



On grounds of Decision no.113/2002 of the prime minister on the designation of the president of the National Regulatory Authority for Communications,

On grounds of the provisions of art.38(1), (3) and (5), art.34(3), as well as under art.46(1), p.11 of Government Emergency Ordinance no.79/2002 on the general regulatory framework for communications, approved, with amendments and completions, by Law no.591/2002, as well as of art.8(1) and art.13(1) and (3) of the Government Ordinance no.34/2002 on the access to the electronic communication networks and to the associated infrastructure, as well as their interconnection, approved, with amendments and completions, by Law no.527/2002,

Considering the provisions of art.7(1) of Decision no.124/2003 of the president of the National Regulatory Authority for Communications on the interconnection to the public mobile telephony network operated by "Orange România" – S.A. for call termination,

**THE PRESIDENT OF THE NATIONAL REGULATORY AUTHORITY FOR COMMUNICATIONS**

issues the present:

**DECISION  
FOR APPROVING THE REGULATION ON THE REALISATION  
OF THE "TOP-DOWN" COSTING MODEL FOR THE CALCULATION OF THE LONG RUN  
INCREMENTAL COSTS BY "ORANGE ROMÂNIA" – S.A.**

**Art.1.** – Hereby is approved the Regulation on the realisation of the "top-down" costing model for the calculation of the long run incremental costs by "Orange România" – S.A., contained in the annex which is part of the present decision.

**Art.2.** – The present decision shall be communicated to "Orange România" – S.A.

**PRESIDENT,  
ION SMEEIANU**

Bucharest, \_\_\_\_\_2003  
No.\_\_\_\_/EI

## ANNEX

### REGULATION ON THE REALISATION OF THE "TOP-DOWN" COSTING MODEL FOR THE CALCULATION OF THE LONG RUN INCREMENTAL COSTS BY "ORANGE ROMÂNIA" – S.A.

#### 1. General provisions

##### 1.1. The object of the regulation

The present regulation establishes the way in which "Orange România" – S.A., hereinafter referred to as *the Operator*, shall realise the "top-down" costing model for the calculation of the long run average incremental costs, hereinafter referred to as *the costing model*, for the activities related to interconnection and access to *the Operator's* network or to its associated infrastructure.

##### 1.2. The purpose of the regulation

1.2.1. *The costing model* shall ensure that calculations of total and incremental costs are accurate, therefore allowing the use of the model results in the process of cost orientation of tariffs.

1.2.2. The structure and documentation of *the costing model* shall be detailed and transparent enough, in order to allow:

a) the evaluation, checking and assessment of accounting data, principles, hypotheses, parameters and estimations used within the model, allowing the export of all information into an accessible format;

b) the deriving of interim and final results, through which *the Operator* shall contribute to the calibration of a "bottom-up" costing model for the calculation of the long run incremental costs.

1.2.3. *The costing model* shall be flexible enough in order to be reconciled with a "bottom-up" costing model for the calculation of the long run average incremental costs, realised by the National Regulatory Authority for Communications, hereinafter referred to as *ANRC*, for the purpose of deriving tariffs for the services provided by *the Operator* on those electronic communications markets on which it has been designated, by decision of the president of *ANRC*, as having significant market power, being imposed obligations for cost-orientation of tariffs. The "bottom-up" costing model for calculating long run incremental costs to be realised by *ANRC* shall be calibrated using the "top-down" costing model for calculating long run incremental costs realised by *the Operator*, in compliance with the present regulation.

1.2.4. If not otherwise provided, the terms used in the documentation of *the costing model* shall have the meaning given to them by the legislation in force in the field of electronic communications and accounting.

##### 1.3. Definitions

1.3.1. *costing model* – a costing model that uses information from *the Operator's* accounting records, in order to calculate the tariffs for the activities related to interconnection and access to *the Operator's* network or to its associated infrastructure, on the basis of long run average incremental costs associated with these activities. Because it is based on information regarding recent performances of *the Operator*, which can reflect both efficiencies and inefficiencies, *the costing model* shall include adjustments, in order to eliminate structural and operational inefficiencies of *the Operator*;

