



STATE SECRETARIAT FOR INFRASTRUCTURE AND ENVIRONMENT

#### **ANNEX IV - PERFORMANCE INDICATORS**



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This ANNEX establishes the recording system for the PERFORMANCE INDICATORS associated with the CONTRACT, which will be employed to assess the CONCESSIONAIRE's performance and, consequently, to determine the VARIABLE GRANT's value.

The manner and periodicity of measuring the CONCESSIONAIRE's performance will be detailed below.

**1. ASSESSMENT OF PERFORMANCE**

1.1. The CONCESSIONAIRE's performance will be assessed every 12 (twelve) months based on the following indicators, divided into two groups:

▪ MANAGEMENT AND VISITATION

- Waste Management and Cleaning Indicator ( $I_{LR}$ );
- USER and Equity Security Indicator ( $I_{SS}$ );
- Visitor Satisfaction Indicator; ( $I_{SV}$ ).

▪ MAINTENANCE

- CONCESSION Area and Asset Maintenance Indicator ( $I_{MA}$ ).

1.2. Without prejudice to any data collection directly by the INDEPENDENT RAPORTEUR, the CONCESSIONAIRE shall provide the INDEPENDENT RAPORTEUR with all the information and documents needed to assess the indicators referenced hereunder. If this requirement is not met, the INDEPENDENT RAPORTEUR shall consider the worst result for these indicator(s), thus reaching a score of zero.

1.3. The INDEPENDENT RAPORTEUR shall justify and demonstrate through records (photos, measurement records, etc.), whenever applicable, all non-conformities, irregularities or inadequacies that may have been identified.

1.4. Each indicator shall have its annual result estimated, whereas the whole effect of the four indicators shall be referred to as Final Score ( $NF$ ) and determined with the following equation:

$$NF = 35\% * I_{LR} + 15\% * I_{SS} + 20\% * I_{SV} + 30\% * I_{MA}$$

1.5. The  $NF$  estimated annually shall, allow for the estimation of the VARIABLE GRANT percentile due by the CONCESSIONAIRE by way of performance compensation, for the following 12 (twelve)-month period

1.6. The following table shows the relation between the  $NF$  and the percentile value to be applied on top of the REVENUE earned by the CONCESSIONAIRE by way of the VARIABLE GRANT payable by the CONCESSIONAIRE in connection with the performance, according to the terms of Clause Thirteen of the CONTRACT:

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Final Score (NF)	VARIABLE GRANT
$90 \leq NF \leq 100$	2.50%
$75 \leq NF < 90$	3.00%
$50 \leq NF < 75$	3.50%
$25 \leq NF < 50$	4.00%
$00 < NF < 25$	4.50%
$NF = 00$	5.00%

- 1.7. The INDEPENDENT RAPPOREUR shall assess indicators as established for each indicator, as of the 13th (thirteenth) month following the signing of the TERM OF DELIVERY OF THE PUBLIC ASSET, by either on-site evaluations or inspections, or the examination of reports and documents provided by the CONCESSIONAIRE, except for CONCESSION Areas and Asset Maintenance Indicator (*IMA*), which shall be subject to the inspection periodicities established under item 5.5 of this ANNEX
  - 1.8. The CONCESSIONAIRE's performance shall be assessed, with the NF, every 12 (twelve) months, based on results obtained between the 13th (thirteenth) and the 24th (twenty-fourth) month after the signing of the TERM OF DELIVERY OF THE PUBLIC ASSET, indicating the amount to be paid in the following year, by way of the VARIABLE GRANT, as of the 25th (twenty-fifth) month after signing of the TERM OF DELIVERY OF THE PUBLIC ASSET, and so on, during the following years.
  - 1.9. The calculation method applying to indicators comprising the NF assigned to the CONCESSIONAIRE is detailed in the following sections, provided that rounding-off rules established under the ABNT NBR 5891 standard for decimal numbers is upheld, whereas no algorism shall be maintained after the dot, in estimations of the performance indicators.
- 2. WASTE MANAGEMENT AND CLEANING INDICATOR ( $I_{LR}$ )**
- 2.1. The four-monthly assessment of the Waste Management and Cleaning Indicator shall consist of the sum total of assessment scores assigned by the INDEPENDENT RAPPOREUR to six elements, as established under the following table:

