELEMANAGEMENT SYSTEM.

4.2.3. Items installed in STREET LIGHTING points for the SPECIAL LIGHTING system:

i. Components of the STREET LIGHTING POINTS of the SPECIAL LIGHTING system including, but not limited to, projectors, embedded luminaires, control system, and other equipment and components.

4.2.4. Items of OPERATIONAL CONTROL CENTER OF SERVICES:

i. Call Center: all historical information recorded during the CONCESSION period, and all back-up infrastructure, in addition to the set of operational solutions pertaining to applications, software, systems etc. Software and systems necessary for the performance of the SERVICES should be transferred by the CONCESSIONAIRE to the GRANTING AUTHORITY with licenses valid for a minimum period of another twenty-four (24) months after the end of the CONCESSION, and with coverage of all maintenance and guarantee costs. As for the backup

infrastructure used by the CONCESSIONAIRE, which is a certain solution relative to storage on a remote server (cloud server) or another type of solution that requires payment of fees or licenses for use, the CONCESSIONAIRE should guarantee the use, by the GRANTING AUTHORITY, including all maintenance costs, for a minimum period of 24 (twenty-four) months after the expiration of the CONTRACT AGREEMENT.

ii. Central Management System: all historical information, recorded during the CONCESSION period, and all backup infrastructure, in addition to all operational solutions pertaining to applications, software, systems, etc. Software and systems necessary for the performance of the SERVICES should be transferred by the CONCESSIONAIRE to the GRANTING AUTHORITY with licenses valid for a minimum period of another twenty-four (24) months after the expiration of the CONCESSION, and with coverage of all maintenance and guarantee costs. With regard to the backup infrastructure used by the CONCESSIONAIRE, which is a certain solution relating to cloud storage or another type of solution that requires payment of fees or licenses for use, the CONCESSIONAIRE is expected to guarantee its use, by the GRANTING AUTHORITY, including all costs of maintenance, for a minimum period of twenty-four (24) months after the expiry of the CONTRACT AGREEMENT.

iii. TELEMANAGEMENT SYSTEM: all information history, recorded during the CONCESSION period, and all backup infrastructure, in addition to all operational solutions pertaining to applications, software, systems, etc. Software and systems necessary for the operation of the TELEMANAGEMENT SYSTEM should be transferred by the CONCESSIONAIRE to the GRANTING AUTHORITY with licenses valid for a minimum period of another twenty-four (24) months after the end of the CONCESSION, and with coverage of all maintenance and guarantee costs. With regard to the backup infrastructure used by the CONCESSIONAIRE, which is a certain solution relating to cloud storage or another type of solution that requires payment of fees or licenses for use, the CONCESSIONAIRE is expected to guarantee its use, by the GRANTING AUTHORITY, including all costs of maintenance, for a minimum period of twenty-four (24) months after the expiry of the CONTRACT AGREEMENT.

4.3. REVERSIBLE ASSETS should be permanently inventoried and updated by the CONCESSIONAIRE. All physical REVERSIBLE ASSETS shall be entered in the REGISTRY.

4.4. Intervention in REVERSIBLE ASSETS of the MUNICIPAL STREET LIGHTING NETWORK, such as poles and luminaires, which are subject to overturning, at the municipal, state or federal level, should comply with the determinations of the competent historical heritage protection agency throughout the CONCESSION TERM. The replacement of Republican Poles must be executed by new poles with the same standard of the previous equipment installed on site, unless otherwise indicated by the GRANTING AUTHORITY.

4.5. The assets transferred to the CONCESSIONAIRE by the GRANTING AUTHORITY shall be obligatorily reverted to the GRANTING AUTHORITY, with the exception of components removed from the MUNICIPAL LIGHTING NETWORK when carrying out the MODERNIZATION AND STREAMLINING ENERGY activities. If there are REVERSIBLE ASSETS acquired through a leasing contract agreement or other form of contract with a similar effect regarding the transfer of ownership, the CONCESSIONAIRE shall exercise the purchase option in such contract agreements before the expiry of the CONTRACT AGREEMENT.

4.6. The CONCESSIONAIRE may not withhold or fail to return any of the REVERSIBLE ASSETS. The missing or damaged assets will be compensated by the CONCESSIONAIRE to the GRANTING AUTHORITY, considering the New Replacement Value (VNR) for each asset.

4.7. Civil infrastructure (real estate) built or acquired by the CONCESSIONAIRE, vehicles, tools and furniture (table, chairs, computers, etc.) are not considered REVERSIBLE ASSETS.

5. PLANS OF THE MUNICIPAL STREET LIGHTING NETWORK

5.1. CONCESSIONAIRE shall prepare the plans listed below:

5.1.1. OPERATION AND MAINTENANCE PLAN (POM): aims to plan and structure all CONCESSIONAIRE SERVICES, ensuring the operation and maintenance process of the MUNICIPAL STREET LIGHTING NETWORK. POM, in accordance with the obligations of the CONTRACT AGREEMENT and this ATTACHMENT, will be composed, at least, of the following programs:

i. CCO Operationalization Program (POC);

ii. Maintenance Program (PMAN);

iii. Emergency Action Program (PAE);

iv. ENVIRONMENTAL AND SOCIAL PROGRAMS (ESP);

v. Service Performance Report Template.

5.1.2. MODERNIZATION PLAN (PM): aims to plan and structure all SERVICES related to MODERNIZATION AND STREAMLINING ENERGY, implementation of the TELEMANAGEMENT SYSTEM and implementation of SPECIAL LIGHTING. PM, in accordance with the obligations of the CONTRACT AGREEMENT and this ATTACHMENT, will be composed, at least, of the following programs:

i. Modernization and Streamlining Energy Program (PME);

ii. Telemanagement System Implementation Program (PIST);

iii. SPECIAL LIGHTING Program (PGIE).

5.1.3. OPERATIONAL DEMOBILIZATION PLAN (PDO): aims to detail the procedure for reversing the REVERSIBLE ASSETS and the operational transition before the expiration of the CONTRACT AGREEMENT.

5.2. The plans should be prepared in accordance with the rules, regulations and other guidelines of the applicable legislation to the activities carried out by the CONCESSIONAIRE, and the obligations defined in the CONTRACT AGREEMENT should also be fulfilled.

5.3. The plans will bind the CONCESSIONAIRE for all legal purposes, being responsible for their strict compliance and implementation, under penalty of applying the applicable sanctions and penalties.

5.4. The plans may be updated and revised throughout the CONCESSION, at the request of the GRANTING AUTHORITY or at the initiative of the CONCESSIONAIRE, whenever it deems appropriate, and any change should be submitted to the prior approval of the GRANTING AUTHORITY. The CONCESSIONAIRE should ensure throughout the CONCESSION TERM that the SERVICES performed are duly updated in said plans.

5.5. CCO Operationalization Program (POC)

5.5.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be performed pertaining to the operation of CCO, the CONCESSIONAIRE should prepare the Operationalization Program of CCO - POC.

5.5.2. POC shall contain, at a minimum:

i. The design of the operation, including the processes for carrying out CCO procedures;

ii. Information technology systems and solutions for the operation of CCO;

iii. Tutorial with a description of the features, forms of access (login), report extraction methods and other information necessary for the GRANTING AUTHORITY to understand all the actions it may perform on the systems installed by the CONCESSIONAIRE. A training session should also be held by the CONCESSIONAIRE, during PHASE I, for training of the GRANTING AUTHORITY team on the use of the systems and solutions to which it will have access;

iv. Information security program, ensuring the implementation of actions of:

a. Integrity: protection against unauthorized changes and/or deletions of information;

b. Confidentiality: limiting access to authorized users only;

c. Compliance: compliance with rules and associated laws;

d. Availability: ensuring access is always available to authorized users.

v. Contingency plan for the operation of CCO, mainly for the Call Center, in the case of failures or unavailability.

5.6. Maintenance Program (PMAN)

5.6.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be performed pertaining to CORRECTIVE MAINTENANCE, PREDICTIVE MAINTENANCE and PREVENTIVE MAINTENANCE, including maintenance services pertaining to the TELEMANAGEMENT SYSTEM and SPECIAL LIGHTING, the CONCESSIONAIRE should prepare the Maintenance Program – PMAN. In it, the CONCESSIONAIRE should include the detailed strategy for service, the scope and defined deadlines pertaining to maintenance services.

5.6.2. PMAN shall contain, at a minimum:

i. The design of the operation, including the processes for carrying out the maintenance services to be performed by the CONCESSIONAIRE throughout the CONCESSION TERM, and the respective periodicity of each service.

ii. The checklist template that will be carried out by the CONCESSIONAIRE, containing the procedures for performing each of the maintenance services;

iii. Proposal for a standard form to be completed in the event of accidents caused by third parties at STREET LIGHTING POINTS;

iv. Indication of SPECIAL AREAS identified by the CONCESSIONAIRE during the execution of the BASE REGISTRY and the related STREET LIGHTING POINTS.

5.7. Emergency Action Program (PAE)

5.7.1. In order for the CONCESSIONAIRE and GRANTING AUTHORITY to have greater visibility about the procedures and main characteristics of the services related to EMERGENCY MAINTENANCE, the CONCESSIONAIRE must prepare the Emergency Action Program - PAE. In it, the CONCESSIONAIRE should include the detailed strategy for service, scope and defined deadlines related to maintenance services.

5.7.2. The PAE shall contain, minimally

i. Definition of the communication plan with entities that may have some interface in the execution of EMERGENCY MAINTENANCE, including, but not limited to:

a. Mapping of the entity that has interface to the PAE, including, but not limited to: local and non-local hospitals (specialized or clinical), Civil Defense, Fire Department, Police (Civil, Military, Army, etc.), communities potentially exposed to the specific action scenario;

b. Mapping of entities that hold resources useful to the PAE, such as: ambulances (private or public network, in land, air, waterway, etc.), water tank trucks, buses, among others;

c. List of communication channels of the people responsible for each entity (telephone/contact contacts phone, e-mail, address, number of people in this place, opening hours);

d. Procedure for consultation, alignment and response plan for each hypothesis of entities that have some interface for execution of the EMERGENCY MAINTENANCE.

ii. Description of the organizational structure of the CONCESSIONAIRE's human resources, including:

a. Identification of the responsible including, activity, name, telephone number and home address;

b. Definition of the required material resources;

c. Description of the training plan for direct and indirect workers and other people who have interface with the EMERGENCY MAINTENANCE;

iii. Specific procedures for each of the scenarios provided in item 12.4.1, including, but not limited to, the following items:

a. Process for the activation of human and physical resources;

b. Definition of entities that have some interface or that have useful resources;

c. Definition of the timeline for each activity;

d. Assessment of potential impacts;

e. Definition of prevention, corrective, mitigating and control actions.

iv. The PAE must contain additional documents such as project location sketches, support sites, list of equipment used and relevant technical information that may be related to prevention activities and emergency responses.

5.8. SOCIOENVIRONMENTAL PROGRAMS (PGS)

5.8.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be performed pertaining to socio-environmental management, the

CONCESSIONAIRE shall prepare the SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAMS (PGS), based on the guidelines of this ATTACHMENT and the SOCIOENVIRONMENTAL SPECIFICATIONS.

5.9. Service Performance Report

5.9.1. From the beginning of PHASE I, the CONCESSIONAIRE shall submit the Services Execution Report to the GRANTING AUTHORITY on a monthly basis, containing the history of the SERVICES performed in the last month, including, at least, the following information:

i. Type of SERVICE;

ii. Service Order Number;

iii. Number of service orders demanded and answered for the maintenance of STREET LIGHTING POINTS;

iv. Dates of demand and execution of SERVICE orders;

v. Identification of addresses including name and neighborhood;

vi. Number of components removed, replaced or installed in the MUNICIPAL STREET LIGHTING NETWORK, broken down by model and technology;

vii. Date of execution of the SERVICES and power-up;

viii. Dates for submission and approval of each project (MODERNIZATION AND STREAMLINING ENERGY, SPECIAL LIGHTING, EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, etc.);

ix. Number of projects performed in the period;

x. Indication of the STREET LIGHTING POINTS with interference in the luminous flux by TREES and the recommendation to carry out the TREE PRUNING service for the following quarter.

xi. Information about the TREE PRUNING service carried out in the period, as well as the history of requests with status and reason for approval or rejection.

5.9.2. Additionally, the Service Performance Report shall include:

i. Stages of development of the SERVICES pending execution in the previous month;

ii. Progress of activities pertaining to the execution of MODERNIZATION AND STREAMLINING ENERGY, implementation of the TELEMANAGEMENT SYSTEM, implementation of SPECIAL LIGHTING and execution of the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

iii. Police Reports in the periods on thefts and vandalism in the MUNICIPAL STREET LIGHTING NETWORK;

iv. Number of ADDITIONAL STREET LIGHTING POINTS installed in the last month and the status of the terms of acceptance and check procedures, pursuant to chapter 16;

v. Evolution of activities pertaining to the execution of actions foreseen in the ENVIRONMENTAL AND SOCIAL PROGRAMS (ESP), and monitoring of the ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM (ESMS);

vi. Financial and management controls of RELATED ACTIVITIES.

5.9.3. The CONCESSIONAIRE shall present in the OPERATION AND MAINTENANCE PLAN (POM), the Service Performance Report Template.

5.10. Modernization and Streamlining Energy Program (PME)

5.10.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be performed in the MODERNIZATION AND STREAMLINING ENERGY of the STREET LIGHTING POINTS contained in the BASE REGISTRY, the CONCESSIONAIRE should prepare a Modernization and Streamlining Energy Program - PME. In it, the CONCESSIONAIRE should include the planning for compliance with the CONCESSION MILESTONES and the guidelines described in item 7 of this ATTACHMENT.

5.10.2. PME shall state, at a minimum, the following requirements:

i. Detailed schedule for MODERNIZATION AND STREAMLINING ENERGY of the STREET LIGHTING POINTS contained in the BASE REGISTRY, demonstrating how the CONCESSION MILESTONES

defined in item 16 of this ATTACHMENT will be met, indicating intermediate stages of inspections by the INDEPENDENT CERTIFIER to obtain the ACCEPTANCE TERM;

a. The detailed MODERNIZATION AND STREAMLINING ENERGY Schedule shall prioritize the SPECIAL AREAS contained in each CONCESSION MILESTONES.

ii. Process for carrying out the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK that may be requested by the GRANTING AUTHORITY, in line with the minimum requirements established in item 7, indicating intermediate stages of inspection to obtain the ACCEPTANCE TERM;

iii. The proposed locations for implementing the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES. For CROSSWALKS, priority should be given to centralities (bus terminals, squares, parks, etc.) and MAIN ROADS;

iv. The schedule for the implementation of STREET LIGHTING on CROSSWALKS demonstrating how the CONCESSION MILESTONES defined in item 16 of this ATTACHMENT will be met, indicating intermediate stages of inspections by the INDEPENDENT CERTIFIER to obtain the ACCEPTANCE TERM;

v. The template of lighting simulations and projects to be prepared for the MODERNIZATION AND STREAMLINING ENERGY OF STREET LIGHTING POINTS, CROSSWALKS and EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, in line with the minimum requirements established in item 7;

vi. Classification of existing addresses according to the guidelines established in the chapter 6;

vii. Technologies and technical characteristics of the equipment (LUMINAIRES, poles, arms, relays, etc.) to be used;

5.11. Telemanagement System Implementation Program (PIST)

5.11.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be

performed in relation to the TELEMANAGEMENT SYSTEM, the CONCESSIONAIRE shall prepare a TELEMANAGEMENT SYSTEM Implementation Program – PIST. PIST should include the planning for the implementation of the TELEMANAGEMENT SYSTEM in the STREET LIGHTING POINTS installed on ROADS WITH TELEMANAGEMENT, containing, at least:

i. Detailed schedule for the implementation of the TELEMANAGEMENT SYSTEM, indicating intermediate stages of inspections to obtain the ACCEPTANCE TERM;

ii. Technologies/systems and the technical characteristics of the equipment to be used, detailing at least:

   a. Software/platform to control the TELEMANAGEMENT SYSTEM;

   b. Connectivity Network;

   c. Telemanagement Server;

   d. Control Devices;

   e. Network Structure;

   f. ANATEL Certification;

   g. INMETRO certification, if any;

   h. Information Security Certification.

iii. Process to be carried out for testing and validating the operation of the TELEMANAGEMENT SYSTEM, in line with the requirements of this ATTACHMENT and item 16;

iv. Strategy for reducing light intensity (dimming), in line with the guidelines of the item 10.8.

5.12. SPECIAL LIGHTING Program (PGIE)

5.12.1. In order for the GRANTING AUTHORITY to have greater visibility regarding the procedures and main characteristics of the services that will be performed in relation to SPECIAL LIGHTING, the CONCESSIONAIRE shall prepare a SPECIAL LIGHTING Program – PGIE. PGIE shall contain, as a minimum:

i. The detailed implementation schedule, as well as the adequacy of existing installations for the execution of SPECIAL LIGHTING services, indicating the intermediate stages of inspections by the INDEPENDENT CERTIFIER to obtain the ACCEPTANCE TERM;

ii. The template of the projects to be prepared for SPECIAL LIGHTING;

iii. Technology and technical characteristics of the equipment to be installed;

5.12.2. The CONCESSIONAIRE shall prepare, prior to the implementation of the SPECIAL LIGHTING implementation, the electrical and lighting projects for the SPECIAL LIGHTING, illustrated with three-dimensional images according to the guidelines, procedures, and specifications expressed in the chapter 9.

5.12.3. The CONCESSIONAIRE should send the projects for approval by the GRANTING AUTHORITY at least 90 (ninety) days in advance of the period foreseen for the beginning of the implementation of each SPECIAL LIGHTING PROJECT.

5.12.4. The CONCESSIONAIRE should deliver, together with the SPECIAL LIGHTING Program, the projects of the locations that will be implemented within 120 (one hundred and twenty) days from the beginning of PHASE II.

5.13. OPERATIONAL DEMOBILIZATION PLAN (PDO)

5.13.1. The CONCESSIONAIRE should present an OPERATIONAL DEMOBILIZATION PLAN of the CONCESSION, which should contain at least:

i. The form of reversal of the REVERSIBLE ASSETS;

ii. The form of withdrawal of all non-reversible assets;

iii. The inventory of all REVERSIBLE ASSETS, including date of installation, manufacturer, location, physical and technical characteristics and state of conservation;

iv. The list of all current guarantees;

v. The estimated useful life of the REVERSIBLE ASSETS, following the methodology and requirements defined in item 16.12 of this ATTACHMENT;

vi. A training plan for public servants of the GRANTING AUTHORITY and/or employees of the new concessionaire;

vii. Details of the debit or credit amounts referring to the CONCESSION not yet received or agreed between the PARTIES;

viii. Availability of other information requested by the GRANTING AUTHORITY or INDEPENDENT CERTIFIER, to carry out the procedures set forth in item 16.12.

6. CLASSIFICATION OF MUNICIPALITY ROADS

6.1. This chapter aims to inform the LIGHTING CLASS of public roads in the MUNICIPALITY, as well as to present the methodology for identifying the LIGHTING CLASS of public roads not indicated in this ATTACHMENT.

6.2. The definition of LIGHTING CLASSES for vehicle lanes in V1, V2, V3, V4 and V5 and for pedestrian lanes P1, P2, P3 and P4 should consider the guidelines and directions set out in this ATTACHMENT.

6.3. The CONCESSIONAIRE should meet the illuminance and uniformity requirements at each STREET LIGHTING POINT, according to the LIGHTING CLASSES of the road where the STREET LIGHTING POINT is located.