1.3.2. *long run average incremental cost*:

a) *long run* – the time period in which *the Operator* can realise capital investments or disinvestments, in order to increase or decrease its productive capacities. In the long run, all inputs, hence all costs, vary in response to a change in the volume or in the structure of demand;

b) *increment* – non-minimal and finite quantity of products or services provided by *the Operator*;

c) *incremental cost* – cost caused by the supplementary provision of an increment of services, or the cost saved when the increment of services is no longer produced;

d) *average incremental cost* – average cost obtained by dividing the incremental cost of each service, using a common cost driver (e.g. traffic), in the long run, the increment being represented by a large group of services. For example, for the purpose of estimating interconnection termination tariffs, the increment is defined as the entire group of services provided by *the Operator*, including the services provided on the retail market as well as the services provided to other operators on the wholesale market. The incremental costs of the network which provides this group of services are divided by the entire traffic, thus resulting the average incremental cost. The average incremental cost supposes that shared costs are attributed to services as well.

Within *the costing model*, the cost of services within an increment shall include directly attributable costs, fixed or variable, and shared costs. *The costing model* shall also account for those costs common to several increments, in compliance with the provisions of the present regulation;

1.3.3. *directly attributable costs* – costs that can be directly and unambiguously allocated to a service or product provided by *the Operator*. Directly attributable costs are caused by the provision of a certain service within the increment, falling into two types:

a) directly attributable variable costs – their level varies proportionally with the level of output;

b) directly attributable fixed costs – their level is fixed, irrespective of the level of the output (e.g. asset depreciation and operating costs);

1.3.4. *shared costs* – costs of those inputs necessary to produce two or more services within the same increment, where it is not possible to directly and unambiguously identify the extent to which a specific service causes the cost. These costs shall be allocated to products or services according to the most appropriate cost driver;

1.3.5. *common costs* – costs of those inputs necessary to produce one or more services in two or more increments, where it is not possible to identify the extent to which a specific increment causes the cost. These costs shall be included in the calculation of the cost of services by use of a mark-up;

1.3.6. *cells* – the physical areas in which the coverage area of a public mobile telephony network is divided, in which low-power transmitters (mobile handsets) use specific radio channels in order to realise mobile calls. Adjacent cells use different radio frequencies in order

to avoid interferences, while non-adjacent cells reuse the same frequency, so that the capacity of the system is increased;

1.3.7. *base transmission station (BTS)* – public mobile telephony network element which transmits and receives the call from and to the mobile handset. It comprises radio transmission and signal processing devices and it consists of a few racks for electronic and energy equipment. The base transmission station is connected to antennas through a feeder cable;

1.3.8. *transceivers (TRX)* – radio emission equipments incorporated in each sector of the public mobile telephony network, sub-part of each base transmission station, whose number mainly depends on the volume of traffic;

1.3.9. *base station controller (BSC)* – public mobile telephony network element which performs radio resource management, acting as a concentrator and switch. This element controls the inter-cell handovers for handsets, moving between base transceiver stations, the reallocation of frequencies among base transceiver stations and the power management of base transceiver stations and handsets within the coverage area;

1.3.10. *mobile switching centre (MSC)* – public mobile telephony network element in charge of location registration and the dynamic allocation of resources to coordinate call set-up, which routes calls around the network and searches for and processes information from location registers. The mobile switching centre is connected to base station controllers, on one side, and to a public network, on the other side;

1.3.11. *home location register (HLR)* – permanent database holding administrative information regarding all subscribers to the services provided through the public mobile telephony network, which contains information regarding the current location of each subscriber; this is generally in the form of the address of the visitor location register at which the subscriber is currently registered;

1.3.12. *visitor location register (VLR)* – database which temporarily stores subscription information on the users currently located in the cells associated with the mobile switching centre to which the visitor location register is attached. The visitor location register holds precise information as to the location of each handset within the area covered by the mobile switching centre.

## **2. Description of *the costing model***

### **2.1. Steps in developing *the costing model***

#### **2.1.1. Deriving homogeneous cost categories**

2.1.1.1. The first step in developing *the costing model* is to capture accounting information and to group costs that have similar characteristics into individual cost categories, hereinafter referred to as homogenous cost categories. In order to determine the homogenous cost categories, *the Operator's* management accounts can be used.

2.1.1.2. Within this step, *the Operator* shall perform the following actions:

- a) capturing of the accounting information from the accounting records (presented on current costs);
- b) asset valuation at current costs using the concept of “replacement cost” and the concept of “modern equivalent assets”;
- c) developing homogenous assets and expense categories;
- d) assessing network design, in order to identify optimization possibilities;

- e) adjustment of operating costs, in order to eliminate the supplementary costs of inefficient use of the network;
- f) calculation of annualisation costs.

