

# **METHODOLOGY FOR CALCULATING THE REQUIRED REVENUE OF THE HELLENIC ELECTRICITY DISTRIBUTION NETWORK OPERATOR**

## **CHAPTER A GENERAL PROVISIONS**

### **Article 1**

#### **Object**

1. The present methodology, hereinafter referred to as "Methodology", determines how the Allowed Revenue and the Required Revenue of the Hellenic Electricity Distribution Network Operator (HEDNO) are calculated, as an intermediate step in calculating Network Usage Charges for recovering the Required Revenue, in accordance with Article 140 of Law 4001/2011 (hereinafter referred to as the "Law"), Articles 124 to 126 of the HEDN Operation Code (HEDN Code) and Article 180 of the Operation Code of the NonInterconnected Islands (NII Code). The Allowed and Required Revenue of HEDNO includes the capital costs of the Public Power Corporation (PPC) S.A. relating to the Ownership of the HEDN, as prescribed by the present Methodology
2. The terms used in this Methodology have the meaning assigned to them herein, unless otherwise defined in the Law and in the regulations issued under the authority of the Law.

### **Article 2**

#### **Objectives of the Methodology**

1. The methodology for calculating the Allowed and the Required Revenue of HEDNO should fully comply with the principles and objectives specified in the HEDN Code and particularly:
  - i. The protection of Network Users, so that the HEDN Usage Charges reflect the reasonable and efficient cost of the services provided by the Operator.
  - ii. The provision of adequate assurances to HEDNO that it has the necessary funds to cover its reasonable and efficient operating costs, to proceed with the necessary investments approved in accordance with the provisions of the HEDN Code and to ensure a reasonable return on the capital employed.
  - iii. The provision of incentives to HEDNO to improve the efficiency of the Network and the Quality of Services provided to Network Users, and to promote the development of the energy market and the country's security of supply.

- iv. The development of a stable and transparent framework and of consultation procedures for determining HEDNO revenue in a systematic and evidence-based manner.

### **Article 3**

#### **Scope of the Methodology**

1. This Methodology concerns the Regulated Activities of HEDNO and the Power Systems of the NII, which encompass the operation, maintenance and development of the HEDN, the operation of the Power Systems of the NII and the management of the Public Service Obligations (PSO) Account in accordance with Article 55 of the Law and the NII Code, as well as the Regulated Activity of HEDN Ownership.
2. The cost of providing the Regulated Activities is recovered from Network Usage Charges.
3. Other revenue obtained from services that are either not related to the Regulated Activities or are provided in the context of a Regulated Activity but the Operator receives separate payment from the recipients of these services, and which are provided by the Operator using the assets and/or human and other resources of the Operator, are deducted from the Allowed and Required Revenue in accordance with Articles 7 and 18, respectively.
  - i. This rule does not apply if the data submitted by the Operator for estimating Allowed Revenue for the services mentioned above already excludes costs relating to the accounts of the Statement of Financial Position and the Income Statement.
  - ii. In the latter case (paragraph 3(i) of this Article), the cost of the services mentioned above must be separately recorded and verifiable and the allocation of any costs shared between (a) Regulated Activities and (b) other activities, must take into account the Accounting Unbundling Rules approved by RAE.
4. The Required Revenue and the Allowed Revenue are calculated to ensure that the Operator can undertake its Regulated Activities as defined in the current Methodology, the Law, the Codes (HEDN Code and NII Code) and the regulations issued under the purview of the Law. If the Operator belongs to a parent or related company, the latter must:
  - i. Refrain from any action and ensure that any other legal person which is its subsidiary, or is controlled by it, will avoid any action that may cause the Operator to fail to comply with its obligations under the present Methodology and the pertaining legal framework.
  - ii. Take all appropriate measures to ensure that the Operator always has all the necessary resources, in accordance with this Methodology, to perform the Regulated Activities seamlessly.

### **Article 4**

#### **Regulatory Period**

1. The duration of the Regulatory Period for Distribution (RPD) ranges from three (3) to five (5) years, based on the provisions of the HEDN Code and is determined in the Regulatory Decision for Electricity Distribution issued by RAE the year preceding (Calculation Year) the beginning of each Regulatory Period.

## Article 5

### Price Basis

1. All calculations under the Methodology are carried out at in nominal price terms.
2. To this end, the Allowed Revenue and the costs used to calculate the Allowed Revenue are initially expressed in constant price terms based on the current prices of the Calculation Year.
3. The conversion of the Allowed Revenue into nominal prices for each year of the Regulatory Period is carried out using the annual Average Consumer Price Index (ACPI) as estimated by reliable domestic (Bank of Greece, Ministry of Finance) or international (European Commission, International Monetary Fund) institutions, subject to agreement with RAE on a case-by-case basis.
4. The difference in the Allowed Revenue in each year of the Regulatory Period due to the difference between the forecasted and the actual annual ACPI reported by the Hellenic Statistical Authority (ELSTAT), is settled in accordance with Article 18.

## Article 6

### Data Verification

1. The Operator is obliged to ensure that any ex-post data used in calculations specified in the current Methodology can be corroborated from audited reports or from publicly available information and is based on the Accounting Unbundling Rules approved by RAE, and that variables or parameters used for the same calculations are sufficiently substantiated and based on clear and well defined premises that may be supported by available information sources.
2. The Operator shall also ensure that the data submitted in compliance with the current Article have been audited or verified by the Operator's auditor or by another independent person with appropriate professional qualifications, training, skills and experience relating to the specified subject matter so that he/she is able to provide a valid assessment, advice and analysis in relation to the specific subject assigned to him/her.

## CHAPTER B

### Article 7

#### Allowed Revenue of the Operator

1. The calculation of the Allowed Revenue (AR) of the Operator shall be undertaken before the commencement of the RPD and for each year  $i$  during that period, using the following equation:

$$AR_i = O_i + U_i + D_i + R_i + X_i - Y_i$$

Where:

- $O_i$  the forecasted reasonable and efficient annual Controllable Operating Expenditures for reference year  $i$ , in accordance with Article 9,
- $U_i$  the estimated annual Uncontrollable Operating Expenditures for reference year  $i$ , as per Article 10,

- D<sub>i</sub>** the estimated annual depreciation of the fixed assets in the Regulatory Asset Base (RAB) of the Distribution activity for the reference year *i*, in accordance with Article 11,
  - R<sub>i</sub>** the allowed return on capital employed by the Distribution activity, excluding the capital employed for Projects of Major Importance, calculated as the product of the following parameters:

    - i. the estimated value of the RAB in the reference year *i* in accordance with Article 12, and
    - ii. the nominal pre-tax percentage rate of return ( $r_{RAB}$ ) in accordance with Article 16.
  - X<sub>i</sub>** the allowed return on the capital employed by the Distribution activity for Projects of Major Importance, as defined in Article 17,
  - Y<sub>i</sub>** the estimated revenues from other Regulated and non-Regulated Activities in reference year *i*, provided that these activities are not subject to accounting unbundling and there are no distinct costs (capitalised costs and expenditures) related to these activities that have been excluded from the estimated expenditures of the Operator for the Regulated Activities of the HEDN and the NII.
2. For the purposes of fine-tuning in order to deal with fluctuations in the Allowed Revenue of the Operator or the Network Usage Charges within the RPD, it is possible to reprofile the Allowed Revenue for each year *i*, provided that:
- i. the sum of the present value of the initially calculated revenues is equal to the sum of the present value of the adjusted revenues, using a discount factor equal to the nominal pre-tax rate of return ( $r_{RABi}$ ) of the preceding paragraph, as derived from Article 16, and
  - ii. the Operator's ability to finance its activities efficiently is not undermined.

## Article 8

### Operating Expenditures

1. Operating Expenditures are defined as the reasonable and efficient costs incurred by the Operator in the course of carrying out the activities prescribed by the Law and the wider regulatory framework and which are deemed necessary for the proper operation and maintenance of the HEDN, the maintenance and monitoring of the special PSO account and the Management of the Power Systems of the NII in an adequate, safe, economically efficient and reliable manner.
2. Operating expenditures, depending on the degree of control by the Operator, are distinguished between costs which the Operator has the ability to control and set (Controllable Operating Expenditures) and cost which the Operator does not have the ability to control and set (Uncontrollable Operating Expenditure).