6.3.1. Table with LIGHTING CLASSES per road:

Address	**LIGHTING CLASS of Vehicles**	**LIGHTING CLASS of Pedestrians**
Alameda Caete	V3	P3
Avenida Alemanha	V2	P3
Avenida Andradina	V1	P1
Avenida Aracaju	V3	P3
Avenida Araucária	V1	P1
Avenida Ayrton Senna	V1	P3
Avenida Beira-Rio	V3	P3
Avenida Brasil	V2	P1
Avenida Brodosqui	V2	P3
Rua Cabo Efigênio Aparecido Viana	V2	P3
Avenida Carlos Gomes	V2	P3
Avenida Central Park	V2	P1

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Avenida Coronel Francisco José Ludolf Gomes	V2	P3
Avenida Costa e Silva	V1	P1
Avenida das Cataratas	V1	P1
Avenida das Cataratas	V1	P1
Avenida dos Imigrantes	V1	P1
Avenida Doutor Luís Passos	V2	P3
Avenida Duque de Caxias	V2	P3
Rua Engenheiro Augusto Araújo	V3	P3
Avenida Felipe Wandscheer	V1	P1
Avenida Fiorindo Brol	V2	P1
Avenida Florianópolis	V1	P1
Avenida Garibaldi	V1	P1
Avenida General Meira	V1	P1
Avenida Genésio Rorato	V3	P3
Avenida Gramado	V2	P1
Rua Harry Shinke	V2	P3
Avenida Iguaçu	V1	P3
Avenida Irio Manganeli	V3	P3
Avenida Javier Koelbl	V1	P3
Avenida João Paulo II	V1	P3
Avenida João Ricieri Maran	V1	P3
Avenida Jorge Inacio Franco	V3	P3
Avenida Jorge Schimmelpfeng	V1	P1
Avenida José Maria de Brito	V1	P1
Avenida Jules Rimet	V1	P1
Avenida Juscelino Kubitscheck	V1	P1
Avenida Maceió	V2	P3
Avenida Maria Bubiak	V1	P1
Avenida Mário Filho	V1	P1
Avenida Mercosul	V2	P3
Avenida Morenitas	V1	P1
Avenida Nacional	V2	P3
Avenida Paraná	V2	P1
Avenida Paulo Montanari	V3	P3
Avenida Pedro Basso	V2	P1
Avenida Pôr do Sol	V1	P1
Avenida Portugal	V2	P3
Avenida Ranieri Mazzilli	V2	P3
Avenida República Argentina	V1	P1

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Rua Rosa Cirílo de Castro	V2	P3
Avenida Safira	V1	P3
Avenida Salvador	V2	P3
Avenida Silvio Américo Sasdelli	V1	P1
Avenida Surubi	V3	P3
Avenida Tancredo Neves	V2	P3
Avenida Tarquínio Joslin dos Santos	V3	P3
Avenida Uirapuru	V2	P3
Avenida Venezuela	V1	P1
Rodovia BR-277	V1	P1
Rua Ambrósio Losi	V2	P3
Rua Angatuba	V3	P3
Rua Ângela Aparecida Andrade	V3	P3
Rua Argemiro Lemos	V3	P3
Rua Aroldino Ferreira Cordeiro	V3	P3
Rua Assunção	V3	P3
Rua Astorga	V2	P3
Rua Ataláia	V3	P3
Rua Ataíde Aires de Aguirra	V2	P3
Rua Ático José Rorato	V3	P3
Rua Bartolomeu de Gusmão	V3	P3
Rua Berlim	V2	P3
Rua Borborema	V2	P3
Rua C	V3	P3
Rua Carlos Hugo Urnau	V2	P3
Rua Carlos Kapfemberg	V3	P3
Rua Carmem Gatti	V2	P3
Rua Celso Fagundes	V3	P3
Rua Cravina	V3	P3
Rua Cristiano Wandscheer	V3	P3
Rua Cruzeiro	V3	P3
Rua Curitibanos	V2	P3
Rua D	V3	P3
Rua das Pitangueiras	V3	P3
Rua Derly Saldanha Gomes	V3	P3
Rua dos Eucalíptos	V3	P3
Rua Doutor Josivalter Vila Nova	V2	P3
Rua Edésio Fabiano Andrade	V3	P3
Rua Edmundo de Barros	V3	P3

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Rua Ércules Marchesini	V3	P3
Rua Ernesto Gayer	V3	P3
Rua Floraí	V3	P3
Rua Floresta	V3	P3
Rua Francisco Fogaça do Nascimento	V3	P3
Rua G	V3	P3
Rua Galdino Môro	V2	P3
Rua Geraldo José de Almeida	V3	P3
Rua Goioerê	V2	P3
Rua dos Golfinhos	V3	P3
Rua Guaraqueçaba	V3	P3
Rua Guarujá	V2	P3
Rua Heitor Vila-Lobos	V2	P3
Rua Iguaraçu	V2	P3
Rua Indianópolis	V3	P3
Rua Itaboraí	V3	P3
Rua Itapemirim	V3	P3
Rua J	V3	P3
Avenida Javier Koelbl	V3	P3
Rua Joaquim Firmino	V3	P3
Rua Jorge Sanwais	V3	P1
Rua José Teles da Conceição	V3	P3
Rua Júlio Delamare	V3	P3
Rua Leonardo Otembra	V3	P3
Rua Leonardo Otremba	V2	P3
Rua Lindoeste	V3	P3
Rua Londrina	V3	P3
Rua Luiza Wandscheer	V3	P3
Rua Manêncio Martins	V3	P3
Rua Marechal Floriano Peixoto	V3	P3
Rua Maria Ignez Maran	V3	P3
Rua Martin Nieuwenhoff	V3	P3
Rua Medianeira	V2	P3
Rua Mogi Mirim	V3	P3
Rua N	V3	P3
Rua Nereu Ramos	V2	P3
Rua Nova União	V3	P3
Rua Othon Maeder	V3	P3
Rua Otto Mertig	V3	P3
Rua Padre Montoya	V3	P3

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Rua Palestra Itália	V3	P3
Rua Papagaios	V3	P3
Rua Paranapanema	V3	P3
Rua Paulista	V3	P3
Rua Pavão	V3	P3
Rua Pedro Joás Aires dos Santos	V3	P3
Rua Itália	V3	P3
Rua Pedro Manoel Gonzáles	V3	P3
Rua Pedro Taffarel	V2	P3
Rua Plutão	V2	P3
Rua Princesa Isabel	V3	P3
Rua Salto Penoni	V3	P3
Rua Salto San Martin	V3	P3
Rua Sumaré	V2	P3
Rua Tenente Eduardo Olmedo	V3	P3
Rua Tietê	V3	P3
Rua Tito Mufato	V2	P3
Rua Tocantins	V3	P3
Rua Urano	V3	P3
Avenida Valdomiro Faremberger	V3	P3
Rua Victorio Basso	V3	P3
Avenida Maria Bubiak	V1	P3
Rua Carijós	V4	P3
Rua Edgar Schimmelpfeng	V3	P3
Rua Di Cavalcante	V4	P3
Avenida República do Líbano	V3	P3
Rua Carlos Sottomaior	V4	P3
Rua Cândido Portinari	V4	P3
Avenida Parati	V4	P3
Rua Fagundes Varela	V2	P3
Rua Oswaldo Cruz	V2	P3
Rua Engenheiro Rebouças	V2	P3
Rua Tarobá	V2	P3
Rua Pôrto Alegre	V4	P3
Avenida Nilson Gottlieb	V4	P3
Rua Mercúrio	V4	P3
Rua Silvio Sottomaior	V4	P3
Rua Xavantes	V4	P3
Rua Barão da Serra Negra	V4	P3
Rua das Guianas	V4	P3

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Rua Canindé	V3	P1
Rua Lisboa	V4	P3
Rua Londres	V4	P3
Rua Elfrida Engelberto Rios	V4	P3
Rua Beija-Flor	V4	P3
Rua Itaúna	V4	P3
Rua Belarmino de Mendonça	V2	P1
Rua Coronel Caetano Rocha	V4	P3
Rua Almirante Barroso	V4	P3
Rua Vereador Moacir Pereira	V4	P3
Rua Edgard Schimmelpfeng	V4	P3
Rua Xavier da Silva	V3	P1
Rua Heleno Schimmelpfeng	V4	P3
Rua Quintino Bocaiúva	V4	P3
Rua Monsenhor Guilherme	V4	P3
Rua Benjamin Constant	V4	P3
Rua Minas Gerais	V4	P3
Rua Ignácio Sottomaior	V4	P3
Rua Naipi	V2	P3
Rua Irlan Kalichewski	V4	P3
Rua Ipanema	V4	P3
Rua Dom Pedro Ii	V4	P3
Rua Cândido Ferreira	V4	P3
Rua Osvaldo Requião	V4	P3
Rua Antônio Raposo	V4	P3
Rua Piquiri	V4	P3
Rua Manaus	V4	P3
Rua Padre Bernardo Plate	V2	P3
Rua Rui Barbosa	V4	P3
Rua Belo Horizonte	V4	P3
Rua Fortaleza	V4	P3
Rua Espanha	V4	P3
Rua Santos Dumont	V2	P3
Rua Tibagi	V2	P3
Rua Santo Rafagnin	V4	P3
Rua Patrulheiro Venanti Otremba	V4	P3
Rua Perdigão	V4	P3
Avenida Nelsom Cunha Júnior	V4	P3
Rua Nelson da Cunha Júnior	V4	P3
Avenida Gustavo Dobrandino da Silva	V4	P3

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Avenida Anhembi	V3	P3
Rua Consuelo	V4	P3
Rua Mem de Sá	V4	P3
Rua Madalena Sotelo	V4	P3
Rua Sabiapoca	V4	P3
Rua Adoniran Barbosa	V4	P3
Rua Moisés Lupion	V4	P3
Rua Gláuber Rocha	V4	P3
Rua Silvano Gutierrez	V4	P3
Rua Eleodoro Rodrigues Seixas	V4	P3
Rua Carlos Luz	V4	P3
Rua Mané Garrincha	V4	P3
Rua Gralha	V4	P3
Rua Codorna	V4	P3
Avenida Bonito-Lindo	V4	P3
Rua Sérgio Gaspareto	V4	P3
Rua Marechal Deodoro	V4	P3
Rua Castelo Branco	V2	P1
Rua Marechal Deodoro da Fonseca	V4	P3
Rua Elsa Britto da Silva	V4	P3
Rua Mato Grosso	V4	P3
Avenida Manoel Moreira Andrion	V4	P3
Avenida das Paineiras	V4	P3
Rua Manoel Moreira Andrion	V4	P3
Rua Capitão Acácio Pedroso	V4	P3
Rua Guido Welter	V4	P3
Rodovia BR-469	V1	P3
Rua Damião Ferreira do Nascimento	V4	P3
Rua Angelim Favassa	V4	P3
Rua Estanislau Zambrzycki	V4	P3
Rua Recife	V4	P3
Rua Amazonas	V4	P3
Avenida Fiorino Brol	V3	P3
Rua Guaiaquica	V4	P3
Rua Guaxupé	V4	P3
Rodoviária Internacional de Foz do Iguaçu	V4	P1
Rua Sagui	V4	P3
Rua Trinta Réis	V4	P3

Address	LIGHTING CLASS of Vehicles	LIGHTING CLASS of Pedestrians
Rua Manoel Bandeira	V4	P3

6.3.2. The CONCESSIONAIRE cannot change the LIGHTING CLASSES indicated above for each address. Any change in relation to the LIGHTING CLASSES provided for in this ATTACHMENT can only be made upon request from the GRANTING AUTHORITY, provided that the guidelines provided for in the CONTRACT AGREEMENT are met.

6.4. For existing public roads not listed in this ATTACHMENT, the following should be considered:

6.4.1. All squares, parks, walkways and other exclusive pedestrian circulation areas in the MUNICIPALITY should have Pedestrian LIGHTING CLASS equal to "P2".

6.4.2. Public roads existing in PHASE 0 and not listed in this ATTACHMENT should have LIGHTING CLASS for Vehicles equal to "V4" and LIGHTING CLASS for Pedestrians equal to "P3."

6.4.3. The classification of new public roads that appear during the CONCESSION TERM should follow the criteria set forth in ABNT NBR 5101: 2018, with Vehicle LIGHTING CLASS at least equivalent to "V4" and LIGHTING CLASS for Pedestrians at least equivalent to "P3." The classification proposed by the CONCESSIONAIRE should be approved by the GRANTING AUTHORITY.

6.5. BIKE LANES will have the following classification:

6.5.1. BIKE LANES without physical separation between cyclists and vehicle lanes (cycle lanes): C1 LIGHTING CLASS;

6.5.2. BIKE LANES with physical separation between cyclists and vehicle lanes (bike lanes): C2 LIGHTING CLASS.

7. MODERNIZATION AND STREAMLINING ENERGY GUIDELINES

7.1. The CONCESSIONAIRE should abide by the established guidelines, as well as meet all the technical specifications of the equipment and materials established in this ATTACHMENT.

7.2. The process for MODERNIZATION AND STREAMLINING ENERGY projects, EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK and CROSSWALKS will be:

7.2.1. The CONCESSIONAIRE should prepare the project according to the guidelines of this ATTACHMENT and send it for approval by the GRANTING AUTHORITY and the ENERGY DISTRIBUTION COMPANY, when requested by the ENERGY DISTRIBUTION COMPANY or indicated in its Technical Standards. The project should be sent by the CONCESSIONAIRE to the GRANTING AUTHORITY, at least 120 (one hundred and twenty) days in advance of the deadline for the start of implementation indicated in the MODERNIZATION PLAN. The GRANTING AUTHORITY will have a period of 30 (thirty) days to evaluate the project;

7.2.2. In case of disapproval by the GRANTING AUTHORITY or the ENERGY DISTRIBUTION COMPANY, based on the guidelines of this ATTACHMENT or the Technical Standards of the ENERGY DISTRIBUTION COMPANY, the CONCESSIONAIRE will be responsible for the costs and activities necessary to remedy the identified pending issues;

7.2.3. Upon non-objection of the project by the GRANTING AUTHORITY and approval by the ENERGY DISTRIBUTION COMPANY, when applicable, the CONCESSIONAIRE may carry out the works;

7.2.4. The CONCESSIONAIRE should formally notify the GRANTING AUTHORITY upon completion of the works. When installing new STREET LIGHTING POINTS, the CONCESSIONAIRE should inform the date of energization;

7.2.5. The CONCESSIONAIRE should completely redo the service, or part of it, bearing all related expenses, when the installed components fail or the STREET LIGHTING POINT does not meet the lighting requirements (average illuminance and uniformity) as provided for in this ATTACHMENT.

7.3. For the services of MODERNIZATION AND STREAMLINING ENERGY, EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK and CROSSWALKS, the CONCESSIONAIRE shall:

7.3.1. Prepare projects in accordance with the lighting guidelines, specifications and requirements established in this ATTACHMENT, including signatures of the responsible engineers, accompanied by the CREA number, collecting and annotating the respective ART, in accordance with current regulations;

7.3.2. Prepare lighting projects for each street, considering any heterogeneity of characteristics (road width, sidewalk width, distance between poles, LUMINAIRE setup height, projection of the arm, pole setback) along its length, including the installation proposal of any new STREET LIGHTING POINTS to meet the lighting requirements set forth in this ATTACHMENT. The project should be prepared in such a way as to dispense with any need to relocate poles of the electricity ENERGY DISTRIBUTION COMPANY to meet the requirements established in this ATTACHMENT;

7.3.3. The projects shall contain the parameters of the street and the STREET LIGHTING POINT, which impact the lighting results, including, but not limited to: road width, sidewalk width, distance between poles, LUMINAIRE setup height, projection of the arm, pole setback, LIGHTING CLASSES (Vehicles and Pedestrians), number of LUMINAIRES on the pole, degree of inclination of the installation;

7.3.4. Consider in the development of lighting projects:

i. The technical specifications of the LUMINAIRES that will be installed by the CONCESSIONAIRE, ensuring compliance with all the specifications described in this ATTACHMENT and in the SOCIOENVIRONMENTAL SPECIFICATIONS;

ii. The maintenance factor that incorporates the depreciation of the luminous flux of lighting equipment;

iii. Reduction of light pollution and the level of glare caused by the angle of inclination of the LUMINAIRE, the curve and the type of distribution;

iv. Existing trees, with the aim of promoting compatibility between vegetation and STREET LIGHTING;

v. Use, preferably, of a single LUMINAIRE model for the STREET LIGHTING POINTS located on the same road, except for cases where the urban project requires more than one model and in cases where the existing model is not capable of meeting the requirements set forth in this ATTACHMENT.

7.3.5. Store all projects prepared throughout the CONCESSION TERM, which should be passed on to the GRANTING AUTHORITY, at any time when requested and, in full, at the expiration of the CONTRACT AGREEMENT;

7.3.6. Provide all the components and materials necessary for the installation and maintenance of the LIGHTING POINTS, including, but not limited to, poles, cables, LUMINAIRES, lamps, TELEMANAGEMENT SYSTEM, control panel, among others;

7.3.7. In the cases where the CONCESSIONAIRE finds the need to install a new pole and/or LUMINAIRE to meet the lighting requirements set forth in this ATTACHMENT, all investments to adapt the MUNICIPAL STREET LIGHTING NETWORK, such as, for instance, the installation of a new pole and/or LUMINAIRE, are the responsibility of the CONCESSIONAIRE, in spans between two STREET LIGHTING POINTS with a distance of up to ninety (90) meters on the same road. This situation is not characterized as an EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

7.3.8. Update the REGISTRY, after carrying out the intervention in the field, with all information from the STREET LIGHTING POINT that has been changed;

7.3.9. Send to the ENERGY DISTRIBUTION COMPANY within 30 (thirty) days after carrying out the field intervention, the registry changes that may be necessary to update the electricity billing;

7.3.10. Install STREET LIGHTING POINTS with a Color Reproduction Index (CRI) equal to or greater than 70 (seventy);

7.3.11. Implement the STREET LIGHTING POINTS in keeping with the following ranges of Correlated Color Temperature (TCC) by type of street:

i. MAIN ROADS: TCC of 4,000 K;

ii. OTHER ROADS: TCC of 3,000 K;

iii. Squares and Parks: TCC of 3,000 K;

iv. Sports courts and fields: TCC equal or higher than 5,000K;

v. CROSSWALKS on MAIN ROADS: TCC of 3,000 K;

vi. CROSSWALKS on OTHER ROADS: TCC of 4,000 K;

7.3.12. Meet the following lighting requirements for STREET LIGHTING POINTS:

i. Meet the minimum levels of average illuminance and uniformity as per the table below, according to the Vehicles LIGHTING CLASS of the road where the STREET LIGHTING POINT is located:

CLASS OF Vehicle LIGHTING	**Average Minimum Illuminance E_{MED} [lux]**	**Minimum Uniformity Factor U_{MIN} (E_{MIN} / E_{MED})**
V1	30	0.40
V2	20	0.30
V3	15	0.20
V4	10	0.20
V5	5	0.20

ii. Meet the minimum levels of average illuminance and uniformity as per the table below, according to the Pedestrian LIGHTING CLASS of the road where the STREET LIGHTING POINT is located:

CLASS OF Pedestrian LIGHTING	**Average Minimum Illuminance E_{MED} [lux]**	**Minimum Uniformity Factor U_{MIN} (E_{MIN} / E_{MED})**
P1	20	0.30
P2	10	0.25
P3	5	0.20
P4	3	0.20

iii. Meet the minimum lighting levels in tunnels and underpasses addressed by ABNT NBR 5181: 2013.

iv. For STREET LIGHTING POINTS classified as a TERMINAL STREET LIGHTING POINT in the REGISTRY, the average illuminance and

uniformity measurement should be carried out only in the gap adjacent to the STREET LIGHTING POINT in the direction of the pole less than ninety (90) meters from the same route. The average illuminance and uniformity levels provided for in the item tables 7.3.12.i and 7.3.12.ii. should be fully complied with, according to the LIGHTING CLASSES (Vehicles and Pedestrians) of the road where the STREET LIGHTING POINT is located.

v. For STREET LIGHTING POINTS classified as ISOLATED STREET LIGHTING POINT in the REGISTRY, the calculation of the average illuminance and uniformity should be carried out considering a measuring grid 17.5 meters from the point for each direction of the road. In this case, 50% of the average illuminance and uniformity levels provided for in the tables of items 7.3.12.i and 7.3.12 should be metii, according to the LIGHTING CLASSES (Vehicles and Pedestrians) of the road where the STREET LIGHTING POINT is located.