#### **2.1.2. Allocation of directly or indirectly attributable costs and identification of common costs**

The second step in developing *the costing model* consists in defining the increments and the services associated to them, accompanied by the allocation of directly and indirectly attributable costs to services and the identification of common costs. The allocation process implies deriving cost drivers for each homogeneous cost category, as well as deriving the routing tables which identify the relationships between the costs of network elements and the costs of services. Within this step, the common costs are also identified and accounted for in a distinct category.

#### **2.1.3. Calculation of the incremental costs of services**

2.1.3.1. The third step consists mainly in deriving cost-volume relationships (CVRs), which show the way in which costs change in relation to a change in volumes. Deriving cost-volume relationships will depend on the cost category to which they refer to. Depending on the category, the cost-volume relationships shall be estimated using technical-economic models, simulations realised by engineering experts, regression analysis or an analysis of the processes which are at the basis of various activities.

2.1.3.2. The incremental costs of services are derived by adding or excluding an increment of services and by identifying the effect upon the total costs using cost-volume relationships.

#### **2.1.4. Marking-up the incremental costs of services with a share of common costs**

The fourth step in developing *the costing model* consists in the estimation of the mark-up for common costs to be added to the incremental costs, hence obtaining the cost of services. The mark-up shall not account for the network externalities.

### **2.2. The development of *the costing model***

2.2.1. *The costing model* should be developed, as much as possible, on the structure of the existing cost accounting model already implemented by *the Operator*, where applicable, in order to calculate the fully allocated costs of services. *The Operator* shall develop this model in compliance with the requirements of the present regulation.

2.2.2. *The costing model* shall incorporate all the steps mentioned at p2.1., deriving interim and final results, necessary for the estimation of the long run average incremental costs (at different aggregation levels), as well as for the use of these results in the reconciliation process.

2.2.3. *The costing model* shall include an integrated software system for the calculation of the long run incremental costs, which shall be accompanied by a detailed documentation.

2.2.4. *The costing model* documentation shall include, where applicable, supplementary analyses and calculations regarding the routing factors, asset lives, cost of capital, share of overhead and indirect costs included in the individual interconnection products, forecasts of

expected demand and expansion rate, statements regarding network and equipment optimisation, as well as any other information necessary for the evaluation of *the costing model*.

2.2.5. *The costing model* documentation shall be sufficiently detailed to allow full understanding of the model's content, the evaluation principles, as well as of the hypotheses and procedures used by the model.

### **2.3 Level of detail of *the costing model***

2.3.1. The Operator shall limit the level of aggregation of costs, for the Costing Model to provide a detailed breakdown of costs, in order to allow validation of the accuracy and completeness of the model as well as from the point of view of its' reconciliation with the bottom-up model. The Costing Model should allow the Operator to export cost information from the costing model at a sufficient level of detail to provide breakdowns of costs according to their nature and homogeneity, for each network element. These breakdowns should be traceable to the financial accounts, in order to make possible their verification with respect to the accuracy and completeness of the model.

2.3.2. *The costing model* documentation shall include the breakdown of the cost categories used, together with the associated cost drivers. Each cost category should be homogeneous and characterised by a single cost driver. *The costing model* will be flexible with respect to the content and number of the homogenous cost categories, in order to allow changes within the reconciliation process.

2.3.3. Annex no.1, which is part of the present regulation, provides a list of standard network elements to be used by *the Operator* in building up *the costing model*. The *Operator* may use, within the *costing model* other network elements than those under Annex no. 1, only with ANRC approval and based on proper justification. *The costing model* documentation shall include the breakdown and definitions of each network element used within the model.

2.3.4. The structure of *the costing model* shall allow the identification and changing of the treatment of each cost category, as well as the adjustment of principal parameters, in order to optimize the model. *The costing model* shall allow the identification and adjustment of model inputs and assumptions, in order to eliminate the supplementary costs generated by the structural and operational inefficiencies of *the Operator*.