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WASTE MANAGEMENT AND CLEANING INDICATOR (C <sub>WM</sub> )						
#	Element	Assessment	Formula - performance indicator	Gradation		NA
Q1	Properly functional trash bins for selective garbage collecting	Examination of working conditions of trash bins in the areas: presence of garbage bags, absence of cracks, undamaged covers (when covered trash bins are used), use of appropriate selective colors, proper fixation on bases or supports (according to the trash bin model used). The total “#” of trash bins shall include those in the public restrooms.	$I_{D1} = \frac{\text{\# properly functional trash bins}}{\text{\# total trash bins installed}} (\%)$	$90\% \leq I_{D1}$	2.0	
				$90\% > I_{D1} \geq 75\%$	1.5	
				$75\% > I_{D1} \geq 50\%$	1.0	
				$50\% > I_{D1}$	0.0	
Q2	Trash bins and waste baskets available to receive new waste deposits, without leaks or overflows	Confirmation of the availability of trash bins in the PARKS, to identify any waste leaks or overflows from the trash bins. This should include the trash bins in the public restrooms.	$I_{D2} = \frac{\text{\# trash bins available for use}}{\text{\# total trash bins installed}} (\%)$	$95\% \leq I_{D2}$	2.0	
				$95\% > I_{D2} \geq 90\%$	1.5	
				$90\% > I_{D2}$	0.0	
Q3	Appropriate locations for storage of waste collected from the PARKS until it can be retrieved by the public collection services	Confirmation of the existence and availability of proper locations for the storage (available volume and installation) of waste collected from the PARKS, until their retrieval by the public collection services.	$I_{D3} = \frac{\text{\# appropriate storage locations}}{\text{\# total storage locations}} (\%)$	$100\% = I_{D3}$	2.0	
				$100\% > I_{D3}$	0.0	
Q4	Frequency of cleaning and sanitation of public restrooms (frequency of cleaning activities and replacement of disposable materials)	Monitoring the level of task fulfillment (via systemic recording) within the periodicities defined in the operating plan for cleaning services and the proper replacement of disposable materials. Nonconformities (NC) shall be registered identifying any failure to adhere to the activities schedule or to meet unscheduled demands. The inspection shall be executed during at least 6 operating days (open to the public), consecutive or alternating, limited to a period	$I_{D4} = \text{total \# NC identified in all PARKS}$	$1 \geq I_{D4}$	2.0	

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		of no more than 30 consecutive days. Inspections shall be executed at least every 4 hours, during the course of the full operating day of the restrooms in the areas. The 6 inspection days shall cover all operating days of the week (ranging from Monday through Sunday).		$1 < I_{D4}$	0.0	
Q5	Public restrooms should rely on appropriate supply / replacement of personal hygiene products (soap, toilet paper, paper towels and/or and hand driers)	Technical inspection executed by a specialized professional (under the supervision of the INDEPENDENT RAPPOREUR), qualifying the cleanliness and hygiene level based on performance rates from 1.0 to 5.0, where 1.0 represents the lowest quality and 5.0 represents the highest quality. The inspection shall be executed at least on 6 operating days (open to the public), consecutive or alternating, limited to a period of no more than 30 consecutive days. Inspections shall be executed at least every 2 hours, during the course of the full operating day of the PARKS. The 6 inspection days shall cover all operating days of the week (ranging from Monday through Sunday).	$I_{D5} = 1.0 \text{ a } 5.0 \text{ (resolution of 0.5)}$	$4.0 \leq I_{D5}$	2.0	
				$4.0 > I_{D5} \geq 3.0$	1.5	
				$3.0 > I_{D5} \geq 2.0$	1.0	
				$2.0 > I_{D5}$	0.0	
Q6	Green area maintenance	Identification of nonconformities (NC) in land clearing services executed on grasses, gardening services, or identification of fallen branches or leaves in a volume that affects the use and circulating areas, or the absence of pruning services on bushes and trees located near the constructions or the electrical system. Inspections shall be executed during a period of up to 2 consecutive days for all PARKS, and cover only circulating areas, except for trails and areas reserved	$I_{D6} = \# \text{ NC identified during inspection}$	$1 \geq I_{D6}$	2.0	
				$1.0 > I_{D6} \geq 3.0$	1.5	
				$3.0 > I_{D6} \geq 5.0$	1.0	



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		to visitors and users, and landscape areas (gardens, flowerbeds).		5.0 > I <sub>D6</sub>	0.0	
Sum Total - A <sub>LR</sub>						

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2.1.1. The total value of the four-monthly assessment shall range between “0” (zero) and “12” (twelve) points, and shall be estimated based on the following equation:

$$A_{LR} = \sum_{1}^n NA_n$$

Where:

$A_{LR}$  = Sum Total of Waste Management and Cleaning Indicator assessment scores;

$NA_n$  = Assessment Score for element “n”, relating to the  $I_{Dn}$  assigned by the INDEPENDENT RAPPORTEUR.

The subscribed  $n$  indicates the numbering of each of the elements comprising the issues to be assessed with the indicator.

2.1.2. The annual  $A_{LR}$  shall correspond to the arithmetic mean of the 3 (three) four-monthly assessments executed over the 12 (twelve)-month period.