7.3.13. For STREET LIGHTING POINTS located on BIKE LANES:

i. Meet the minimum levels of average illuminance and uniformity as per the table below:

CLASS OF ILLUMINATION	**Average Minimum Illuminance E_{MED} [lux]**	**Minimum Uniformity Factor U_{MIN} (E_{MIN} / E_{MED})**
C1	15	0.20
C2	10	0.20

ii. In sections where the BIKE LANES crosses a vehicle lane, C1 LIGHTING CLASS levels should be met;

iii. For the NUMBER OF STREET LIGHTING POINTS ON CROSSWALKS AND BIKE LANES, a distance between the poles of at least 20 (twenty meters) should be considered, unless requested by the GRANTING AUTHORITY for shorter distances.

iv. Install the electrical power network to connect the STREET LIGHTING POINTS of the BIKE LANES to the delivery point of the ENERGY DISTRIBUTION COMPANY's electrical power network, through the installation of an underground network. The installation of an overhead

network in this case will only be allowed if the CONCESSIONAIRE proves the technical unfeasibility of installing an underground network.

7.3.14. For STREET LIGHTING POINTS in squares, parks and walkways, the CONCESSIONAIRE should:

i. Develop lighting projects in such a way that the minimum levels of average illuminance and uniformity are met in pedestrian circulation areas and leisure areas, as per Pedestrian LIGHTING CLASS equal to “P2”;

ii. Distribute the STREET LIGHTING structures so as not to obstruct the access of emergency, delivery or maintenance vehicles, nor compete with the local architecture;

iii. Consider applying different project criteria for different areas such as gardens, playground toys, board games and courts, using luminaires arrangements, decorative lighting or projectors;

iv. Consider appropriate lighting for statues, bandstands and other special points in squares and parks, preferably with highlighted lighting;

v. Adopt standardization of STREET LIGHTING equipment and structures in order to avoid visual clutter with different models of STREET LIGHTING equipment and structures.

vi. Request the appropriate authorizations from the GRANTING AUTHORITY and/or competent bodies, in the case it is necessary to remove or change the location of lighting equipment listed by the public authorities.

7.3.15. For the MODERNIZATION AND STREAMLINING ENERGY of the Sports Courts and Fields, the CONCESSIONAIRE shall:

i. Meet the following lighting requirements, concomitantly:

a. Average Minimum Illuminance: Two hundred (200) lux;

b. Unified Obfuscation Threshold Index: 55 (fifty-five).

7.3.16. For the MODERNIZATION AND STREAMLINING ENERGY OF CROSSWALKS, the CONCESSIONAIRE should:

i. Meet the minimum levels of vertical illuminance according to the table below, according to the LIGHTING CLASS of Vehicles in which the CROSSWALK is located:

CLASS OF Vehicle LIGHTING	**Average vertical minimum illuminance Ev_{MED} [lux]**
V1	22.5
V2	20.0
V3	20.0
V4	20.0
V5	20.0

ii. The lighting of the CROSSWALK should prioritize the visualization of pedestrians by vehicles on the road, so the LUMINAIRES should not be installed over the CROSSWALK, but parallel to the CROSSWALKS.

iii. Install 2 (two) new exclusive STREET LIGHTING poles for each CROSSWALK, 1 (one) pole on each side of the road where the CROSSWALK is located.

iv. Install the electrical power network to connect the STREET LIGHTING POINTS of the CROSSWALKS to the delivery point of the ENERGY DISTRIBUTION COMPANY's electrical power network, through the installation of an underground network. The installation of an overhead network in this case will only be allowed if the CONCESSIONAIRE proves the technical unfeasibility of installing an underground network.

7.4. Specifications of Equipment and Materials

7.4.1. The technology used by the CONCESSIONAIRE in the MUNICIPAL STREET LIGHTING NETWORK should obligatorily meet the technical parameters, tests, among other requirements present in current legislation and standards, as well as the following minimum technical specifications:

i. Adherence to telemanagement systems: the LUMINAIRES installed by the CONCESSIONAIRE should have technology compatible with all the functions of the TELEMANAGEMENT SYSTEM and a connection point for the installation of telemanagement equipment;

ii. Finishing: all non-energized metal parts of the LUMINAIRES should receive anti-corrosion treatment;

iii. INMETRO certification: the LUMINAIRES installed by the CONCESSIONAIRE should be certified in INMETRO Ordinance No. 62 of 2022. In the case of replacement of Ordinance No. 62, the new regulation will be required only for LUMINAIRES installed after the date of publication of the new Ordinance;

iv. In the event of revocation or suspension of INMETRO Ordinance No. 62, the CONCESSIONAIRE should present, at a minimum, the certificates and technical requirements required in INMETRO Ordinance No. 62, including evidence of laboratory tests that prove compliance with the technical requirements. Said tests should be carried out in laboratories accredited by INMETRO;

v. Granting of the PROCEL Seal for Energy Saving Classification A: the LUMINAIRES installed by the CONCESSIONAIRE should have the PROCEL energy saving seal for LUMINAIRES for STREET LIGHTING. In the event of updating the requirements of the PROCEL Seal, the new requirements will only be applied to the LUMINAIRES installed after the date of publication of the update;

vi. In the event of revocation or suspension of the PROCEL Seal, the CONCESSIONAIRE should present, at a minimum, the certificates and technical requirements required in the PROCEL Seal, including evidence of laboratory tests that prove compliance with the technical requirements. These tests should be carried out in laboratories accredited by INMETRO.

7.5. In addition to the obligations previously detailed in this chapter, the CONCESSIONAIRE should:

7.5.1. Ensure that the lighting projects to be prepared prior to the MODERNIZATION AND STREAMLINING ENERGY action meet the requirements established in this ATTACHMENT and ensure compliance throughout the CONCESSION TERM.

7.5.2. Carry out any adjustments to the MUNICIPAL STREET LIGHTING NETWORK that may be necessary to fully meet the lighting and efficiency requirements of the CONCESSION provided for in this ATTACHMENT.

7.5.3. Ensure that, when carrying out any intervention, such as CORRECTIVE MAINTENANCE, at a STREET LIGHTING POINT, compliance with the lighting and efficiency requirements of the CONCESSION be maintained, as well as the technical specifications of the LUMINAIRES and other components used, as provided for in this ATTACHMENT.

7.5.4. In the cases where there is a need to replace arms or supports for adaptation, the CONCESSIONAIRE should carry out a prior technical study regarding the mechanical effort of the STREET LIGHTING pole, so as to facilitate the replacement of the arm and/or support by a new structure that ensures compliance with the lighting and efficiency requirements of the CONCESSION provided for in this ATTACHMENT.

7.5.5. In the cases where the replacement and/or new installation of an arm is necessary, the CONCESSIONAIRE should seek to maintain the arm pattern of the other STREET LIGHTING POINTS in the same street. It is understood that the pattern of arms of the same street is uniform in cases where all arms have the same constructive project characteristics in common: (i) horizontal projection; (ii) vertical projection; (iii) diameter; (iv) arm inclination angle; and (v) arm head inclination angle.

7.5.6. In the cases where the replacement and/or new installation of posts is necessary, the CONCESSIONAIRE should seek to maintain the standard of posts of the other STREET LIGHTING POINTS in the same street. It is understood that the pattern of posts in the same street is uniform in cases where all posts have the constructive project characteristics in common: (i) type of material; (ii) usable height; (iii) diameter.

7.5.7. Recompose, at the end of all SERVICES, the original conditions of the place, in keeping with the standards established by the GRANTING AUTHORITY, of the roads, sidewalks, and other areas, damaged due to the works carried out by the CONCESSIONAIRE.

7.6. For INITIAL STREET LIGHTING POINTS WITH LED, the CONCESSIONAIRE shall:

7.6.1. Ensure that all obligations and requirements set forth in the CONTRACT AGREEMENT and its ATTACHMENTS for the STREET LIGHTING POINTS are also met for the INITIAL STREET LIGHTING POINTS WITH LEDs, regardless of who was responsible for their installation.

7.6.2. Assess and define the replacement period for new LUMINAIRES in the INITIAL STREET LIGHTING POINTS WITH LED's, which may occur on any date from the beginning of PHASE I. The definitions provided for in item 7 will be fully applied to the INITIAL STREET LIGHTING POINTS WITH LED when replacing their LUMINAIRES.

7.6.2.1. The CONCESSIONAIRE shall justify the need to replace the LUMINAIRES of the INITIAL STREET LIGHTING POINTS WITH LED, through photographic evidence of failure in the LUMINAIRE or noncompliance with the requirements set forth in the CONTRACT AGREEMENT and its ATTACHMENTS, mainly regarding the lighting requirements, and may use checks in the field on a sampling basis, using the ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan as a reference.

7.6.2.2. The CONCESSIONAIRE should register in the REGISTRY, and inform the GRANTING AUTHORITY and the INDEPENDENT CERTIFIER on a monthly basis, when replacing the LUMINAIRES of the INITIAL STREET LIGHTING POINTS WITH LED.

8. EXPANSÃO DA REDE MUNICIPAL DE ILUMINAÇÃO PÚBLICA

8.1. Durante todo o prazo da CONCESSÃO, a CONCESSIONÁRIA deverá atender as solicitações do PODER CONCEDENTE para execução de EXPANSÃO DA REDE MUNICIPAL DE ILUMINAÇÃO PÚBLICA, observado o LIMITE MENSAL DE COTA EXPANSÃO.

8.2. A solicitação do PODER CONCEDENTE contempla a instalação de PONTOS DE ILUMINAÇÃO PÚBLICA ADICIONAIS em toda a ÁREA DA CONCESSÃO, incluindo instalação de LUMINÁRIAS em segundo nível em postes existentes, como uma solução para, entre outros, compatibilizar a ILUMINAÇÃO PÚBLICA com a arborização existente no local.

8.3. A REDE MUNICIPAL DE ILUMINAÇÃO PÚBLICA ampliada por meio da execução de EXPANSÃO DA REDE MUNICIPAL DE ILUMINAÇÃO PÚBLICA deve seguir os requisitos luminotécnicos e de eficiência da CONCESSÃO, e as especificações técnicas das LUMINÁRIAS e demais componentes utilizados, conforme previsto neste ANEXO.

8.4. THE EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK corresponds to the following categories: (i) INSTALLATION OF ADDITIONAL STREET LIGHTING POINTS, (ii) REPLACEMENT OF LUMINAIRE IN ADDITIONAL STREET LIGHTING POINT INSTALLED BY ENTREPRENEURS e (iii) OPERATION AND MAINTENANCE OF ADDITIONAL STREET LIGHTING POINTS, as follows:

8.4.1. INSTALLATION OF ADDITIONAL STREET LIGHTING POINTS is divided into the following subcategories:

i. ADDITIONAL EXCLUSIVE STREET LIGHTING POINT ON OTHER ROADS;

ii. ADDITIONAL EXCLUSIVE STREET LIGHTING POINT ON MAIN ROADS;

iii. ADDITIONAL NON-EXCLUSIVE STREET LIGHTING POINT ON OTHER ROADS;

iv. ADDITIONAL NON-EXCLUSIVE STREET LIGHTING POINT ON MAIN ROADS;

v. ADDITIONAL EXCLUSIVE STREET LIGHTING POINT ON CROSSWALK;

vi. ADDITIONAL EXCLUSIVE STREET LIGHTING POINT ON BIKE LANES.

8.4.2. REPLACEMENT OF LUMINAIRE IN ADDITIONAL STREET LIGHTING POINT INSTALLED BY ENTREPRENEURS is divided into the following subcategories:

i. REPLACEMENT OF LUMINAIRE IN ADDITIONAL LIGHTING POINT POINT INSTALLED BY SUBDIVIDERS ON OTHER ROADS.

ii. REPLACEMENT OF LUMINAIRE IN ADDITIONAL LIGHTING POINT POINT INSTALLED BY SUBDIVIDERS ON MAIN ROADS.

8.4.3. OPERATION AND MAINTENANCE OF ADDITIONAL STREET LIGHTING POINTS.

8.5. ADDITIONAL STREET LIGHTING POINTS installed by ENTREPRENEURS.

8.5.1. The GRANTING AUTHORITY may submit the EXTERNAL INSTALLATION PROJECTS to the CONCESSIONAIRE for check, by the CONCESSIONAIRE, of the requirements set forth in this ATTACHMENT;

8.5.1.1. The CONCESSIONAIRE shall not have a direct relationship with the ENTREPRENEURS, and the GRANTING AUTHORITY will be responsible for transmitting the EXTERNAL INSTALLATION PROJECTS to the CONCESSIONAIRE and sending requests for information, adjustments and approvals issued by the CONCESSIONAIRE to the ENTREPRENEURS;

8.5.1.2. The CONCESSIONAIRE's analysis of EXTERNAL INSTALLATION PROJECTS is limited to checking compliance by the projects with lighting standards and the efficiency of the CONCESSION, as well as the technical specifications of the LUMINAIRES and other components used. The CONCESSIONAIRE’s analysis does not supersede or replace the authorizations, permissions and/or administrative licenses that should be granted exclusively by the competent bodies and entities of the MUNICIPALITY.

8.5.2. The CONCESSIONAIRE will have a period of thirty (30) days, counting from the receipt of each EXTERNAL INSTALLATION PROJECT, to review the EXTERNAL INSTALLATION PROJECTS and substantiate any adjustments that may be necessary to meet the requirements set forth in this ATTACHMENT;

8.5.3. After delivery, by the GRANTING AUTHORITY, of the reformulated EXTERNAL INSTALLATION PROJECTS based on the adjustments indicated by the CONCESSIONAIRE, the CONCESSIONAIRE will have a period of up to five (5) business days to approve them or to request the rectification of the proposed changes, until there is the definitive approval of the document;

8.5.4. After confirmation by the CONCESSIONAIRE that the EXTERNAL INSTALLATION PROJECTS meet the requirements set forth in this ATTACHMENT, the CONCESSIONAIRE shall notify the GRANTING AUTHORITY of its approval;

8.5.5. After the implementation of the EXTERNAL INSTALLATION PROJECTS by the ENTREPRENEURS, the ADDITIONAL STREET LIGHTING POINTS will be assessed for the issuance of the respective ACCEPTANCE TERM, according to the procedures defined in item 16.10;

8.5.6. If the ADDITIONAL STREET LIGHTING POINT installed by ENTREPRENEURS does not meet the lighting and efficiency standards of the CONCESSION, as well as the technical specifications of the LUMINAIRES and other components used, the GRANTING AUTHORITY may request the CONCESSIONAIRE to REPLACE THE LUMINAIRE IN AN ADDITIONAL STREET LIGHTING POINT INSTALLED BY ENTREPRENEURS. In case of request by the GRANTING AUTHORITY, the CONCESSIONAIRE shall continue to apply in these STREET LIGHTING POINTS the guidelines provided for the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

8.6. Guidelines for EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK:

8.6.1. The CONCESSIONAIRE is responsible for providing all the labor, equipment and materials that may be necessary for planning and executing the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK;

8.6.2. For cases of EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK that require the INSTALLATION OF ADDITIONAL STREET LIGHTING POINTS as defined in items 8.4.1.i, 8.4.1.ii, 8.4.1.v and 8.4.1.8.4.1 the CONCESSIONAIRE shall also be responsible for the installation of the pole and for the implementation of the electricity network for the connection between the poles, which should be underground. At the discretion of the GRANTING AUTHORITY, the electric power network may be aerial. The CONCESSIONAIRE will also be responsible for expanding the electricity network for connection at the ENERGY DISTRIBUTION COMPANY’s delivery point, over distances of up to ninety (90) meters;

8.6.3. The CONCESSIONAIRE shall operate and maintain ADDITIONAL STREET LIGHTING POINTS arising from the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK by the CONCESSIONAIRE in accordance with the guidelines and requirements detailed in this ATTACHMENT, throughout the CONCESSION TERM.

8.6.4. Projects for ADDITIONAL STREET LIGHTING POINTS from the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK should follow the guidelines, specifications and procedures defined in the chapters 7.

8.6.5. For the activities of the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, the best layout should be proposed to avoid the suppression of trees and other vegetation cover. If it is unavoidable, the legal procedures provided for the activity should be followed.

8.6.6. The projects prepared by the CONCESSIONAIRE for the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK should consider a distance between the poles of at least 30 (thirty meters), unless requested by the GRANTING AUTHORITY for shorter distances.

8.6.7. The CONCESSIONAIRE will also be responsible for implementing the electricity network to connect the STREET LIGHTING POINT to the ENERGY DISTRIBUTION COMPANY's electricity grid delivery point, through the installation of an underground network.

8.6.8. The LUMINAIRES used in the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK should have a minimum efficiency of 130 lumens/watt.

8.7. Procedures for requesting the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK:

8.7.1. It will be up to the GRANTING AUTHORITY to request the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, according to the procedure below:

i. The GRANTING AUTHORITY shall identify, from the beginning of PHASE 0, the locations where the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK shall be carried out and indicate to the CONCESSIONAIRE the addresses; or

ii. The CONCESSIONAIRE will also be able to identify, from the beginning of PHASE 0, the places where the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK will be carried out. The CONCESSIONAIRE shall forward the addresses to the GRANTING AUTHORITY, which shall validate them and carry out

requests for EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK within 30 (thirty) days. If the GRANTING AUTHORITY does not return within the defined period, the request for EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK will be considered approved, provided that the MONTHLY CAPEX EXPANSION PAYMENT LIMIT is fulfilled. Any refusal by the GRANTING AUTHORITY regarding the request made by the CONCESSIONAIRE should be substantiated, in writing, and can only be based on the absence of public resources, on noncompliance with the MONTHLY CAPEX EXPANSION PAYMENT LIMIT or on the lack of need for EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, considering that there are already poles in the street with a distance of at least 30 (thirty) meters.

iii. USERS may also open calls to request the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, through the means provided for in clause 11.2, informing the addresses where it should be carried out. The said request should be forwarded by the CONCESSIONAIRE to the GRANTING AUTHORITY, pursuant to the same procedure indicated in item 8.7.1 ii.

8.7.2. The CONCESSIONAIRE shall prepare the projects within 60 (sixty) days after the GRANTING AUTHORITY's request for the execution of the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

9. IMPLANTAÇÃO DA ILUMINAÇÃO ESPECIAL

9.1. Aiming at enhancing and embellishing monuments and public spaces through lighting, CONCESSIONAIRE shall provide SPECIAL LIGHTING services in the MUNICIPALITY.