## **3. Services and increments modelled**

### **3.1. Services modelled**

*The costing model* shall be used primarily for the calculation of the interconnection costs for call termination at mobile points. However, in order to provide sufficient accuracy in the allocation of costs and to ensure the possibility to reconcile with the bottom-up model developed by ANRC, *the costing model* shall be developed to calculate, as a minimum, the costs of the following services:

- a) subscriptions;
- b) traffic within own network;
- c) outgoing traffic to public fixed telephony networks;
- d) outgoing traffic to other public mobile telephony networks;

- e) outgoing traffic to international networks;
- f) incoming traffic from public fixed telephony networks;
- g) incoming traffic from other public mobile telephony networks;
- h) incoming traffic from international networks (fixed or mobile);
- i) SMS;
- j) GPRS;
- k) other services.

### **3.2. Increments modelled**

In order to calculate the costs of the above mentioned services using *the costing model*, *the Operator* shall use two large increments:

- a) subscribers increment;
- b) traffic increment.

#### **3.2.1. Subscribers increment**

Subscribers increment shall include those network-related costs that are driven solely by the number of subscribers on the network, assuming a constant output of the various traffic-related services produced by the network. On this basis, the subscribers increment includes the cost of handsets (handsets subsidies) and SIM cards. The subscribers increment will also include the cost of subscriber driven part of the mobile switching centre and home location register, as well as a part of marketing costs related to customer acquisition.

#### **3.2.2. Traffic increment**

Traffic increment shall include the costs related to the network's capacity to handle traffic (including voice, SMS and GPRS). The costs related to minimum capacity deployment necessary to provide coverage will also be included in the traffic increment. Therefore, the incremental cost of traffic will be the cost on top of providing minimum coverage presence and serving subscribers, costs that the network incurs to be able to carry the traffic load. The minimum coverage presence cost represents the non-capacity cost of the coverage network, being comprised from the costs of acquiring, preparing and leasing the number of sites needed to meet the coverage requirements and the cost of the network management system. These costs are common costs between subscribers and traffic increments and will be recovered using an equal proportionate mark-up. Therefore, most network costs (with some small exceptions, such as home location register which scales with both traffic and subscribers increments), such as cost of base transmission station/base station controller, mobile switching centre, core switching and transmission are included in the traffic increment.

## **4. Fixed assets valuation**

### **4.1. Current cost accounting**

4.1.1. Within *the costing model*, fixed assets shall be evaluated at current costs, using the net replacement cost method.

4.1.2. *The Operator* shall include in the model documentation a detailed description of methods used for restating assets' values on a current costs basis, for purposes of including their value in *the costing model*.

## **4. 2. Replacement cost**

4.2.1. The replacement cost method measures the cost of replacing the existing asset with another asset of similar performance characteristics. Gross asset values shall be evaluated using the replacement cost method, calculated either at the current market value of the assets, or at the value of a modern equivalent asset, in case of assets which can no longer be found on the market.

4.2.2. If the replacement cost is evaluated using assets existing on the market, which make use of the same technology, then the replacement cost shall be the actual market value of these assets. Any adjustment (indexation) of this value shall be fully justified. The model documentation shall also describe the relationships between assets prices and quantities bought. In determining the actual market value, *the Operator* shall take into account all the commercial discounts he is expecting to benefit from, while buying these assets.

4.2.3. If the replacement cost is evaluated using modern equivalent assets, then it shall be adjusted in order to reflect the differences between existing assets and modern equivalent assets, as for quality, productivity and asset lives. Operating costs of *the Operator* shall be adjusted in order to reflect the operating costs associated with modern equivalent assets. Differences in operating costs can appear due to differences in the costs of maintenance and network management, as well as in other indirect costs associated with modern equivalent assets.

4.2.4. In each case, the asset existing on the market, which is the basis of the valuation process, shall be capable of providing the same services as the evaluated asset, at least in the same qualitative parameters and at the lowest cost possible. The market is considered to be the international market of electronic communications equipments.

## **4.3. Cost of fixed assets (annual costs)**

### **4.3.1. Criteria for determining annualisation costs**

4.3.1.1. The annual cost of fixed assets represents the sum of the annual capital cost, depreciation and operating expenses.

4.3.1.2. The annual cost of capital is calculated as the mean capital employed in the equipment across the accounting period, multiplied by the weighted average cost of capital. The mean capital employed in the equipment across the financial exercise is calculated as the arithmetic average between the gross values of the fixed asset from the beginning and, respectively, the end of the financial exercise.

