

Tariff Adjustment of Companhia de Saneamento de Minas Gerais – COPASA in March 2010.

## 1. PURPOSE

To analyze the request for tariff adjustment submitted by Companhia de Saneamento de Minas Gerais – COPASA, whose resulting tariffs would be effective from February 1, 2010 to January 31, 2011, in accordance with the concessionaire's proposal.

## 2. FACTS

2. Traditionally, COPASA's tariffs were adjusted on the first business day of March of each year, as per resolution of the State Regional Development and Urban Policy Department (SEDRU), and the new tariff levels were effective for twelve months. The statements resulting in the adjustment index were submitted to SEDRU by the concessionaire and were adopted by the former as a parameter for the establishment of the new tariff framework.

3. This system was adopted until the year 2008 and the last adjustment, carried out in March of that year, was partly based on a previous regulatory act issued by SEDRU, Resolution 22 of February 15, 2007, which had determined the tariffs for the period between March 2007 and February 2008.

4. Resolution 22 was issued seven days prior to the date when Federal Law 11,445 became effective (February 22, 2007). Said Law set forth a new legal regime for basic sanitation services, among which are water supply and sanitary sewage services. SEDRU Resolution 22 promoted significant changes to the concessionaire's tariff policy:

- a) It established the full tariff for sanitary sewage according to the dynamic system in an amount corresponding to sixty percent (60%) of the water tariff;
- b) It set forth that the tariff for the sewage collection service for locations where the service had a lower technical standard could not be less

than forty percent (40%) of the water tariff;

- c) It authorized the application of annual discounts in the water tariff for calculating the accounts of all the categories, for those user units that utilize water services but they were not qualified for the full tariff for sanitary sewage according to the dynamic system;
- d) It authorized the continuity of discounts given to user units that utilize water services and started using sanitary sewage services according to the dynamic system;
- e) It authorized giving a discount to the residential category accounts with a consumption volume of up to 10m<sup>3</sup>/month, additionally to the discount referred to in item "d" above;
- f) It established that the concessionaire's CEO could authorize user units to qualify for the "Social Tariff", for those properties with a built-up area smaller than or equal to 44 square meters and water consumption lower than or equal to 15 m<sup>3</sup> per month;
- g) It determined that, for user units located in regions with a population smaller than five thousand (5,000) inhabitants and included in the area covered by the Institute for the Development of the North and Northeast of Minas Gerais State (IDENE), the right to the "Social Tariff" benefit is granted to those properties with a built-up area smaller than or equal to 60 square meters and with low-income characteristics, namely those with floors made out of cement or material of lower quality, with no slab or with slab but no roof, and with water consumption lower than or equal to 30m<sup>3</sup>/month per user unit, it being understood that only the first 15 square meters are entitled to discounts in the water and sewage tariff;
- h) It authorized the provision of sanitary sewage services according to the static system and determined that the respective tariff would be twenty percent (20%) of the amount referring to the water volume consumed monthly by the user unit.

5. In 2008, SEDRU Resolution 73 of January 30 determined the tariffs for the period between March 2008 and February 2009, in addition to establishing that:

- a) The discount reduction set forth in Articles 4 and 5 of Resolution 22 for 2008 would be conducted gradually in ten (10) installments beginning in May 2008 and ending in February 2009;
- b) The discount for customers of the Commercial, Industrial and Public categories that only receive water or water and sanitation that were given the same discount as those that received only water would be 13.00%;
- c) The reduction in the discount given to residential category accounts with a consumption volume of up to 10m<sup>3</sup>/ month, set forth in Article 6 of Resolution 22 for 2008, would occur in ten (10) installments beginning in May 2008 and ending in February 2009.

6. Both resolutions were subject-matter of the “Class Action for Consumer Protection with Motion for Preliminary Injunction” filed by the Public Prosecutor Office of Minas Gerais State on the grounds that only a regulatory agency could determine the concessionaire’s tariff, and, consequently, the application of the tariffs authorized by SEDRU should be stayed. In 2007, the motion for preliminary injunction was denied, as was the First “Interlocutory Appeal” filed in 2008. During this legal proceeding, the Minas Gerais State was included in the dispute as indispensable party for having authorized, by means of SEDRU, the practice of tariffs adjusted by COPASA.

7. The lawsuits filed by the Public Prosecutor Office have always been grounded on Federal Law no. 11,445, especially the following Articles:

- a) Article 22. The regulation’s purposes are:

IV – to determine tariffs that ensure both the economic and financial equilibrium of contracts, such as reasonable tariffs, by means of mechanisms that promote the efficiency and accuracy of services and allow the social adequacy of productivity gains;

- b) Article 23. The regulatory entity shall issue norms related to the technical, economic and social dimensions of services rendering, which shall encompass, at least, the following aspects:

IV – the tariff regime, structure and levels, as well as the

procedures and terms for the establishment, adjustment and review thereof;

- c) Article 37. Adjustments to basic sanitation public utilities' tariffs shall be made with due regard for an interval of no less than twelve (12) months, in accordance with legal, regulatory and contractual rules;
- d) Article 38. Tariff reviews shall include the reassessment of the service rendering conditions and the tariffs applied, and may be:

I - Periodical, aiming to share productivity gains with users and reassess market conditions;

- e) Article 39. Tariffs shall be determined in a clear and objective manner, and the adjustments and reviews shall be made public at least thirty (30) days prior to its application.