9.2. The scope and minimum guidelines necessary for the execution of SPECIAL LIGHTING services are presented below. To carry out the SPECIAL LIGHTING, the CONCESSIONAIRE should consider all the information contained in this chapter.

9.3. SPECIAL LIGHTING PROJECTS

9.3.1. The CONCESSIONAIRE must carry out installation at the places indicated below:

#	Local	Address
PIE 1	Antiga Sede do Grupo Escolar Bartolomeu Mitre	Av. Juscelino Kubitscheck, 68 - Centro
PIE 2	Antigo Hotel Cassino (Atual sede do Senac)	R. João Rouver, 160 - Centro
PIE 3	Avenida Brasil	Av. Brasil, Centro
PIE 4	Avenida das Cataratas	Av. das Cataratas
PIE 5	Avenida Jorge Schimmelpfeng	Av. Jorge Schimmelpfeng - Centro
PIE 6	Avenida Pedro Basso	Av. Pedro Basso, Jardim Central
PIE 7	Colégio Estadual Bartolomeu Mitre	Av. Jorge Schimmelpfeng, 351 - Centro
PIE 8	Fundação Cultural e Biblioteca Pública Municipal	R. Benjamin Constant, 62 - Centro
PIE 9	Monumento São Francisco de Assis	Av. Mario Filho – Morumbi
PIE 10	Paróquia São João Batista	Av. Jorge Schimmelpfeng, 70 – Centro
PIE 11	Praça Getúlio Vargas	Praça Getúlio Vargas, Centro
PIE 12	Antiga Câmara de Vereadores	Praça Getúlio Vargas - Centro
PIE 13	Praça Almirante Tamandaré	Praça Almirante Tamandaré – Centro
PIE 14	Praça da Bíblia	Av. República Argentina - Jardim Tarobá
PIE 15	Teatro Barracão	Av. República Argentina, 4073 - Jardim Tarobá
PIE 16	Praça da Paz	Praça da Paz, Centro
PIE 17	Prefeitura Municipal (Palácio das Cataratas)	Praça Getúlio Vargas, 280 – Centro
PIE 18	Via pública de acesso ao Monumento das três Fronteiras	Ac. Três Fronteiras - Jardim Eldorado

9.3.2. The CONCESSIONAIRE should use the quantitative of the respective EQUIPMENT AND MATERIALS FOR SPECIAL LIGHTING PROJECTS (EMPIE), as indicated in the tables below:

Projeto	**EMPIE 1**	**EMPIE 2**	**EMPIE 3**	**EMPIE 4**	**EMPIE 5**	**EMPIE 6**	**EMPIE 7**	**EMPIE 8**	**EMPIE 9**	**EMPIE 10**
PIE 1	0	19	0	0	0	0	0	0	11	2
PIE 2	0	0	0	0	5	12	2	19	79	32
PIE 3	0	0	80	0	0	0	0	0	36	8
PIE 4	0	0	0	0	0	0	0	0	0	212
PIE 5	0	0	358	0	0	0	0	0	16	114
PIE 6	0	0	0	0	0	0	0	0	0	182
PIE 7	0	19	89	0	2	18	0	0	61	4

PIE 8	3	0	17	0	5	0	0	0	32	0
PIE 9	0	0	16	0	0	0	0	0	9	0
PIE 10	5	8	0	0	0	0	0	0	46	8
PIE 11	2	0	12	0	0	10	8	0	34	10
PIE 12	0	12	31	0	0	0	0	0	43	0
PIE 13	0	0	42	20	0	0	4	0	0	18
PIE 14	0	0	48	0	1	0	30	0	0	0
PIE 15	0	0	0	0	2	0	0	0	28	8
PIE 16	0	42	23	0	0	0	28	0	8	2
PIE 17	0	0	4	0	2	0	0	0	8	0
PIE 18	0	0	0	178	0	0	0	0	0	0

Projeto	**EMPIE 11**	**EMPIE 12**	**EMPIE 13**	**EMPIE 14**	**EMPIE 15**	**EMPIE 16**	**EMPIE 17**	**EMPIE 18**	**EMPIE 19**
PIE 1	0	19	0	0	0	0	0	0	0
PIE 2	0	0	0	0	0	0	2	0	0
PIE 3	0	0	0	0	0	0	4	4	0
PIE 4	0	0	0	0	0	0	0	212	0
PIE 5	0	0	0	0	0	0	0	130	0
PIE 6	0	0	0	0	0	0	0	182	0
PIE 7	0	0	0	0	0	16	0	0	0
PIE 8	0	0	0	0	0	0	0	0	0
PIE 9	0	0	0	0	0	0	0	3	0
PIE 10	0	0	0	0	0	0	0	0	0
PIE 11	0	0	0	0	0	0	0	0	10
PIE 12	0	0	0	0	0	0	0	0	0
PIE 13	0	0	0	0	0	0	0	0	21
PIE 14	0	0	0	0	0	0	0	0	0
PIE 15	0	0	0	0	0	0	0	32	0
PIE 16	0	0	0	0	0	90	0	8	0
PIE 17	0	0	0	0	51	0	0	0	0
PIE 18	0	0	0	0	0	0	0	0	178

9.4. Specifications of Equipment and Materials

9.4.1. EQUIPMENT AND MATERIALS FOR SPECIAL LIGHTING PROJECTS (EMPIE) should have at least the following technical characteristics:

i. EMPIE01 (External Use Lamp Holder): Equipment for external use used to contribute to the lighting of facades and sidewalks, usually in places where the installation of elements such as poles or spotlights is not indicated. The minimum requirements for this equipment are: LED technology, Correlated Color Temperature variable between 3,000K and 4,000K, minimum Color Reproduction Index (CRI) of 70 and equivalent minimum protection index IP66 and IK10;

ii. EMPIE02 (Safety Cone): Equipment for external use used to delimit paths and guide the observer, usually embedded in the ground or in walls. The minimum requirements for this equipment are: LED technology, Correlated Color Temperature variable between 3,000K and 4,000K, minimum Color Reproduction Index (CRI) of 70 and equivalent minimum protection index IP67 and IK08;

iii. EMPIE03 (Soil Embedded): Equipment for external use used to highlight facades, monuments, arboreal elements, among others. The minimum requirements for this equipment are: LED technology, made up of aluminum body, tempered glass or polycarbonate diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K, 4,000 K and RGBW, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP67 and IK10;

iv. EMPIE04 (Decorative Luminaire): Equipment for external use used in pedestrian paths, squares, parks, among others. It is arranged together with support structures of varying heights. The minimum requirements for this equipment are: LED technology and in compliance with ABNT NBR 15129:2004, Correlated Color Temperature variable between 3,000K and 4,000K, color reproduction index (CRI) greater than 80 and minimum protection index equivalent to IP66 and IK10;

v. EMPIE05 (Indoor Luminaire): Equipment for indoor use, used for general lighting of indoor environments or those protected from urban equipment that have visual permeability, such as gazebos and kiosks, or that make up the external volume of buildings, such as marquees and balconies. The

minimum requirements for this equipment are: LED technology, Correlated Color Temperature variable between 3,000K and 4,000K, luminous flux up to 4,500 lm, minimum Color Reproduction Index (CRI) of 80 and equivalent minimum protection index IP20;

vi. EMPIE06 (High Intensity Luminaire for Indoor Use): Equipment for indoor use, used for general lighting of indoor environments or those protected from urban equipment that have visual permeability, such as gazebos and kiosks, or that make up the external volume of buildings, such as marquees and balconies. They have varied morphologies and are indicated as an integral part of the decorative posts installed in squares and pedestrian paths of the Municipality. The minimum requirements for this equipment are: LED technology, with a Correlated Color Temperature variable between 3,000K and 4,000K, with a luminous flux from 4,501 lm to 10,000 lm, with a minimum color reproduction index (CRI) of 80 and a minimum protection index IP20 equivalent;

vii. EMPIE07 (Road Luminaire): Equipment for external use used for lighting public roads, parking lots, parks and squares. The minimum requirements for this equipment are: LED technology, certified in Ordinance No. 62 of INMETRO, Correlated Color Temperature variable between 3,000K and 4,000K, which allow control and automation, color reproduction index (CRI) minimum of 70 and index minimum protection equivalent to IP65 and IK08;

viii. EMPIE08 (Safety Pole): Equipment for external use used to delimit paths and guide the viewer, usually placed along pedestrian paths and gardens. The minimum requirements for this equipment are: structures composed of steel or aluminum with a height of up to 1,000mm with coupled lighting and floor support. In addition, equipment with a Correlated Color Temperature variable between 3,000K and 4,000K, with a minimum color reproduction index (CRI) of 70 and a minimum protection index equivalent to IP65 is recommended;

ix. EMPIE09 (Low Intensity Projector): Equipment for external use used for lighting facades, urban equipment, monuments, and decorative and tree elements. The minimum requirements for this equipment are: LED technology, made up of aluminum or galvanized steel body, tempered glass, polycarbonate or acrylic diffuser, of different types of photometry

and opening angles, Correlated Color Temperature ranging between 3,000 K, 4,000 K and RGBW, with luminous flux up to 6,000 lm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP66 and IK08;

x. EMPIE10 (Medium Intensity Projector): Equipment for external use used for lighting facades, urban equipment, monuments, and decorative and tree elements. The minimum requirements for this equipment are: LED technology, made up of aluminum or galvanized steel body, tempered glass, polycarbonate or acrylic diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K, 4,000 K and RGBW, with luminous flux ranging from 6,001 lm to 25,000 lm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP66 and IK08;

xi. EMPIE11 (High Intensity Projector): Equipment for external use used for lighting facades, urban equipment, monuments, and decorative and tree elements. The minimum requirements for this equipment are: LED technology, made up of aluminum or galvanized steel body, tempered glass, polycarbonate or acrylic diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K, 4,000 K and RGBW, with luminous flux starting from 25,001 lm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP66 and IK08;

xii. EMPIE12 (Low Intensity Linear Projector): Linear equipment for external use used for lighting facades, urban equipment, monuments, and decorative elements. The minimum requirements for this equipment are: LED technology, made up of aluminum, tempered glass diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K and 4,000 K, with luminous flux up to 2,000 lm, length until 500 mm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP66 and IK08;

xiii. EMPIE13 (Medium Intensity Linear Projector): Linear equipment for external use used for lighting facades, urban equipment, monuments, and decorative elements. The minimum requirements for this equipment are: LED technology, made up of aluminum, tempered glass diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K and 4,000 K, with luminous flux from 2,001 lm to 7,500 lm, length above 500 mm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP66 and IK08;

xiv. EMPIE14 (Built-in Low Intensity Linear Projector): Linear equipment for external use, embedded in the ground, used for lighting facades, urban equipment, monuments, and decorative and tree elements. The minimum requirements for this equipment are: LED technology, made up of aluminum, tempered glass diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K and 4,000 K, with luminous flux up to 2,000 lm, length until 500 mm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP67 and IK10;

xv. EMPIE15 (Built-in Medium Intensity Linear Projector): Linear equipment for external use, embedded in the ground, used for lighting facades, urban equipment, monuments, and decorative and tree elements. The minimum requirements for this equipment are: LED technology, made up of aluminum, tempered glass diffuser, of different types of photometry and opening angles, Correlated Color Temperature ranging between 3,000 K and 4,000 K, with luminous flux from 2,001 lm to 7,500 lm, length above 500 mm, allowing control and automation, with a minimum color reproduction index (CRI) of 80 and a minimum protection index equivalent to IP67 and IK10;

xvi. EMPIE16 (Underwater Projector): Equipment for external use used in order to enhance urban equipment that requires installations submerged in water. The minimum requirements for this equipment are: LED technology, which have a broad chromatic spectrum (RGB), which allow control and automation, with a minimum color reproduction index (CRI) of 70 and a minimum protection index equivalent to IP68 and IK10;

xvii. EMPIE17 (Arm): Accessory for external use used as a support for luminaires at a certain distance from the column axis. The minimum requirements for this equipment are: IP arms in hot-dip galvanized steel according to ABNT NBR 6323:2016;

xviii. EMPIE18 (Anti-Theft Grid): Accessory for external use used as protection against vandalism. The minimum requirements for this equipment are: use of railings that mimic the landscape and that do not compromise the light beams of the EI equipment;

xix. EMPIE19 (Pole): Accessory for external use used as a support for luminaires and projectors. The minimum requirements for this equipment are: straight poles with heights and fastening systems compatible with the use and configuration of the urban space where they will be installed, and that comply with the regulations set out in NBR-14744.

9.5. General Guidelines for SPECIAL LIGHTING

9.5.1. The SPECIAL LIGHTING of the premises should take into account the architectural, technical, constructive, artistic and historical characteristics that give it special value. Therefore, the original design of the asset should be respected, with regard to its technical and plastic characteristics, in order to guarantee its physical integrity.

9.5.2. The CONCESSIONAIRE shall carry out the SPECIAL LIGHTING interventions in the MUNICIPALITY locations, taking into consideration, for each location, the following aspects:

i. Preliminary historical and stylistic study, which guides designers in relation to the pivotal points to be highlighted;

ii. Appreciation of the cultural property in all existing sights of the monument;

iii. Minimization of daytime and/or nighttime interference by SPECIAL LIGHTING equipment on the cultural property. The use of equipment in the structure of the property itself should be designed to ensure that physical damage is not caused by its attachment and that it is properly mimicked, not drawing undue attention to itself. The cultural asset should be valued for its light and not be a mere support for highlighting lighting equipment. The same applies to equipment intended for its immediate

surroundings, as well as to equipment installed on poles where the same precautions should be taken into consideration.

9.5.3. Every SPECIAL LIGHTING proposal should be prepared considering the characteristics of the STREET LIGHTING in its surroundings, with regard to the level of lighting, the Correlated Color Temperature, the reproduction of color and the possible impacts of its emanated light or shading incident on the cultural property. If there is no STREET LIGHTING around the cultural property, the CONCESSIONAIRE should adapt the environment, in order to bring safety and comfort to the USERS.

9.5.4. The SPECIAL LIGHTING project should be prepared based on the STREET LIGHTING project, taking into consideration the impacts that will be produced, their interaction or mutual influence, so that cultural assets do not undergo undue interference from STREET LIGHTING, either by the incidence of light or by the shading created. The harmony between the lighting levels and the correlated color temperatures chosen should guarantee the success of the lighting proposals and the balance between STREET LIGHTING and SPECIAL LIGHTING.

9.5.5. The existing vegetation can be used with a view to mimicking the STREET LIGHTING POINTS (poles, auxiliary equipment, projectors, etc.), so the presence of arboreal elements in the surroundings or in the vicinity of the cultural property constitutes an opportunity to carry out the insertion of lighting equipment in an discreet way. It is essential that the maintenance cycle of the plant elements is observed, because, depending on the positioning of the lighting equipment, the vegetation may quickly become an obstacle to lighting, and the CONCESSIONAIRE should consider in the projects the natural growth of the vegetation and the period necessary for carrying out the pruning services.

9.5.6. If the existing vegetation in the surroundings is used as an element to be valued by the light, with the function of creating setting or ambiance, special care should be dedicated to the existing fauna and flora, in order to avoid damage of an environmental nature caused by lighting in terms of electromagnetic radiation emissions, as well as incident lighting levels, both on the vegetation and on the animal species that inhabit there.

9.6. Guidelines for implementing SPECIAL LIGHTING

9.6.1. In addition to the definitions contained in this chapter 9, for the development of SPECIAL LIGHTING PROJECTS, the CONCESSIONAIRE should consider the guidelines presented in items 7.2.1 to 7.2.5 ,7.3.1 to 7.3.9 and 7.5, except for the following exceptions:

i. The approval process described in item 7.2 shall also include, in addition to the GRANTING AUTHORITY, other bodies related to SPECIAL LIGHTING, such as competent historical heritage protection bodies provided for in the legislation or appointed by the GRANTING AUTHORITY;

ii. The deadline indicated in the item 7.2.1 for approval of the project will be 60 (sixty) days;

iii. The CONCESSIONAIRE shall also prepare a graphic representation with visualization of the SPECIAL LIGHTING proposal for each SPECIAL LIGHTING PROJECT.

9.6.2. The CONCESSIONAIRE should pay attention when proposing the location of EMPIE, seeking solutions in the face of vandalism;

9.6.3. The poles to be installed for SPECIAL LIGHTING should have dimensions compatible with the sidewalk, avoiding disturbing passers-by;

9.6.4. Only reuse materials and equipment in conditions of use and efficiency, reviewing and/or replacing, if necessary, the connections to the electrical network;

9.6.5. Ensure, throughout the CONCESSION TERM, the maintenance and operation of all equipment and devices intended for SPECIAL LIGHTING, replacing any component when its operating life ends.

10. IMPLEMENTATION OF THE TELEMANAGEMENT SYSTEM

10.1. The CONCESSIONAIRE shall implement the TELEMANAGEMENT SYSTEM at the STREET LIGHTING POINTS located on ROADS WITH TELEMANAGEMENT, in accordance with the provisions and guidelines of the chapter 6.

10.2. The CONCESSIONAIRE shall implement a TELEMANAGEMENT SYSTEM at the STREET LIGHTING POINTS according to the schedule established in item 16 of this

ATTACHMENT. For the implementation of the TELEMANAGEMENT SYSTEM, the CONCESSIONAIRE shall design the network architecture of the TELEMANAGEMENT SYSTEM, considering the topology of the MUNICIPAL STREET LIGHTING NETWORK and the defined technology.

10.3. The TELEMANAGEMENT SYSTEM should consist of minimum operational features, platform for controlling the TELEMANAGEMENT SYSTEM, connectivity and control devices to be installed in the STREET LIGHTING POINTS.

10.4. The CONCESSIONAIRE shall implement a platform to control the TELEMANAGEMENT SYSTEM that guarantees at least:

i. Simultaneous operation of multiple control screens in different locations, by any user level at any time, with uninterrupted operation 24 (twenty-four) hours a day;

ii. Reliable encryption technology with a high level of security for system operations in compliance with applicable regulations;

iii. Data storage, by redundancy, in at least two different locations, to ensure that regardless of natural adversities, the reliability of the storage and the retrieval of information can be done at any time. Data replication should be instantaneous and automatic, allowing instant access to them in case of any event or external anomaly.

iv. Updates remotely and securely, installed automatically and without disturbing the operation of the TELEMANAGEMENT SYSTEM;

v. Be compatible for the incorporation of existing open lighting technologies (including 0-10V technology, DALI, among others);

vi. The platform for controlling the TELEMANAGEMENT SYSTEM should present a user-friendly web interface, available in Portuguese, which can be viewed from any device with a common browser and should allow integration with other systems. It should be possible to generate reports of historical data referring to failures, occurrences and measurements, which can be exported in files;

vii. Grouping of LUMINAIRES in multiples of groups, allowing overlapping and consultation of groups;

viii. Configuration of programs and routines for control, monitoring and consultation;

ix. Identification of the types of failures in the LUMINAIRES (such as off or on, outside operating hours), with the visualization of such failures automatic and in real time;

x. Registry, updating and maintenance of the history of the following parameters for each STREET LIGHTING POINT: Remote control status (online, offline, warnings and errors); LUMINAIRE status (on, off, alerts and errors); Input voltage (V); Current (A); Active power (W); Power factor; Operating time (on time/off time); Cumulative energy consumption (Wh). It should allow scheduling of the frequency with which information is collected from the lighting points;

xi. Automatic records of changes in the behavior of the LUMINAIRES, and time of return to operation;

xii. Generation of management reports that allow the visualization of digital maps with georeferenced visualization of STREET LIGHTING POINTS, graphics and statements;

xiii. Issue an alert, in the cases of identification of operational failures in the STREET LIGHTING POINTS, through a service order with the necessary information for analysis by the maintenance teams in the field.