2.1.3. The application of the annual  $A_{LR}$  in the gradation table, hereunder, produces the value of the Waste Management and Cleaning Indicator ( $I_{LR}$ ), which shall be used to compute the NF, as described under item 1.5 of this ANNEX.

Valuation	$I_{LR}$
$12 \geq A_{LR} > 10$	100
$10 \geq A_{LR} > 8$	90
$8 \geq A_{LR} > 6$	75
$6 \geq A_{LR} > 4$	50
$4 \geq A_{LR} > 2$	25
$2 \geq A_{LR}$	0

### 3. USER AND EQUITY SECURITY INDICATOR ( $I_{SS}$ )

3.1. The four-monthly assessment of the User and Equity Security Indicator shall consist of the sum total of assessment scores assigned by the INDEPENDENT RAPPORTEUR to three elements, as established in the following table:

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USER SECURITY AND PROVISION OF SERVICES INDICATOR (ssI)						
#	Element	Assessment	Formula - Performance Indicator	Gradation		NA
Q1	Surveillance stations shall be operational during all predetermined hours in the PLAN FOR MANAGEMENT AND OPERATION	To determine if the CONCESSIONAIRE provides surveillance stations, which shall be operational at all times predetermined under the Equity Security Plan. A station is deemed to be operational when manned with a surveillance officer who is properly equipped, and in uniform, assigned to the appropriate station, during the predetermined times and the total number of stations is as provided for in the Plan.	$I_{D1} = \frac{\text{\#}^1 \text{ surveillance stations operational}}{\text{\# total surveillance stations}} (\%)$	$90\% \leq I_{D1}$	2.0	
				$90\% > I_{D1} \geq 75\%$	1.5	
				$75\% > I_{D1} \geq 50\%$	1.0	
Q2	Provision of Ombudsman channels to the general public	Demonstrate that the ombudsman channels are always available to the general public, at least through a telephone number or an e-mail address. A channel is considered available if it is inactive for no more than 120 minutes per day or more than 180 minutes for 15 consecutive days (minimum period to be taken into account for the assessment).	$I_{D4} = 1$ (when available) $I_{D4} = 0$ (when not available)	$1 = I_{D4}$	2.0	
				$0 = I_{D4}$	0.0	
Q3	Fire brigade that is duly qualified to assist with fire prevention and firefighting operations	Proof of the brigade member's participation in training courses scheduled for the period, upon inspection of attendance lists and participation/approval certificates.	$I_{D2} = \frac{\text{\# fire brigade officers trained}}{\text{\# total fire brigade officers}} (\%)$	$90\% \leq I_{D2}$	2.0	
				$90\% > I_{D2} \geq 75\%$	1.5	

<sup>1</sup> For purposes of this ANNEX, the “#” (pound) symbol corresponds to the number quantifying objects and/or the occurrence of events concerning the universe under examination by the INDEPENDENT RAPPORTEUR in order to assess the CONCESSIONAIRE’s performance.



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				75% > I <sub>D2</sub>	0.0	
Sum Total - A <sub>qs</sub>						

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- 3.2. The total value of the semiannual assessment will range between "0" (zero) and "6" (six) points, and shall be estimated based on the following equation:

$$A_{SS} = \sum_{1}^n NA_n$$

In which:

$A_{SS}$  = Sum total of the assessment scores of the Provision of Services Quality Indicator;

$NA_n$  = Assessment score referring to item "n", relating to the  $I_{Dn}$  assigned by the INDEPENDENT RAPPORTEUR.

The subscribed  $n$  indicates each of the elements comprising the issues to be assessed with the indicator.

- 3.2.1. The annual  $A_{SS}$  shall correspond to the arithmetic mean of the 3 (three) quarterly assessments executed over a period of 12 (twelve) months.
- 3.2.2. The application of the annual  $A_{QS}$  in the gradation table, hereunder, produces the value of the Provision of Services Quality Indicator ( $I_{SS}$ ), which shall be used to compute the NF, as described in item **Erro! Fonte de referência não encontrada.** of this ANNEX.

Valuation	$I_{SS}$
$6 \geq A_{SS} > 5$	100
$5 \geq A_{SS} > 4$	90
$4 \geq A_{SS} > 3$	75
$3 \geq A_{SS} > 2$	50
$2 \geq A_{SS} > 1$	25
$1 \geq A_{SS}$	0

#### 4. VISITOR SATISFACTION INDICATOR ( $I_{SV}$ )

- 4.1. The main purpose of the Visitor Satisfaction Indicator is to identify the satisfaction level with experiences afforded by visitations to the PARQUES ÁGUA BRANCA, VILLA-LOBOS and CANDIDO PORTINARI, according to the surveying program conceived to assess satisfaction levels of USERS and neighboring communities.
- 4.2. The satisfaction survey will be conducted by means of a questionnaire to be completed by a team to be appointed by CONCESSIONAIRE and interviews with visitors on site, carried out at random at least every four months.
- 4.3. The sample of answers must have at least 1100 (one thousand and one hundred) respondents per year, with a margin of error of 3% (three percent) and a reliability rate of 95% (ninety-five percent). The questionnaires must indicate the respondent's park. This sample must be proportionally distributed for each four-month period in which the survey is conducted.