## Article 9

### Controllable Operating Expenditures (O)

1. The determination of a reasonable and efficient level of Controllable Operating Expenditures for the Operator's activities is undertaken before the commencement of the RPD (ex-ante) based on forecasts, considering:

- i. the Business Plan submitted by the Operator for the entire Distribution activity, where the estimated operating expenditures for all its activities as HEDNO and for its function as Operator of the NII are stated separately for every year of the RPD,
  - ii. the most recently available unbundled financial statements of the Operator of the HEDN and the NII, showing actual operating expenditures,
  - iii. the data that the Operator is obliged to submit regarding, on the one hand, the Controllable Operating Expenditures incurred, broken down by activity, in accordance with Annex A, and by category of expenditure, in accordance with paragraph 2 of this Article, and, on the other hand, the data regarding the Uncontrollable Operating Expenditures incurred, in accordance with Article 10, reconciled with the independent or unbundled financial statements of the Operator and with independent verification (Auditor's certificate),
  - iv. The investment plan of the Operator, in accordance with the approved Network Development Plan (NDP), as well as investments progress and the impact they have on the operating and maintenance costs of the HEDN;
  - v. results of specific audits or reviews commissioned to independent Consultants;
  - vi. benchmarking with the performance of other Operators, either overall or for specific categories of expenditure, considering the specificities of the HEDN and the Power Systems of the NII and any differences between these and the distribution systems of the comparator Operators;
  - vii. results from Public Consultations on specific issues that significantly affect the operating expenditures of the Distribution activity;
  - viii. the need to continuously improve the level of efficiency of the Regulated Activities (relationship between the outputs provided and the cost of the activity), as well as the need for convergence towards economically optimal levels in terms of Network efficiency and the quality of services provided.
2. Controllable Operating Expenditures comprise the following categories:
- i. Payroll: payroll costs of regular and temporary staff and for Administration, with each of the three categories broken down into gross regular earnings, additional remuneration, employer contributions, overtime and shifts, expenditures to cover travel away from the permanent place of work and staff benefits. Especially for the latter category, the type and estimated cost of the largest benefits in value must be shown, and where these obligations derive from (legal regulations, collective agreements or Management decisions).
  - ii. Third Party Fees: the cost arising from contracts concluded by the Operator with third parties in the context of the functions it performs.
  - iii. Third Party Expenses: the expenses related to services received by the Operator from third parties.
  - iv. Materials and consumables: all the expenses of the Operator for materials and consumables required as part of its activities.
  - v. Other expenses: expenses that do not fall under any of the above categories of this paragraph and which are inextricably linked to the function of the Operator.
3. The estimation of Controllable Operating Expenditures should not include:
- i. financing costs or taxes on the Operator's profits,
  - ii. unreasonable or inflated margin for services or goods that may be provided by a Affiliated Party to the Operator,

- iii. provisions to cover either risks, such as, for example, provisions for bad debts, provisions for disputed legal cases, or other claims, or expenditure relating to staff compensation upon termination
  - iv. expenditures that are not considered necessary for undertaking the Regulated Activities,
  - v. the portion of the operating costs financed by any type of subsidies and grants received by the Operator in connection with undertaking the Regulated Activities, including funding of the Research and Innovation Programmes (RPECs), the Applied Research and Technology Programmes for the NII and the funding of the Electricity Theft Reserve, according to the provisions of HEDN Code and NII Code.
4. The determination of reasonable and efficient Controllable Operating Expenditures for the RPD will rely primarily on the Operator's revealed costs, based on the approach described in this paragraph. Using this approach, which may be used for total Controllable Operating Expenditures or for specific cost categories, RAE assesses the following, based on a detailed and substantiated proposal by the Operator:
- i. Data for the Controllable Operating Expenditures (base opex) of the most recent available year of the previous RPD (the second year before the Calculation Year), or another representative year, taking into account also the Operator's estimates of Controllable Operating Expenditures for the last two years of the previous RPD.
  - ii. Adjustments of the Controllable Operating Expenditures (base opex) for efficiency improvements, increased costs driven by growth in the Regulated Activities, changes in the real prices of key resources and any discontinuous or step changes in costs that are not otherwise captured, according to the following equation:

$$O_i = O_{\text{base}} \times (1 - E_i) \times (1 + G_i) \times (1 + PA_i) \pm C_i$$

Where:

**O<sub>base</sub>** base Controllable Operating Expenditures – generally these would be equal to the actual expenditure in the last (available) year of the previous RPD, assessed for their reasonableness using the techniques discussed in paragraphs 1, 2, 3 and 5 of the present Article. Adjustments (deductions) could be made to actual expenditure when determining base Controllable Operating Expenditures in order to account for inefficient or unnecessary expenditure in relation to the Regulated Activities and to exclude the costs associated with one-off events unique to the previous RPD.

**E<sub>i</sub>** the efficiency factor for the reference year i reflecting the cost savings that the Operator can reasonably be expected to be able to achieve in the future owing to productivity increases over time. In assessing forecast productivity, RAE may consider (among other things):

- i. the Operator's historical productivity performance using disaggregated cost data from the Operator,
  - ii. forecast output growth for the Regulated Activities (and economies of scale),
  - iii. expected future changes in technology and the forecasted specific business conditions of the Operator,
  - iv. total and/or partial productivity measures for the broader industrial sector in Greece, in the absence of electricity network comparators,
  - v. the dynamic efficiency factors set by other regulators and available evidence from relevant literature.
- G<sub>i</sub>** The growth factor in reference year *i*, which takes into account any expected change in the cost of the Regulated Activities as a result of changes in demand, the number of Users or other parameters that affect the operating expenses of the Regulated Activities. For the estimation of this parameter, RAE can evaluate historical data provided by the Operator regarding the relationship between the relevant cost drivers and the operating expenditures of the Regulated Activities.
- PA<sub>i</sub>** Real price adjustment in the reference year *i*, which takes into account that changes in input prices may diverge from the ACPI that is used to determine the Allowed Revenue. To calculate the real price adjustment the following would be needed:
- i. Determination of the categories of expenditure to be examined (labour, materials, equipment, etc.) and any required split within each category (e.g. between generalist and specialist elements of labour and materials), provided that there are appropriate measures of price inflation for these groups of expenditure.
  - ii. Estimation of nominal price inflation for each input category, by reference to relevant, independent price indices e.g. those issued by the Hellenic Statistical Authority.
  - iii. Calculation of the real price adjustment for each input category by comparing the nominal price inflation estimate to ACPI.
  - iv. Assigning a weighting to each expenditure input category, in order to calculate an overall real price adjustment for each year of the RPD.
- C<sub>i</sub>** The estimated step changes in Controllable Operating Expenditures that need to be added (or subtracted) for any other expenses not captured in the  $O_{base}$  parameter or the rate of change (given by the product of the efficiency, productivity and real price factors), but which are necessary and prudent. Step changes in practice are expected to be limited and /or calculated under the Uncontrollable Operating Expenditures (Article 10).
5. In assessing whether the costs related to services or goods potentially provided to the Operator by Related Parties are reasonable and efficient, RAE may have regard to whether:
- i. Affiliated Party transactions are entered on an arm's length basis, indicatively through competitive tendering.
  - ii. Affiliated Party costs reflect the direct cost of providing the goods or services, inclusive of a commercially reasonable return or margin.

- iii. It can be demonstrated that the Affiliated Party costs are comparable to market benchmarks (if there are several market service providers for the relevant goods or services).
6. An incentive mechanism shall be established for Controllable Operating Expenditures, in accordance with Article 19.

## Article 10

### Uncontrollable Operating Expenditures (U)

1. Uncontrollable Operating Expenditures include the following predetermined categories of expenditure:
  - i. Regulatory fees
  - ii. Local authority fees
  - iii. Indirect taxes
  - iv. Rights of way
  - v. Costs from compensation offered on retirement (if they relate to uncontrollable expenses deriving from the current legal framework).
2. The list of Uncontrollable Operating Expenditures in paragraph 1 of this Article may not include all possible expenses of this kind. Therefore, the Operator may propose additional categories of Uncontrollable Operating Expenditures and their estimated levels prior to the commencement of the RPD, provided that the proposed expenditures meet all the following criteria:
  - i. They are material, specifically they represent at least [2%] of total annual operating expenditures.
  - ii. They are demonstrably uncontrollable, according to data that the Operator is obliged to submit, and which proves that it cannot take any action that could mitigate the costs or that there are no offsetting factors at play. It is possible that certain costs will have some degree of ‘controllability’ and therefore a certain proportion only may be treated as uncontrollable.
  - iii. They are measurable and, after their approval and realisation, they may be certified by an independent source.
3. Deviations from the approved expenditure levels in this category shall be settled when determining the Required Revenue, by means of the parameter **P3** in Article 18.

## Article 11

### Depreciation of fixed assets (D)

1. Depreciation shall be calculated for fixed assets in operation during year *i* of the RPD. Depreciation is divided into:
  - i. Depreciation of existing fixed assets: refers to depreciation of fixed assets already registered in the Regulatory Assets Register (RAR) and the RAB or the SAB of Distribution, as well as the depreciation of the assets of the NII Operator during the Calculation Year,
  - ii. Depreciation of new fixed assets: refers to depreciation of fixed assets generated either by new investments in year *i* of the RPD or by Work in Progress (WiP)



from previous years to be included in the FAR and the RAB or in the SAB of Distribution within the RPD, on the basis of the implementation schedule of the investments under the approved NDP.

2. Depreciation shall be calculated ex-ante for each year of the RPD, based on estimates for the value of fixed assets (new and existing). For the determination of depreciation of each year  $i$  of the RPD the following apply:
  - i. Depreciation of new fixed assets shall be calculated considering the useful life defined for each category of fixed assets and which has to be reflected in the FAR. In the case of Projects of Major Importance, depreciation may be calculated on the basis of a useful life which may differ from that of other fixed assets, in accordance with a relevant RAE decision. When estimating depreciation, it is assumed that new assets enter into operation in the middle of year  $i$ .
  - ii. Depreciation of fixed assets prior to the start of the RPD is calculated on the basis of their residual life, consistent with the FAR and the RAB of year  $i-2$  or from the SAB statement, taking into account the additions to fixed assets from investments within the year of calculation ( $i-1$ ).
  - iii. Depreciation of fixed assets which are to be withdrawn within year  $i$  of the RPD shall be calculated on the assumption that the withdrawal occurs in the middle of year  $i$  and in accordance with Article 12(2).
  - iv. In the above estimates, the depreciation corresponding to the share of the fixed assets funded by Contributions and Grants is not included, the value and depreciation of which are monitored separately in a file which should be submitted together with all the necessary data for calculating the Allowed Revenue, in accordance with Article 20, as well as the depreciation of fixed assets for the proportion financed by the Reserve for Electricity Theft as defined in the Code.
3. Depreciation is calculated using the straight-line method.
4. Deviations from the forecasted depreciation shall be settled when determining the Required Revenue, by means of parameter **P2** of Article 18.