10.5. The CONCESSIONAIRE shall provide connectivity, ensuring communication between the TELEMANAGEMENT SYSTEM control devices installed in the STREET LIGHTING POINTS, the TELEMANAGEMENT SYSTEM control platform and CCO. The connectivity shall establish bidirectional communication of information between the STREET LIGHTING POINTS with TELEMANAGEMENT SYSTEM and CCO, in order to allow CCO to submit command information to the STREET LIGHTING POINTS and that these, through their control devices, send information regarding the operational state of the STREET LIGHTING POINT.

10.6. The CONCESSIONAIRE will be responsible for providing a connectivity network that ensures data coverage at all STREET LIGHTING POINTS and operates at an authorized frequency regulated by ANATEL for this type of service.

10.7. The TELEMANAGEMENT SYSTEM, in addition to the previously indicated specifications, should comply with the following specifications:

i. Allow receiving individual or group control for on/off, dimming, operating calendars and hourly signal messages and commands;

ii. Field devices shall be controlled through the same environment as the telemanagement platform, regardless of the technology adopted in the field;

iii. Real-time communication between the STREET LIGHTING POINT and CCO, for fault communication;

iv. Dimming capacity between 1% (one percent) to 100% (one hundred percent);

v. Ability to turn the LUMINAIRE on or off remotely and through scheduled or direct programming.

10.8. Dimming:

10.8.1. The TELEMANAGEMENT SYSTEM should guarantee the remote adjustment of the luminous flux in real time of each LUMINAIRE that has a TELEMANAGEMENT SYSTEM.

10.8.2. The luminous flux adjustment in STREET LIGHTING POINTS with TELEMANAGEMENT SYSTEM may be applied by the CONCESSIONAIRE based on the following guidelines, according to the LIGHTING CLASS of the STREET LIGHTING POINT and the time of day:

LIGHTING CLASS of Vehicles	**Before 10:00 pm**	**Between 10:00 pm and 00:00 am**	**Between 00:00 pm and 04:00 am**	**Between 04:00 am and 06:00 am**	**As of 06:00 am**
V1	V1	V2	V2	V2	V1
V2	V2	V2	V3	V2	V2
V3	V3	V3	V4	V3	V3
V4	V4	V4	V4	V4	V4
V5	V5	V5	V5	V5	V5

10.8.3. Only for the purposes of dimming, the control of lighting requirements will be based on the LIGHTING CLASS of Vehicles.

10.8.4. The CONCESSIONAIRE may use the dimming in relation to the depreciation of the luminous flux of the LUMINAIRE, ensuring the maintenance of the minimum levels for the lighting requirements.

10.8.5. For any dimming action, the CONCESSIONAIRE should ensure compliance with the lighting requirements of the Vehicle LIGHTING CLASS according to the applied dimming time, following the guidelines in item 10.8.2.

11. IMPLEMENTATION AND OPERATIONALIZATION OF OPERATIONAL CONTROL CENTER (CCO)

11.1. OPERATIONAL CONTROL CENTER (CCO).

11.1.1. The OPERATIONAL CONTROL CENTER (CCO), to be implemented and operated by the CONCESSIONAIRE, shall ensure the integrated management and control of all SERVICES provided by the CONCESSIONAIRE during the CONCESSION TERM.

11.1.2. CONCESSIONAIRE shall:

i. Provide a place for the installation of CCO (own or rented), meeting all accessibility requirements according to ABNT NBR 9050: 2020;

ii. Make available all materials, systems, equipment, as well as labor, duly trained by the CONCESSIONAIRE, necessary for the development of routine activities of operation of CCO;

iii. Respond to all CORRECTIVE MAINTENANCE calls, arising from citizens or the GRANTING AUTHORITY, through the operation of the CONCESSIONAIRE's Call Center and availability of the SERVICE CHANNELS provided for in item 11.2. The CONCESSIONAIRE may choose to subcontract the Call Center operation service, provided that it ensures compliance with all the rules and requirements set forth in this ATTACHMENT;

iv. Provide full and real-time access to the GRANTING AUTHORITY, the INDEPENDENT CERTIFIER and other municipal bodies authorized by the GRANTING AUTHORITY, to CCO data, through access to the system and the issuance of dynamic reports and thematic maps, for monitoring and control of the SERVICES performed;

v. Ensure the continuity of the operation, through the installation of an uninterrupted energy supply system, when there is a lack of electricity supply at CCO facilities, guaranteeing full operation of the Call Center equipment and systems, operation management and TELEMANAGEMENT SYSTEM management;

vi. Continuously update, during the CONCESSION period, all equipment, systems, and physical structure of CCO, considering the profile of the useful life of each technology, contemplating the period of obsolescence and the index of availability for use of each equipment (including redundancy of equipment whenever necessary);

vii. Enter on CCO data bases the information regarding the services performed for the maintenance of the MUNICIPAL STREET LIGHTING NETWORK, including, but not limited to: STREET LIGHTING POINTS impacted; responsible team; reason for maintenance; activity performed; status after service; materials involved.

viii. Store, throughout the CONCESSION TERM, all data bases, information and documentation associated with the operation of CCO, which should be passed on to the GRANTING AUTHORITY, at any time, when requested by the GRANTING AUTHORITY and, in full, at the expiration of the CONTRACT AGREEMENT.

11.2. SERVICE CHANNELS:

11.2.1. The CONCESSIONAIRE should implement the following SERVICE CHANNELS for USERS and the GRANTING AUTHORITY before the beginning of PHASE I and operate over the CONCESSION TERM:

i. Call Center;

ii. ONLINE PORTAL: portal developed by the CONCESSIONAIRE to open calls by USERS free of charge, and disclosure of information provided for in item 15;

iii. Mobile application (smartphones or tablets): with at least Android and iOS operating systems and, with free download from the mobile device's operating system application store.

iv. Face-to-face service in the MUNICIPALITY, operating only during business hours.

11.2.2. The calls received by the CONCESSIONAIRE through the SERVICE CHANNELS should be registered and forwarded to the maintenance teams.

11.2.3. The CONCESSIONAIRE shall provide a direct service channel to the GRANTING AUTHORITY, thus facilitating the capture and distribution of data necessary for the execution of the SERVICES under the responsibility of the CONCESSIONAIRE, as well as the fulfillment of the GRANTING AUTHORITY's requests.

11.2.4. In order to guarantee the receipt, registry and forwarding of all calls, the CONCESSIONAIRE should make available all materials and systems, as well

as duly trained labor, in adequate quantity, according to the shift and day of the week.

i. In the case of calls to request EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK, the CONCESSIONAIRE shall forward them to the GRANTING AUTHORITY pursuant to clause 8.7.1 **Error! Reference source not found.**.

11.2.5. With regard to the Call Center, the CONCESSIONAIRE shall:

i. Ensure operation 24 (twenty-four) hours a day, by providing a specific service channel, guaranteeing the provision of a toll-free number (0800 or a direct extension);

ii. Prepare Service Scripts for the most frequent calls;

iii. Propose and execute an alternative plan for the operation of the call center in case there is a failure in the system.

iv. In the case of automated service (URA – Audible Response Unit), it is mandatory to have the option of human service.

11.3. Operation Management:

11.3.1. Operation management should be guaranteed through a system that guarantees control of the maintenance and operation process of the MUNICIPAL STREET LIGHTING NETWORK. The system should perform integration between the maintenance and operation protocols of works and the control data of the fleet and of the teams in the field to monitor the execution of each SERVICE. It should generate, control and distribute service orders to the teams, from the receipt of calls through the SERVICE CHANNELS defined in item 11.2.

11.3.2. The CONCESSIONAIRE should keep a record of the calls from the opening to the closing of the call, with a description of the activities carried out during the process and the deadline for complete resolution of the call.

11.3.3. CONCESSIONAIRE's obligations and responsibilities are as follows:

i. Resolution of all CORRECTIVE MAINTENANCE and EMERGENCY MAINTENANCE calls;

ii. Management of the workload of each team;

iii. Planning of Routes;

iv. System documentation of the maintenance activities performed;

v. Integration with the call management system implemented in CCO, providing the necessary information for record on the system operated in CCO, at least, from the moment of occurrence of failures in the STREET LIGHTING POINTS with TELEMANAGEMENT SYSTEM and measurement of the time to carry out the SERVICES of CORRECTIVE MAINTENANCE at these points;

vi. Record of occurrences of defects in the MUNICIPAL STREET LIGHTING NETWORK that may originate from (a) the SERVICE CHANNELS, (b) the field identification of the technicians responsible for maintenance, (c) the indication of the TELEMANAGEMENT SYSTEM and (d) the GRANTING AUTHORITY;

vii. The treatment of pending issues in the execution of the SERVICES or services required by other public bodies or other public utility concessionaires that provide services in the CONCESSION AREA should be recorded in the occurrences;

viii. Information on scheduled shutdowns from the ENERGY DISTRIBUTION COMPANY should also be recorded;

ix. In the event of any incident involving an asset owned by the ENERGY DISTRIBUTION COMPANY, which impacts the functioning of the SERVICES, the CONCESSIONAIRE shall notify the ENERGY DISTRIBUTION COMPANY so that it takes the necessary actions and communicates it to the GRANTING AUTHORITY;

x. Police Report due to theft and vandalism in the MUNICIPAL STREET LIGHTING NETWORK.

11.4. Electricity Consumption Management

11.4.1. CONCESSIONAIRE's obligations are:

i. Manage the consumption of electricity in the MUNICIPAL STREET LIGHTING NETWORK, monitoring energy efficiency based on MODERNIZATION AND STREAMLINING ENERGY;

ii. Determine the estimated energy consumption based on the installed load of the STREET LIGHTING POINTS and the operating time provided for in the current ANEEL Resolution. At points equipped with a TELEMANAGEMENT SYSTEM, it should be possible to compare the estimated consumption with the consumption measured by the TELEMANAGEMENT SYSTEM;

11.5. Information Security

11.5.1. CONCESSIONAIRE's obligations are:

i. Hire third-party solutions that may be necessary and maintain the best market practices to ensure that all human operators, systems, subsystems, data bases, equipment and other assets or configuration items and direct or indirect components of the solution under the administration of CONCESSIONAIRE are protected against undue access, invasions and/or attacks of any kind, in keeping with ISO 27000 series standards.

ii. Continuously assess whether the products and services purchased from its suppliers are up-to-date and secure and do not have known vulnerabilities.

iii. Bear the damages arising from information security incidents, in all its fullness and scope, under the terms of the applicable legislation.

iv. Communicate to the GRANTING AUTHORITY any incident involving information security, such as loss of data, improper access and/or collection of data, digital attacks, virus detection or identification of vulnerabilities in any software or equipment used.

v. Store copy (backups) of system data bases, in open standards or broad and easy to use, redundantly and physically isolated from the operation and servers/cloud system used in production. The CONCESSIONAIRE is responsible for any loss of data, whether due to failures or digital attacks, if copies are not properly available.

vi. Adopt specific technical and organizational measures for the protection of personal data, in compliance with all applicable personal data protection legislation.

vii. Collect personal data within the scope of the CONCESSION only for the specific purposes of improving and providing the SERVICES, meeting

the principles of purpose, adequacy, need, free access by holders, data quality, transparency, security, prevention, non-discrimination, accountability and supply of bills.

viii. Treat confidentially all information received and/or generated, which cannot be copied, reproduced, published, disclosed in any way or by any means, except for the GRANTING AUTHORITY and for the exclusive needs of the CONCESSIONAIRE's work, contained in this instrument, except in the case of legal claims.

ix. Maintain a dedicated communication network for CCO and TELEMANAGEMENT SYSTEM. Communication channels should be exclusive and should not be shared with the internal or external corporate network (corporate internet). For points of contact between the networks that are strictly necessary, the CONCESSIONAIRE should use technologies that guarantee the necessary protection and isolation between the networks, such as, for instance, firewalls.

12. PERFORMANCE OF MAINTENANCE SERVICES

12.1. The CONCESSIONAIRE shall be responsible for maintaining the MUNICIPAL STREET LIGHTING NETWORK, ensuring the performance of PREDICTIVE, PREVENTIVE, CORRECTIVE and EMERGENCY MAINTENANCE SERVICES, with a view to ensuring that the MUNICIPAL STREET LIGHTING NETWORK performs its role and operates in regular, standardized, and safe conditions from the beginning of PHASE I.

12.2. The CONCESSIONAIRE shall perform the SERVICES in accordance with the guidelines provided for in this ATTACHMENT and in the CONTRACT AGREEMENT, with the OPERATION AND MAINTENANCE PLAN (POM) and with the procedures established by the ENERGY DISTRIBUTION COMPANY in its technical standards for intervention in the electricity supply network. It should also be observed, where applicable, the terms of the contract agreements entered into between the GRANTING AUTHORITY and the ENERGY DISTRIBUTION COMPANY.

12.3. CORRECTIVE MAINTENANCE

12.3.1. CORRECTIVE MAINTENANCE shall be carried out by:

i. Opening of calls by USERS or GRANTING AUTHORITY;

ii. Identification of irregularities when carrying out PREVENTIVE MAINTENANCE by the CONCESSIONAIRE;

iii. Identification of irregularities in STREET LIGHTING POINTS through the TELEMANAGEMENT SYSTEM.

12.3.2. CORRECTIVE MAINTENANCE SERVICES shall cover all components and equipment of the MUNICIPAL STREET LIGHTING NETWORK, including TELEMANAGEMENT SYSTEM and SPECIAL LIGHTING. The CORRECTIVE MAINTENANCE actions that should be performed by the CONCESSIONAIRE are, at a minimum:

i. Replacement of any component of the STREET LIGHTING POINT that fails, malfunctions or is missing (theft, for instance);

ii. Suppression, removal and replacement of units, equipment and other materials belonging to the MUNICIPAL STREET LIGHTING NETWORK;

iii. Placement of lid in junction box;

iv. Cleaning the junction box and adapting its connections;

v. Correction of position of arms and/or LUMINAIRES;

vi. Grounding of poles from MUNICIPAL STREET LIGHTING NETWORK;

vii. Identification and elimination of clandestine electrical charges in electrical networks exclusive to STREET LIGHTING, with notification sent to the GRANTING AUTHORITY;

viii. Closing of LUMINAIRES with an open-end glass cover;

ix. Replacement of glass cover on LUMINAIRES with broken cover;

x. Transformer (primary switch) and power circuit protection maneuver exclusive to the MUNICIPAL STREET LIGHTING NETWORK;

xi. Replacement of the identification plate or label of the STREET LIGHTING POINT;

xii. Clearance of the MUNICIPAL STREET LIGHTING NETWORK and its components from foreign objects, whenever found;

xiii. Carrying out other corrective services in equipment, devices and structures of the MUNICIPAL STREET LIGHTING NETWORK.

12.4. EMERGENCY MAINTENANCE

12.4.1. The CONCESSIONAIRE shall carry out EMERGENCY MAINTENANCE actions when the physical integrity of USERS, direct or indirect workers, environment or the property of the MUNICIPALITY is at risk. These actions should be immediately fulfilled, that is, they configure as corrective actions of prompt service. Are examples, provided that directly related to the MUNICIPAL STREET LIGHTING NETWORK, of situations that trigger EMERGENCY MAINTENANCE actions are:

i. collision or fall of poles of the MUNICIPAL STREET LIGHTING NETWORK;

ii. quantity greater than 3 (three) sequential LIGHTING POINTS connected to the same network and turned off;

iii. atmospheric phenomena, including atmospheric discharges in STREET LIGHTING equipment or persons;

iv. arms and LUMINAIRES on the verge of falling;

v. junction boxes without cover;

vi. roads or sidewalks obstructed with components of STREET LIGHTING POINTS.

vii. falling tree or part of vegetation on pole, arm, LUMINAIRE or electricity grid;

viii. tool or equipment fall on worker, passerby or animal or motor traction vehicle;

ix. drop of lifting equipment of people (Aerial basket or Suspended basket or Coupled basket);

x. locking or failure of lifting equipment of people in height;

xi. fall of load lifting equipment;

xii. load tipping, during transport;

xiii. direct or indirect employee of the CONCESSIONAIRE during work at height;

xiv. person hung in electrical wiring of the MUNICIPAL STREET LIGHTING NETWORK;

xv. traffic accident during the transport of persons, materials and equipment;

xvi. electric shock in direct or indirect workers of the CONCESSIONAIRE or USERS;

xvii. grounding of person or equipment;

xviii. external situations such as fires, seismic movements and flooding.

12.4.2. The CONCESSIONAIRE should prioritize EMERGENCY MAINTENANCE services, immediately after receiving the request, moving the vehicle and team closest to the place of occurrence, regardless of the route, working hours and services scheduled for the day.

12.4.3. In situations that require EMERGENCY MAINTENANCE services, the CONCESSIONAIRE should signal and isolate the risk location. In the cases where the team assigned to perform the service is unable to solve or eliminate the risk, the appropriate maintenance team should be requested, keeping an employee on standby waiting for the specialized team.

12.4.4. The CONCESSIONAIRE shall notify the GRANTING AUTHORITY of the execution of the EMERGENCY MAINTENANCE service immediately. It should have its provision ensured for twenty-four (24) hours a day, 7 (seven) days a week, uninterruptedly, and the CONCESSIONAIRE should, for that purpose, have a minimum team to meet the existing demands and the defined service deadlines, which should have communication channels and operation in real time.

12.5. Terms for performing CORRECTIVE and EMERGENCY MAINTENANCE services

12.5.1. The maximum service and resolution deadlines for CORRECTIVE and EMERGENCY MAINTENANCE services are shown in the table below:

Type of Answered Call	**Time for Answering Call**
Answering calls in MAIN ROADS	In up to 24 hours

Type of Answered Call	Time for Answering Call
Answering calls in SPECIAL AREAS	In up to 24 hours
Answering calls on OTHER ROADS	In up to 48 hours
Answering calls in Rural Districts	In up to 72 hours
SPECIAL LIGHTING	In up to 48 hours
Answering EMERGENCY MAINTENANCE	In up to 06 hours

12.5.2. Aspects considered in relation to service deadlines:

i. The roads in the Rural Zone are in areas of the MUNICIPALITY outside the Urban Zone and outside the District Headquarters of the MUNICIPALITY.

ii. In order to comply with the service times defined for the performance of CORRECTIVE and EMERGENCY MAINTENANCE services, the deadline will be counted from the moment the call is received by the SERVICE CHANNELS, identification by the TELEMANAGEMENT SYSTEM or annotation by the motorized patrol, via PREVENTIVE MAINTENANCE. In the case of simultaneous identification by the TELEMANAGEMENT SYSTEM and opening of a call, the deadline will be calculated based on the earlier information. The deadline will be counted until the conclusion of the CORRECTIVE or EMERGENCY MAINTENANCE services.

iii. In the cases where a prior release by the MUNICIPAL TRAFFIC AUTHORITY or ENERGY DISTRIBUTION COMPANY is required, the period between the CONCESSIONAIRE's notification to the responsible entity (MUNICIPAL TRAFFIC AUTHORITY or ENERGY DISTRIBUTION COMPANY) and the receipt of the CONCESSIONAIRE's authorization for action shall not will be accounted for.

iv. When the performance of any maintenance services depends on the actions of the ENERGY DISTRIBUTION COMPANY, the CONCESSIONAIRE shall (i) identify the actions that depend on the ENERGY DISTRIBUTION COMPANY; (ii) trigger it; and (iii) follow up the performance deadlines for the rectifications and keep the

GRANTING AUTHORITY informed about any change in the status of this process.

