



Governo do Estado do Rio de Janeiro

**ANNEX XIII OF THE CONCESSION AGREEMENT FOR PUBLIC WATER SUPPLY AND SANITATION
SERVICES, BY BLOCKS OF MUNICIPALITIES IN THE STATE OF RIO DE JANEIRO**

**GUIDELINES FOR THE PREPARATION OF CASH FLOWS FOR THE PURPOSE OF ECONOMIC-
FINANCIAL REBALANCING**

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This document aims to establish the general guidelines for the composition of the annual cash flow to be used in events that require the economic-financial rebalancing of the AGREEMENT.

The guidelines here will serve as minimum mandatory requirements to be met.

The Cash Flow structure shall contain:

1. Gross Operating Revenue (GOR)
2. Indirect Taxes (IT);
3. Net Operating Revenue (NOR);
4. Default (D);
5. Revenue After Default (RAD);
6. Operation and Maintenance Costs (OMC);
7. Commercial and Administrative Expenses (CAE);
8. EBITDA;
9. Direct Taxes (DT);
10. Change in Net Working Capital (CWC);
11. Investments (INV);
12. Concession Fee (CF);
13. Operating Cash Flow (OCF).

All information should be separated by municipality in the CONCESSION AREA and should take as reference the following sources of information, in the following order of priority:

- i. Historical data from the CONCESSIONAIRE itself;
- ii. If there is no historical data from the CONCESSIONAIRE, and only in this case, official public data from widely recognized institutions;
- iii. And, finally, in the absence of the first two sources, historical data from CEDAE, if applicable.

For the years prior to the date of analysis of the claim for rebalance, the data effectively measured by the CONCESSIONAIRE should be used. For the years subsequent to the date of analysis of the claim for rebalance, the projections shall be considered, in accordance with the rules established herein.

If any official index or source mentioned in this ANNEX ceases to exist, it shall be replaced by the index or equivalent source that replaces it.

The Cash Flow should be prepared on a real basis, with the base date of the TEFS (Technical and Economic Feasibility Studies). For data with a base date after the TEFS, the values should be adjusted in accordance with the indices pre-established in this ANNEX.

1. Gross Operating Revenue (GOR)

To calculate the gross operating revenue, it will be necessary to present the projections of the following information for the remaining term of the AGREEMENT:

1. Number of potential units in the CONCESSION AREA - CPU;
2. Water service index (%) - WSI;
3. Distribution of units in the following categories: Social Tariff, Residential without Social Tariff and Non Residential (%);

4. Average water tariff for each category (R\$/m³) - AWT;
5. Average invoiced volume of water for each category (m³/economy/month) - AVW;
6. Sewerage Service Index (%) - SSI;
7. Relationship between the sewage tariff and the water tariff for each category - WSR;
8. Percentage of indirect revenue in relation to direct revenue (%) - IND;
9. Percentage of financial revenue in relation to direct revenue (%) - FIN.

The number of potential units (CPU) in the CONCESSION AREA will be obtained through the CONCESSIONAIRE's registry and its projection will be calculated using the same growth rate provided for in the most recent official projection at the time of the rebalancing analysis published by the Brazilian Institute of Geography and Statistics (IBGE) for the municipalities covered by the CONCESSION AREA, if available, or for the State of Rio de Janeiro, if the absence of the former one:

The number of water units (WU) will be obtained through the product between the number of potential units (CPU) and the water service index (WSI).

$$WU = CPU * WSI$$

In case of changes that impact the targets of the water service index, its future projection shall be proportional to the curve provided for in Annex III of the AGREEMENT, that is, with the same established annual variation rates, except in case the target of the water service index itself is the object of the rebalancing, situation in which its future values shall be considered according to the claim.

The total number of water units should be stratified according to the distribution by category: Social Tariff, Residential without Social Tariff and Non-Residential, distribution which must be kept constant and equal to the last available data for future projections.

The direct monthly water revenue (DWR) will be obtained by the product between the number of water units, the average invoiced volume of water (AWV) and the average water tariff (AWT), for each of the categories.

$$DWR = WU * AWV * AWT$$

For future projections, the average water tariff will be kept constant in a real basis, with the TEFS base date, i.e., equal to the last available data.

The future projection of the average invoiced volume of water will be kept constant and equal to the arithmetic mean of the data of the 3 most recent years available.