4.3.1.3. When choosing the most appropriate method for deriving annual costs of fixed assets, the following principles should be observed:

a) *the principle of accuracy* – an accurate annualisation charge shall have a depreciation profile which accurately reflects the expected levels of and forecasted changes in the replacement cost, operating costs, output levels and asset productivity;

b) *the principle of consistency* – consistency requires that annualisation charges shall be set in such a way that there are no arbitrage opportunities available for purchasing assets at



certain stages of their lives. For example, where the output produced by a certain asset is constant, consistency requires that the sum of the annualisation charges and operating costs of an asset purchased in year N will be the same in year N+1, as if the asset had been purchased in year N+1;

c) *the principle of tractability* – tractability means that there is sufficient information for *the Operator* to apply the chosen approach.

#### **4.3.2. Economic depreciation**

4.3.2.1. Theoretically, economic depreciation is the optimal annualisation method which observes the accuracy and consistency principles. The disadvantage of this method consists in the lack of information needed in order to apply this method. Consequently, for practical reasons, several alternative methods for deriving annualisation costs can be used (linear depreciation, accelerated depreciation, regressive depreciation and annuity method).

4.3.2.2. Economic depreciation can be calculated as the estimated net present value of cash flows at the end of a given year less the estimated net present value of cash flows at the beginning of the year.

4.3.2.3. The net present value depends on a variety of factors, such as: current and future output demand, the asset's output, operating costs, the asset's life and the cost of capital. The depreciation profile will depend on how the factors determining an asset's value are expected to change over time.

4.3.2.4. Within *the costing model*, *the Operator* shall use either economic depreciation or an alternative method, depending on which best approximates indicative estimates of economic depreciation.

4.3.2.5. *The Operator* shall keep a distinct recording for fully depreciated assets in use, according to its statutory accounting, which will contain all the information necessary for the identification and calculation of the extent of these assets by asset class and vintage.

#### **4.4. Cost of capital**

4.4.1. Within *the costing model*, the cost of capital shall be determined based on weighted average cost of capital (WACC). The cost of equity shall be determined using the capital asset pricing method (CAPM).

4.4.2. The documentation of *the costing model* shall contain a detailed description of the methodology for the calculation of the cost of capital, including the presentation of assumptions and parameters underlying the calculation.

### **5. Network design and optimisation**

The development of *the costing model* implies deciding upon major strategic options regarding the technology to be used and the network architecture, while the forward-looking character of the model implies the use of optimum technological solutions, which ensure maximum efficiency of the *Operator's* activities.

#### **5.1. Technology**

*The costing model* shall reflect an efficient 2G mobile network operator, which uses efficient technology to produce the same set of outputs he is currently producing. The costs and services related to the 3G technologies provided by *the Operator* shall be excluded from *the costing model*.

## **5.2. Network architecture**

5.2.1. The optimization of *the Operator's* network shall be based on the basic elements in the existing network infrastructure, which shall be adjusted in order to eliminate the structural inefficiencies, on the basis of a scorched node approach.

5.2.2. *The costing model* shall retain the actual number of base stations and switch sites currently deployed by *the Operator*. *The Operator* shall eliminate the excess capacity as compared to the actual (and forecast) level of coverage and demand, taking into account the objective conditions which may lead to excess capacity (modularity, quality and security of services etc.).

5.2.3. *The costing model* shall be flexible enough to allow adjustments of *the Operator's* network, by increasing capacity of existing elements, cell splitting, adding spectrum or using an optimum combination of spectrum and cells.

## **6. Treatment of operating expenses**

6.1. *The costing model* examines operating costs at a disaggregated level, in order to ensure that operating costs are assigned to the correct increment.

6.2. Operating costs comprise the following categories: transport, accommodation, finance, research and development, computing, human resources, general management and specific interconnection costs.

6.3. *The costing model* should use the information regarding the operating costs from the statutory accounts. The information shall be adjusted in order to exclude the costs generated by the inefficiency of *the Operator's* activity. Reasons for inefficient operating costs are:

- a) using assets which cause higher operating expenses than those caused by using modern equivalent assets;
- b) existence of inefficient operational processes and procedures;
- c) existence of other excessive expenses (labour, materials, services etc.), even when using efficient technologies and processes.