8. It is worth adding that former court decisions have upheld the understanding that the service owner, i.e., the municipality, has the authority to provide the water supply and sanitary sewage public utilities, especially by means of planning, regulation, inspection and direct or indirect rendering of said services. In the case of regulation, this understanding is set forth in Law 11,445, when it establishes that:

- a) Article 8. The owners of basic sanitation public utilities may delegate the organization, regulation, inspection and rendering of said services, pursuant to Article 241 of the Federal Constitution and Law 11,107 of April 6, 2005.
- b) Article 9. The owner of services shall formulate the respective basic sanitation public policy, for which it shall:

II – directly render or authorize the delegation of the services and determine the party responsible for their regulation and inspection, as well as said party's operational procedures;

- c) Article 11. Contracts whose purpose is the rendering of basic sanitation public utilities shall be valid under the following conditions:

III – the existence of regulation standards that anticipate the means for complying with the guidelines herein, including the appointment of the regulatory and inspection entity;

Paragraph 2. In the cases of services rendered by means of concession contracts or program, the standards set forth in item III of the *caput* of this Article shall provide for:

IV – the conditions necessary to ensure the sustainability and economic-financial equilibrium of the service provision under the efficiency regime, including:

- 1) The collection system and the breakdown of fees and tariffs;
- 2) The methods used to calculate the adjustments and the reviews of fees and tariffs.

9. Contrary to previous decisions, in January 2009 the Associate Justice of the Minas Gerais State Appellate Court granted the second “Interlocutory Appeal” filed by the Public Prosecutor Office of Minas Gerais State, thereby staying *in limine* the adjustment of COPASA’s tariffs that would become effective as of March 2009.

10. In his order of January 13, 2009, the Associate Justice argued that two years had elapsed since Federal Law 11,445 had been enacted and over fifteen months since the filing of the class action without any concrete measures having been adopted to implement the guidelines set forth by the national legislation, and that the increase in tariffs was evidently illegal, at least as of February/March 2008.

11. As to his decision, the Associate Justice deemed it prudent to limit the effectiveness thereof to future periods, i.e., as of January 2009, at least until the Board of the Minas Gerais State Appellate Court issues a decision on this legal action. The Associate Justice granted the motion of the Public Prosecutor Office, determining that, as of the issuing of his decision, the tariffs charged for water and sewage services provided by

COPASA should not be increased, particularly by means of “discount reduction or reversal”, without due regard for Federal Law 11,445.

12. By deciding that no adjustment in the form of a “discount reduction or reversal” should be made, the Associate Justice accepted the arguments presented by the Public Prosecutor Office, which argued that the reduction in the discounts given, provided for in Resolution 22, constituted a "provision for percentage of future increase".

13. Even though a legal proceeding was in progress, state decree no. 44,884 of September 9, 2008 ratifies the regulation of the services rendered by the concessionaire, reproducing the content of several previous state regulations, including the manner in which tariffs were determined.

14. Over time, the Minas Gerais regulation had adopted the method of service at cost, introducing a specific type of economic regulation as basis for determining the concessionaire’s tariffs. The cost of service method consists of determining tariffs based on i) a return for operating expenses incurred, and ii) a return on assets (in that case, dams, water mains, treatment stations, and water distribution networks and sewage collection and treatment system) used in the exploration of the concession.

15. The tariffs pricing process through cost of service entails the establishment of a new tariff level every time it is conducted, since new assets and current operating expenses are used each time. As a result, there is a mismatch between the percentage levels of tariff adjustments and the evolution of price indexes determined regularly in the country. This is worsened by the fact that the method does not provide for an appropriate incentive to cost control, since the return for operating expenses incurred is automatic. As it does not promote a growth in the operating expenses/assets ratio, the method also limits productivity increases.

16. Law 11,445 created a new institutional environment by allowing the granting authority (the federal government) to delegate the exercise of the regulation to a regulatory agency. Upon taking over the regulation, the agency assumes a vital role in the process of developing sanitary sewage and water supply services. Since within this scenario the regulatory agency’s actions limit the evolution of services rendered, an agency’s efficiency depends on the type of regulation it adopts.

17. Conversely, the scope of the regulatory agency’s duties, defined by the federal legislation, is quite ample, encompassing the technical, economic and social dimensions. In what regards tariffs, the legislation sets forth that these should be determined by the regulatory agency, taking into consideration the priority given to

fulfilling the service's essential functions related to public health, the appropriate compensation given to service providers, the recovery of costs incurred and the maintenance of the concessionaire's capacity for generating funds to make investments, in addition to encouraging the use of modern technologies. The regulation should also encourage efficiency, prevent superfluous consumption and waste and subsidize the consumption of users who cannot afford to pay for the services and regions with insufficient demand to cover the cost of services rendered.

18. The law also sets forth that tariffs shall be adjusted annually and that periodic reviews shall include the reassessment of the service rendering conditions and the tariffs applied. Tariffs may be periodically reviewed based on the sharing of productivity gains and on mechanisms that promote efficiency and include rewards for early achievement of expansion targets and increases in service quality. The tariff reviews shall have their frameworks defined by the respective regulatory entities, with due regard for the concession owners, users and service providers.