12.6. PREVENTIVE MAINTENANCE

12.6.1. PREVENTIVE MAINTENANCE activities comprise scheduled, periodic, systematic and well-defined actions/interventions with a view to increasing the probability that the STREET LIGHTING POINTS will operate within the expected useful life and avoid system failures, equipment wear, USERS' complaints or requests from the GRANTING AUTHORITY. Preventive actions are based on pre-determined time intervals and/or pre-established operating conditions that may be inadequate.

12.6.2. Regarding the check of the general conditions in the MUNICIPAL STREET LIGHTING NETWORK, the CONCESSIONAIRE shall:

i. Carry out a visual inspection at all STREET LIGHTING POINTS not covered by the TELEMANAGEMENT SYSTEM, with a periodicity not exceeding 15 days, in order to detect equipment failures and condition. For STREET LIGHTING POINTS located on com TELEMANAGEMENT SYSTEM, the visual inspection shall occur with a periodicity not exceeding 90 days.

ii. Observe and record, when visually checking the STREET LIGHTING POINTS, at least the following items:

a. Number of lamps off, on during the day or with faults;

b. Existence of trees interfering with the quality of lighting;

c. Pole unleveled, bumped, missing or without the grounding conductor;

d. LUMINAIRE missing or open compartment;

e. Arm or support out of position;

f. Junction box with broken or missing cover;

g. Inadequate lighting conditions;

h. Need to clean the optical assembly;

i. Irregularities that may endanger the security of USERS and employees who operate on networks.

iii. Carry out the rectification of irregularities and breakdowns at the time of their identification, if possible;

iv. Request, via the ticketing system, CORRECTIVE MAINTENANCE services for irregularities and breakdowns not resolved at the time of identification.

12.6.3. The PREVENTIVE MAINTENANCE SERVICES described below should be performed by the CONCESSIONAIRE in the MUNICIPAL STREET LIGHTING NETWORK:

i. Monitor via the system, from the beginning of the implementation of the TELEMANAGEMENT SYSTEM, the operating status of the STREET LIGHTING POINTS and field devices and equipment of TELEMANAGEMENT SYSTEM, opening CORRECTIVE MAINTENANCE calls when irregularities are identified:

a. Check the connectivity of all STREET LIGHTING POINTS applicable to the TELEMANAGEMENT SYSTEM, via the system;

b. Check the availability of the TELEMANAGEMENT SYSTEM software, keeping it online full time, 24 (twenty-four) hours a day, 7 (seven) days a week.

ii. Carry out the cleaning, painting and sanding of exclusive STREET LIGHTING poles, arms and LUMINAIRES, including at least:

a. Removal of materials glued to the STREET LIGHTING equipment;

b. Application of the final coat of paint and sanding or external cleaning of the LUMINAIRES, when necessary to ensure excellence in the visual and aesthetic appearance.

iii. Carry out the following services, only for the components of the MUNICIPAL STREET LIGHTING NETWORK:

a. Underground network maintenance:

- Check and adjust the connections in the junction boxes and the box voltage;

- Visually inspect the physical condition of the cover.

b. Inspection of exclusive transformers:

- Visually inspect the terminals, insulators, lightning rods, and connections;
- Measure the ground resistance of the neutral and the phase-to-phase and phase-to-neutral voltages.

c. Maintenance of low voltage switchboards:

- Visually inspect the circuit breakers, contactors and fuses, command switches, settings and functions of the astronomical clock and the state of the cabinets (doors, interiors and padlock);
- Measure earth resistance;
- Clean the entire control panel;
- Measure the voltage of the main power bus.

d. Identify situations that result in EMERGENCY MAINTENANCE actions, according to item 12.4.1:

- Identification of vehicle accident risk locations;
- Identification of risk locations for tree falls;
- Identification of locations that may present difficulties for the execution of the SERVICES.

12.7. PREDICTIVE MAINTENANCE

12.7.1. PREDICTIVE MAINTENANCE activities should be started after the end of PHASE II and aim to determine the optimal point for performing maintenance/replacement SERVICES on equipment in the MUNICIPAL STREET LIGHTING NETWORK.

12.7.2. The CONCESSIONAIRE shall perform, at a minimum, the following PREDICTIVE MAINTENANCE actions:

i. STREET LIGHTING POINTS with TELEMANAGEMENT SYSTEM where occurrences of significant voltage variation outside the limits provided by ANEEL have been recorded.

ii. STREET LIGHTING POINTS where the CONCESSIONAIRE identified luminous flux depreciation above the specifications provided by the manufacturer. For this follow-up, the CONCESSIONAIRE may use the measurements of the KEY PERFORMANCE STANDARDS relating to the field-checked average illuminance.

13. TREE PRUNING

13.1. The CONCESSIONAIRE shall be responsible for the planning and performance of TREE PRUNING services, in the cases where urban trees impair the efficiency and quality of lighting and SERVICES, such as obstruction of the luminous flux of STREET LIGHTING POINTS, or poses a risk of accidents pertaining to the provision of SERVICES, such as in the case of interference with the MUNICIPAL STREET LIGHTING NETWORK. TREE PRUNING can also be carried out preventively in cases where the TREES do not directly interfere with the luminous flux of the STREET LIGHTING POINT, but there is potential influence due to the expected growth of the TREES.

13.2. The execution of TREE PRUNING by the CONCESSIONAIRE will only start from the beginning of PHASE I. Before the beginning of Phase I, the CONCESSIONAIRE should obtain the necessary authorizations from the competent public bodies.

13.3. The CONCESSIONAIRE should enter in the REGISTRY, at least, the following data for each TREE that has any impact on the luminous flux of the STREET LIGHTING POINTS:

i. Unique numeric code for TREE identification;

ii. Type of TREE (species);

iii. Photographic record of the TREE and date of record;

iv. Georeferenced position (latitude, longitude) of the TREE;

v. Identification number of STREET LIGHTING POINTS with obstruction of the luminous flux by the TREE;

vi. Level of obstruction of the luminous flux caused by the TREE (minimum, partial or total) in the MUNICIPAL STREET LIGHTING NETWORK.

13.4. CONCESSIONAIRE shall:

13.4.1. Ensure the maintenance and updating of records of partial or total interference by TREES on the STREET LIGHTING POINTS contained in the REGISTRY, throughout the CONCESSION TERM;

13.4.2. Arrange for the proper disposal and destination of remains and waste from TREE PRUNING;

13.4.3. Prepare and submit for validation by the GRANTING AUTHORITY, every 12 (twelve) months, the Management Program for Activities Related to Vegetation, according to item 13.7;

13.4.4. Implement a system (software) for monitoring and managing TREE PRUNING, providing access to the GRANTING AUTHORITY and INDEPENDENT CERTIFIER, and capable of offering, at least, features that allow:

i. Viewing and identifying through georeferencing the TREES entered in the REGISTRY;

ii. Identify and configure a list of attributes or information, necessary for TREE PRUNING, regarding each of the TREES, contemplating the information provided for in item 13.3;

iii. Record all TREE PRUNING services performed, containing at least: (i) expected date for carrying out the TREE PRUNING according to the Management Program for Activities Related to Vegetation; (ii) date and time of performance of TREE PRUNING; (iii) impacted STREET LIGHTING POINTS; (iv) Description of the TREE PRUNING service performed, including process and/or applied technique; (v) Images of the TREES and the road, before and after carrying out TREE PRUNING.

iv. Extract a data base with all the information registered for the TREES, for use by the GRANTING AUTHORITY in its own systems.

13.5. The CONCESSIONAIRE will be responsible, from the beginning of PHASE I, for the execution of the ANNUAL QUANTITY OF TREE PRUNING in cases where urban trees impair the efficiency and quality of lighting and SERVICES.

13.5.1. THE ANNUAL QUANTITY OF TREE PRUNING will be updated at the beginning of each CONTRACT AGREEMENTUAL YEAR, considering the following formula:

$$QAPA_A = \left[QAPA_0 \times \frac{(NO1 + NO2 + NFP + PIPAm)}{(NP1 + NP2)} \right]$$

Where:

$QAPA_A$= ANNUAL QUANTITY OF TREE PRUNING for the CONTRACT AGREEMENTUAL YEAR;

$QAPA_0$= ANNUAL QUANTITY OF TREE PRUNING provided for at the beginning of the CONTRACT AGREEMENT, according to DEFINITIONS OF THE RFP AND CONTRACT AGREEMENT;

$NP1$ = ESTIMATED NUMBER OF STREET LIGHTING POINTS ON OTHER ROADS;

$NO1$ = OBSERVED NUMBER OF STREET LIGHTING POINTS ON OTHER ROADS entered on BASE REGISTRY;

$NP2$ = ESTIMATED NUMBER OF STREET LIGHTING POINTS ON MAIN ROADS;

$NO2$ = OBSERVED NUMBER OF STREET LIGHTING POINTS ON MAIN ROADS entered on BASE REGISTRY;

NFP = NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES installed by the CONCESSIONAIRE, whose ACCEPTANCE TERM of CONCESSION MILESTONE III has already been issued;

m = CONTRACT AGREEMENTUAL MONTH;

$PIPAm$ = total ADDITIONAL STREET LIGHTING POINTS whose ACCEPTANCE TERM have already been issued by the previous CONTRACT AGREEMENTUAL MONTH.

13.6. The quantities of the TREE PRUNING service that are not carried out do not expire, and are therefore cumulative throughout the CONCESSION TERM. If the GRANTING AUTHORITY requests the cancellation of the execution of a TREE PRUNING less than 30 (thirty) days in advance of the scheduled date for the execution of the service, this TREE PRUNING will not accumulate for subsequent periods, being accounted for as performed.

13.7. Every period of 12 (twelve) months from the approval of the Management Program for Activities Related to Vegetation, the CONCESSIONAIRE should update and present the Management Program for Activities Related to Vegetation, for approval by the GRANTING

AUTHORITY. The Program will contain the performance schedule of the TREE PRUNING service in the cases where urban trees impair the efficiency and quality of lighting and SERVICES for the following period of twelve (12) months, contemplating the annual amount indicated in item 13.5 and any remaining balances from previous periods. The Program should also abide by the minimum and maximum monthly limits of TREE PRUNING.

13.8. Throughout the period of execution of TREE PRUNING by the CONCESSIONAIRE, the GRANTING AUTHORITY may request adjustments in relation to the foreseen schedule, such as changing the foreseen TREE PRUNING processes or techniques or the TREES that will be the subject to the actions. These adjustments requested by the GRANTING AUTHORITY should be sent to the CONCESSIONAIRE at least 60 (sixty) days in advance of the scheduled date for performing the service.

14. OPERATIONAL AND ORGANIZATIONAL STRUCTURE

14.1. The CONCESSIONAIRE's actions should be centralized in the OPERATIONAL CONTROL CENTER, in which operation and maintenance actions should be directed through the Central Management System.

14.2. The CONCESSIONAIRE should immediately inform the GRANTING AUTHORITY of any and all facts that alter the execution of the CONTRACT AGREEMENT and the fulfillment of the obligations established therein.

14.3. The technical specifications of the materials and equipment necessary for the performance of the operation and maintenance SERVICES, as well as their evolution owing to the natural development of technologies, should be added to the CONCESSIONAIRE's technical and physical collection on its own initiative or by legal, normative stipulations and this CONTRACT AGREEMENT. The specifications should be based on national and international standards, with the expectation that all items will be tested in laboratories directly accredited by INMETRO or by international laboratories that are part of current mutual accreditation agreements with INMETRO.

14.4. The CONCESSIONAIRE shall abide by the standards and rules established by the ENERGY DISTRIBUTION COMPANY, holder of the electricity distribution assets.

14.5. The CONCESSIONAIRE shall abide by the best market practices and the following standards (and others that may replace and/or update them):

i. ABNT NBR 5101:2018 – Public Lighting – Procedure;

ii. ABNT NBR 5181:2013 – Tunnel Lighting Systems - Requirements;

iii. ABNT NBR 15129:2012 – LUMINAIRES for public lighting – Particular requirements;

iv. ABNT NBR IEC 60598-1:2010 – LUMINAIRES Part 1: General requirements and tests;

v. ABNT NBR IEC 60529: 2017 - Degrees of protection provided by enclosures (IP Codes);

vi. ABNT NBR IEC 62262: 2015 - Degrees of protection provided by enclosures of electrical equipment against external mechanical impacts (IK code);

vii. ABNT NBR 14744:2001 – Steel poles for lighting;

viii. ABNT NBR 5410:2004 – Low voltage electrical installations;

ix. ABNT NBR 8451:2020 – Reinforced and prestressed concrete poles for electricity distribution and transmission networks;

x. ABNT NBR 5123:2016 - Photoelectric relay and lighting socket - specification and test method;

xi. ABNT NBR 16026:2012 Electronic Control Device, AC or DC, for LED module – Performance Requirements;

xii. ABNT NBR IEC 61347-2-13:2020 - Lamp control device Part 2-13: Particular requirements for AC- or DC-powered electronic control devices for LED modules;

xiii. ABNT NBR IEC 61643-1:2007 – Low Voltage Surge Protection Devices – Part 1: Protection devices connected to low voltage power distribution systems - Performance requirements and test methods.

xiv. ABNT NBR 8182:2011 – Self-supported multiplexed power cables with extruded PE or XLPE insulation, for voltages up to 0.6/KV – Performance requirements;

xv. ABNT NBR 7290:2016 – Control cables with XLPE, EPR or HEPR insulation for voltages up to 1kv – Performance requirements;

xvi. ABNT NBR 15715:2020 – Polyethylene (PE) corrugated duct systems for power and telecommunications cable infrastructure – Requirements;

xvii. NBR 5111:1997 – Bare copper wires of circular section for electrical purposes;

14.6. Teams

14.6.1. The CONCESSIONAIRE shall be responsible for establishing sufficient teams to carry out the operational SERVICES required for the MUNICIPAL STREET LIGHTING NETWORK, as well as for dimensioning the staff of professionals necessary to meet the quality requirements and required deadlines that should have the qualifications, trainings and technical skills necessary for the practice of their professional activities.

14.6.2. The CONCESSIONAIRE shall provide all the equipment and tools necessary for the teams to provide SERVICES in an efficient, correct and safe manner, in compliance with the relevant safety standards. Among these tools are mobile devices with access to the data network, allowing the visualization of the intervention history of STREET LIGHTING POINTS. All equipment and utensils necessary for the execution of the SERVICES should be kept in perfect conditions of use.

14.6.3. All actions by field teams should be carried out with a guarantee of compliance with environmental, quality, safety and occupational standards.

14.6.4. All field personnel involved in the provision of SERVICES should be properly uniformed, showing care with personal appearance, cleanliness and hygiene, carrying, at all times, an identification badge with a recent photo. It is the CONCESSIONAIRE's obligation to provide uniforms, badges and other complements to provide the SERVICES.

14.7. Fleet Management

14.7.1. The CONCESSIONAIRE shall guarantee vehicles available to its operating teams to perform the SERVICES required by the MUNICIPAL STREET LIGHTING NETWORK. Sufficient vehicles should be provided, so that any needs for concomitant actions do not have their execution deadlines affected.

14.7.2. In addition, vehicles should comply with applicable laws, including restrictions provided for in the MUNICIPALITY legislation regarding the movement of certain types of vehicles in the MUNICIPALITY areas, with minimum safety requirements for drivers, passengers and third parties. All vehicles should have, at a minimum, insurance against damage to third parties.

14.7.3. The CONCESSIONAIRE should install tracking equipment in all vehicles, duly sealed for tamper proof and equipped with a continuous route recording feature. The CONCESSIONAIRE shall provide a report, whenever requested

by the GRANTING AUTHORITY, informing the route of the vehicles used for the SERVICES and inspection, duly identified by vehicle and activity

14.7.4. Vehicles should be in perfect operating, appearance, cleanliness and safety conditions. The vehicles should be identified, according to the vehicle signaling standard indicated by the GRANTING AUTHORITY.

14.8. Operating Unit:

14.8.1. The CONCESSIONAIRE should present an operational unit with a sufficient number of teams to meet the terms and requirements of the CONTRACT AGREEMENT, which should be equipped with the necessary equipment for operations in the MUNICIPAL STREET LIGHTING NETWORK.

14.8.2. The other facilities necessary for the fulfillment of operating SERVICES, such as warehouse, depots, workshops, stocks, among others, should be included in the unit. It is not mandatory that such additional facilities be located in the same environments as the operational unit, but good logistics should be guaranteed, so that the agility in the execution of the SERVICES is not compromised.

14.8.3. Maintain planning of alternative work schemes and contingency plans for emergency situations in CCO and operational structures, such as: lack of water, electricity, gas, equipment breakdown, strikes and other, permanently ensuring the provision of SERVICES of the object of the CONTRACT AGREEMENT.

14.8.4. The CONCESSIONAIRE is responsible for all expenses with forms, electricity, water, gas, telephone, among others, used in the operational structure necessary for the execution of the SERVICES.

14.9. Material Management

14.9.1. For the management of STREET LIGHTING materials and equipment, the CONCESSIONAIRE will be responsible for controlling acquisitions, new materials and those withdrawn from the network.

14.9.2. The materials used in the execution of the SERVICES should be acquired by the CONCESSIONAIRE in accordance with the technical specifications of materials defined in this ATTACHMENT and in the relevant standards. All

materials necessary for the performance of the SERVICES should be provided by the CONCESSIONAIRE.

14.9.3. The materials may be inspected at any time by the GRANTING AUTHORITY, either in the CONCESSIONAIRE's warehouses or in the field.

14.9.4. The CONCESSIONAIRE may reuse the arms, poles and supports removed from the MUNICIPAL STREET LIGHTING NETWORK, providing the CONCESSIONAIRE shall be responsible for checking the mechanical conditions of the arms and/or supports, before their reuse, in order to ensure the safety of their new installation.

14.9.5. The CONCESSIONAIRE should provide and maintain, at the worksites related to the execution of the SERVICES, signs, identification trestles and other appropriate types of signage, with dimensions, words and logos in accordance with the GRANTING AUTHORITY standard.

14.9.6. The CONCESSIONAIRE will be responsible for defining the stock policies, as well as the resupply policies for the basic items that will be adopted throughout the CONCESSION. For this, inventory management should be carried out, covering the segmentation of families of STREET LIGHTING materials to be stored in the CONCESSIONAIRE's warehouse, definition of minimum inventory, safety inventory, maximum inventory and resupply points to support operation and maintenance of STREET LIGHTING POINTS.

14.9.7. The CONCESSIONAIRE will be responsible for all procedures pertaining to sorting, treatment, reuse, disposal, transport, storage, among others. The procedures performed by the CONCESSIONAIRE should be in line with the applicable laws on the subject, the Brazilian Regulatory Standards (NBR), ordinances, decrees and environmental normative deliberations in force.

14.10. Organizational Structure

14.10.1. The CONCESSIONAIRE shall establish a sufficient organizational structure for the provision of SERVICES. This structure should include executive, administrative, financial, operational and logistical aspects, as well as being responsible for the SERVICE provision processes by the CONCESSIONAIRE.

14.10.2. Logistics services, human resources and other features, with regard to the operation of the MUNICIPAL STREET LIGHTING NETWORK, should also compose the structure by the CONCESSIONAIRE.

15. PPP TRANSPARENCY PROCESS

15.1. The CONCESSIONAIRE shall make available, manage and keep active, throughout the CONCESSION TERM, an ONLINE PORTAL for sharing information, news and documents directly related to the CONCESSION to the general public. All documents made available should be openly available for download without the need for prior entry or registry.