If the CONCESSION is effective for less than 3 years, the direct revenue projections of water and sewage set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

The total number of sewage units (TSU), in turn, will be calculated by the product between the number of potential units (PU) and the sewerage service index (SSI).

$$TSU = CPU * SSI$$

In case of changes that impact the targets of the sewerage service index, its future projection shall be proportional to the curve provided for in Annex III of the AGREEMENT, that is, with the same established annual variation rates, except in case the target of the sewerage service index itself is the subject of the rebalancing, situation in which its future values shall be considered according to the claim.

The total number of sewage units should be stratified according to the distribution by category: Social Tariff, Residential without Social Tariff and Non-Residential, distribution which must be kept constant and equal to the last available data for future projections.

The direct monthly income from sewage (DSR) will be obtained by the product between the number of sewage units, the average billed volume of water, the average water tariff and the relationship between the sewage tariff and the water tariff, for each category. The applicable WSR will be kept constant for future projections.

$$DSR = TSU * AWW * AWT * WSR$$

The indirect revenue (INR) will be obtained by the product between the total direct revenue, of water and sewage, and the percentage of indirect revenue in relation to direct revenue.

$$INR = IND * (DWR + DSR)$$

The financial revenue (FIR) will be obtained by the product between the total direct revenue, of water and sewage, and the percentage of financial revenue in relation to direct revenue.

$$FIR = FIN * (DWA + DSR)$$

The future projection of the percentages of indirect revenue and financial revenue will be kept constant and equal to their respective arithmetic averages of the data of the 3 most recent years available. If the CONCESSION is effective for less than 3 years, the direct revenue projections set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

Finally, the gross operating revenue will be the sum of the direct revenue from water and sewage, the indirect revenue and the financial revenue.

$$GOP = DWR + DSR + INR + FIR$$

2. Indirect Taxes (IT)

All indirect taxes on revenue should be considered in accordance with applicable legislation.

The amount of indirect taxes shall be calculated by applying the respective rates on the gross operating revenue of the enterprise.

The tax credits pertaining to the performance of the services should also be considered in accordance with the Internal Revenue Service's regulations.

3. Net Operating Revenue (NOR)

It will be the difference between gross operating revenue and indirect taxes.

$$NOR = GOR - IT$$

4. Default (D)

The percentage of default (PD) represents the percentage of gross operating revenue that is invoiced but not actually received.

The amount will be calculated by the product between the gross operating revenue and the percentage of default.

For future projections of default, it should be proportional to the curve provided for in the TEFS, that is, with the same established annual variation rates, and the projection cannot be lower than the minimum limit of default projected in the TEFS.

5. Revenue After Default (RAD)

It is the difference between net operating revenue and default.

$$RAD = NOR - D$$

6. Operation and Maintenance Costs (OMC)

Operation and maintenance costs (OMC) should be divided into the following categories:

1. Cost with treated water from CEDAE (R\$/month) - CTW;
2. Cost with electric energy (R\$/month) - EEC;
3. Cost with operational labor (R\$/month) - COL;
4. Cost with chemicals (R\$/month) - CQ;
5. Cost with sludge disposal (R\$/month) - CSD;
6. Cost with laboratory analyses (R\$/month) - CLA;
7. Maintenance costs (R\$/month) - CMA;
8. Costs with operational vehicles (R\$/month) - COV; and
9. Other operating costs (R\$/month) - OOC.

$$OMC = CTW + ECC + COL + CQ + CSD + CLA + CMA + COV + OOC$$

Cost items, whenever possible and applicable, shall be divided for water and sewage and, when such division is not explicit in the operating structure, proportional allocation shall be made according to criteria established by the CONCESSIONAIRE.

Items should relate to one of the following possible metrics: volume of treated water purchased from CEDAE by the CONCESSIONAIRE, volume of water consumed per month by users, number of water connections or number of sewage connections.

The volume of water consumed per month by users (VWC) should be obtained from the CONCESSIONAIRE's history and projected based on the service targets and the most recent official projection at the time of the rebalancing analysis as released by the Brazilian Institute of Geography and Statistics (IBGE) for the municipalities covered by the CONCESSION AREA, if available, or for the state of Rio de Janeiro, if the absence of the former one.

The number of water connections (NWC) should be calculated from the product of the number of water units by an index relating the amount of units per connection (UCI). This index will be related to the level of verticalization of each municipality.

$$NWC = WU * UCI$$

Similarly, the number of sewage connections (NSC) should be calculated from the product of the number of sewage units by an index relating the amount of units per connection (UCI).

$$NSC = SU * UCI$$

For future projection, the index of units per connection (UCI) will be kept constant and equal to the most recent data available for the CONCESSION AREA.