19. In the case of Minas Gerais State, the evolution of the regulation environment was clearly defined with the enactment of State Law no. 18,309 of August 3, 2009, which established as follows:

a) Article 4. The Regulatory Agency for Water Supply and Sanitary Sewage Services of the State of Minas Gerais – ARSAE-MG is hereby created, being a special autonomous government agency linked to the State Secretariat for the Regional Development and Urban Policy (SEDRU), headquartered and located in the capital of the State and with indeterminate duration.

b) Article 5. ARSAE-MG has the purpose of inspecting and guiding the provision of water supply and sanitary sewage public utilities, as well as enacting technical, economic and social norms for its regulation, when the service is provided:

I - by the state or by an entity indirectly managed by it, due to an agreement entered into between the state and the municipality;

II - by an entity indirectly managed by the state, due to a permission, program contract, concession agreement or covenant executed with the municipality;

c) Article 6. In order to comply with the purposes referred to in Article 5,

it is incumbent upon ARSAE-MG to:

V – set forth the tariff regime, so as to ensure tariff reasonableness and the economic-financial equilibrium of services rendered;

- d) Article 8. The adjustment and review of tariffs charged by the service providers subject to ARSAE-MG's regulation and inspection shall be authorized upon a resolution by ARSAE-MG, seeking to ensure the adjustment's economic-financial equilibrium and the reasonableness and social control of tariffs, observing, in all cases, the new values becoming public.

Paragraph 1. In the composition of tariff adjustment and review values, funds shall be specifically available for:

I – investments;

II - recovery of costs for an efficient service, such as:

1. manageable expenses with labor, supplies, third-party services and provisions;
2. non-manageable expenses with electric power, treatment materials, telecommunication, fuel, lubricants, taxes and fees;
3. depreciation and amortization quotas;

III - return on investments by service providers.

20. It is necessary to point out that the current economic regulation has adopted the following assumptions:

- a) Tariff review is the act of establishing new levels for tariffs, taking into account the changes made to the cost structure, which includes the return on investments and considering not only the concessionaire but also companies rendering the same public utilities or similar ones,

both nationally and internationally, the regulatory stimuli to efficiency and the regulation's intrinsic goal of always aiming at reasonable tariffs;

- b) Adjustment is the act of correcting the tariffs determined by tariff reviews with a view to maintaining said tariffs in real terms, i.e., it is a procedure that does not result in the increase or decrease of the actual amounts of tariffs, but merely aims at maintaining the revenue's ability to cover costs and allowing productivity gains earned by the concessionaire during the period between two reviews to be shared with users.

### **3. ANALYSIS**

21. In the Technical Study for Tariff Adjustment to become effective in March 2010, COPASA followed the same method adopted thereby over the last few years: Use of changes in the cost of services rendered, i.e., in the amount of the operating expenses plus the amount of return on the company's assets. Operating costs were estimated by means of a correction made in those calculated in the previous period by using the 23-month variation in the General Market Price Index (IGP-M) and the amount of the interest obtained by applying a twelve percent (12%) rate on the corrected asset. Additionally, the company has suggested that the amount related to the interest and the expenses not covered during the previous year be offset.

22. Regarding the processes conducted by SEDRU, there was a difference: The submittal of a justification for the adoption of a profitability rate to be accrued on assets, based on the average cost of the company's capital, taking into consideration the cost of equity capital (originated from shareholders) and the cost of third-party capital (funds originated from loans). The determination of the cost of equity capital is based on a method called "Capital Asset Pricing Model", and that of the third-party capital is based on the average interest rates accrued on credit operation amounts.

23. Objectively, to continue using the system proposed by the concessionaire implied the use of elements, factors and procedures specific to a tariff review. From the regulatory standpoint, and taking into account the legislation, a review is unfeasible at the present moment, since it is not yet possible:

- a) to determine tariffs that ensure both the economic and financial equilibrium of contracts and reasonable tariffs;

- b) to establish definitive mechanisms that promote the efficiency and accuracy of services and allow the social adequacy of productivity gains; and
- c) to create and, immediately thereafter, to issue rules regarding the technical, economic and social dimensions of service rendering, which would lead to determining the tariff regime, structure and levels, as well as the procedures and terms for the establishment and review thereof.

24. In view of the foregoing, ARSAE-MG's decision was supported by the following facts:

- a) the conduction of a tariff review was unfeasible due to the limited amount of time, which did not allow the creation, presentation to the granting authority, the concessionaire and the users of the services, and the approval of a method for establishing the tariffs to be effective during a certain number of tariff periods;
- b) The tariffs and the tariff policy in force during the tariff period from March 2007 to February 2008 had the legal support of SEDRU Resolution 22;
- c) After Law 11,445 became effective, the rules of SEDRU Resolution 22 would be no applicable to establish the tariffs and for the tariff policy for subsequent periods;
- d) The 2008 Decree 44,484 was tacitly revoked by Law 18,309;
- e) the legal weakness of the tariff pricing and tariff policy adopted, in March 2008, by SEDRUS Resolution 73.