6.4. The current costs assets valuation (using replacement costs) excludes the inefficiency costs generated by the reasons at point 6.3. a), based on the procedures stated at point 4.2. *The Operator* shall identify and exclude the effects of inefficiency generated by the factors at point 6.3. b). and c). by using international benchmark or by developing theoretical cost models which value the efficient level of operational cost. The model documentation shall provide supporting information regarding the level of operating costs and evidence that the operating costs are based on efficient operating practices and technologies, pointing out the nature and level of each adjustment made in order to exclude the expenses generated by the inefficient activities of the Operator.

## **7. The cost allocation process**

## **7.1. Principles of cost allocation**

7.1.1. *The costing model* shall allocate costs observing the following principles:

a) *the principle of cost causation* – costs shall be allocated to services or cost categories in accordance with the services or activities which caused the costs to be incurred;

b) *the principle of objectivity* – the allocation bases shall be objective and not intended to favour a product or service provided by *the Operator*;

c) *the principle of transparency* – *the Operator* shall include detailed information regarding the cost allocation methodologies, within the model documentation.

7.1.2. The allocation process assumes both determining cost drivers for each homogenous cost category and elaborating the routing table for identifying the relationship between costs of network elements and costs of services.

7.1.3. Annex no.2, which is part of the present regulation, shows a typical allocation process usable for allocating costs in a top-down LRIC model.

7.1.4. The *Operator* should use its own cost allocation procedures already implemented in the cost accounting system, as long as the principles of cost allocation and the other requirements included in the present regulation are observed.

7.1.5. The model documentation shall provide the detailed methodology regarding the allocation of costs of activities to products and/or services. Supporting documentation shall describe the cost drivers and how the model assumes they affect operating costs for each activity.

## **7.2. Identification of cost drivers and volume measurement**

7.2.1. Within the allocation process, indirectly attributable costs shall be apportioned to network elements using cost drivers. By using these cost drivers, it shall be determined, within *the costing model*, the extent to which increments, services and network elements generate a specific category of operating expenses. In this way, homogenous cost categories are allocated to increments, services or network elements, depending on the volume of the associated cost driver.

7.2.2. The model documentation shall include the presentation of cost drivers associated with each homogeneous cost category and the methods used for measuring their volumes.

## **7.3. Routing tables**

7.3.1. The routing tables identify the relationships between the costs of network elements and the costs of services. The routing factors identify the usage of each network component by each service provided by *the Operator*, identifying the average frequency with which that service uses different network elements within routing patterns as well as the average probability for using these routing patterns.

7.3.2. *The costing model* shall identify the routing factors for each modelled service or, in their absence, a consistent alternative measure of how each service uses the network.

7.3.3. *The costing model* shall identify the routing factors at least for the network elements listed in annex no.1.

## 8. Deriving the incremental cost of modelled services

The calculation of the incremental cost shall be realised by adding or excluding an increment of services and by identifying the effect on homogenous cost categories, using cost-volume relationships. The incremental costs shall be calculated for each of the homogenous cost categories separately. In each case, it is necessary to measure the volume of the cost driver associated with an increment for that cost category and, on the basis of the estimated cost-volume relationships, the reduction in cost if that increment were no longer provided or the increase in cost if that increment were provided in surplus shall be derived.

### 8.1. Cost-volume relationships

8.1.1. Cost-volume relationships represent the base of determining the incremental and common cost. Cost-volume relationships are established after determining the usage level and show the way in which costs change in relation to a change in volumes of the cost drivers. *The costing model* should estimate cost-volume relationships for each homogenous cost category.

8.1.2. The estimation of cost-volume relationships can be realised by developing engineering models, by consulting with experts or by using the regression analysis. The appropriate approach depends primarily on the type of cost being examined.

8.1.3. The model documentation shall explain how the cost-volume relationship was calculated for each homogenous cost category. The justification shall include a description of how they have been derived, their shape and their cost driver. When *the Operator* uses other data than those from his own accounts in order to estimate cost-volume relationships, the model documentation shall provide consolidated statements of these data as well as details for the sources of these data.

8.1.4. Where a class of assets has multiple cost drivers, separate cost-volume relationships shall be developed for each of the cost drivers.

### 8.2. Assigning costs to services

8.2.1. Having determined the incremental cost, the next step is to calculate the costs of each of the services within an increment. The costs of these services are determined by complete allocation of the increment costs to the services that are included in that increment. In this way, the total costs assigned to various services within the increment shall correspond with the total cost of that increment.