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- 4.4. The questionnaires shall address, at least, the following topics related to all PARKS within the CONCESSION AREA: the state of conservation of the infrastructure (constructions, urban furniture, green areas and facilities in general), the overall quality of cleaning and hygiene, quality of public services (employee courtesy and service time), quality of the signage, and overall satisfaction making up the  $I_{SV}$ .
- 4.5. The CONCESSIONAIRE shall submit the Satisfaction Survey methodology, which will be used with the USERS for analysis by the GRANTOR.
- 4.6. The survey shall ask USERS to assess their overall satisfaction with the park visited on a scale of integers from 01 (one) to 10 (ten), with 01 (one) where one represents a terrible experience and 05 (five) a great experience.
- 4.7. The Visitor Satisfaction Indicator ( $I_{SV}$ ) shall result from the poor review index ( $I_{AB}$ ), computed by dividing the sum totals of level answers "1", "2" and "3" by the total number of valid questions carried out over the 12 months prior to the calculation of the Final Score, according to the following equation:

$$I_{AB}(\%) = \frac{(Nav_1 + Nav_2 + Nav_3)}{Nav_{total}}$$

Where:

$Nav_1$  = number of questions with a score of "1";

$Nav_2$  = number of questions with a score of "2";

$Nav_3$  = number of questions with a score of "3";

$Nav_{total}$  = total number of questions with valid answers.

- 4.8. Valid answers are all those in which the USER assigns a score between 01 (one) and 10 (ten), excluding questionnaires in which the user responded with "I don't know" or "I did not use it", or any other evaluation that is not between the scores of 01 (one) to 10 (ten).
- 4.9. The Visitor Satisfaction Indicator ( $I_{SV}$ ) shall be reached based on the following Poor Review Index ( $I_{AB}$ ) gradation table:

Valuation	$I_{SV}$
$I_{AB}(\%) \geq 40\%$	0
$30\% \leq I_{AB}(\%) < 40\%$	50
$25\% \leq I_{AB}(\%) < 30\%$	75
$10\% \leq I_{AB}(\%) < 25\%$	90
$I_{AB}(\%) < 10\%$	100

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**5. CONCESSION AREA AND ASSET MAINTENANCE INDICATOR ( $I_{MA}$ )**

- 5.1. The CONCESSION AREA and the Asset Maintenance Indicator ( $I_{MA}$ ) assesses the conservation level of existing assets within the CONCESSION AREA.
- 5.2. Good conservation level is defined as the absence of Nonconformity (NC), confirmed by inspections executed during the course of technical visits, as established under the Appendix to this ANNEX. The periodicity of technical visits shall be dependent on items to be assessed, as described hereinbelow.
- 5.3. 7 (seven) different items shall be inspected during the technical visits/inspections, each being assigned a certain weight in the final assessment, as established below:

Evaluation Item	Weight
a. Electrical installations	3
b. Firefighting Facilities	3
c. Surveillance and Security Facilities	3
d. Hydraulic Installations	2
e. Construction Work	1
f. Urban Furniture	1
g. Internal Paving and Sidewalks (concrete paving)	1

- 5.4. The technical visits shall be the INDEPENDENT RAPPORTEUR's responsibility and shall be executed annually, biannually or quarterly, according to the sub item to be assessed, as shown in the following table, which establishes the number of months between assessments.
- 5.5. The inspections, for each of the themes, must identify the Non-Conformities, taking into account the incidence and severity of these Non-Conformities in the state of conservation of the facilities and sets under analysis, as detailed in the Appendix of this ANNEX.

ITEM	DESCRIPTION	FREQUENCY (IN MONTHS)	NONCONFORMITY	GRAVITY LEVEL		
				MINIMAL	AVERAGE	CRITICAL
a	Electrical installations	6	Exposed, unprotected wiring.			
		12	Functionally defective grounding.			
		12	Defective SPDA.			
		12	Electrical infrastructure inconsistent with load demand.			