25. In view of the changes in the legal and regulatory scenario introduced by Federal Law 11,445 and State Law 18,309, the process of creating and determining the tariffs to be in force during the tariff period from March 1, 2010 and February 28, 2011 – outlined in Attachments 1, 2 and 3 hereto, and whose outcomes are outlined in Attachments 4 and 5 hereto – had the following characteristics:

- a) The tariff levels determined by SEDRU Resolution 73 were not

adopted as a basis for the adjustment;

- b) The March 2008 tariff was calculated again, adopting, as much as possible, the realized amounts and i) the cost of service method, ii) the exclusion of operating expenses that should not be borne by service users, iii) the breakdown of operating expenses into manageable and non-manageable, iv) the depreciation amount, and v) the water supply and sewage collection volumes during the period from March 2008 to February 2009, in order to obtain the average cost of services rendered per m<sup>3</sup>;
- c) subsequently, the average cost for the periods from March 2009 to February 2010 and from March 2010 to February 2011 was estimated.

26. The methods adopted in order to obtain the results, especially, but not exclusively, those referring to the period from March 2008 to February 2009, indicate costs that bear no relation to those on which the current tariff was based, since:

- a) New data were used, extracted from the 2008 Financial Statements and the 2009 Quarterly Statements, submitted by the company to the Brazilian Securities and Exchange Commission (CVM), therefore calculated after those that originated the tariff that became effective as of March 2008;
- b) Expenses that should not be borne by users were excluded, as per breakdown contained in Attachment 1 hereto;
- c) the water and sewage service volumes were taken into consideration, for each 12-month period, contrary to the procedures adopted previously.

27. Manageable Expenses determined for the period from March 2008 to February 2009 served as the basis to obtain those ones referring to the period from March 2009 to February 2010 and from March 2010 to February 2011, and were adjusted by the Extended Consumer Price Index (IPA) variation published by the Brazilian Institute of Geography and Statistics (IBGE); as mentioned in Attachments 2 and 3 hereto, estimates were adopted for the months of December 2009, and January and February 2010.

28. The justifications for adopting the IPA and not the IGP-M to correct the Manageable Expenses are outlined in Attachment 6 hereto.

29. With regard to Non-Manageable Expenses, estimates for the period from March 2009 to February 2010 were based on data submitted by COPASA. For the period from March 2010 to February 2011, expenses with Electricity, Fuels and Telephone Services were updated taking into account the criteria outlined in Attachment 3 hereto.

30. For expenses with Treatment Material, the use of IGP-M was maintained due to the reasons mentioned in Attachment 6 hereto, by means of the estimated variation in said index in 2010, as explained in Attachment 3 hereto.

31. In summary, considering that the average cost for each period is equal to the average revenue, and, therefore, to the average tariff, the method adopted resulted in the creation of a hypothetical tariff framework for the period from March 2008 to February 2010. A system of special adjustments was also applied, which was authorized for the pricing of the current tariffs. Subsequently, the tariffs were updated to March 2009 and shall be updated again in March 2010. The evolution of regulatory tariffs during the period is outlined in Attachment 5 hereto.

32. The discounts to be offered on residential tariffs in the period from March 2010 to February 2011 shall go back to the levels set forth in SEDRU Resolution 22 for the period from March 2007 to February 2008, since the continuity of the reduction thereof would constitute an additional tariff increase, conducted before the end of the minimum 12-month period for adjustments established by the Brazilian legislation, in addition to being supported by a legal instrument no longer applicable since Law 11,445 became effective.

33. In short, the process adopted consisted of establishing an initial tariff, obtained as a result of the calculation of a cost of service for the period from March 2008 to February 2009, carried to the 12 subsequent months, and, following another identical period, calculating a new average cost for the period from March 2010 to February 2011. The variation in Non-Manageable Expenses and the corrections made to Manageable Expenses according to a price index were used to update the average cost, in addition to the evolution in the volume of services rendered.

34. The adjustment system shall prevail on the next reference dates until a tariff review is carried out by ARSAE-MG; prior to this process, a proposal for the method to be used to obtain, in the future, a new tariff level that shall be effective for a determined number of periods shall be submitted to and discussed with the granting authority, the concessionaire, users and other stakeholders.

#### 4. CONCLUSION

35. The process outlined in the previous item has the following characteristics in terms of the procedures for calculation of the concessionaire's tariffs and for the conduction of the adjustment:

- a) The cost of service method was maintained;
- b) The fact that the yield rate obtained by the concessionaire in the reference period is a result of variables (cost and revenue) already ascertained and that, regardless of the level thereof, the method of correction adopted preserves said rate on a level similar to the one already realized was taken into consideration;
- c) The exclusion of a few items from the expenses changes the yield obtained, but it was necessary in order to prevent service users from being burdened by costs that they should not bear;
- d) The process incorporated a system whereby the tariffs established for a certain tariff period are updated at fixed intervals, taking into account the evolution of Non-Manageable Expenses and the corrections made to Manageable Expenses;
- e) It included the volume of services to be rendered in both processes;
- f) It allowed productivity gains obtained by the concessionaire to be incorporated by considering the volume of services rendered to determine the average cost and tariff for each tariff period;
- g) It resulted in a social adequacy of productivity gains and in reasonable tariffs;
- h) The tariff pricing process for the reference period and the periodical adjustments ensure the generation of resources for investments, to recover the costs incurred for an efficient service provision, and to obtain a return on investments made by the concessionaire.