## Article 12

### Regulated Asset Base (RAB)

1. The Regulated Asset Base (RAB) means all the capital employed in the Regulated Activities of the HEDNO and the Power Systems of NII that are compensated through Network Usage Charges.
2. The RAB at the end of each year  $i$  of the RPD is calculated using the following formula:

$$\mathbf{RAB}_i = \mathbf{RAB}_{i-1}^{\pi} + \mathbf{WIP}_i + \mathbf{A}_i + \mathbf{WC}_i - \mathbf{D}_i - \mathbf{F}_i - \mathbf{H}_i$$

Where:

**RAB<sub>i-1</sub><sup>π</sup>** The estimated non-depreciated value of the fixed assets of the HEDN which are expected to be in operation in year  $i-1$ , taking into account the ex-post value of fixed assets in previous years as per the FAR and its estimated development based on the investments approved in the NDP, as defined in Article 13. Both the share of the value of fixed assets that was financed through Contributions

or Grants and the financing of fixed assets from the Reserve for Electricity Theft as defined by the Code are excluded.

**WIP<sub>i</sub>** The estimated capital invested in projects currently in progress and which relate to investments in year *i* and previous years of the current or previous RPDs, in accordance with Article 14. For capital invested in year *i*, it is assumed that funds are invested in the middle of that year *i*.

**A<sub>i</sub>** The new fixed assets estimated to be created and included in the FAR of Distribution within year *i*, based on the timeframe for undertaking the investments of the approved NDP. For the year *I*, it is assumed that the new fixed assets are put into commercial operation and are incorporated in the FAR in the middle of year *i*.

**WC<sub>i</sub>** The forecasted required Working Capital. Working Capital is defined as the average net amount of capital required for the short-term financing of the Operator's Regulated Activities. This amount is derived from detailed estimates and sufficient documentation based on (i) a study submitted by the Operator of the company's cash needs and in particular a "lead-lag" study which estimates and determines the average time difference between when expenses ("lead") should be paid and when the company's revenue ("lag") is expected to be collected, and (ii) a study of the company's necessary materials inventory.

**D<sub>i</sub>** The estimated annual depreciation of the fixed assets of the RAB for the Distribution activity of the reference year *i*, in accordance with Article 11.

**F<sub>i</sub>** The estimated value of fixed assets to be removed from the RAB due to sale or transfer in each Year *i* of the RPD under consideration, is defined as the higher amount between the estimated potential proceeds from the sale or transfer of these assets to other parties and the fair value of these assets, working on the assumption that the transfers or sales will take place in the middle of Year *i*. The actual revenue from the sale of assets taking place in each Year *i* are not factored in for the purposes of P4<sub>i</sub> of Article 18.

**H<sub>i</sub>** The estimated value of fixed assets to be removed from the RAB following withdrawal from service due to failure or damage or with the intention of being re-used by the Operator, is defined as the undepreciated value of these fixed assets during Withdrawal Year *i* and determined by reference to the Regulatory Assets Register (RAR), on the assumption that the withdrawals take place in the middle of Year *i*.

3. In the above estimates, the values relating to the Operation activity of the NIIs are stated separately.
4. Should a large-scale withdrawal of fixed assets in one or more categories be deemed necessary in order to replace them, introduce new technologies, and modernize the network, as, indicatively, in the case of the potential introduction of smart metering systems, the Operator must submit a detailed cost-benefit analysis to enable the RAE to consider the merits of each proposed project separately and, basing its thinking on the particular features and necessity of each investment, decide on how to recover the value of a specific category of withdrawals.
5. Between RPDs, the value of the RAB should be updated based on:

- i. the investments that were actually realised during the previous RPD, up to and including the last year for which actual data are available (the second year before the Calculation Year),
  - ii. the actual (up to and including the second year before the Calculation Year) invested capital for projects that remain in progress,
  - iii. the depreciation of fixed assets, as per the FAR for each year of the previous RPD (up to and including the second year before the Calculation Year),
  - iv. the fixed assets sold or transferred during the previous RPD and up to the second year before the Calculation Year ( $F_i$ ), the value of which is defined as the higher amount between the revenue from the sale for transfer of these assets and their fair value and the withdrawal of fixed assets that took place during the previous RPD and up to the second year before the Calculation Year, irrespective of whether these assets were withdrawn to be re-used by the Operator or due to failure or damage ( $H_i$ ). Their value is defined as the undepreciated value of the fixed assets withdrawn.
  - v. actual data regarding the initially estimated investments, capital invested in works in progress, depreciation and withdrawals for the last two years of the RPD preceding the previous RPD.
6. For the purposes of the above revision, RAE may recognise only part of the actual costs of certain investments if it considers after an ex-post review of the investments in accordance with Article 15 that such costs or fixed assets are inefficient or that they include an unreasonable or inflated profit margin from an Associated Person.
  7. The value of Contributions and Grants that financed fixed assets, as well as the financing of fixed assets from the Reserve for Electricity Theft as defined in the Code, shall be monitored separately and are not included in the value of the RAB.
  8. The RAB is not subject to any revaluation.

### **Article 13**

#### **Regulatory Asset Register**

1. The Regulatory Asset Register (RAR) is the statement which includes all the operating assets of the Distribution activity and the Operation activity of the NII. It is maintained for regulatory purposes by the Operator of the Distribution Network and the NII (as well as the Owner of the Distribution activity, if a separate entity) and is not subject to revaluation, other than the updates taking place between RPDs.
2. The abovementioned statement, the correctness and completeness of which is audited by a Chartered Auditor, provides the required detailed information regarding:
  - i. the categories of fixed assets (existing and new), the cost (acquisition and undepreciated at the end of the year) of fixed assets, the year of acquisition and the year in which the fixed assets are put into operation, as well as the lifetime of fixed assets (economically useful and remaining), based on which depreciation is calculated;
  - ii. the undepreciated value of the fixed assets at the end of each year of the Regulatory Period;
  - iii. the amount of annual and cumulative depreciation per fixed asset category, and

- iv. the referencing of the fixed assets to the corresponding project codes of the NDP.

## **Article 14**

### **Investments**

1. Investments refer to capital expenditures incurred during the RPD, which are forecasted and monitored separately for each year *i*, in accordance with the approved NDP of the HEDN and the Business Plan of the Operator submitted to RAE in accordance with Article 20.
2. Subject to the investments of Article 17, paragraph 3, the investments included in the RAB are divided into two categories:
  - i. new investments: investments planned within a given year *i* of the RPD, which are not to become operational and are not marked for inclusion in the FAR within that year; and
  - ii. Work in Progress (WiP): investments commenced in previous years and that remain in progress in year *i* of the RPD.
3. For the assessment of investment expenditures in accordance with the provisions of the HEDN Code and this Methodology and with a view to more effectively monitoring investments in relation to parameters affecting their level, investment costs shall be distinguished, depending on the activity they relate to, into the general categories described in Annex B. In terms of their type, investment costs are further divided, indicatively, into:
  - i. payroll costs of the Operator,
  - ii. cost of materials,
  - iii. contract costs and other expenses.
4. For a significant investment in forecasted terms relating to the reinforcement or replacement and rehabilitation of the network, in particular where it replaces fixed assets with a remaining useful life, and which have therefore not been fully depreciated in the RAB, the Operator must substantiate the investment and/or the need to withdraw or replace the existing fixed assets by submitting a proposal in the framework of the Network Development Plan including, inter alia, the following:
  - i. the reasons for the proposed investment,
  - ii. cost-benefit analysis demonstrating that the proposed investment maximises the potential economic benefit for the market (network users and suppliers), meaning that the difference between estimated benefits and costs is the highest among available alternative solutions in net present value. It is clarified that the net financial benefit may be negative (as, for example, in investments associated with security of supply).

The lowest investment forecast threshold for the submission of documentation pursuant to the above provisions as well as the guidelines and standards framework for the cost-benefit analysis is determined by decision of the RAE, following public consultation.

5. Furthermore, for the more detailed monitoring of cost elements that constitute the actual investment expenditures and the establishment of a database of investment costs, it might be necessary to further categorise and/or analyse investment expenditures (indicatively, outturn expenditure per ‘designated’ project, by type of network infrastructure for recurrent projects, distinction between new infrastructure or upgrades, distinction between

procurement and equipment installation costs, distinction between direct and indirect costs, analysis of other direct costs such as studies, permits, land and expropriations, civil engineering works, supervision-acceptance of works, contract costs with affiliated businesses and the System Operator). The additional categorisation and analysis of investment costs is combined with corresponding quantitative data for the projects and is determined by a RAE decision following consultation with the Operator and/or public consultation.

6. Any deviations from approved investments in previous years shall be settled in accordance with Article 18 (parameter **P2** of the Revenue Requirement), and subject to Article 15.
7. In the case of Work in Progress (WiP) for which there is a deviation of more than one year in relation to the approved completion schedule in the NDP, the Operator is obliged to submit a report documenting the causes of this deviation, in order for RAE to consider whether or not these projects should be included in the RAB.