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ITEM	DESCRIPTION	FREQUENCY (IN MONTHS)	NONCONFORMITY	GRAVITY LEVEL		
				MINIMAL	AVERAGE	CRITICAL
b	Firefighting facilities	6	Lack of extinguishers or expired extinguishers.			
		12	Alarm system with defective activator.			
		12	Defective sprinklers or other firefighting equipment.			
c	Security and Surveillance Facilities	12	Defective surveillance cameras.			
d	Hydraulic Installations	3	Identifiable leaks and bursts.			
		3	Clogging.			
		6	Water reservoirs lacking proper cleaning and hygiene.			
e	Construction Work	12	Cracks/fissures on coatings and structural elements.			
		12	Identification of moisture on walls, panelings and structural elements.			
f	Urban Furniture	12	Urban furniture absent or in a poor state of conservation.			
g	Internal Paving and Sidewalks	12	Horizontal signage in a poor state of conservation.			
		12	Vertical signage unavailable or in a poor state of conservation.			
		12	Identification of cracks and/or holes on the road paving.			
		12	Identification of cracks and/or holes on sidewalks			

5.6. The assessment method and criteria applying to nonconformities listed in each sub item are detailed in the Appendix to this ANNEX.

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5.7. The assessment score for each item shall observe the following scale from 0 to 1:

ITEM	SCORE
If the sub-item is compliant (absence of Nonconformity)	the score shall be "1.0";
If the sub-item presents up to 1 (one) Minimum Level Nonconformity	the score shall be "0.7";
If the sub-item presents more than 1 (one) Minimum Level Nonconformity	the score shall be "0.5";
If the sub-item presents up to 1 (one) Medium Level Nonconformity	the score shall be "0.4";
If the sub-item presents more than 1 (one) Nonconformity of medium level	the score shall be "0.2";
If the sub-item presents Critical Level Nonconformity	all scores for all sub-items of this item shall be "0";

- The annual score for each item shall be the arithmetic mean of evaluations executed during the course of the year, when evaluated more than once a year;
- The mean value of the items shall correspond to the arithmetic mean of scores assigned to their sub-items.

5.8. As a result of the technical visit, the INDEPENDENT RAPORTEUR shall produce a report listing Nonconformities verified and disclosing scores assigned to each item and sub-item, computing the Conformity Index ( $I_C$ ) obtained with the evaluation during the technical inspection, employing the following equation:

$$I_C (\%) = \frac{\sum_{i=0}^N A_i W_i}{\sum_{i=0}^N W_i}$$

Where:

$A_i$  = Score reached with the evaluation of each item (between 0 and 1);

$W_i$  = Weight of the evaluation score assigned to each item (between 1 and 3);

$i$  = represents each assessment item (between 1 and 7);

5.9. The evaluation of item e. Construction Works shall consider the INTERVENTION PLAN.

5.10. The following gradation table shall apply to the determination of the  $I_{MA}$ :

Valuation	$I_{MA}$
$I_C \geq 90\%$	100
$85\% \leq I_C < 90\%$	90
$80\% \leq I_C < 85\%$	75
$70\% \leq I_C < 80\%$	50
$I_C < 70\%$	0

- By applying the result of the estimation of the  $I_C$  according to the gradation table, above, the value of the CONCESSION AREA and Asset Maintenance Indicator ( $I_{MA}$ ) is reached.



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## **APPENDIX – ASSESSMENT OF NONCONFORMITY**

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This Appendix describes how to identify and assess Nonconformities (NC) comprising the CONCESSION AREA and Asset Maintenance Indicator ( $I_{MA}$ ), as established hereunder.

The following sections establish the definitions and criteria used to identify and assess Nonconformities.

## 1. GENERAL PROVISIONS ON THE ASSESSMENT OF A NONCONFORMITY

The following definitions of the terms used in this ANNEX are consistent with the definitions in ABNT NBR 5462 – Reliability and Maintainability, and the ABRAMAN (Associação Brasileira de Manutenção), according to the book “A falha não é uma opção” (“Failure is not an option”), by Eng. José Wagner Braidotti Jr, as well as the regulation issued by IBAPE Nacional (Instituto Brasileiro de Avaliações e Perícias de Engenharia), concerning the criticality level of defects and anomalies.

### 1.1. Definitions

In the assessment of Nonconformities, the following definitions are to apply:

<b>ITEM</b>	Any part, component, device, subsystem, functional unit, equipment or system liable to be examined individually.
<b>PARTIAL DEFECT OR FAILURE</b>	<p>Any deviation of a single characteristic of an ITEM from its standard requirements.</p> <p>Interpretation: any change in the conditions of the ITEM that does not stop it from working, albeit partially.</p> <p>Example: any heating that does not interfere with the ITEM's capacity to work, or a vibration that does not affect the item's capacity to function.</p>
<b>COMPLETE DEFECT OR FAILURE</b>	<p>Elimination of an ITEM's capacity to function as required.</p> <p>Interpretation: any event that completely prevents the ITEM from executing its intended function.</p> <p>Example: breakage of the pump's axis, which completely stops the pumping function (the pump's functionality)</p>
<b>CAUSE OF FAILURE</b>	Design-related or manufacturing defect, or circumstances surrounding the item's use, which ultimately cause the FAILURE.