6.1. CEDAE Treated Water Cost (CTW)

The cost with treated water from CEDAE (CTW) will be the product between the volume of treated water purchased from CEDAE by the CONCESSIONAIRE (VTW), in m³/month, and the price of treated water from CEDAE (PTW), in R\$/m³.

$$CTW = VTW * PTW$$

For future projections, the price of treated water (PTW) will be kept constant on a real basis, equal to the last available data.

The volume of treated water to be purchased by the Concessionaire will be projected using the projection of the volume of water consumed in the municipalities of the CONCESSION AREA in which CEDAE operates (VWC_{CEDAE}) plus the water losses in the distribution (WLI), in %, according to the targets set out in Annex III of the AGREEMENT.

$$VTW = \frac{VTW_{CEDAE}}{(1 - PTW)}$$

In case of changes that impact the water loss index curve, its future projection shall be proportional to the curve provided for in Annex III of the AGREEMENT, that is, with the same annual variation rates established in the performance indicators, and the projection shall not be lower than the minimum loss limit projected in Annex III of the Agreement. This rule only does not apply if the very target of the water loss index is the subject of the rebalancing, a situation in which its future values will be considered according to the claim.

6.2. Electric Power Cost (EEC)

The cost with electric energy (EEC) will be obtained from the product between the average consumption of electric energy of the CONCESSIONAIRE, in kWh/month, and the price practiced by the electric energy concessionaire, in R\$/kWh.

The average electricity consumption in kWh/month should be obtained from the amount of electricity consumed to produce 1 m³ of water consumed.

For future projections, the price charged by the electric energy concessionaire, in R\$/kWh, will be kept constant on a real basis, i.e., equal to the last available data.

6.3. Cost with operational labor (COL)

The cost with operational labor (COL) shall be divided into Operation Labor and Maintenance Labor.

Starting from the premise of the number of connections per employee for each area (Operation and Maintenance), the number of connections is multiplied by the number of employees, which in turn should be multiplied by the average cost per employee, also divided by area, in R\$ / employee / month.

For future projections, if the rebalancing event occurs in the first 10 (ten) years of the concession, the TEFS's projected costs shall apply. If the event occurs from the 11th (eleventh) year onwards, the average cost per employee in each area, in R\$/employee/month, will be kept constant on a real basis, i.e., equal to the last available data.

6.4. Cost of Chemicals (CQ)

The quantity of each chemical used in the production of 1 m³ of water consumed shall be provided.

These values shall be multiplied by the respective prices of the chemicals, in R\$/un., and by the volume of water consumed, in m³/month. The cost of chemicals (CQ) shall be the sum of all individual costs for each chemical.

For future projections, the prices of chemical products, in R\$/un., will be kept constant on a real basis, i.e., equal to the latest available data.

The quantities of chemicals consumed, in un./m³, for future periods will be kept constant and equal to the arithmetic averages of the respective data of the 3 most recent years available.

If the CONCESSION is effective for less than 3 years, the direct revenue projections set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

6.5. Cost with Sludge Disposal (CSD)

The amount of sludge, in kg (or tones), generated per 1 m³ of water consumed should be calculated. This quantity will be multiplied by the cost of transportation and destination, in R\$/kg or R\$/t, and by the volume of water consumed, in m³/month, in order to obtain the cost with disposal of sludge (CDL).

For future projections, the cost of transportation and disposal of sludge, in R\$/kg or R\$/t, will be kept constant on a real basis, i.e., equal to the last available data.

The amount of sludge generated, in kg/m³ or t/m³, for future periods will be kept constant and equal to the arithmetic mean of the data of the 3 most recent years available.

If the CONCESSION is effective for less than 3 years, the direct revenue projections set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

6.6. Cost with Laboratory Analyses (CLA)

The number of analyses to be performed per connection, in analyses/connection, shall be calculated.

This quantity will be multiplied by the cost of the analysis, in R\$/analysis, and by the number of connections, thus obtaining the cost with laboratory analyses (CLA).

For future projections, the costs of the chemical analyses, in R\$/analysis, will be kept constant on a real basis, i.e., equal to the latest available data.

The quantities of analyses carried out, in analysis/connection, for future periods will be kept constant and equal to the arithmetic averages of the respective data of the 3 most recent years available.

If the CONCESSION is effective for less than 3 years, the direct revenue projections set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

6.7. Maintenance Cost (CMA)

The maintenance cost (CMA) shall be the result of the product between the estimated maintenance cost per connection, in R\$/connection, and the number of connections.

For future projections, the maintenance cost per connection, in R\$/ connection, will be kept constant and equal to the arithmetic averages of the respective data of the 5 most recent years available.