## **Article 15**

### **Ex- post Review of Investments**

1. When determining the investments to be included in the RAB in accordance with Article 12, paragraph 5, RAE may undertake an ex-post review of realised investments to assess their prudence and efficiency, in accordance with the specific provisions of this Article.
2. The ex-post review of realised investment is undertaken based on actual data for a period which is equal to the RPD and ends two years before the end of the previous RPD. The assessment is generally limited to cases where there is material overspending compared to the total forecasted costs for the period in question. The materiality threshold will be considered to have been met where the overspend is equal to or exceeds 5% of the cumulative capital expenditure of the Operator during the review period, as determined based on the approved Investment Plan, including any approved emergency or extraordinary projects according to the HEDN Code.
3. Subject to the materiality threshold of the preceding paragraph, the nature and scope of the ex-post review are determined by whether the overspend relates to investment plans previously identified and approved in the NDP/ Network Development Schedule (NDS) and were included in the Operator's approved Investment Plan.
  - i. For material overspends on investment projects that are included in the approved Investment Plan (NDP/NDS) or that have been approved as emergency projects according to the provisions of the HEDN Code, the review shall entail a cost assessment. This review must consider any procurement procedures employed by the Operator in delivering the investment projects, it must examine the causes of the cost overruns, and it must determine whether these causes can be ascribed to the Operator's actions or external factors outside their control.
  - ii. For projects that were not included in the approved Investment Plan (projects other than those forecasted and approved in the NDP/NDS and projects not approved as emergency projects under the HEDN Code), with the exception of User connection projects), the ex post assessment may focus on both the need and cost of the investment. In determining the prudence or efficiency of such investments, RAE must have regard to the circumstances prevailing at the time of the investment decision, and the factors that could reasonably be expected to have been considered at the time the relevant capital expenditure was undertaken. The Operator must also demonstrate why the realised expenditure could not have

- been predicted at the time of developing the NDP/NDS or seeking approval for emergency projects, according to the HEDN Code.
4. Without limiting the factors that RAE may consider in assessing the prudence and efficiency of realised investments, RAE may also have regard to:
    - i. Whether the expenditure was related to the requirements set by RAE and/or under relevant laws and regulations.
    - ii. Whether alternative ways of addressing requirements and needs were considered and justifiably excluded by the Operator.
    - iii. Whether accepted good industry practice was followed by the Operator.
    - iv. The degree to which the costs associated with improved performance indicators that are regulated through financial incentives are considered effective in relation to the improvement they achieve.
    - v. Whether the Operator acted prudently in procuring goods, works and services at a reasonably low cost, including whether an appropriate competitive tendering process was followed.
    - vi. Whether the timing of construction was appropriate having regard to current and projected demand and Quality of Service.
  5. Before reaching a conclusion on its ex post review of capital expenditure, RAE will first convey its analysis to the Operator and provide it with reasonable opportunity to respond and submit comments.
  6. If, after consulting with the Operator, RAE is satisfied that certain expenditure in accordance with this section is imprudent or inefficient, it may determine that the amount of the capital expenditure that would otherwise be added to the RAB should be reduced by such amount as RAE is satisfied corresponds to capital expenditure incurred that is not prudent or efficient

## Article 16

### Calculation of Return on the Regulated Asset Base

1. The percentage rate of return on the RAB ( $r_{RAB}$ ) is uniform for the duration of the RPD (subject to Article 18, para. 1) and is calculated on the basis of the Weighted Average Cost of Capital in nominal pre-tax terms ( $WACC_{pre-tax, nominal}$ ) according to the following formula:

$$WACC_{pre-tax, nominal} = g \times r_d + (1 - g) \times r_e / (1 - t)$$

Where:

- g** gearing ratio
- rd** cost of debt
- re** cost of equity, post-tax nominal
- t** corporate tax rate on profits applicable in the first year of the RPD.

2. **Gearing ratio.** The level of gearing to be used in the Weighted Average Cost of Capital calculation will be determined by RAE prior to each RPD. The level of gearing is set based on RAE's assessment of an efficient financing structure and need not be equal to the actual level of gearing of the Operator, that is, it is a notional gearing ratio.
3. The notional gearing ratio, with the exception of the first RPD (which is defined in accordance with Article 22, para 8), must be within a range from 45% to 60%.
4. In setting the level of gearing within the scope of para. 3 of this article, RAE will have regard to the following:
  - i. Setting a gearing level that does not lead nor is reasonably likely to lead to financing the Regulated Activities or to financing costs that create an unfair burden on Network Users, considering the Operator's forward investment programme.
  - ii. The level of gearing applied to other regulated businesses in the energy sector in Greece.
  - iii. European practice by and the decisions of regulatory authorities in countries that have similar regulatory frameworks and economic environments to those of Greece.
5. In any case and in order to ensure capital adequacy in undertaking the Regulated Activities, the Operator's gearing ratio cannot be greater than 0.7.
6. **Cost of debt.** The estimated cost of borrowing with the exception of the first RPD (for which it is set in accordance with article 22, para. 8) is equal to the risk-free rate (which may differ from that used for the cost of equity) plus a debt premium. The debt premium is the estimated premium over the risk-free rate that the Operator must pay to finance its debt and reflects the additional risks of the Operator, having regard to its credit rating (if so rated) and its gearing ratio.
7. In calculating the debt premium, RAE will have regard to the following:
  - i. The estimated weighted cost of debt of the Regulated Activities as to the outstanding balance of loans.
  - ii. The historical (5-10 years) average yield on medium to long dated corporate bonds issued by companies in the energy sector, in Greece and elsewhere in Europe, which face similar business and regulatory environments, and risks, and have similar credit ratings with the Operator. In addition, estimates of the borrowing risk of companies with a direct or indirect relationship with the Operator shall be considered.
  - iii. Assessments made for other regulated companies in the energy and infrastructure sectors in Greece.
8. **Cost of equity, post-tax, nominal.** The estimated cost of equity ( $r_e$ ) of the Activity is calculated at nominal prices after tax according to the following formula:

$$r_{e - \text{post-tax, nominal}} = r_f + \beta_{\text{equity}} \times \text{MRP} + \text{CRP}$$

Where:

- $r_f$  risk-free rate
- $\beta_{\text{equity}}$  beta factor
- MRP** Market Risk Premium

**CRP** Country Risk Premium.

9. **Risk-free rate.** In setting the risk-free rate, RAE will primarily rely on the historical and current average yields on 10-year government bonds of Eurozone Member States and in particular the 10-year government bond of that Eurozone Member State with the lowest yield. Specifically, when examining this parameter, the following are considered:
  - i. historical data on government bond yields.
  - ii. temporary or unique circumstances (for example, and without limitation, the actions of the monetary authorities, such as quantitative easing and other monetary policies) impacting the calculated risk-free rate.
10. **Beta factor.** Relates to the volatility factor (sensitivity) of the return on equity of the Operator in comparison with the Market. The beta factor is based on beta estimates for comparable companies to the Operator overseas, adjusted for the different levels of gearing and considering the systematic risk of the Operator in relation to the companies under comparison. RAE may also consider the beta estimates determined by European regulatory authorities in countries with similar regulatory frameworks and business risks.
11. **Market Risk Premium.** This concerns the return (risk) premium of the Market based on both historical data and future estimates of the evolution of stock market returns against government bonds. For its determination, RAE takes into account historical and current stock market data, as well as estimates of other regulatory authorities in countries with similar regulatory frameworks and special reports from reputable international organisations (for example, Council of European Energy Regulators - CEER, or Agency for the Cooperation of Energy Regulators- ACER).
12. **Country Risk Premium.** This refers to a factor that is added to the standard formula of the 'Capital Asset Pricing Model' (CAPM), in order to take into account any significant risks that arise for the Operator due to uncertainties in the Greek economy. In determining the magnitude of this parameter, RAE may consider the following:
  - i. the current and historical values of the 10-year Greek government bond and the spread compared to government bonds of other Eurozone Member States of equivalent duration and in particular the 10-year government bond of that Euro area Member State with the lowest yield, which is among the parameters considered for determining the risk-free rate (rf),
  - ii. the current and historical prices in financial markets for bonds issued by corporate entities in Greece, in the context of assessing an overall reasonable cost of equity which takes into account the risks associated with uncertainties in the Greek economy, and
    - iii. the special characteristics of the regulatory framework and revenue methodology and whether these may affect the Operator's exposure to these risks.
13. It is noted that the percentage rate of return on the RAB determined under this Article may be reset as part of the calculation of the Required Revenue, in accordance with Article 18.

## Article 17

### Projects of Major Importance - Special Asset Base – Return

1. Investments which, based on cost-benefit studies, have been demonstrably proven to bring significant benefits to HEDN Users and to have a wider positive impact on the electricity



market and the national economy can be designated as Projects of Major Importance by a special RAE decision, and can have special conditions regarding the duration of depreciation, the approved rate of return and any other parameter deemed necessary differentiating it from the framework applicable under Article 14 for other investments when the special RAE decision is issued. Projects related to the Operation of NII can also be included in this category. All these projects compose the Special Asset Base (SAB) of each year  $i$  of the RPD.

2. For the above projects, HEDNO, as well as the Operator of the NII for projects of this activity, must keep a separate record to monitor the fixed assets created as part of these investments, and this should contain all the necessary data regarding their value and depreciation (annual and cumulative), in accordance with the special conditions approved as part of the decision to categorise them as Projects of Major Importance.
3. For investments relating to Projects of Major Importance in accordance with a special RAE decision, the following shall apply:
  - i. During their construction stage, the capital employed on these projects is calculated and a reasonable return based on a specific cost of capital is recognised according to the specific conditions of each such project (indicatively, a cost of capital calculated according to the cost of debt for that particular project and the specific proportion of debt and equity for that project, if relevant). This return will be calculated and attributed during the construction period and will not be included in the final cost of the project. For the capital of year  $i$ , it is assumed that it is invested in the middle of year  $i$ .
  - ii. Investments are included in the SAB in their year of operation and from that year they receive the Weighted Average Cost of Capital calculated in accordance with Article 16 for the relevant RPD. For year  $i$  it is assumed that the project becomes operational in the middle of year  $i$ .
  - iii. If a Projects of Major Importance is electrified according to the projected timeframe, it receives an additional return ranging from 0.5 to 2 percentage points and for 4 to 7 years, in accordance with RAE's decision, as an incentive for the Operator to incur the cost of undertaking this project and to complete it on time, taking into account the overall benefit of the implementation of the project to Users and assessing its impact on Network Usage Charges.
  - iv. If the approved timeframe for the implementation of a Projects of Major Importance is not achieved, RAE may consider gradually reducing the additional return.