### 1.2. Classification of the criticality level

The classification as to the criticality level of a DEFECT or FAILURE shall take into account certain technical aspects, such as the likelihood of causing accidents, the cost of repair, deterioration level, the loss of real estate value and the loss of optimal performance.

For purposes of this ANNEX, the Norma de Inspeção Predial Nacional (National Building Inspection Regulation) shall apply, which was approved in October 2012, by Instituto Brasileiro de Avaliações e Perícias de Engenharia-Nacional (IBAPE Nacional), which ranks DEFECTS and FAILURES according to the following risk levels:

- **CRITICAL:** risk of damaging human health and safety and the environment; excessive loss of performance and functionality, possibly entailing stoppages; excessive increment of maintenance and recovery costs; considerable decrease of lifespan.

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- **AVERAGE:** risk of partial loss of performance and functionality of the construction, without detriment to the direct operation of systems, and premature deterioration.
- **MINIMAL:** risk of minor aesthetic losses or losses to programmable and scheduled activities, which does not entail nor increase the likelihood of critical or regular risks, and poses little to no risk of loss of real estate value.

**1.3. Rounding-off rule applying to the to the estimation of nonconformities**

In the event that the result of the estimation of the ratio between the inspected quantity and the total sampled quantity produces a decimal number, the value reached shall always be rounded up.

Example:

$R = \text{ratio between quantity of failed items and quantity of items inspected} \Rightarrow R = 5/4 = 1.25 \Rightarrow \text{rounding up} \Rightarrow R = 2.$

**1.4. Methodology employed to determine sampling and tolerance percentiles**

The methodology used to define the sampling and tolerance percentages aggregates a set of aspects that must be taken into account when defining them. The following main aspects are considered:

- I. Requirement level according to the following priority:
  1. safety of users, employees, facilities and equipment
  2. functionality of facilities and equipment
  3. user comfort
- II. Number of equipment and parts of the same category installed in constructions to be inspected;;
- III. Difficulty to access items to be inspected and resources available to execute the inspection;
- IV. Prior experience with similar equipment and facilities;
- V. History of failure of the equipment and facilities involved, and their level of risk;
- VI. Sampling parameters normally used in the inspection market (there is no general rule to be applied);
- VII. Inspection professionals recommend that data collection is not done by way of sampling or partial inspections.

So, the methodology to define the sampling and tolerance percentiles has considered the above aspects, executing a specific analysis for each of the failures defined in the following item.

**2. Description of Malfunctions and Evaluation of Nonconformities**

**2.1. Electrical installations**

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**I. Exposed, unprotected wiring**

Evaluation criterion: there can be no exposed wiring in constructions' electrical installations. All wiring must be embedded into conduits internal or external to structures and/or inside enclosures with the insulating protection intact.

Sampling: not applicable. The entire installation must be inspected.

Tolerance: 0%.

**II. Functionally defective grounding (in part or in full)**

Assessment criterion: the state of the grounding system must meet, in its entirety, all recommendations posed in standards NR-10 and ABNT NBR-5419-3 [1 - 2], which shall be examined during an inspection that follows, at least, the following procedures:

- a. assess the integrity and physical conditions (check for corroded connections, loose, damaged or absent grounding cables, etc.).
- b. measure the ohmic grounding resistance and its continuity.
- c. measure the resistivity of the soil in urbanized areas (asphalt, concrete, etc.), confirming if the measured resistance is compatible with the arrangement and dimensions of the grounding system.
- d. check the interconnection of the building's grounding subsystems, by means of low-impedance equipotential bonding.

Sampling: not applicable. All grounding systems and subsystems of constructions must be inspected.

Tolerance: 0%. All installed systems must fully comply with the aforementioned standards.

**III. Functionally defective SPDA (in part or in full)**

Assessment criterion: the state of the SPDA (Atmospheric Discharge Protection System) must fully meet the conditions described in the technical standard ABNT NBR 5419, according to the following guidelines:

- a. the SPDA must be consistent with the project;
- b. All SPDA components shall be in a good state, the connections and fixings firm and corrosion-free;
- c. the grounding resistance value must be compatible with the arrangement and dimensions of the grounding subsystem, and with the resistivity of the soil. Systems using the foundations as a grounding electrode are exceptions to this requirement;
- d. all constructions added to the structure after the original installation must be integrated with the volume to be protected, through a connection to the SPDA or its expansion;
- e. the resistance may also be estimated based on the stratification of the soil, with the use of a suitable program. In this case, the measurement of the grounding resistance is dispensable.

Sampling: not applicable. All installed systems must be inspected.

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Tolerance: 0%. All systems installed must fully meet the required conditions.