## 5. RECOMMENDATION

36. In view of the analysis contained in item 3 and the conclusions listed in item 4 herein, the approval of the tariff framework outlined in the Sole Attachment to the proposal for Resolution to become effective in the period from March 2010 to February 2011 is hereby recommended. The new tariff levels shall be 2.90% higher than those currently effective.

37. Additionally, it is also recommended that the Resolution determines that the tariff levels obtained during the tariff pricing process to become effective as of March 2010, referring to the periods from March 2008 to February 2009 and from March 2009 to February 2010 shall not have the purpose of generating compensations, and that, consequently, shall not be used, under any circumstances, to offset any possible revenues not earned or earned in excess by the concessionaire, since, from the regulatory standpoint, ARSAE-MG cannot correct any possible distortions for which it is not responsible.

38. The resolution shall also establish that the new tariffs should become effective on March 1, 2010, but the effectiveness thereof shall depend on the solution given to the legal proceeding in progress at the Minas Gerais State Appellate Court.

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**ATTACHMENT 15**

**CRITERIA AND INFORMATION SOURCES FOR CALCULATING THE COST OF SERVICE FOR THE PERIOD FROM MARCH 2008 TO FEBRUARY 2009**

The following criteria were adopted for the calculation of the cost of service for the reference period:

- a) the values used in the composition of Non-Manageable Expenses are included in Attachment 2, pages 2/5 and 3/5, of the "Technical Study — Tariff Adjustment" of December 2009, sent by COPASA to ARSAE-MG, except for the item "Light", which was transferred to Manageable Expenses, based on the understanding that only the electricity used in service activities should be included in the item;
- b) the values referring to PIS/COFINS for the months from March to December were determined based on the 2008 monthly average, including data from the 2008 Financial Statements, and for 2009, on the monthly average calculated based on the total amount referring to the first quarter of the year, as included in March 2009 Quarterly Information (ITR), sent by the Company to the Brazilian Securities and Exchange Commission (CVM);
- c) the values used in the composition of Manageable Expenses are included in Attachments 2/5 and 3/5 of the "Technical Study — Tariff Adjustment" of December 2009, sent by COPASA to ARSAE-MG;
- d) referring to personnel expenses, the amount related to "Employee Profit Sharing" was deducted based on the understanding that service users should not bear this cost; this amount was determined considering the amount for ten (10) months of 2008, sent by COPASA, and two (2) months using the average amount included in the Income Statement of the ITR for the third quarter of 2009;
- e) referring to services expenses, the amount related to "Accrual on Payment Delay" was deducted based on the understanding that service users should not bear this cost, since it may be prevented through managerial actions under the concessionaire's responsibility;
- f) referring to services expenses, the amounts related to "Contribution to Cultural and

Arts Activities" and "Contribution to AECO - Copasa Employees Association" were also deducted, based on amounts included in the 2008 Balance Sheet, according to the understanding that these refer to managerial decisions and thus should not be borne by service users;

- g) general expenses are included in Attachment 2, pages 2/5 and 3/5 of the "Technical Study — Tariff Adjustment" of December 2009, sent by COPASA to ARSAE-MG;
- h) Depreciation was determined based on the monthly average for 2008, including data from the 2008 Financial Statements, and for 2009, on the monthly average calculated based on the total amount referring to the first quarter of the year, as included in March 2009 Quarterly Information (ITR), sent by the Company to the Brazilian Securities and Exchange Commission (CVM).

**ATTACHMENT 2**

**CRITERIA AND INFORMATION SOURCES FOR OBTAINING THE NON-MANAGEABLE COSTS AND UPDATING MANAGEABLE COSTS FOR THE PERIOD FROM MARCH 2009 TO FEBRUARY 2010**

The following criteria were adopted in the costs breakdown:

- a) Non-Manageable Expenses were calculated according to the same criteria applied from March 2008 to February 2009, based on data included in the Attachment 2, pages 3/5, recognized until September 2009 and estimated for the period from October 2009 to January 2010, according to the "Technical Study — Tariff Adjustment" of December 2009, sent by COPASA to ARSAE-MG; February 2010 expenses took into account the same amounts estimated by COPASA for January;
- b) Manageable Expenses were calculated by applying the IPA variation in the period from March 2008 to February 2009, i.e., 5.9%;
- c) Depreciation was calculated based on the data included in 3Q09 Quarterly Information (ITR), excluding the amount referring to January and February, obtained from the quarterly average, added by the amount obtained from the ITRs for the second and third quarters, using the amount of the third quarter for the fourth quarter and 2/3 of the same amount as an estimate for January and February 2010;
- d) Investment Yield was determined by applying the IPA variation in the period from March 2008 to February 2009 over the amount referring to the tariff period from March 2008 to February 2009.