8.2.2. For intra-increment shared costs, where the allocation between services cannot be realised by identifying the cost volume generated by each service, the allocation should be done using a weighting factor (such as Mbit/s).

## 9. Audit of Costing Model

9.1. The *costing model* shall be subject to audit, in compliance with the legislation in force and with the national and international audit standards.

9.2. The audit report shall issue the opinion with regard at least the following:

a) whether the *costing model* reflect, in all material aspects, the information contained in the accounting documents and the relevant financial statements of the *Operator*;

b) whether the *costing model* is prepared in compliance with the provisions of the present decision and other relevant legislation in force;

c) whether the *costing model*, the procedures for collection and processing of the accounting information and allocation methodologies used are consistent with the Costing Methodology published by the *Operator*.

9.3. In order to issue the opinion with regard the above-mentioned topics, the audit shall also investigate the procedures and methods for allocation and for current costs valuation, by way of running detailed technical analysis.

9.4. For the audit to be realised, an agreement shall be concluded between the auditor and the *Operator*, and shall need ANRC approval. The agreement shall stipulate the right of ANRC to consult the documents elaborated by the auditor and to request any information on the activity carried out with the purpose of concluding an audit opinion, including on the procedures, checking and tests conducted by the auditor, within the audit. The agreement will also stipulate the right of ANRC to require supplementary checking of certain areas, considered relevant. The audit opinion shall be addressed both to the *Operator's* shareholders and to ANRC.

9.5. The audit opinion shall be submitted to ANRC for approval. Therefore, the *Operator* shall make available to ANRC the audit opinion, accompanied by the audited *costing model*.

## **10. Other costing issues**

### **10.1. Treatment of common costs**

In order to derive the full cost of services<sup>1</sup> based on *the costing model*, a mark-up for common costs should be added to incremental costs, using the equal-proportionate mark-up method (EPMU). The use of an alternative method shall be justified and explained in the model documentation. The model documentation shall also present the calculation procedure and the way in which the mark-up is applied to incremental costs.

### **10.2. Treatment of non-network retail expenses**

Since non-network retail costs are not caused by incoming traffic and do not provide benefit to the calling parties from other networks, they should not be included in the cost of call termination. Therefore, cost determined by handset subsidies, dealer incentives, sales and marketing or customer services should not be included in the cost of call termination (although some of them will be included in the traffic increment).

### **10.3. Treatment of spectrum fees**

Since spectrum fee are charged in a fixed amount, no matter of customers number or traffic load or capacity, this cost will be treated as common between customers and traffic increments and will be recovered through an equal proportionate mark-up.

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<sup>1</sup> These costs are also referred to as "LRAIC+" costs.

## **10.4. Relevant costs**

*The costing model* shall include only relevant costs. Relevant costs include those cost categories incurred by a hypothetically efficient new entrant operator. Extraordinary items shall not be considered relevant costs, and therefore shall not be accounted for within *the costing model*.

## **11. Functionality of *the costing model***

### **11.1. Transparency**

11.1.1. *The costing model* shall meet the following conditions:

a) the model shall indicate how it is related and how it can be reconciled with the primary accounting documents and the statutory financial statements;

b) the model documentation shall provide indications regarding the information sources (both internal and external) and the ways in which the information has been collected and used within the model;

c) the model shall allow identification of the assumptions and variables used in order to obtain growth rates, routing factors, volumes, asset lives, utilization rates, replacement costs etc.

11.1.2. In order to review *the costing model*, *the Operator* shall ensure the availability of information regarding the costs associated with increments and components at the disaggregation level of homogenous cost category. *The Operator* shall disclose, upon request from ANRC, supplementary information regarding each cost category, till the disaggregation level of primary accounting data.

11.1.3. *The costing model* shall identify those costs which can be directly attributed to services. Shared costs shall be allocated to different services at the most disaggregated level possible (homogenous cost category level is the most disaggregated level and network element level, the most aggregated). Allocation keys used within this process shall be clearly identified.

### **11.2. Major outputs of *the costing model***

11.2.1. The model documentation shall describe the method used to determine the costs of increments and the costs of associated services. *The costing model* shall supply the cost of services provided on markets on which *the Operator* has been designated as having significant market power, by decision of the president of ANRC, and for which the obligation of cost orientation has been imposed. *The costing model* shall also be able to identify the costs of services as defined at point. 3.1.