## CHAPTER C REQUIRED REVENUE

### Article 18

#### Required Revenue

1. Required Revenue (RR) is defined as the amount that must be recovered through Network Usage Charges as defined in Chapter 30 of the HEDN Code and is calculated for each year  $i$  of the RPD based on the following relationship:

$$RR_i = AR_i \pm P1_i \pm P2_i \pm P3_i \pm P4_i \pm P5_i \pm INF_i \pm EFF_i \pm LIF_i \pm QIF_i$$

Where:

**AR<sub>i</sub>** The Allowed Revenue (AR) regarding the Regulated Activities for year *i* of the RPD, which is calculated in accordance with article 7 of the Methodology.

**P1<sub>i</sub>** The settlement amount due to the under-recovery or over-recovery (positive or negative sign, respectively) of the Required Revenue from the application of the approved Network Usage Charges of the Base Year (defined as year *i-2*)

and resulting from differences between projected and realised demand or consumption, in accordance with Article 20. This parameter is adjusted to nominal values for year *i* of the RPD, using the ACPI between the Base Year and year *i*, according to ELSTAT data and available estimates, according to para. 3 of article 5. The amount of under-recovery or over-recovery may be divided into several years within the RPD when this is deemed necessary due to its significant size and for purposes of smoothing and avoiding significant fluctuations in Network Usage Charges between the years of the RPD. In this case, the amounts are apportioned between the years of the RPD and the estimated inflation for each year *i* of the RPD is considered.

**P2<sub>i</sub>** The settlement amount due to deviations from the approved Allowed Revenue of the Base Year (*i-2*) with respect to depreciation and the approved return on capital employed due to over-investment or under-investment (positive or negative sign), following proposal from the Operator according to article 20. This parameter is determined in nominal values for the year *i* of the RPD, using the ACPI between the Base Year and the year *i*, according to data from ELSTAT and available estimates, according to para. 3 of article 5. For the ex-post determination of depreciation of the Base Year, the following are considered:

- i. Depreciation of the new fixed assets of the Base Year, calculated on the assumption that they are invested in the middle of the year in question and with these amounts resulting from the FAR.
- ii. Depreciation of the remaining fixed assets, which are determined ex-post from the Regulatory Assets Register (RAR).

In any case, overspending of the approved investment forecast, which relates to improvements of indicators regulated by financial incentives, are not settled. In addition, the settlements are of a temporary nature and may be amended and finalised following an ex-post review of investments by RAE in accordance with Article 15, for the period in which the Base Year (*i-2*) falls.

**P3<sub>i</sub>** The settlement amount due to deviations from the approved Allowed Revenue of the Base Year (*i-2*) with respect to Uncontrollable Operating Expenditures (positive or negative sign), following a proposal from the Operator in accordance with article 20 and on the basis of a relevant audit by RAE. This parameter shall be set at nominal prices for year *i* of the RPD, using the ACPI between the Base Year and year *i*, according to data from ELSTAT and available estimates, in accordance with Article 5, para. 3.

- P4<sub>i</sub>** The settlement amount (positive or negative sign) due to deviations between the estimated and ex-post revenues of the Base Year (i-2) from other Regulated or Non-Regulated Activities provided by the Operator, as well as any subsidies and in general any income of the Operator from other Activities, regulated or not, the costs of which are not subject to accounting unbundling and are included in the calculation of the Allowed Revenue in accordance with para. 1 of Article 7. The adjustment is undertaken following a submission from the Operator according to article 20 and based on a relevant audit by RAE. This parameter is set in nominal prices for year i of the RPD, using the ACPI between the Base Year and year i, according to data from ELSTAT and available estimates, according to para. 3 of article 5.
- P5<sub>i</sub>** The amount to be settled due to differences arising in the Allowed Revenue of the Base Year (i-2), due to recalculating the reasonable return within the Regulatory Period, resulting from a material change in the value of the parameter t (tax rate) of para. 1 of article 16. This parameter is set in current prices for the year i of the RPD, using the ACPI between the Base Year and the year i, according to data from ELSTAT and available estimates, according to para. 3 of article 5.
- INF<sub>i</sub>** The amount to be settled due to the differences arising in the Allowed Revenue of the Base Year (i-2) due to the difference between estimated and actual inflation (based on ELSTAT data) for that year. This parameter is set in nominal prices for year i of the RPD, using the ACPI between the Base Year and year i, according to data from ELSTAT and available estimates, according to para. 3 of article 5.
- EFF<sub>i</sub>** The incentive mechanism for Controllable Operating Expenditures, in accordance with Article 19.
- LIF<sub>i</sub>** The amount to be incorporated into the Required Revenue of Year i, generated by the implementation of incentives to limit Network losses for a given period, which is calculated according to the HEDN Code, the methodology of the relevant incentive mechanism and the Regulatory Decision for Distribution. The amount may have a positive (increase) or negative (decrease) impact on the Operator's revenue. This parameter is expressed in nominal prices for year i of the RPD, using the ACPI between the Base Year for the determination of the unit reference cost of losses and Year i, according to ELSTAT data and available estimates, according to para. 3 of article 5. It is hereby clarified that the implementation of this Mechanism during a Regulatory Period may generate payments to be incorporated into the Required Revenue after the end of that Period.
- QIF<sub>i</sub>** The algebraic sum of the following factors to be incorporated in the Required Revenue of year i: (a) the total net charge of the Network Operator due to the deviation of User Energy Quality from that expected at a Network level and (b) the total net charges of the Network Operator due to the deviation of the User Energy Quality from that expected at an overall level, in accordance with how these charges are calculated under the HEDN Code, the Energy Quality and Service Quality Manuals and the Regulatory Decision for Distribution. The amount may have a positive (increase) or negative (decrease) impact on the Operator's revenue. This parameter is set in nominal prices for year i of the RPD, using the ACPI between the Base Year for determining the credit or debit amounts per unit of deviation from Energy Quality and Service Quality from

the respective performance standards and year i, according to the data from ELSTAT and available estimates, according to para. 3 of article 5.

2. The Required Revenue for each year of the RPD shall be recovered in accordance with the provisions of Chapter 30 of the HEDN Code.

## Article 19

### Incentive mechanism for Controllable Operating Expenditures (EFF<sub>i</sub>)

1. An incentive mechanism is established that seeks to ensure that, on the one hand, the Operator strives to improve the efficiency of its Controllable Operating Expenditures compared to forecasted Controllable Operating Expenditures in any given year of the RPD, while remaining indifferent to the timing of implementing the efficiency improvements of the Controllable Operating Expenditures, and on the other hand, that users benefit from improved efficiency.
2. For the avoidance of doubt, the following is noted:
  - i. the incentive mechanism shall not apply to Uncontrollable Expenditures cleared in accordance with Article 18, and
  - ii. the incentive mechanism does not apply to changes in the level of Controllable Operating Expenditures that are not considered permanent.
3. The incentive mechanism shall operate in accordance with the steps set out in paragraphs 4 to 7 of this Article.

#### 4. Step 1: Calculation of Incremental Efficiency Gain or Loss (IEGL)

- iii. For each year k preceding Base Year (year i) up to a total of three years, under or overspending on Controllable Operating Expenditures is calculated in relation to those included in the determination of the Allowed Revenue, as the difference (positive or negative) between the forecast and actual Controllable Operating Expenditures for those years respectively, i.e. according to the formula:

$$ES_k = FCOE_k - OCOE_k \text{ Where:}$$

ES<sub>k</sub>: The efficiency saving (or overspend) on Controllable Operating Expenditures in year k

FCOE<sub>k</sub>: Forecast Controllable Operating Expenditures in year k

OCOE<sub>k</sub>: Actual Controllable Operating Expenditures in year k.

k: years i-1, i-2 and i-3

- iv. For each year k preceding the Base Year (year i) up to a total of three years, the Incremental Efficiency Gain or Loss (positive or negative) is also calculated as the difference between (i) the difference between the forecast and actual Controllable Operating Expenditures, and (ii) the difference between the forecast and actual Controllable Operating Expenditures of the previous year (excluding the first year of an RPD where the Incremental Efficient Gain or Loss is equal to ES<sub>i</sub>), according to the following formula:

$$IEGL_k = ES_k - ES_{k-1} \text{ Where:}$$

IEGL<sub>k</sub>: Incremental Efficient Gain or Loss in year k. k:

years i-1, i-2 and i-3

### 5. Step 2: Calculation of the carryover adjustment in year i

- i. The Carryover Adjustment shall be equal to the sum of the Incremental Efficiency Gain or Loss for years i-1, i-2 and i-3 which fall under the RPD that precedes the RPD that year i falls under, according to the following formula:

$$CA_i = \sum_{k=i-3}^{i-1} IEGL_k$$

Where:

CA<sub>i</sub>: Carryover Adjustment in year i.

k: the years i-1, i-2 and i-3 that fall within the RPD preceding the RPD in which Year i falls.

- ii. For the avoidance of doubt, we clarify that Incremental Efficiency Gain or Loss calculated for years that fall in the same RPD as Year i, are not included in the Carryover Adjustment.