15.2. The CONCESSIONAIRE shall disclose and maintain the entire history on the ONLINE PORTAL, at least the following documents within 30 (thirty) days after their issuance:

i. OPERATION AND MAINTENANCE PLAN;

ii. MODERNIZATION PLAN;

iii. Monthly Performance Report of the SERVICES;

iv. Quarterly Performance Report;

v. ACCEPTANCE TERM issued;

vi. CONTRACT AGREEMENT and its ATTACHMENTS;

vii. Amendments to the CONTRACT AGREEMENT, as well as the studies that supported each Amendment;

viii. RELATED ACTIVITIES Contract Agreements;

ix. FINANCIAL Contract Agreements;

x. Disclosure of TRANSACTION POLICY WITH RELATED PARTIES

xi. CONCESSIONAIRE's Financial/Accounting Statements;

xii. Photos and videos showing the evolution of MODERNIZATION AND STREAMLINING ENERGY of the MUNICIPAL STREET LIGHTING NETWORK, as described in item 15.4;

xiii. Schedule with graphic visualization, as described in item 15.5.

15.3. Documents in preliminary versions that will still undergo an analysis and/or validation process by the GRANTING AUTHORITY, CONCESSIONAIRE, INDEPENDENT CERTIFIER or other bodies will not be disclosed.

15.4. The CONCESSIONAIRE shall periodically disclose materials to increase the promotion of the project and enhance the benefits of the CONCESSION for the MUNICIPALITY and USERS. The CONCESSIONAIRE will be responsible for all costs pertaining to the production and dissemination of these materials. Disclosure will be through:

15.4.1. Photographs:

i. During PHASE I, 10 (ten) new photographs to demonstrate that the CONCESSIONAIRE assumed responsibility for the SERVICES, as well as to present the SERVICE CHANNELS defined in item 11.2;

ii. During PHASE II, 10 (ten) new photographs for each CONCESSION MILESTONE including views of before and after the CONCESSIONAIRE's action through aerial and panoramic images;

iii. From the beginning of PHASE III, 10 (ten) new photographs every 4 (four) years demonstrating the execution and results of PREDICTIVE, PREVENTIVE, CORRECTIVE and EMERGENCY MAINTENANCE SERVICES, as well as the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

15.4.2. Videos:

i. During PHASE I, 1 (one) video to demonstrate that the CONCESSIONAIRE assumed responsibility for the SERVICES, as well as to present the SERVICE CHANNELS defined in item 11.2;

ii. During PHASE II, 1 (one) video for each CONCESSION MILESTONE including views of before and after the CONCESSIONAIRE's action through aerial and panoramic images;

iii. From the beginning of PHASE III, 1 (one) new video every 4 (four) years demonstrating the execution and results of PREDICTIVE, PREVENTIVE, CORRECTIVE and EMERGENCY MAINTENANCE SERVICES, as well as the EXPANSION OF THE MUNICIPAL STREET LIGHTING NETWORK.

15.4.2.1. Each video shall meet the following guidelines:

i. The itinerary prepared by the CONCESSIONAIRE should be sent for prior approval by the GRANTING AUTHORITY;

ii. The CONCESSIONAIRE should make the video with voiceover and musical track available, with free access for broadcast on the GRANTING AUTHORITY's own communication channels;

iii. The voiceover of the video should be in Portuguese and present two versions, one with subtitles in Portuguese and the other in English;

iv. Duration between 1 (one) minute and a half and 2 (two) and a half minutes;

v. Include testimonials from USERS with their point of view of the CONCESSION and its benefits.

15.5. The CONCESSIONAIRE shall prepare an interface with graphical visualization (dashboard) and make it available for free access by USERS in the ONLINE PORTAL of the CONCESSION. The dashboard should include, without limitation:

15.5.1. Until the completion of PHASE II submit (i) a comparison between what is foreseen in the MODERNIZATION PLAN and what is accomplished by the CONCESSIONAIRE; (ii) information on the LUMINAIRES installed on the MUNICIPALITY roads; (iii) projected reduction in electricity consumption; (iv) monthly quantity of STREET LIGHTING POINTS after MODERNIZATION AND STREAMLINING ENERGY, quantity of the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES installed monthly, quantity of SPECIAL LIGHTING PROJECTS installed monthly; (v) next places (roads, neighborhoods, etc.) where MODERNIZATION AND STREAMLINING ENERGY activities shall be carried out, next places where the NUMBER OF STREET LIGHTING POINTS ON CROSSWALKS AND BIKE LANES shall be installed, next SPECIAL LIGHTING PROJECTS; (vi) follow-up of the ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM. This information shall be updated monthly by the CONCESSIONAIRE in the ONLINE PORTAL.

15.5.2. From the beginning of PHASE III, the dashboard should also include: (i) individual results for each indicator of the KEY PERFORMANCE STANDARDS; (ii) number of MAINTENANCE calls and their service status;

(iii) financial amounts received by the CONCESSIONAIRE, breaking down the different types of amounts provided for in the PAYMENT MECHANISM; (iv) efforts of RELATED ACTIVITIES being carried out by the CONCESSIONAIRE; (v) quantity of ADDITIONAL STREET LIGHTING POINTS installed by the CONCESSIONAIRE; (vi) monitoring of the ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM. This information shall be updated quarterly by the CONCESSIONAIRE in the ONLINE PORTAL.

16. PROCEDURES OF ACCEPTANCE AND CHECK TERMS

16.1. The procedures for issuing the ACCEPTANCE TERM during the CONCESSION TERM are presented below. The process for issuing each ACCEPTANCE TERM shall be:

16.1.1. The CONCESSIONAIRE should send notification to the INDEPENDENT CERTIFIER and GRANTING AUTHORITY 30 (thirty) days in advance of the scheduled date for completing all the necessary conditions for issuing the ACCEPTANCE TERM. If the CONCESSIONAIRE does not inform this in advance, the period indicated in 16.1.3 will be increased by up to 30 (thirty) days, depending on the period of advance not complied with;

16.1.1.1. In the case of CONCESSION MILESTONES 1, 2 and 3, after performance by the CONCESSIONAIRE of twenty-five percent (25%) of the total amount relating to each CONCESSION MILESTONE, the INDEPENDENT CERTIFIER shall carry out a partial measurement for informational purposes, so that GRANTING AUTHORITY and CONCESSIONAIRE, following the same guidelines defined in this chapter for each CONCESSION MILESTONE.

16.1.2. Upon completion of all the necessary conditions for issuing the ACCEPTANCE TERM, the CONCESSIONAIRE should send a new notification to the INDEPENDENT CERTIFIER and GRANTING AUTHORITY;

16.1.2.1. If the ACCEPTANCE TERM involves the installation of LUMINAIRES, the CONCESSIONAIRE should present documents that prove compliance with the requirements of item 7.4

16.1.3. The INDEPENDENT CERTIFIER will conduct the necessary activities, according to the criteria for each ACCEPTANCE TERM, and assess whether all specifications, guidelines, activities and other requirements indicated in this ATTACHMENT and in the CONTRACT AGREEMENT have been complied with by the CONCESSIONAIRE. At the end of this period, the INDEPENDENT CERTIFIER should deliver an opinion for the issuance of the ACCEPTANCE TERM (issued or not issued). The deadline for analysis by the INDEPENDENT CERTIFIER shall be:

i. Fifteen (15) days for the following ACCEPTANCE TERM: OPERATION AND MAINTENANCE PLAN; MODERNIZATION PLAN; BASE REGISTRY; operation; DEMOBILIZATION PLAN; ADDITIONAL STREET LIGHTING POINTS.

ii. 30 (thirty) days for other ACCEPTANCE TERM.

16.1.4. In the case of non-issuance of the ACCEPTANCE TERM, the INDEPENDENT CERTIFIER should present in its opinion the items not complied with, presenting the necessary justifications and evidence that justify the non-issuance of the ACCEPTANCE TERM;

16.1.5. The CONCESSIONAIRE should make the necessary changes and start a new process for issuing the ACCEPTANCE TERM, starting with item 16.1.1. The CONCESSIONAIRE will be responsible for the costs and activities necessary to rectify the outstanding issues identified under its responsibility. The deadline for making the changes by the CONCESSIONAIRE will be:

i. Fifteen (15) days for the following ACCEPTANCE TERM: OPERATION AND MAINTENANCE PLAN; MODERNIZATION PLAN; operation; DEMOBILIZATION PLAN.

ii. 30 (thirty) days for other ACCEPTANCE TERM.

16.1.6. In the event of non-issuance of the ACCEPTANCE TERM (i) OF MILESTONES I, II or III, OF THE CONCESSION and (ii) ADDITIONAL STREET LIGHTING POINTS, the CONCESSIONAIRE shall conduct the necessary analyses for a complete review of all STREET LIGHTING POINTS, not limited to changing the information on the STREET LIGHTING POINTS checked in the sample sorted by the INDEPENDENT CERTIFIER.

16.1.7. In the new analysis for issuing the ACCEPTANCE TERM, the INDEPENDENT CERTIFIER should sort a new sample for check in the field, following the same procedures applied in the first check.

16.1.8. The deadlines defined in items 16.1.3 and 16.1.5 shall be applied successively to the INDEPENDENT CERTIFIER and the CONCESSIONAIRE, respectively, if the ACCEPTANCE TERM is not issued, pursuant to item 16.1.4.

16.1.9. If the period indicated in item 16.1.5 for the CONCESSIONAIRE's work is not enough to resolve all outstanding issues, the CONCESSIONAIRE may request an extension of this period to the GRANTING AUTHORITY, with due justification. The GRANTING AUTHORITY will have a period of 7 (seven) days to respond if it accepts the CONCESSIONAIRE's request for an extension of this period.

16.1.10. If the ACCEPTANCE TERM is pertaining to the CONCESSIONAIRE's activities with an impact on the insurance provided for in the CONTRACT AGREEMENT, the CONCESSIONAIRE should present proof of contracting and/or supplementing the insurance linked to the respective ACCEPTANCE TERM, under the terms of the CONTRACT AGREEMENT.

16.1.11. In case of absence of the INDEPENDENT CERTIFIER, for reasons attributable to the GRANTING AUTHORITY, the CONCESSIONAIRE may carry out the check processes for issuing the ACCEPTANCE TERM, sending it for approval by the GRANTING AUTHORITY.

16.1.12. Without prejudice to the power of inspection of the GRANTING AUTHORITY, under the terms of the CONTRACT AGREEMENT, the INDEPENDENT CERTIFIER shall be responsible for issuing the ACCEPTANCE TERM.

16.1.13. For ACCEPTANCE TERM that indicate field measurements of lighting requirements, such as illuminance and uniformity, the procedures defined in ABNT NBR 5101: 2018 Standard for carrying out the activity in the field should be followed. The measurements in the field of the STREET LIGHTING POINTS will be carried out under confidential conditions, regarding the location, time and dates of the measurements without prior knowledge by the CONCESSIONAIRE. After carrying out measurements in the field, the information can be shared with the CONCESSIONAIRE.

16.2. ACCEPTANCE TERM of OPERATION AND MAINTENANCE PLAN:

16.2.1. According to OPERATION AND MAINTENANCE PLAN TERM, the CONCESSIONAIRE shall submit the OPERATION AND MAINTENANCE PLAN to the GRANTING AUTHORITY and INDEPENDENT CERTIFIER.

16.2.2. The analysis by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3, for the issuance of the ACCEPTANCE TERM, shall take into consideration the requirements set forth in item 5 for the OPERATION AND MAINTENANCE PLAN and its Programs. Together with the analysis of the INDEPENDENT CERTIFIER, the GRANTING AUTHORITY should validate and complement the SPECIAL AREAS indicated by the CONCESSIONAIRE.

i. A maximum of 5% (five percent) of the STREET LIGHTING POINTS may be simultaneously classified as SPECIAL AREAS;

ii. If the GRANTING AUTHORITY does not respond within the period defined in 16.1.3, the SPECIAL AREAS indicated by the CONCESSIONAIRE will be considered accepted;

iii. Throughout the CONCESSION TERM, every 12 (twelve) months from the ASSUMPTION DATE, the GRANTING AUTHORITY may update the SPECIAL AREAS, pursuant to the quantity indicated in item i.

16.2.3. Once the ACCEPTANCE TERM of the OPERATION AND MAINTENANCE PLAN are issued, the approved OPERATION AND MAINTENANCE PLAN will become an integral part of the CONTRACT AGREEMENT as ATTACHMENT.

16.3. ACCEPTANCE TERM of BASE REGISTRY:

16.3.1. According to the BASE REGISTRY TERM, the CONCESSIONAIRE shall submit the BASE REGISTRY to the GRANTING AUTHORITY and INDEPENDENT CERTIFIER.

16.3.1.1. The STREET LIGHTING POINTS that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size shall be equivalent to the total quantity of STREET LIGHTING POINTS entered in the BASE REGISTRY. Two individual samples shall be sorted for analysis:

i. Main fields (existence and power: the sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 3 (three) and normal simple sampling plan.

ii. All fields: the sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan.

16.3.1.2. For analysis, the following procedure will be adopted for each sample:

i. Main fields (location and power): the BASE REGISTRY data will be compared in relation to the information checked in the field for location (item i of 3.6) and total power (item k, do **Error! Reference source not found.** and 3.6), for each STREET LIGHTING POINT in the sample. The sample will be considered compliant only if 100% (one hundred percent) of the information found for all STREET LIGHTING POINTS are correct.

ii. All fields: data from the BASE REGISTRY will be compared in relation to the information ascertained in the field for all data registered in the BASE REGISTRY for each STREET LIGHTING POINT in the sample. The sample will be considered compliant only if, concomitantly: (i) 100% (one hundred percent) of the information on location and total power are correct; and (ii) at least 95% (ninety-five) of all other information is correct.

16.3.1.3. The BASE REGISTRY will be considered compliant only if the result was compliant for both samples (i and ii) checked by the INDEPENDENT CERTIFIER.

16.3.1.4. In the event of noncompliance with the BASE REGISTRY, the CONCESSIONAIRE shall, within the period set forth in item 16.1.5, perform the necessary analyses for a comprehensive review of the BASE REGISTRY, not limited to changing information on STREET LIGHTING POINTS checked in the samples sorted by the INDEPENDENT CERTIFIER.

16.3.1.5. In the event of noncompliance with the BASE REGISTRY, the INDEPENDENT CERTIFIER should sort new samples for on-site check in accordance with the procedures previously applied in the first check, after

making the necessary changes by the CONCESSIONAIRE in relation to the unapproved BASE REGISTRY.

16.4. ACCEPTANCE TERM of the operation

16.4.1. According to the OPERATION TERM, the CONCESSIONAIRE shall notify the GRANTING AUTHORITY and the INDEPENDENT CERTIFIER of the taking out of the insurance policies required under the CONTRACT AGREEMENT and the implementation of the OPERATIONAL CONTROL CENTER (CCO), of the SERVICE CHANNELS (item 11.2.1), the CONCESSIONAIRE's ONLINE PORTAL (item 15) and the Operation Management system (item 11.3.1).

16.4.2. The analysis by the INDEPENDENT CERTIFIER for the issuance of the ACCEPTANCE TERM, within the period defined in 16.1.3, shall take into consideration the fulfillment of the requirements set forth in the CONTRACT AGREEMENT relative to insurance policies and items 11.1, 11.2.1, 11.3.1 and 15 of this ATTACHMENT.

16.4.3. In order to issue the ACCEPTANCE TERM for the operation, CONCESSIONAIRE shall meet, concomitantly:

i. Contracting of insurance policies, considering compliance with all the respective requirements set forth in the CONTRACT AGREEMENT;

ii. Implementation of the OPERATIONAL CONTROL CENTER (CCO) according to the requirements set out in item 11.1;

iii. All SERVICE CHANNELS are operational and available according to item 11.2.1, including successful call opening simulation for each service channel;

iv. Operation and maintenance management system is operational and ready for use according to item 11.3.1;

v. ONLINE PORTAL is in operation according to item 15, with free access by USERS and if the documents, according to item 15.2 have been announced as already completed;

vi. Photos and videos relating to PHASE I were taken in accordance with the items 15.4.1. i and 15.4.2. i, and disclosed on the ONLINE PORTAL.

16.5. ACCEPTANCE TERM of MODERNIZATION PLAN (PM):

16.5.1. Within 20 (twenty) days from the signature of the beginning of PHASE I, the CONCESSIONAIRE shall present the MODERNIZATION PLAN to the GRANTING AUTHORITY and to the INDEPENDENT CERTIFIER.

16.5.2. The analysis by the INDEPENDENT CERTIFIER for the issuance of the ACCEPTANCE TERM, within the period defined in 16.1.3, shall take into consideration the fulfillment of the requirements set forth in item 5 for the MODERNIZATION PLAN and its Programs. Together with the analysis of the INDEPENDENT CERTIFIER, the GRANTING AUTHORITY shall evaluate and validate the locations proposed by the CONCESSIONAIRE for the implementation of the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES, and the schedule presented for compliance with the CONCESSION MILESTONES, including order of locations and routes for MODERNIZATION AND STREAMLINING ENERGY activities and SPECIAL LIGHTING.

i. If the GRANTING AUTHORITY does not issue a position within the period defined in 16.1.3, the locations proposed by the CONCESSIONAIRE for the implementation of the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES and the schedule for compliance with the CONCESSION MILESTONES will be considered as accepted;

ii. The GRANTING AUTHORITY may propose changes in the locations for implementation NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES within a period of up to one hundred and twenty (120) days before the scheduled date, indicated in the MODERNIZATION PLAN, for the implementation of STREET LIGHTING in the CROSSWALK or BIKE LANES.

16.5.3. Once the MODERNIZATION PLAN ACCEPTANCE TERM is issued, the approved MODERNIZATION PLAN will become an integral part of the CONTRACT AGREEMENT as ATTACHMENT.

16.6. ACCEPTANCE TERM of CONCESSION MILESTONE I

16.6.1. According to the MILESTONE TERM I, CONCESSIONAIRE shall be responsible for evidencing, for compliance with CONCESSION MILESTONE I:

i. Modernization of 100% (one hundred percent) of STREET LIGHTING POINTS ON OTHER ROADS, through the installation of LUMINAIRES that meet the lighting requirements set forth in item 7.3 and item specifications 7.4. If the OTHER ROADS are included in the ROADS WITH TELEMANAGEMENT, the TELEMANAGEMENT SYSTEM should also be installed in all STREET LIGHTING POINTS ON OTHER ROADS, including compliance with the requirements of item 10;

ii. Percentage of Streamlining Energy of STREET LIGHTING POINTS ON OTHER ROADS less than or equal to 100% (one hundred percent), calculated according to the following equation:

$$\text{PE1} = \left[\frac{CI1}{(NO1 \times CIM1)} \right]$$

Where:

PE1 = Percentage of Streamlining Energy of STREET LIGHTING POINTS ON OTHER ROADS;

$NO1$ = OBSERVED NUMBER OF STREET LIGHTING POINTS ON OTHER ROADS entered on BASE REGISTRY;

CIM1 = Relative to MAXIMUM INSTALLED LOAD OF STREET LIGHTING POINTS ON OTHER ROADS;

$CI1$ = Relative to the total installed load of STREET LIGHTING POINTS ON OTHER ROADS, recorded in the REGISTRY, including the load and losses of auxiliary equipment. To calculate the installed load, ADDITIONAL STREET LIGHTING POINTS should not be considered.