**ATTACHMENT 3**

**CRITERIA FOR ESTIMATING THE NON-MANAGEABLE AND MANAGEABLE COSTS  
FOR THE PERIOD FROM MARCH 2010 TO FEBRUARY 2011**

The following criteria were adopted for cost estimation:

- a) Depreciation was determined based on the amount obtained in 3Q09 Quarterly Information (ITR) multiplied by four (4), considering a 3.4% increase (average growth rate observed in the quarters of 2009 in relation to the respective quarters of 2008);
- b) Electricity, Telecommunications and Fuel were estimated by using the 2010 projections from the Monetary Policy Committee of the Brazilian Central Bank, issued in December 2009, which are 3.3%, 1.2% and 0.0%, respectively;
- c) Treatment Material was projected considering the 2010 estimate for IGP-M variation of 4.5%, according to the Inflation Report of the Brazilian Central Bank published in November 2009;
- d) Tax Expenses were adjusted based on an estimate for IPA variation of 4.30%, for the period from March 2010 to February 2011, using, for December 2009 and January 2010, the projections dated December 24, 2009 of the Macroeconomic Monitoring Committee of the Brazilian Association of Financial Market Institutions, 0.36% and 0.56%, respectively, and for February 2010, 0.50%;
- e) Inspection Fee includes an estimate based on the number of savings recorded in November 2009 and the 2009 UFEMG (Fiscal Unit of the State of Minas Gerais), being the amount recorded as expenses as of March 2010; the amount obtained was increased by the amounts referring to January and February 2011, calculated by considering only one UFEMG variation of five percent (5%);
- f) Manageable Expenses were adjusted based on the IPA variation projected for the period from March 2009 to February 2010, obtained as outlined in item d above;

- g) Investment Yield was determined by applying the IPA variation in the period from March 2009 to February 2010 over the amount referring to the tariff period from March 2009 to February 2010.

**ATTACHMENT 4**

**COST OF REGULATORY SERVICES FOR THE PERIOD FROM MARCH 2008 TO FEBRUARY 2009 AND ADJUSTMENTS FOR THE PERIODS FROM MARCH 2009 TO FEBRUARY 2010 AND FROM MARCH 2010 TO FEBRUARY 2011**

| ITEMS   | From March 2008 to February 2009 | From March 2009 to February 2010 | From March 2010 to February 2011 |
|---|----------------------------------|----------------------------------|----------------------------------|
| 1. Average Revenue = Average Tariff = Average Cost - R\$/m <sup>3</sup> | 2.54                             | 2.57                             | 2.59                             |
| 2. Average Cost of Non-Manageable Expenses                              | 0.2893                           | 0.2                              | 0.2868                           |
| (1)   | 1.5544                           | 847                              | 1.5874                           |
| 3. Average Cost of Manageable Expenses                                  | 0.4654                           | 1.5                              | 0.4776                           |
| 5. Total Billed Volume - m <sup>3</sup>                                 | 919,221,584                      | 955,581,995                      | 989,445,402                      |
| 3. Gross Operating Revenue - R\$  | 2,338,963,964                    | 2,459,005,42                     | 2,564,223,706                    |
| 4. Federal contributions on Revenues (PIS/COFINS)                       | 216,354,167                      | 227,458,001                      | 237,190,693                      |
| 5. Operating Revenues before taxes                                      | 2,122,609,798                    | 2,231,547,42                     | 2,327,033,014                    |
| 6. PA – Non-Manageable Expenses - R\$                                   | 265,973,240                      | 272,097,252                      | 283,818,866                      |
| 6.1 Electricity   | 205,558,454                      | 209,461                          | 216,373,45                       |
| 6.2 Treatment Material  | 34,032,354                       | ,236                             | 7                                |
| 6.3 Fuel  | 14,645,605                       | 38,520,                          | 40,254,177                       |
| 6.4 Telecommunications  | 8,916,100                        | 744                              | 12,904,423                       |
| 6.5 Tax   | 2,820,727                        | 12,904,                          | 8,116,749                        |
| 6.6 Inspection Fee  | -                                | 423                              | 3,360,466                        |
|   |                                  | 7.988.9                          | 2.809.594                        |
| 7. PB = Manageable Expenses + Depreciation - R\$                        | 1,428,792,308                    | 1,506,363,10                     | 1,570,644,343                    |
| 7.1 Personnel   | 615,994,323                      | 652,337                          | 680,388,52                       |
| 7.2 Supplies  | 90,135,009                       | ,988                             | 2                                |
| 7.3 Services  | 401,173,139                      | 95,452,                          | 99,557,452                       |
| 7.4 General   | 81,903,170                       | 975                              | 443,110,57                       |
| 7.6 Depreciation  | 239,586,667                      | 424,842                          | 5                                |
|   |                                  | 354                              | 90.465.082                       |
| 8. Investment Yield - R\$   | 427,844,250                      | 453,087,061                      | 472,569,804                      |

(1) Includes federal contributions on revenues

**ATTACHMENT 5**

**REGULATORY TARIFFS FOR THE PERIODS FROM MARCH 2008 TO FEBRUARY 2009, MARCH 2009 TO FEBRUARY 2010, AND MARCH 2010 TO FEBRUARY 2011**