### 6. Step 3: Calculation of sharing adjustment in year i

- i. The sum of the Incremental Efficiency Gain or Loss for years i, i-1, i-2 and i-3 is calculated, regardless of whether these years fall in the same RPD as Year i or in the previous RPD.
- ii. The Sharing Adjustment is equal to the negative of the sum of the Incremental Efficiency Gain or Loss multiplied by a sharing factor between the Operator and Network Users. The Sharing Factor ranges between 40% and 70% in favour of the Operator and its value for an RPD shall be determined in the Regulatory Decision for Distribution, with the exception of the first Regulatory Period for which it is determined in accordance with Article 22 para. 12. The Sharing Adjustment is calculated according to the formula:

$$SA_i = -\sum_{k=i}^{i-3} IEGL_k \times (1 - SF_k)$$

Where:

SA<sub>i</sub>: Sharing Adjustment in year i SF

k: Sharing factor in year k.

### 7. Step 4: Calculation of the combined adjustment EFF<sub>i</sub>

- i. The combined adjustment for the EFF<sub>i</sub> calculation is equal to the sum of the Carryover Adjustment and the Sharing Adjustment.
- ii. The addition or subtraction of the amount of the incentive in para. (i) above is set in nominal prices for year i of the RPD, taking into account the ACPI between the Base Year and year i, according to ELSTAT data and available estimates, according to para. 3 of article 5.

## CHAPTER D

## **PROCEDURE FOR DETERMINING REVENUE AND EXTRAORDINARY REVISION**

### **Article 20**

#### **Procedure for Determining Allowed Revenue and Required Revenue**

1. The calculation of the Allowed Revenue shall be conducted in the year before the start of the RPD (Year of Calculation). For the calculation of the Allowed Revenue for each year *i* of the RPD, the Operator shall submit by 30<sup>th</sup> of June of the year preceding the Year of Calculation (Year of Submission), inter alia, the following to RAE:
  - i. Business Plan, with detailed estimates of the parameters that compose the Allowed Revenue of the Operator for each year *i* of the RPD separately, according to the requirements of this Methodology. This should include a detailed proposal for the requested rate of return (based on the WACC methodology according to Article 16), accompanied by an analysis of the individual parameters that comprise the WACC. Especially in the case of Projects of Major Importance, which were included as investments in the RAB before the start of the RPD, detailed data on the cost of capital employed (equity and debt) must be submitted in order to re-evaluate the previously approved rate of return. The above estimates are made based on the nominal prices of the Calculation Year.
  - ii. Actual data for Controllable Operating Expenditures up to and including the second year prior to the Year of Calculation, as well as estimates for the year preceding the Year of Calculation, together with justification of the parameters referred to in article 9, para. 4.
  - iii. The Regulatory Asset Register (RAR) and the record of the Special Asset Base, as established in the last financial year at the time of the submission of documentation (i.e. the second year before the Year of Calculation), accompanied by additional documentation necessary for the calculation of the value of the RAB that is taken into account for the Allowed Revenue of the Operator (estimated level of investment for the last two years of the previous RPD, new investments, archive of Contributions and Grants, Withdrawals archive, etc.).
  - iv. Forecast information for the amount resulting from the Operator's revenue from other, Regulated and Non-Regulated Activities, where the capital employed, and operating expenses of these Non-Regulated Activities have been included in the above estimates.
2. For the calculation of the Required Revenue of each year *i* of the RPD, as well as for the monitoring of the evolution of the level of revenues and expenditures, the Operator shall submit by the 30<sup>th</sup> of April of each year the following data to RAE:
  - iii. Actual data regarding the difference between the amount received by the Network Operator from Network Usage Charges and the approved Network Required Revenue during year *i-2* (parameter  $P1_i$ ).
  - iv. Complete and detailed information on the calculation of the deviation of the Allowed Revenue of the Operator during year *i-2* due to deviation from the forecasted investments and a substantiated recommendation for determining the relevant settlement amount for the Required Revenue (parameter  $P2_i$ ).

- v. Complete and detailed data for the calculation of the deviation of the Operator's Allowed Revenue in year i-2 due to deviation from the forecasted Uncontrollable Operating Expenditures and a substantiated recommendation for determining the relevant settlement amount for the Required Revenue (parameter P3<sub>i</sub>).
  - vi. Actual data regarding the Operator's revenue from other activities, where the operating expenses of these other activities have been included in the calculation of the Operator's Required Revenue (parameter P4<sub>i</sub>).
  - vii. Actual data for Controllable Operating Expenditures in year i-2 accompanied by documentation as to why the deviations between estimated and actual expenditures constitute permanent changes and do not relate to non-recurring events during year i-2, for the determination of the relevant incentive amount (EFF<sub>i</sub>).
  - viii. The Regulatory Asset Register (RAR) and the record of the Special Asset Base, as developed for the last financial year, accompanied by records necessary to determine the value of the RAB (Contributions and Grants file, Withdrawals archive, etc.).
  - ix. Actual data for the parameters that comprise the Operator's Allowed Revenue for the previous year and an updated forecast for the current year.
  - x. Actual data for Controllable and Uncontrollable Operating Expenditures and for investment costs, in accordance with articles 9, 10 and 14 and Annexes A and B, as well as actual data on the size and volume of Regulated Activities and for the factors affecting their costs (cost drivers), as these data are defined by RAE's decision after consultation with the Operator and/or Public Consultation.
  - xi. Published financial statements for the previous year and Extract of the Regulatory Asset Register (RAR) with the total undepreciated value of fixed assets and depreciation (cumulative and annual) shown in the financial statements.
3. Taking into account the data submitted by the Operator in accordance with paragraphs 1 and 2, RAE shall determine the Allowed Revenue of the Operator for each year of the RPD and the Required Revenue of the first year of the RPD, by 31<sup>st</sup> of October of the Year of Calculation, in accordance with Articles 7 and 18, respectively. RAE's decision determining the Allowed Revenue of an Operator's RPD in accordance with paragraph 1 shall be published after:
- i. The examination of the submitted data and proposals of the Operator, which includes a continuous process of information exchange between RAE and the Operator to clarify RAE's understanding and the justification by the Operator for its proposals. RAE may turn to experts for an independent assessment of the expenditures and other information submitted by the Operator.
  - ii. Publication and public consultation on RAE's initial assessment of the level of the Allowed Revenue and the basic parameters of which it comprises.
4. The Required Revenue for each of the following years of the Regulatory Period shall be approved by RAE by the 31<sup>st</sup> of October of the previous year, on the basis of the data submitted in accordance with paragraph 2.
5. The Operator, as part of the need to separate expenditure and capital employed by activity, should apply the approved Accounting Unbundling Rules in the submitted Business Plan for the calculation of the Allowed Revenue.
6. At the end of each RPD, RAE shall re-evaluate all the parameters of the Allowed Revenue, updating the estimates of those parameters that are not reviewed during its duration.

## Article 21

### Extraordinary Revision of the Operator's Allowed Revenue

1. An extraordinary revision of the Allowed Revenue may be carried out at the request of the Operator or by RAE's decision, in one or more of the following circumstances:
  - i. Where the Operator during the RPD is required to undertake unplanned and material operating and maintenance expenditures, which could not have been foreseen when developing the Business Plan and the relevant forecasts for the Allowed Revenue of the years of the RPD. Similarly, an equivalent case is that of a significant reduction in operating expenditures during the RPD, due to external factors. Such cases are generally limited to Uncontrollable Expenditures arising from *force majeure* events and changes to the Operator's obligations that are legally binding.
  - ii. Where the financial, legal or actual data considered for the approval of the Allowed Revenue have changed significantly.
2. In the event that the procedure for the extraordinary review begins following a request from the Operator, the request shall be submitted in writing and include:
  - i. Detailed justification for the necessity of the revision (data on the evolution of the Allowed Revenue parameters, as well as an indication of the deviation of these from the originally approved values).
  - ii. Data that prove or support that expenditures could not have been foreseen when determining the Allowed Revenue and that, in the absence of the revision, the financial impact would exceed [2% ] of the annual Allowed Revenue.
  - iii. Detailed recommendation with the proposed values of the Allowed Revenue to be revised.
  - iv. Assessment of the impact on the smooth functioning of the Operator, in the event that the request for a re-opener is not accepted.
3. The Operator's request for the revision is assessed by RAE. If within thirty (30) days of submitting the request, RAE does not request additional information, the request shall be considered complete. The formal completeness of the request does not deprive RAE of the right to request additional information or clarifications related to the examination of the request. RAE will reach a decision within a reasonable timeframe and certainly not more than five (5) months from the date the Operator's request was formally considered complete. A rejection of the Operator's request must be fully justified by RAE. Nonpublication of a decision by RAE does not imply tacit acceptance of the request.