**IV. Electrical infrastructure inconsistent with load demand**

Assessment criterion: the load demand of constructions' main and distribution panels shall be measured to determine the expected balance of the electrical project during the installation stages. If the distribution is not consistent with the standards and the project, with the electrical system on line, a Nonconformity shall be deemed to exist. The expected electrical load and the entire protection circuit shall adhere to the requirements of standard ABNT NBR 5410, item 4.2.1.2 A. All documents concerning the electrical installations must be current (as built).

Sampling: not applicable. All electrical panels installed must be inspected.

Tolerance: 0%. All electrical panels must be in proper balance with the installed load and fully meet the required technical conditions.

**2.2. Firefighting Facilities**

**I. Lack of Fire Extinguishers or Expired Fire Extinguishers**

Assessment criterion: the lack of a fire extinguisher in a place predetermined by the fire prevention and firefighting plan, the presence of expired extinguishers, and the failure to adhere to any other parameter defined in standard NBR 1296 - Fire extinguisher inspection, maintenance and recharging, and in the FIRE EXTINGUISHER INSPECTION PROCEDURE, Inmetro ordinances 206/2011, 05/2011, 486/2010 and 500/2011 Codes - 3295 / 3310 / 3311, in addition to the standards referenced in this document (NBR 15808 and 10721), shall be deemed Nonconformities, subject to no tolerance threshold.

Sampling: not applicable. All fire extinguishers anticipated in the fire prevention and firefighting plan must be inspected.

Tolerance: 0%. Any irregularity identified shall be deemed a Nonconformity. One Nonconformity shall be counted for each irregular fire extinguisher identified during the inspection.

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**II. Alarm systems with FULLY OR PARTLY DEFECTIVE activators**

Assessment criterion: sound alarm systems and emergency lights shall be activated for simulation purposes. Any alarm system or emergency lights showing a PARTIAL or FULL DEFECT shall be deemed a Nonconformity. The number of Nonconformities shall correspond to the number of alarm systems and emergency lights that fail during the inspection. Standards taken as reference for fire alarm systems: NR 23 - Fire Protection, and ABNT NBR 17240.

Sampling: not applicable. All sound alarm systems and emergency lights must be activated to test their functionality.

Tolerance: 0%. Any alarm system or emergency light that shows a PARTIAL or FULL DEFECT shall be deemed a Nonconformity.

**III. Sprinklers and other firefighting equipment showing FULL OR PARTIAL DEFECTS**

Criterion: sprinklers and other firefighting equipment are to be tested, focusing on those installed in the most densely populated areas, according to the fire prevention and firefighting plan. A Nonconformity shall be deemed to exist when the number of sprinklers and other firefighting equipment showing PARTIAL or FULL DEFECTS exceed 5% (five percent) of the number tested. Moreover, after the quantitative (absolute) tolerance threshold, each sprinkler or other firefighting equipment that is defective shall be deemed a Nonconformity.

Example: if the number of defective sprinklers identified is 20 and the tolerance threshold for this component is 12 (twelve), 8 (eight) Nonconformities shall be counted.

Sampling: at least 20% (twenty percent) of the total number of sprinklers and other firefighting equipment installed in the constructions shall be inspected.

Tolerance: up to 5% (five percent) of the total number of sprinklers and other firefighting equipment inspected

**2.3. Security and Surveillance/Access Control Facilities**

**I. Surveillance and Security Facilities/Access Control**

Assessment criterion: all CCTV active surveillance cameras shall be tested, according to the property security and access control plan. A Nonconformity shall be deemed to exist if the number of cameras that are PARTLY or FULLY DEFECTIVE exceeds 2% of the number of cameras installed and operational. Moreover, after the quantitative (absolute) tolerance threshold, every 1% of defective surveillance cameras shall be deemed a Nonconformity.

Example: if the number of defective cameras identified is 4 and the tolerance threshold for this component is 2, then 2 Nonconformities shall be counted.

Sampling: not applicable. All surveillance cameras must be tested during the inspection.

Tolerance: up to 5% of the total number of surveillance cameras inspected.

**2.4. Hydraulic Installations**

**I. Leaks or bursts**

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Assessment criterion: there can be no leaks identified in constructions' cold water, sewage or rainwater collection systems nor water hose ruptures.

Sampling: not applicable. The entire cold water, sewage and rainwater collection system, and all water hoses, must be inspected.

Tolerance: 0%. Any breakage or leak detected during the inspection shall be deemed a Nonconformity, and the number of Nonconformities shall be quantified according to the number of leaks or bursts verified.

**II. Clogging**

Assessment criterion: there can be no clogging in constructions' cold water, sewage or rainwater collection systems.

Sampling: not applicable. The entire cold water, sewage or rainwater collection system must be inspected.

Tolerance: 0%. Any clogging detected during the inspection shall be deemed a Nonconformity, and the number of Nonconformities shall be quantified according to the number of clogging incidents verified.