If the CONCESSION is effective for less than 5 years, the projections set out in the TEFS shall be used. If one of the PARTIES wishes to use a different projection, it must provide technical grounds for such use, and it is up to the REGULATORY AGENCY to accept or not the use of the alternative projection.

6.8. Costs with Operational Vehicles (COV)

The cost with vehicles per connection should be estimated, in R\$/connection, and multiplied by the number of connections to obtain the cost with operational vehicles (COV).

For future projections, the cost of vehicles per connection, in R\$/ connection, will be kept constant on a real basis, i.e., equal to the last available data.

6.9. Other Operating Costs (OOC)

The category other operating costs (OCO) shall cover costs not eligible for the other categories. The CONCESSIONAIRE shall describe the items to be included in this amount by presenting the due justification for their inclusion in the project's financial flow.

For future projections, if any cost belonging to this category is characterized as regular and therefore will remain due in future periods, it will be kept constant on a real basis, i.e., equal to the last available data.

7. Commercial and Administrative Expenses (CAE)

Commercial and administrative expenses shall be divided into the following categories:

10. Administrative labor expenses (R\$/month) - ALE;
11. Expenses with environmental licensing and requirements (R\$/month) - ELE;
12. Insurance and guarantee expenses (R\$/month) - IGE;
13. ARSAL inspection fee (R\$/month) - AIF; and
14. Other administrative expenses - OAE.

$$CAE = ALE + ELE + IGE + AIF + OAE$$

7.1. Administrative Labor Expenses (ALE)

Starting from the number of administrative employees, it is multiplied by the average cost per employee in R\$/employee/month in order to obtain the value of administrative labor expenses (ALE).

For future projections, administrative labor expenses should be limited to a maximum of 10% of operational labor costs (OLC).

7.2. Environmental Licensing and Requirements Expenses (ELE)

Projection of the expenses with the compliance with environmental license requirements or with the licensing processes themselves.

For future projections, expenditures with environmental license and requirements will be kept constant on a real basis, i.e., equal to the last available data.

7.3. Insurance and Guarantee Expenses (IGE)

Projection of expenses with the payment of insurance and guarantees.

For future projections, insurance and guarantee expenses should respect the percentages established in the table below.

Insurance and Guarantees	Driver	%
Operational Insurance	% Fixed Assets	0,13%
Engineering Risk Insurance	% of Investment	0,30%
Civil Liability Insurance	% of Gross Revenue	0,35%
Performance Guarantee	% of the Contract Value	0,05%

7.4. REGULATORY AGENCY Inspection Fee (AIF)

This expense shall be calculated as a charge on the net revenue of the CONCESSIONAIRE. The percentage to be applied shall be in accordance with the legislation that establishes the inspection fee of the REGULATORY AGENCY.

For future projections, the percentage will be kept constant and equal to the last available data.

7.5. Other Administrative Expenses (OAE)

The category other administrative expenses (OAE) cover expenses not eligible for the other categories. The CONCESSIONAIRE shall describe the items to be included in this amount by presenting the due justification for their inclusion in the project's financial flow.

For future projections, if any cost belonging to this category is characterized as regular and therefore will remain due in future periods, it will be kept constant on a real basis, i.e., equal to the last available data.

8. EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization)

It will be the result of subtracting O&M costs (COM) and commercial and administrative expenses (CAE) from revenue after default (RAD).

$$EBITDA = RAD - COM - CAE$$

9. Direct Taxes (DT)

All direct taxes on revenue should be considered in accordance with applicable legislation.

In case of use of the Real Profit regime, the amortization of intangible assets and the amortization of the concession fee must first be excluded for the calculation of PBT (Profit before Income Tax).

Depreciation will be recognized and projected in accordance with applicable legislation and IRS regulations.

The amount of direct taxes (DT) will be calculated by applying the respective Corporate Income Tax (IRPJ) and Social Contribution on Net Income (CSLL) rates on the PBT, taking into account any benefits for tax losses.

If the Presumed Profit regime is used, first, the percentages provided for in legislation for determining the calculation basis of the IRPJ and CSLL will be applied with the subsequent application of the rates.

10. Change in Net Working Capital (CWC)

The calculation of the change in net working capital shall take into account best practices in corporate finance.

Mathematically, the change in the net working capital is the result of the working capital of the period less the working capital of the following period.

For future projections the number of days for each item will be kept constant and equal to the arithmetic mean of the respective data of the 3 most recent years available. If the CONCESSION is in force for less than 3 years, the arithmetic mean of the maximum annual data available shall be considered.