## CHAPTER E

### FINAL PROVISIONS

## Article 22

### Application of Methodology during the first Regulatory Period

1. The duration of the first Regulatory Distribution Period is set at four (4) years, i.e. 2021 to 2024.



2. For the first Regulatory Period (2021-2024), the Operator must submit by 31 December 2020, a proposal with the data necessary for the calculation of the Allowed Revenue (2021-2024) and the Required Revenue (2021). With regard to Controllable Operating Expenditures, the detailed forecasts-estimates contained in this submission in accordance with article 20 para. 1.i (Business Plan) are formulated by reference to the general principles of the approach described in paragraph 4 of article 9, with the exception of the factoring of the efficiency factor ( $E_i$ ). More specifically, for the forecasting of operating expenditures, the operating expenditures for the year 2019 should be considered, to the extent that they meet criteria of efficiency and relevance to the Regulated Activities, after deducting any expenditures related to extraordinary events. Afterwards, any changes foreseen for the years of the first Regulatory Period, must be presented in detail on the basis of the following specific and substantiated estimates, forecasts and proposals of the Operator:
  - i. Estimates or forecasts by the Operator, for example, for changes in the magnitude of the Regulated Activities for changes in actual commodity prices, for changes in the scope, conditions, or mode of operation of the Regulated Activities, including changes in terms or requirements that arise from the regulatory or broader institutional framework, for any discontinuous or gradual changes in the volume or cost of Regulated Activities and,
  - ii. Proposals by the Operator for quantifiable improvements in the efficiency of the activity, the efficiency of the Network, or the quality of the services provided.
3. In assessing whether the costs related to services or goods potentially provided to the Operator by Related Parties are reasonable and efficient, whenever contracts are concluded before the present Methodology comes into force, RAE may have regard to whether:
  - i. Affiliated Party transactions are entered on an arm's length basis, indicatively through competitive tendering.
  - ii. Affiliated Party costs reflect the direct cost of providing the goods or services, inclusive of the allocation of reasonable indirect costs and a commercially reasonable return or margin.
  - iii. It can be demonstrated that the Affiliated Party costs are comparable to market benchmarks (if there are several market service providers for the relevant goods or services).
4. For the first Regulatory Period (2021-2024), the working capital of the Regulated Activities is calculated based on the approach adopted in Decision RAE 572/2019 for the determination of the Allowed Revenue for the year 2019.
5. Regarding the withdrawals in each Year  $i$  (Article 12 paras 2 and 5) of the first Regulatory Period (2021-2024), the value subtracted from the Regulated Asset Base is determined by the Fixed Asset Register (Article, 12 Para.5) or based on data contained therein (Article 12, para.2).
6. The value of the Regulated Asset Base (RAB) of HEDN and the depreciation for 2021 (first year of the Regulatory Period) will be estimated in the relevant decision of RAE for the Allowed Revenue 2021 taking into account, on the one hand the Fixed Asset Register of the Distribution activity dated 31.12.2019, for which a certificate from an Auditor of the company must be submitted confirming the correctness and completeness of the data it contains, based on what has been approved in this Methodology, and on the other hand the estimated investments of the year before the start of RPD 2021 -2024, i.e. 2020. RAE may revert, within the RPD 2021-2024, regarding the value of the RAB, if this is deemed

necessary after a detailed audit to be carried out regarding the correctness and completeness of the data, based on audit results conducted by an independent Consultant.

7. Article 14 para.4 is not applicable to investments included in the Operator's proposed investment plan for the years for the First Regulatory period.
8. For the first Regulatory Period, the weighted average cost of capital referred to in Article 16 shall be calculated uniformly for the whole period, on the basis of a gearing ratio computed as the average value of the current gearing ratio, based on the available financial data at the time the Distribution Regulation Decision is issued for the years 2021-2024 and a gearing ratio of 40% factor, as well as the current weighted cost of debt of the Operator with respect to the Operator's borrowed funds that is still outstanding.
9. Until the publication of a manual regarding the requirements for undertaking cost-benefit studies for Projects of Major Importance, RAE may classify a project as being of Projects of Major Importance, in the event that the Operator submits sufficient information supporting that it may result in significant benefits to consumers.
10. In order to determine the Required Revenue for each year of the first Regulatory Period (2021-2024), the Operator must take into account in its submission the provisions of Decision 1248/2019 regarding the gradual reduction of the accumulated under-recovery of the Required Revenue until and including the year 2017, provided that there is no unforeseen adverse change in the actual data.
11. To calculate the settlement amounts of the Required Revenue for the Regulatory Periods before the implementation of the present Methodology, the deviations between the actual operating expenditures and investment for the years in question, on the one hand, and the relevant approved expenditures, on the other, are settled in conformity with the Methodology in force in those years.
12. For the first Regulatory Period (2021-2024) the sharing factor of Article 19 para.6 is set at 20%.
13. For the first Regulatory Period (2021-2024), the Operator shall submit data for Controllable Operating Expenditures distinguished by activity according to Annex A solely ex-post, for each year of the first Regulatory Period. With respect to investment expenditures (Annex B), expenditures under categories "Network reinforcement" and "Network Replacement and Renovation" may be jointly reported under one category up to and including year 2021.

## **Article 23**

### **Methodology Modifications for the second Regulatory Period**

From the second Distribution Regulatory Period onwards, the Allowed Revenue of HEDNO will include expenses reflecting the reasonable costs of the Network Operator in order to secure the quantities of energy needed to compensate for the total loss of energy on the Distribution Network, in accordance with the pertinent obligations of the Network Operator as established in the rules governing the electricity markets of the land and the participation of the Network Operator therein. Pursuant to a decision by RAE, to be issued till 31 March 2022 after a public consultation, the provisions of the Present Methodology are subjected to necessary modifications and amendments, to be applied from the 2<sup>nd</sup> Regulatory Period onwards, to define and clarify every essential detail of this article, including:

- i. The manner of determining the expenses that are included in the Allowed Revenue, by paying special attention to the provision of incentives to the Operator to improve

- the efficiency of the Network (reduction of technical and non-technical energy losses) and make savings in the costs of covering energy losses.
- ii. The categorization of expenditure and the monitoring of the Operator's actual expenditure.
  - iii. Predictions for the relevant settlement of the Required Revenue.

## CHAPTER F

### Article 24 - Definitions

1. 'Licences', the Distribution Network Operation Licence, the Licence for the Exclusive Ownership of the Distribution Network and the Licence for the Operation of the Power Systems of the Non-Interconnected Islands as foreseen under the Law, as applicable.
2. 'Electricity Theft Reserve', the reserve created in accordance with the provisions of Article 95, para. 17 of the HEDN Code.
3. 'Operator', the Operator of the HEDN and the Power Systems of the Non-Interconnected Islands, in accordance with Articles 123, 127 and 129 of the Law.
4. 'Distribution Network', 'Network' or 'HEDN', the Hellenic Electricity Distribution Network, as defined in the Law.
5. 'Projects of Major Importance' are projects which, on the basis of a cost-benefit study, appear to have a significant positive impact on the functioning of the HEDN and significant benefits for its Users.
6. 'Base Year', the reference year which is used for determining the individual parameters of the Required Revenue of the Distribution activity.
7. 'Calculation Year', the year when the Allowed Revenue of the Distribution activity is calculated.
8. 'Codes', the Operation Code of HEDN as provided in Article 128 of the Law (hereinafter referred to as 'Code of HEDN', or 'HEDN Code') and the Operation Code for the Operation of the Power Systems of the Non-Interconnected Islands as provided in Article 130 of the Law (hereinafter referred to as 'Code NII' or 'NII Code').
9. 'Methodology', the current Methodology for Calculating the Required Revenue of the Network, as defined in Article 124 of the HEDN Code.
10. 'Regulated Activities', the activities of Operation of the HEDN and the Operation of the Power Systems of the Non-Interconnected Islands, carried out by the Operator, the activity of Ownership of the HEDN, in accordance with the definitions in chapter E' of the Law, and the operation of the Account for Public Service Obligations (PSO), in accordance with Article 55 of the Law and the HEDN Code.
11. 'Regulatory Distribution Period (RPD)': the period for which the parameters of the Operator's Allowed Revenue are determined.
12. 'Network Development Plan' and 'Network Development Programme', the text for designing and planning the development of the Network as provided in Chapter 25 of the HEDN Code. These approved texts constitute the Investment Plan of the Operator.

## ANNEX A

### CATEGORIES OF CONTROLABLE OPERATING EXPENDITURES

1. In the context of evaluating forecasts of operating expenditures of the Operator and with a view to more effectively monitoring the expenditures in relation to factors affecting their level, operating expenditures shall be divided, according to the individual activity they relate to, into the following general categories:

- A) **Network Operation:** This category includes costs related to the supervision, control of the operation and day-to-day management of the Network, activities including, for example, the monitoring and recording of the Network's status, the operation of fault notification centres and network control centres, the planning and execution of operations in the Network for the execution of works and rearrangements (development, maintenance, response to events), as well as the collection and processing of data from operation, for further analysis with a view to more effective operation of the Network.
- B) **Scheduled Network Maintenance:** This category includes costs related to the planning and execution of maintenance work on Network components, excluding maintenance carried out after the occurrence of a fault (suppressive maintenance or repair of Network faults).
1. **Preventive maintenance:** Maintenance carried out at regular intervals, regardless of the occurrence of anomalies or wear and tear of the components, with the aim of maintaining their good condition, so as to limit the incidence of faults, the duration of non-availability and the cost of repair. Preventive maintenance consists mainly of an inspection of Network data with a view to assessing its condition and plan further necessary maintenance, as well as carrying out small-scale (routine) maintenance work. The frequency and magnitude of the maintenance are determined usually for different categories of components of the Network considering proposed equipment manufacturers' maintenance programs, operating and environmental conditions, as well as empirically. This category includes distinct expenses for maintaining safe distances and the removal of trees and vegetation from network lines, in order to reduce faults and the risk of setting a fire.
  2. **Predictive maintenance:** Maintenance carried out with the aim of reducing the likelihood of a default and based on an assessment of the condition of the components as determined by the application of appropriate diagnostic methods or models, also taking into account other relevant factors such as age and equipment specifications, operating and environmental conditions and the rate of occurrence of defaults.
  3. **Identified maintenance:** Maintenance carried out following an inspection and limited to those components which are found by the inspection to need maintenance in order to reduce the risk of failure. It differs from the repairing of faults in that the maintained components have not already defaulted and an immediate action to restore their normal operation is not required.
- C) **Repair of Network faults:** This category includes costs related to the Operator's response to incidents on the Network, which have an impact on the supply of users and more generally on the operation of the Network, and which require immediate action to restore the normal operation of the Network. This category also includes separate costs of materials and equipment that are installed in the Network in the context of fault repair if, according to the current capitalization policy, the relevant costs are expensed.