**III. Water reservoirs lacking the proper cleaning and hygiene**

Assessment criterion: the CONCESSIONAIRE shall provide the inspection team with cleanliness and hygiene certificates for the local's drinking water reservoirs, which shall be fully compliant with the requirements of Consolidation Ordinance No. 5 OF 09/28/2017, ANNEX XX - CONTROL AND SURVEILLANCE OF WATER QUALITY FOR HUMAN CONSUMPTION AND THE DRINKABILITY STANDARD (Source: PRT MS/GM 2914/2011).

Sampling: not applicable.

Tolerance: 0%.

**2.5. Construction Work**

**I. Identification of moisture on walls, panelings and structural elements**

Assessment criterion: there may be no cracks and/or fissures in coatings and structural elements of the enterprise's constructions. A visual inspection must be executed.

Sampling: not applicable.

Tolerance: 0%. Any crack or fissure verified in coatings and structural elements of constructions during the visual inspection shall be deemed a Nonconformity, and the number of Nonconformities shall correspond to the number of cracks and fissures verified.

**II. Presence of moisture on walls, lining and structural elements**

Assessment criterion: there can be no moisture present due to a failure of hydraulic systems or to the malfunction and/or lack of maintenance of waterproofing systems. Any moisture

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resulting from any one of the above-mentioned failures and verified during the visual inspection shall be deemed a Nonconformity.

Sampling: not applicable.

Tolerance: 0%. Any moisture resulting from any one of the above failures verified during the visual inspection shall be deemed a Nonconformity, and the number of Nonconformities shall correspond to the number of cracks and fissures verified.

**2.6. Urban Furniture**

**I. Urban furniture that are absent or in a poor state of conservation**

Assessment criterion: any urban furniture (benches, drinking fountains, garbage bins, bike racks, direction signs, etc.) that is unavailable because it is absent (furniture removed from their original installation point), or lacks proper sanitation, which prevents its use, or is in such a poor state that it poses a risk or causes discomfort to USERS, shall be deemed a Nonconformity. Specifically regarding public drinking fountains, they must offer drinking water according to the rules in Consolidation Ordinance No. 5, of 09/28/2017, ANNEX XX - CONTROL AND SURVEILLANCE OF WATER QUALITY FOR HUMAN CONSUMPTION AND THE DRINKABILITY STANDARD. The direction signs, on the other hand, must be legible, showing no degrading elements such as lack of paint, rust or damage.

Sampling: 100% for the drinking fountains and at least 50% for the other items of urban furniture installed in the Concession area shall be inspected.

Tolerance: up to 5% of all furniture shall be inspected.

**2.7. Internal Paving and Sidewalks**

**I. Horizontal signage in a poor state of conservation**

Assessment criterion: The horizontal signage along the pavement within the park area may not show damage to an extent that its USER information function is impaired or even eliminated. If defects of such an extent are verified during the inspection, they shall be deemed Nonconformities.

Sampling: not applicable. All horizontal visual signage in the internal area of the park shall be inspected.

Tolerance: 0%. Any defect that impairs or prevents the informative function shall be deemed a Nonconformity.

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**II. Vertical signage that is absent or in a poor state of conservation**

Assessment criterion: The vertical signage within the park's internal area (signs affixed to poles, walls, columns, etc.) may not show damage to an extent that its user information function is impaired or even eliminated (such as, signs that are crooked, dented, installed in the wrong position, with faded paint, inclined or crooked support pole, or even the absence of the sign in its predetermined installation site). If defects to such an extent are verified during the inspection, they shall be deemed Nonconformities.

Sampling: not applicable. All vertical visual signage in the area inside the park will be inspected.

Tolerance: 0%. Any defect that impairs or prevents the informative function shall be deemed a Nonconformity.

**III. Identification of cracks and/or holes on the road paving**

Assessment criterion: the park's internal pavement (asphalt and/or concrete) may not have holes or cracks that impair its performance (such as, pedestrian and/or vehicle circulation difficulties) and/or facilitate water infiltration and accelerate its potential deterioration over time. If these irregularities are verified during the inspection, they shall be deemed a Nonconformity.

Sampling: not applicable. The entire internal pavement within the park area shall be inspected.

Tolerance: up to 5 (five) cracks and/or holes. The sum total of irregularities may not exceed the tolerance threshold. If so, the excess number shall be deemed Nonconformities, in a number equivalent to the excess number.

**IV. Identification of cracks and/or holes on sidewalks**

Assessment criterion: sidewalks within the park area may not show cracks and/or holes that pose a risk of accidents to pedestrian users upon the INDEPENDENT RAPPORTEUR's inspection.

Sampling: not applicable. All sidewalks within the park area shall be inspected.

Tolerance: up to 3 (three) cracks and/or holes. The sum total of irregularities may not exceed the tolerance threshold. If so, the excess number shall be deemed Nonconformities, in a number equivalent to the excess number.