| Consumer Class   | Period of Consumption<br>m <sup>3</sup> | Tariff - R\$/m <sup>3</sup><br>Mar/08 to<br>Feb/09 |        | Tariff - R\$/m <sup>3</sup><br>Mar/09 to<br>Feb/10 |        | Tariff - R\$/m <sup>3</sup><br>Mar/10 to<br>Feb/11 |        |
|--|---|--|--------|--|--------|--|--------|
|  |   | Water  | Sewage | Water  | Sewage | Water  | Sewage |
| Ordinarily residential up to 6                         | 0 - 6                                   | 17.80  | 10.68  | 18.00  | 10.80  | 18.13  | 10.88  |
| Residential with<br>consumption above 6 m <sup>3</sup> | 0 - 6                                   | 18.42  | 11.05  | 18.63  | 11.18  | 18.76  | 11.26  |
|  | >6 - 10                                 | 0.57   | 0.34   | 0.57   | 0.35   | 0.58   | 0.35   |
|  | >10 - 15                                | 4.02   | 2.41   | 4.07   | 2.44   | 4.10   | 2.46   |
|  | >15 - 20                                | 4.03   | 2.41   | 4.08   | 2.44   | 4.11   | 2.46   |
|  | > 20 - 40                               | 4.05   | 2.43   | 4.10   | 2.46   | 4.13   | 2.48   |
|  | >40                                     | 7.44   | 4.47   | 7.52   | 4.52   | 7.57   | 4.55   |
| Commercial   | 0 - 6                                   | 28.41  | 17.04  | 28.73  | 17.24  | 28.93  | 17.36  |
|  | >6 - 10                                 | 0.62   | 0.37   | 0.62   | 0.38   | 0.63   | 0.38   |
|  | >10 - 40                                | 5.90   | 3.54   | 5.97   | 3.58   | 6.01   | 3.60   |
|  | >40 - 100                               | 5.95   | 3.57   | 6.02   | 3.61   | 6.06   | 3.63   |
|  | > 100                                   | 5.98   | 3.59   | 6.05   | 3.63   | 6.09   | 3.65   |
| Industrial   | 0 - 6                                   | 31.71  | 19.02  | 32.07  | 19.24  | 32.30  | 19.38  |
|  | >6 - 10                                 | 0.61   | 0.36   | 0.61   | 0.37   | 0.62   | 0.37   |
|  | >10 - 20                                | 5.98   | 3.59   | 6.05   | 3.63   | 6.09   | 3.65   |
|  | > 20 - 40                               | 6.00   | 3.60   | 6.07   | 3.64   | 6.11   | 3.66   |
|  | >40 -100                                | 6.05   | 3.63   | 6.12   | 3.67   | 6.16   | 3.69   |
|  | > 100 - 600                             | 6.34   | 3.81   | 6.42   | 3.85   | 6.46   | 3.88   |
|  | >600                                    | 6.42   | 3.85   | 6.49   | 3.89   | 6.53   | 3.92   |
| Public   | 0 - 6                                   | 28.43  | 17.05  | 28.75  | 17.25  | 28.95  | 17.37  |
|  | >6 - 10                                 | 0.67   | 0.40   | 0.67   | 0.41   | 0.68   | 0.41   |
|  | >10 - 20                                | 5.36   | 3.22   | 5.43   | 3.26   | 5.46   | 3.28   |
|  | > 20 - 40                               | 6.76   | 4.05   | 6.84   | 4.10   | 6.88   | 4.13   |
|  | >40 -100                                | 6.84   | 4.10   | 6.92   | 4.15   | 6.97   | 4.18   |
|  | > 100 - 300                             | 6.86   | 4.11   | 6.94   | 4.16   | 6.99   | 4.19   |
|  | >300                                    | 6.92   | 4.15   | 7.00   | 4.20   | 7.05   | 4.23   |

**ATTACHMENT 6**

**JUSTIFICATION FOR THE SELECTION OF COST INDEXES**

**1. Introduction**

State Law no. 18,309 of August 3, 2009, which sets forth the rules related to water supply and sanitary sewage services in the state of Minas Gerais, established, in paragraph 7 of Article 8, that the recovery of costs arising from the rendering of water supply and sanitary sewage services will be based on the inflation, measured primarily by the General Market Price Index (IGP-M), and ARSAE-MG is responsible for disclosing the reasons for choosing IGP-M or another index.

The objective of this justification is to describe the main characteristics of the General Market Price Index (IGP-M), calculated by the Getúlio Vargas Foundation (FGV), and of a consumer price index, particularly the Extended Consumer Price Index (IPA) of the Brazilian Institute of Geography and Statistics (IBGE), with the purposes of proposing the adoption of indexes for the costs of water supply and sanitary sewage services in the State.

**2. General Market Price Index**

FGV began calculating price indexes in 1947, year in which the method of the General Price Index (IGP) was created. The IGP series were calculated retroactively up to 1944, year when FGV was established, and initially had the purpose of deflating the monthly index of the evolution of businesses in Brazil. As this inflationary process began to accelerate in the 1960s and the mechanism of monetary restatement was established, the index started being adopted for adjusting fixed prices established by contracts.

The IGP is obtained by weighting three price indexes calculated by FGV: the Wholesale Price Index (IPA), the Consumer Price Index (IPC) and the National Construction Cost Index (INCC). These indexes are weighted 0.60, 0.30, and 0.10 respectively in the composition of the IGP. In 1989, by request from the financial market, FGV began calculating another version of the IGP, the General Market Price Index (IGP-M). The main differences between the indexes are the period and scope of price collection.

The Wholesale Price Index (IPA) measures the evolution of prices in intercompany transactions and encompasses several stages of the production process, before the final sale of products to end consumers. Research includes prices of agricultural and industrial raw materials and the IPA series are presented in two versions: Internal Availability (IPA-DI) and Global Offering (IPA-OG). The IPA-DI is based on categories of use – consumer or capital goods – and the IPA-OG on production sectors. FGV also calculates the IPA-Market (IPA-M), which is included in the calculation of the IGP-M.