11.2.2. *The costing model* will also be able to show the capital and operating costs for each network element, as well as the usage factors related to each service.

11.2.3. *The costing model* shall present, within the cost structures, the proportion of costs that are shared with other services within the increments, as well as the proportion of common costs.

## **12. Final provisions**

12.1. Until 31 March 2004, *the Operator* shall submit to ANRC *the costing model* documentation, which shall contain at least the specifications requested by the present regulation.

12.2. Until 30 June 2004, the Operator shall develop and implement the Costing Model in a manner which will allow the calculation of the tariffs included in the Reference Interconnection Offer and the reconciliation with a bottom-up model.

12.3. The results of the *costing model* shall be presented to ANRC and the reconciliation process between the costing model and the bottom-up model developed by ANRC will start after the audit has been concluded and the audit opinion has been issued.

12.4. Failure to comply with the deadline stipulated at p.12.2, the tariffs for the services provided by the Operator on the electronic communications markets on which it has been designated, though ANRC President Decision, as having significant power, being imposed cost orientation of tariffs, shall be calculated on the basis of the bottom-up model results, developed by ANRC. The so-determined tariffs shall be revised, as the case may be, following the conclusion of the reconciliation process between the bottom-up model and the Costing Model.

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## Annex no.1

### Appropriate level of detail – list of network elements:

<ul style="list-style-type: none"> <li>● Macrocell: site acquisition, preparation and lease;</li> <li>● Macrocell: equipment (omni sector);</li> <li>● Macrocell: equipment (2 sector);</li> <li>● Macrocell: equipment (3 sector);</li> <li>● Microcell: site acquisition, preparation and lease;</li> <li>● Microcell: equipment;</li> <li>● Picocell: site acquisition, preparation and lease;</li> <li>● Picocell: equipment;</li> <li>● Macrocell: additional TRXs;</li> <li>● Microcell: additional TRXs;</li> <li>● Picocell: additional TRXs;</li> <li>● Backhaul 2Mb/s microwave link;</li> <li>● Backhaul 8Mb/s microwave link;</li> <li>● Backhaul 16Mb/s microwave link;</li> <li>● Backhaul 32Mb/s microwave link;</li> <li>● Backhaul 2Mb/s leased line;</li> <li>● Backhaul 8Mb/s leased line;</li> <li>● Backhaul 16Mb/s leased line;</li> <li>● Backhaul 32Mb/s leased line;</li> <li>● BSC: base unit;</li> <li>● BSC: BS-facing port increment;</li> <li>● BSC: MSC-facing port increment;</li> <li>● BSC-MSC transmission 2Mb/s microwave link;</li> <li>● BSC-MSC transmission 8Mb/s microwave link;</li> <li>● BSC-MSC transmission 16Mb/s microwave link;</li> <li>● BSC-MSC transmission 32Mb/s microwave link;</li> <li>● BSC-MSC transmission 2Mb/s leased line;</li> <li>● BSC-MSC transmission 8Mb/s leased line;</li> <li>● BSC-MSC transmission 16Mb/s leased line;</li> <li>● BSC-MSC transmission 32Mb/s leased line;</li> </ul>	<ul style="list-style-type: none"> <li>● MSC: processor;</li> <li>● Software;</li> <li>● Interconnect interface;</li> <li>● Switching Support Plant;</li> <li>● Buildings (switch building preparation);</li> <li>● MSC: site lease;</li> <li>● MSC: interconnect-facing port increment;</li> <li>● MSC: switch-facing port increment;</li> <li>● Interswitch transmission 140Mb/s leased line (per 2Mb/s circuit);</li> <li>● Tandem/Transit;</li> <li>● HLR;</li> <li>● HLR Upgrade;</li> <li>● SMSC;</li> <li>● 900/1800 dual overlay Macrocell: equipment (omni sector);</li> <li>● 900/1800 dual overlay Macrocell: equipment (2 sector);</li> <li>● 900/1800 dual overlay Macrocell: equipment (3 sector);</li> <li>● PCU;</li> <li>● GGSN;</li> <li>● SGSN;</li> <li>● IP transmission;</li> </ul>
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Annex no.2

Typical cost allocation process