16.6.2. The STREET LIGHTING POINTS ON OTHER ROADS that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size shall be equivalent to the total quantity of STREET LIGHTING POINTS ON OTHER ROADS entered in the REGISTRY. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan.

16.6.3. During the field measurement, measurements should be taken for each

STREET LIGHTING POINT IN OTHER ROADS of the sample following the same guidelines indicated in the ATTACHMENT of the KEY PERFORMANCE STANDARDS for all Indicators of the Lighting Adequacy Index (IAL). In this way, all lighting requirements provided for in item 7.3 shall be assessed, such as illuminance and uniformity, on vehicle and pedestrian-only streets, and Correlated Color Temperature (TCC).

16.6.3.1. If the OTHER ROADS are included in the ROADS WITH TELEMANAGEMENT, all the Indicators of the Telemanagement Availability Index (IDT) should also be assessed in the field in the same sample of the previous item. Accordingly, all TELEMANAGEMENT SYSTEM's specifications provided for in item 10 shall be assessed.

16.6.4. For each STREET LIGHTING POINT ON OTHER ROADS to be considered accepted, all Indicators of the Lighting Adequacy Index (IAL) for that STREET LIGHTING POINT ON OTHER ROADS shall be fully complied with. The sample under analysis shall be accepted for the purpose of issuing the ACCEPTANCE TERM considering, for the normal simple sampling plan, the Acceptable Quality Level (AQL) of one (1).

16.6.4.1. If the OTHER ROADS are included in the ROADS WITH TELEMANAGEMENT, for the STREET LIGHTING POINT ON OTHER ROADS to be considered accepted, all Indicators of the Telemanagement Availability Index (IDT) for that STREET LIGHTING POINT IN OTHER WAYS shall be fully met.

16.6.5. In order to issue the ACCEPTANCE TERM for CONCESSION MILESTONE I, CONCESSIONAIRE shall meet, concomitantly:

i. Modernization of 100% (one hundred percent) of STREET LIGHTING POINTS ON OTHER ROADS;

ii. Percentage of Streamlining Energy of STREET LIGHTING POINTS ON OTHER ROADS less than or equal to 100% (one hundred percent);

iii. Sample accepted according to the procedures previously addressed in this chapter for the ACCEPTANCE TERM of CONCESSION MILESTONE I; and

iv. Disclosure of photos and videos, and updating of schedule, pursuant to Items 15.4.1.ii , 15.4.2.ii and 15.5.1, respectively.

16.7. ACCEPTANCE TERM of CONCESSION MILESTONE II

16.7.1. According to the MILESTONE TERM II, CONCESSIONAIRE shall be responsible for evidencing, for compliance with CONCESSION MILESTONE II:

i. Modernization of 100% (one hundred percent) of STREET LIGHTING POINTS ON MAIN ROADS, through the installation of LUMINAIRES that meet the lighting requirements set forth in item 7.3 and item specifications in 7.4. If the MAIN ROADS are included in the ROADS WITH TELEMANAGEMENT, the TELEMANAGEMENT SYSTEM should also be installed in all STREET LIGHTING POINTS ON MAIN ROADS, including compliance with the requirements of item 10;

ii. Percentage of Streamlining Energy of STREET LIGHTING POINTS ON MAIN ROADS less than or equal to one hundred percent (100%), calculated according to the following equation:

$$\text{PE2} = \left[\frac{CI2}{(NO2 \times CIM2)}\right]$$

Where:

PE2 = Percentage of Streamlining Energy of STREET LIGHTING POINTS ON MAIN ROADS;

$NO2$ = OBSERVED NUMBER OF STREET LIGHTING POINTS ON MAIN ROADS entered on BASE REGISTRY;

CIM2 = Relative to MAXIMUM INSTALLED LOAD OF STREET LIGHTING POINTS ON MAIN ROADS;

$CI2$ = Relative to the total installed load of STREET LIGHTING POINTS ON MAIN ROADS, recorded in the REGISTRY, including the load and losses of auxiliary equipment. To calculate the installed load, ADDITIONAL STREET LIGHTING POINTS should not be considered.

16.7.2. The STREET LIGHTING POINTS ON MAIN ROADS that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size shall be equivalent to the total quantity of STREET LIGHTING POINTS ON MAIN ROADS entered in the REGISTRY. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan.

16.7.3. During the field measurement, measurements should be taken for each STREET LIGHTING POINT ON MAIN ROADS in the sample following the same guidelines indicated in the ATTACHMENT of the KEY PERFORMANCE STANDARDS for all Indicators of the Lighting Adequacy Index (IAL). In this way, all lighting requirements provided for in item 7.3 shall be assessed, such as illuminance and uniformity, on vehicle and pedestrian-only streets, and Correlated Color Temperature (TCC).

16.7.3.1. If the MAIN ROADS are included in the ROADS WITH TELEMANAGEMENT, all the Indicators of the Telemanagement Availability Index (IDT) should also be assessed in the field in the same sample of the previous item. Accordingly, all TELEMANAGEMENT SYSTEM's specifications provided for in item 10 shall be assessed.

16.7.4. For each STREET LIGHTING POINT ON MAIN ROADS to be considered accepted, all Indicators of the Lighting Adequacy Index (IAL) for that STREET LIGHTING POINT ON MAIN ROADS shall be fully complied with. The sample under analysis shall be accepted for the purpose of issuing the ACCEPTANCE TERM considering, for the normal simple sampling plan, the Acceptable Quality Level (AQL) of one (1).

16.7.4.1. If the MAIN ROADS are included in the ROADS WITH TELEMANAGEMENT, for the STREET LIGHTING POINT ON MAIN ROADS to be considered accepted, all Indicators of the Telemanagement Availability Index (IDT) for that STREET LIGHTING POINT ON MAIN ROADS shall be fully met.

16.7.5. In order to issue the ACCEPTANCE TERM FOR CONCESSION MILESTONE II, CONCESSIONAIRE shall meet, concomitantly:

i. Modernization of 100% (one hundred percent) of STREET LIGHTING POINTS ON MAIN ROADS;

ii. Percentage of Streamlining Energy of STREET LIGHTING POINTS ON MAIN ROADS less than or equal to one hundred percent (100%);

iii. Sample accepted according to the procedures previously addressed in this chapter for the ACCEPTANCE TERM of CONCESSION MILESTONE II; and

iv. Disclosure of photos and videos, and updating of schedule, pursuant to Items 15.4.1.ii , 15.4.2.ii and 15.5.1, respectively.

16.8. ACCEPTANCE TERM of CONCESSION MILESTONE III

16.8.1. According to the MILESTONE TERM III, CONCESSIONAIRE shall be responsible for evidencing, for compliance with CONCESSION MILESTONE III:

i. Implementation of STREET LIGHTING in the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES.

16.8.2. The STREET LIGHTING POINTS on CROSSWALKS and BIKE LANES that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size will be equivalent to the total quantity of NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES entered on the REGISTRY. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan.

16.8.3. During the field measurement, measurements should be taken for each STREET LIGHTING POINT in the CROSSWALKS and BIKE LANES of the sample, following the same guidelines indicated in the ATTACHMENT of the KEY PERFORMANCE STANDARDS for all Indicators of the Lighting Adequacy Index (IAL). In this way, all lighting requirements provided for in item 7.3 shall be assessed, such as illuminance and uniformity, on vehicle and pedestrian-only streets, and Correlated Color Temperature (TCC).

16.8.4. For each STREET LIGHTING POINT on CROSSWALKS and BIKE LANES to be considered accepted, all Indicators of the Lighting Adequacy

Index (IAL) should be met. The sample under analysis shall be accepted for the purpose of issuing the ACCEPTANCE TERM considering, for the normal simple sampling plan, the Acceptable Quality Level (AQL) of one (1).

16.8.5. In order to issue the ACCEPTANCE TERM FOR CONCESSION MILESTONE III, CONCESSIONAIRE shall meet, concomitantly:

i. Implementation of STREET LIGHTING in 100% (one hundred percent) of the NUMBER OF STREET LIGHTING POINTS IN CROSSWALKS AND BIKE LANES;

ii. Sample accepted according to the procedures previously addressed in this chapter for the ACCEPTANCE TERM of CONCESSION MILESTONE III; and

iii. Disclosure of photos and videos, and updating of schedule, pursuant to Items 15.4.1.ii , 15.4.2.ii and 15.5.1, respectively.

16.9. ACCEPTANCE TERM of CONCESSION MILESTONE IV

16.9.1. According to the MILESTONE TERM IV, CONCESSIONAIRE shall be responsible for evidencing, for compliance with CONCESSION MILESTONE IV:

i. Implementation of all SPECIAL LIGHTING PROJECTS, as provided for in chapter 9;

16.9.2. The INDEPENDENT CERTIFIER should verify in the field all SPECIAL LIGHTING PROJECTS, within the period defined in 16.1.3. The SPECIAL LIGHTING PROJECT will be considered compliant if the project, including the respective EQUIPMENT AND MATERIALS FOR SPECIAL LIGHTING PROJECTS (EMPIE), were installed in accordance with the project approved by the GRANTING AUTHORITY for each SPECIAL LIGHTING PROJECT. The CONCESSIONAIRE should present licenses and authorizations obtained for the implementation of SPECIAL LIGHTING, when applicable.

16.9.3. In order to issue the ACCEPTANCE TERM FOR CONCESSION MILESTONE IV, CONCESSIONAIRE shall meet, concomitantly:

i. Implementation of all SPECIAL LIGHTING PROJECTS in accordance with this ATTACHMENT;

ii. Disclosure of photos and videos, and updating of schedule, pursuant to Items 15.4.1.ii , 15.4.2.ii and 15.5.1, respectively.

16.10. Procedures for issuing the ACCEPTANCE TERM for ADDITIONAL STREET LIGHTING POINTS:

16.10.1. The CONCESSIONAIRE shall monthly notify the GRANTING AUTHORITY and the INDEPENDENT CERTIFIER of the occurrence of the following events:

i. Completion by the CONCESSIONAIRE of the INSTALLATION OF ADDITIONAL STREET LIGHTING POINTS or the REPLACEMENT OF LUMINAIRE IN AN ADDITIONAL STREET LIGHTING POINT INSTALLED BY ENTREPRENEURS;

ii. Receipt of notification for OPERATION AND MAINTENANCE OF ADDITIONAL STREET LIGHTING POINTS after implementation by the ENTREPRENEURS.

16.10.2. The ADDITIONAL STREET LIGHTING POINTS that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size will be equivalent to the total amount of ADDITIONAL STREET LIGHTING POINTS from the events mentioned in item ii that occurred in the month of analysis. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 2 (two) and normal simple sampling plan.

16.10.3. During the field measurement, measurements should be taken for each ADDITIONAL STREET LIGHTING POINT of the sample following the same guidelines indicated in the ATTACHMENT of the KEY PERFORMANCE STANDARDS for all Indicators of the Lighting Adequacy Index (IAL). In this way, all lighting requirements provided for in item 7.3 shall be assessed for the LIGHTING POINT. INDEPENDENT CERTIFIER should also check that the installed equipment meets the requirements of the items 7.4 and 8.5.

16.10.3.1. If the ADDITIONAL STREET LIGHTING POINT is located on ROADS WITH TELEMANAGEMENT, all the Indicators of the Telemanagement Availability Index (IDT) should also be assessed

in the field in the same sample of the previous item. Accordingly, all TELEMANAGEMENT SYSTEM's specifications provided for in item 10 shall be assessed.

16.10.4. For each ADDITIONAL STREET LIGHTING POINT to be considered accepted, all Indicators of the Lighting Adequacy Index (IAL) for that ADDITIONAL STREET LIGHTING POINT should be fully complied with, and the requirements specified for each piece of equipment should be met. The sample under analysis shall be accepted for the purpose of issuing the ACCEPTANCE TERM considering, for the normal simple sampling plan, the Acceptable Quality Level (AQL) of one (1).

16.10.4.1. If the ADDITIONAL STREET LIGHTING POINT is located on ROADS WITH TELEMANAGEMENT, for the ADDITIONAL STREET LIGHTING POINT to be considered accepted, all Indicators of the Telemanagement Availability Index (IDT) for that ADDITIONAL STREET LIGHTING POINT should also be fully met.

16.10.5. In the event of non-issuance of the ACCEPTANCE TERM, the CONCESSIONAIRE shall, within the period defined in item 16.1.5, conduct the necessary analyses for the complete review of the ADDITIONAL STREET LIGHTING POINTS, not being limited only to changing the information of the ADDITIONAL STREET LIGHTING POINTS checked in the sample sorted by the INDEPENDENT CERTIFIER. In the case of ADDITIONAL STREET LIGHTING POINTS installed by ENTREPRENEURS, the ENTREPRENEUR will be responsible for the complete review of the ADDITIONAL STREET LIGHTING POINTS, except in cases of REPLACEMENT OF LUMINAIRE IN ADDITIONAL STREET LIGHTING POINT INSTALLED BY ENTREPRENEURS in which the responsibility will be of the CONCESSIONAIRE.

16.10.6. In the event of non-issuance of the ACCEPTANCE TERM, the INDEPENDENT CERTIFIER should sort a new sample for check in the field in accordance with the procedures previously applied in the first check, after making the necessary changes by the CONCESSIONAIRE in relation to the ADDITIONAL STREET LIGHTING POINTS.

16.10.7. Once approved by the INDEPENDENT CERTIFIER, the ACCEPTANCE

TERM relating to the ADDITIONAL STREET LIGHTING POINTS will be issued, and, automatically, the CONCESSIONAIRE shall undertake full responsibility for the operation and maintenance of the ADDITIONAL STREET LIGHTING POINTS until the expiry of the CONTRACT AGREEMENT, in compliance with all lighting requirements, parameters, and requirements of the CONTRACT AGREEMENT and its ATTACHMENTS.

16.11. ACCEPTANCE TERM of OPERATIONAL DEMOBILIZATION PLAN:

16.11.1. Within two (2) years before the expiration of the CONTRACT AGREEMENT, the CONCESSIONAIRE shall submit to the GRANTING AUTHORITY and the INDEPENDENT CERTIFIER, the OPERATIONAL DEMOBILIZATION PLAN.

16.11.2. The analysis by the INDEPENDENT CERTIFIER for the issuance of the ACCEPTANCE TERM, within the period defined in 16.1.3, shall take into consideration the fulfillment of the requirements set forth in item 5.13 for the OPERATIONAL DEMOBILIZATION PLAN.

16.11.3. Once the ACCEPTANCE TERM of the OPERATIONAL DEMOBILIZATION PLAN is issued, the approved OPERATIONAL DEMOBILIZATION PLAN will become an integral part of the CONTRACT AGREEMENT as ATTACHMENT.

16.12. ACCEPTANCE TERM of operational demobilization:

16.12.1. Within 6 (six) months before the expected date of termination of the CONTRACT AGREEMENT, the INDEPENDENT CERTIFIER shall, through sample analysis with two different samples:

i. Check the accuracy of the STREET LIGHTING POINTS information in the REGISTRY;

ii. Check the useful life of the LUMINAIRES from the expected date of expiry of the CONTRACT AGREEMENT.

16.12.2. The definition of the STREET LIGHTING POINTS for the composition of the samples should be carried out randomly by the INDEPENDENT CERTIFIER, and should take into consideration the following conditions:

i. Contain STREET LIGHTING POINTS installed in different years, including at least one STREET LIGHTING POINT installed in each year of the CONCESSION;

ii. The sample should also have in its composition STREET LIGHTING POINTS of different LIGHTING CLASSES for vehicles and pedestrians;

iii. Include in the sample LUMINAIRES of different models and powers.

16.12.3. Analysis regarding the compliance of the STREET LIGHTING POINTS information in the REGISTRY.

16.12.3.1. The STREET LIGHTING POINTS that will be assessed should be randomly defined and measured in the field, by the INDEPENDENT CERTIFIER, within the period defined in 16.1.3. The lot size shall be equivalent to the total quantity of STREET LIGHTING POINTS entered in the REGISTRY. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 3 (three) and normal simple sampling plan.

16.12.3.2. For analysis, the REGISTRY data will be compared in relation to the information checked in the field for all data entered on the REGISTRY for each STREET LIGHTING POINT in the sample. The sample will be considered compliant only if, concomitantly: (i) 100% (one hundred percent) of the information on location and total power are correct; and (ii) at least 95% (ninety-five) of all other information is correct.

16.12.3.3. In the event of noncompliance with the REGISTRY, the CONCESSIONAIRE shall, within the period set forth in item 16.1.5, perform the necessary analyses for a comprehensive review of the REGISTRY, not limited to changing information relative to the STREET LIGHTING POINTS checked in the samples sorted by the INDEPENDENT CERTIFIER.

16.12.3.4. In the event of noncompliance with the REGISTRY, the INDEPENDENT CERTIFIER should sort a new sample for on-site check in accordance with the procedures previously applied in the first check, after making the necessary changes by the CONCESSIONAIRE in relation to the non-approved REGISTRY.

16.12.4. Analysis regarding the compliance of the remaining useful life of the LUMINAIRES in STREET LIGHTING POINTS.

16.12.4.1. The STREET LIGHTING POINTS that will be assessed should be randomly defined by the INDEPENDENT CERTIFIER. The lot size shall be equivalent to the total quantity of STREET LIGHTING POINTS entered in the REGISTRY. The sample size will be as established in ABNT NBR 5426:1985 Standard, general inspection level 3 (three) and normal simple sampling plan.

16.12.4.2. For analysis, the INDEPENDENT CERTIFIER should assess the remaining useful life of the LUMINAIRES of each of the STREET LIGHTING POINTS in the sample, within the period defined in 16.1.3. Proof should be carried out through document analysis of the technical specifications of the LUMINAIRES, the analysis shall be based on information from the laboratory tests accredited by INMETRO when the LUMINAIRE is certified, according to Ordinance 62 of INMETRO, or another that may replace it.

16.12.4.3. The sample will be considered in compliance if 100% (one hundred percent) of the LUMINAIRES are in compliance. For the LUMINAIRE to be considered compliant, the remaining useful life should be at least 20 (twenty) months from the date of expiration of the CONTRACT AGREEMENT.

16.12.5. In the event of noncompliance of the evaluated sample, the CONCESSIONAIRE shall, within the period defined in item 16.1.5, conduct the necessary analyses for a complete review of the STREET LIGHTING POINTS, including field replacement of LUMINAIRES with remaining useful life below the required, not limited to the STREET LIGHTING POINTS checked in the sample sorted by the INDEPENDENT CERTIFIER.

16.12.6. In the event of noncompliance of the assessed sample, the INDEPENDENT CERTIFIER should sort a new sample for check in accordance with the procedures previously applied in the first check, after making the necessary changes by the CONCESSIONAIRE in relation to the STREET LIGHTING POINTS.

16.12.7. All adaptations and adjustments to be carried out by the CONCESSIONAIRE, in cases of disapproval, should be carried out before the expiration of the

CONTRACT AGREEMENT.

16.12.8. In order to issue the ACCEPTANCE TERM for the operational demobilization, CONCESSIONAIRE shall meet, concomitantly:

i. Sample accepted according to the procedures previously detailed in item 16.12.3 on the compliance of the STREET LIGHTING POINTS information in the REGISTRY;

ii. Sample accepted according to procedures previously detailed in item 16.12.4 on compliance with the remaining useful life of LUMINAIRES in STREET LIGHTING POINTS;

iii. Full implementation of the OPERATIONAL DEMOBILIZATION PLAN by the CONCESSIONAIRE;

iv. Removal by the CONCESSIONAIRE of the assets from RELATED ACTIVITIES, if the GRANTING AUTHORITY has no interest in the transfer of these assets.