11. Investments (INV)

The amounts of realized and projected investments should be distributed in the following categories:

1. Water Systems
 1. Surface Water Abstraction
 2. Raw Water Lifting Station
 3. Raw Water Pipeline
 4. Water Treatment Plant
 5. Treated Water Lifting Station
 6. Treated Water Pipeline
 7. Reservoirs
 8. Water Supply Network
 9. Household Connections
 10. Loss Control
 11. Area Acquisition
 12. Hydrometers Replacement
 13. Other Investments in Water Systems
2. Sewer Systems
 1. Household Connections
 2. Sewage Collection Network
 3. Interceptor Sewer
 4. Sewage Lifting Station
 5. Sewage Discharge Line
 6. Sewage Treatment Plant
 7. Sewer Outlet
 8. Other Sewage System Investments
3. Water and Sewage Systems Shared Investments.

For the purpose of budgeting investments, where possible, the data of the most recent EMOP table, or other document that may replace it, should be used as an official reference source of prices of inputs and costs of service, and in the event of lack of more current information and, at the discretion of the REGULATORY AGENCY, other parameters such as those used and published in national and international engineering magazines may be used. The Reports of Inputs are published monthly, by Federation Unit/State.

The REGULATORY AGENCY may request that the CONCESSIONAIRE demonstrate that the values necessary to make new investments will be calculated based on market values considering the global cost of similar works or activities in Brazil or based on cost systems that use as input market values of the specific sector of the project, measured, in any case, by means of a short budget, prepared using expeditious or parametric methodology.

In the pricing, a percentage of the investment for Indirect Benefits and Expenses (IBE) may also be considered, and the rationale for determining this percentage should be mentioned or the amount adopted should be justified with appropriate technical justification, preferably based on official data from widely recognized institutions.

12. Concession Fee (CF)

The payment of the concession fee resulting from the bidding process and as contractually defined should be considered.

13. Amortization

The amount of amortization shall be obtained from the accounting rules applicable under the AGREEMENT and in accordance with the directives of the Internal Revenue Service of Brazil.

In accordance with accounting records practices for public service concessions, the amortizations of the concession fee and the investments that comprise the private operator's intangible assets shall be deducted from the calculation basis of direct taxes, within the term of the agreement and in a proportion equivalent to the concession demand curve.

14. Project Free Cash Flow (PFCF)

Finally, the operating cash flow shall be the result of the subtraction of direct taxes, investments and the concession fee from the EBITDA, plus the Change in Net Working Capital, which may be positive or negative.

$$PFCF = EBITDA - DT - INV - CF + CWC$$

15. Update Indices

Considering that all the realized and projected values shall be brought to the TEFS base date, the update rates to be used in each of the items shall be those set out in the table below, or those that might come to replace them, even if in the period prior to the date of execution of the AGREEMENT.

Item	Update Index
Direct water revenues	Contractual Readjustment Index (CRI) according to the formula provided for in the AGREEMENT

Item	Update Index
CEDAE Treated Water Cost	Contractual Readjustment Index (CRI) according to the formula in the INTERDEPENDENCE AGREEMENT
Electric Power Cost	Index referring to the electric power component of the CRI established in the AGREEMENT
Cost with operational labor	Index referring to the labor component of the CRI established in the AGREEMENT
Cost of Chemicals	Index referring to the chemical products component of the CRI established in the AGREEMENT
Cost with sludge disposal	Index referring to the chemical products component of the CRI established in the AGREEMENT
Cost with Laboratory Analyses	Index referring to the chemical products component of the CRI established in the AGREEMENT
Maintenance costs	Broad National Consumer Price Index - IPCA, published by the IBGE
Costs with Operational Vehicles	Broad National Consumer Price Index - IPCA, published by the IBGE
Other operating costs	Broad National Consumer Price Index - IPCA, published by the IBGE
Commercial and Administrative Expenses	Broad National Consumer Price Index - IPCA, published by the IBGE
Investments	Index referring to the investments component of the CRI established in the AGREEMENT
Concession Fee	Broad National Consumer Price Index - IPCA, published by the IBGE

The items previously mentioned in this Appendix and not provided for in the table above derive from one of the items that have been set out and, therefore, will be calculated from the already updated values.

In the absence of an update index, the Broad National Consumer Price Index - IPCA, published by the IBGE, should be adopted as standard.

If one of the PARTIES wishes to use an update index different from those provided above, it must provide technical grounds for its choice, and it shall be up to the REGULATOR AGENCY whether to accept or not the use of such alternative index.