The National Construction Cost Index (INCC) is determined based on the evolution of the construction costs of residential and public civil engineering or infrastructure projects. Similarly to the other IGP components, the INCC is also calculated in a market version, the INCC-M.

The Consumer Price Index (IPC), on its turn, measures the variation of the prices of goods and services consumed by households with monthly income up to 33 minimum wages in several Brazil's state capitals. The components are classified into groups: Food, Housing, Clothing, Transportation, Health, Education and Miscellaneous Expenses. The groups are weighted according to the household spending for each group, determined through the Household Budget Survey (POF), periodically prepared by FGV.

The Consumer Price Index of Rio de Janeiro (IPC-RJ) is the oldest consumer price index calculated by FGV, with estimates dating from 1944. Until 1990 it was one of the components of the General Price Index (IGP-DI), but it was replaced with the Consumer Price Index - Brazil (IPC-BR). FGV also calculates an IPC version for the financial market, the IPC-M.

### **3. Extended Consumer Price Index**

The National System of Consumer Price Indexes (SNIPC) of the Brazilian Institute of Geography and Statistics (IBGE) is composed of two indexes: the National Consumer Price Index (INPC) and the Extended National Consumer Price Index (IPA). Both indexes seek to follow the variation of prices of a group of goods and services that are consumed by Brazilian households.

The INPC calculates the evolution of consumer prices for households that reside in urban areas of regions with monthly income between one (1) and eight (8) minimum wages, whose main income source of the family provider is his or her labor. The IPA refers to households that also reside in urban areas of regions with monthly income between one (1) and forty (40) minimum wages, regardless of their sources of income. In addition, both indexes are based on a household budget study on the typical consumption of households, i.e., how their spending is distributed.

The price collection system encompasses the metropolitan areas of Rio de Janeiro, Porto Alegre, Belo Horizonte, Recife, São Paulo, Belém, Fortaleza, Salvador and Curitiba, in addition to the Federal District and Goiânia. The aggregation of all regional indexes results in the national index.

The prices collected are those effectively paid by consumers, for cash purchases. The price survey is conducted in commercial establishments, service providers, households and public utility concessionaires.

The national indexes are calculated based on the regional indexes, using the weighting variables "urban resident population" (Population Counting) for the INPC and "total urban income" (National Household Sample Survey – PNAD) for the IPA.

The Extended Consumer Price Index (IPA) is also used by the Brazilian Central Bank for monitoring the goals established by the inflation targeting system effective in Brazil and setting forth the monetary policy.

### **4. Problems related to the use of the IGP-M as a cost index**

Three problems concerning the use of the IGP-M as the index for annual tariff adjustment can be identified. First, the IGP-M, due to its composition, would work as an

approximate estimate for the sector costs that it intends to measure, thus adopting the IGP-M would be intrinsically advantageous to concessionaires due to risk reduction. However, this practice has an adverse aspect as far as public interest is concerned: it does not encourage concessionaires to rationalize and reduce their operating costs.

The second problem is connected to the fact that the variations of the IGPs, both the IGP and IGP-M, in general, are prone to be greater than other price indexes. That is to say, they present a high risk of deviation in relation to the average performance of the other prices of the economy and, therefore, of the income of consumers. Similarly, and contrary to a likelihood of this index to present greater adherence to the evolution of sector costs, there is no guarantee that IGPs actually express the evolution of prices of very specific products, creating the risk of deviations related to the cost structure of the regulated company.

The third and biggest problem concerns the greater volatility of IGPs compared to the other indexes, notably in light of the fluctuating foreign exchange system currently effective in Brazil. The heavy weight of wholesale prices variations (measured by the IPA's) on IGPs, which are directly affected by changes in the price levels of globally-traded goods or prices pegged to the international market, lead to a decisive impact of foreign exchange fluctuations on the index's performance. Nevertheless, during long periods, a smoother performance of the IPA series can be observed when compared to that of the IGPs.

## **5. Advantages in the adoption of the IPA**

The adoption of the IPA as an index for adjusting public utility contracts has an explicit advantage for users. Because the index is based on the Household Budget Survey (POF), the IPA reflects the consumer expenditures, whether with goods and services whose prices are managed, as in the case of tariffs, whether with those whose prices are free.

On the other hand, the IPA's evolution tends to reflect the development of several items of concessionaires' cost, notably but not exclusively as in the case of personnel expenses, which raises the question of reasonability in the adoption of this index and the relevance of this option for concessionaires.

From the regulatory viewpoint, nevertheless, it seems more reasonable to adopt the IPA, because the option implicitly promotes efficiency, especially in relation to the "Manageable Expenses" described in the state legislation. Tariff reviews, on the other hand, will allow correcting deviations resulting from a more significant change in costs.

Exceptions have been adopted, nevertheless, all of them related to the estimate of items included in "Non-Manageable Expenses". The first one is the preservation of the IGP-M as index of "Treatment Material," item that includes the purchase of chemical products. In this case, the index variation estimation for the period was used.

The second one is the correction of the cost items "Electricity", "Telecommunications" and "Fuel" according to the variation expectation for the effectiveness period of the tariffs, making it compatible with the goals established by the inflation targeting system effective in Brazil.