- D) **Market measurement and support:** This category includes expenses related to ensuring the availability and reliability of measurement systems and management of data metrics (operation, control, maintenance of systems), activities related to data collection and management of data metrics (counting, telemetry, control and certification of metric data) and the activities of the Operator to support the operation of the electricity market, carriers and participants therein, such as, but not limited to, the management of consumer representation by Suppliers, the provision of measurement and tariff data, market clearance, pricing, etc. It should be clarified that this category also includes the costs of measurement and management of meter data related to the networks of the NII.
- E) **Network Users Service:** This category includes costs related to other commercial and technical services provided by the Operator to Network Users, in the context of the Operation of HEDN activity, such as for instance:
1. Customer information and acceptance of requests (call centres and service points)
  2. Dealing with user requests & complaints (e.g. changes and works on existing services, meter control, voltage quality problems, replacement of collateral, implementation of disconnections and reconnections, etc.)
- F) **Operation of Power Systems of Non-Interconnected Islands:** This category includes all operating expenditures related to the fulfilment of the obligations of the Operator of NII, in accordance with the NII Code (operation of Power Systems of NII, supporting the operation of the electricity market).
- G) **Supporting Network Operation Services:** This category includes costs to support the business operation of the Operator with respect to the Regulated Activity of the Operation of HEDN. These costs relate qualitatively and, to a certain extent, quantitatively to individual activities and tasks in the context of the operation and management of the HEDN, but do not relate to the day-to-day operation and management of the Network. These include, indicatively, design (specifications & studies) of development and utilisation of the Network, supply & management of materials, transport, staff training, safety & hygiene at work, IT and telecommunications services.
- H) **General Support Services & Management:** This category includes general expenditure for supporting the business operations of the Operator, which are not directly related to any of the Regulated Activities or individual tasks and generally do not change as a function of their volume. Indicatively, these include management costs, financial services, legal support, administrative support, housing services and human resources management. This category also includes distinct expenses related to support services provided to the Operator by PPC SA. according to the Law.
- I) **Other Expenditures:** This category includes operating expenditures of the Operator which are not specifically related to any of the individual activities and which do not fall into any of the above categories. Indicatively, this category also includes the costs of the Funded Research and Innovation Programs (FRIP) and for the Applied Research and Technology Programs for the NII.

## ANNEX B

### CATEGORIES OF CAPITAL EXPENDITURES

1. In the context of an assessment of the Operator's forecasts for capital expenditures and with a view to more effective monitoring of expenditure in relation to parameters affecting their

level, capital expenditures are divided, according to the individual activity they relate to, into the following general categories:

A) **Network reinforcement:** Construction projects of network extensions or reinforcement of existing ones, which are planned and implemented with the Operator's initiative, without any association to specific connection requests of new users, and that aim to increase the Network's capacity to serve load, i.e. driven primarily by the special and temporal evolution of demand for electricity distribution services. More directly, they may be linked, for example, to compliance with the principles of design and operation of the network, the specifications of the equipment, the resolution of restrictions, the voltage control, or more generally, the improvement of the operating conditions of the network, driven primarily by the need to meet demand (load and production) for distribution services. This category also includes projects that are implemented with the purpose of reducing network technical losses. The reinforcement projects can have a recurrent nature (distribution substations, medium and low-voltage networks) or can be discrete designated projects (transmission substations, distribution centres, high-voltage networks, underwater interconnections, etc.). Network reconfigurations carried out to improve the servicing of demand, with or without increasing the capacity of network equipment, are also included under the network reinforcement category.

B) **Network Replacement and Renovation:** Network projects which are not driven by needing to meet demand and which aim to address the normal wear and tear of the Network's equipment at the end of its useful life or to modernise it, with a view to improving the utilisation of the network and the quality of the services provided. The economic life is determined by the ability of the equipment to meet its operating requirements in an efficient manner and is generally dependent on the age, condition, technology and environmental conditions in which the equipment is operating. A relevant indicator can be the occurrence of equipment faults. Network replacement and renovation projects may be related to the following:

1. Replacement of equipment after its operational status has been established
2. Improvement of the energy quality and the reliability of the Network by reducing the frequency of errors, faults and the time of unavailability of Network components
3. Improvement of the functioning of Network protection
4. Change in basic network characteristics, functional requirements of the equipment, safety requirements, etc.

Investments made for the above reasons shall be categorised into this category even in the case of an increase in the capacity of the equipment that is being replaced, provided that they are not designed for demand servicing purposes. Projects in this category can relate to both recurrent as well as designated projects.

C) **User Connections:** Projects relating to the construction of new and/or reinforcement of existing network infrastructure (transmission substations, distribution substations, medium and low voltage networks, customer service, metering provisions), which is required due to the connection of new customers or due to a change in the requirements of existing customers (producers and consumers) of the Network, at their request and with their contribution to the cost of projects. This category also includes street lighting projects as a separate subcategory.

- D) **Network Variations:** Displacement projects or other changes to network line segments, carried out either to comply with the statutory minimum safety distances from buildings under construction, or due to the execution of public works or Local Authority (LA) projects, or because the legal use of properties is impeded by the network. In addition, variations may be performed at the request of operators or individuals for none of the reasons mentioned above. In this case, the cost of the variations is borne by the applicants.
- E) **Aesthetic Upgrade:** Underground projects for MV and LV overhead lines, which are not imposed for economic or technical reasons or reasons related to maintaining safe distances, etc., but are conducted for the aesthetic improvement of the cities' Network, as well as traditional and tourist settlements. These projects are planned upon the request of authorities and are implemented with their contribution to the cost, in accordance with the provisions of the HEDN Operation Code.
- F) **Other Network Projects:** This category includes other designated projects relating to the development of other fixed assets of HEDN which do not constitute network infrastructure, such as network monitoring and control equipment and systems, automations & remote controls, telemetry systems, etc.
- G) **Investments to Support Regulated Activities:** This category includes investments by the Operator to support the activities of managing the HEDN and the Power Systems of the Non-Interconnected Islands, which relate, but are not limited to, land, building facilities & equipment, vehicles, machinery, systems/equipment & IT and telecommunication, garage equipment and tools, office equipment, etc. These investments are forecasted and monitored separately for each Regulated Activity.

### ANNEX C

#### EXAMPLES OF THE INCENTIVE MECHANISM FOR THE CONTROLLABLE OPERATING EXPENDITURES (EFF<sub>i</sub>) OF ARTICLE 19

- The current Annex presents two simple and hypothetical examples that serve to illustrate the functioning of the Incentive Mechanism for Controllable Operating Expenditures (EFF<sub>i</sub>) of Article 19 of the Methodology.
- The examples are provided for the sole purpose of aiding the understanding of the mechanism.

##### Example 1 – Savings in the 1st year of RPD -1 / 50% Sharing factor

- All elements in the example are presented in the Table below.

Regulatory Period	RPD-1				RPD-2			
	1	2	3	4	1	2	3	4
<b>Step 1: Calculation of the Incremental Efficiency Gain or Loss (IEGL)</b>								
Forecast Controllable Operating Expenditures (FCOE)	100.0	100.0	100.0	100.0	90.0	90.0	90.0	90.0
Outturn Controllable Operating Expenditures (OCOE)	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0

Efficiency Saving (or overspend) of Controllable Operating Expenditures (ES)	10.0	10.0	10.0	10.0	-	-	-	-
Incremental Efficiency Gain or Loss (IEGL)	10.0	-	-	-	-	-	-	-
<b>Step 2: Calculation of the carryover adjustment</b>								
Sum of the Incremental Efficiency Gain or Loss	-	10.0	10.0	10.0	-	-	-	-
Additional Incremental Efficiency Gain or Loss that is carried over to the next RPD	-	-	-	-	-	-	-	-
<b>Step 3: Calculation of the sharing adjustment</b>								
<b>Sharing factor (SF) – 50%</b>								
Sharing Adjustment	-5.0	-5.0	-5.0	-5.0	-	-	-	-
<b>Step 4: Calculation of the combined adjustment EFFi</b>								
Adjustment (without inflation)	-	-	-5.0	-5.0	-5.0	-5.0	-	-
Inflation	3%	3%	3%	3%	3%	3%	3%	3%
Adjustment (with inflation)	-	-	-5.3	-5.3	-5.3	-5.3	-	-
<b>Revised Controllable Operating Expenditures for determining the RR</b>	<b>100.0</b>	<b>100.0</b>	<b>94.7</b>	<b>94.7</b>	<b>84.7</b>	<b>84.7</b>	<b>90.0</b>	<b>90.0</b>

- Supposing that the Controllable Operating Expenditures for the determination of the Allowed Revenue have been calculated for the 1<sup>st</sup> RPD is equal to 100 units per year. It is then assumed that from the first year, the Operator achieves a permanent savings of 10 units and operates the Network with a Controllable Operating Expenditures of 90 units per year.
- Based on this revealed cost of the Operator (and assuming that there are no other changes e.g. for reasons related to increased volume or productivity), the Controllable Operating Expenditures for 2<sup>nd</sup> RPD are set at 90 units per year. As can be seen from the Table, the savings per year are 10 points in the 1<sup>st</sup> RPD, while the incremental efficiency gain is zero after the first year, as there is no new cost savings beyond the 1<sup>st</sup> year.
- It is noted that a key purpose of the mechanism is for the Operator to remain indifferent as to the timing of improvements in the effectiveness of Controllable Operating Expenditures. Therefore, the mechanism allows for the carryover of efficiency gains for a period equal to the duration of the RPD (i.e. 4 years) to keep the incentive consistent. In this example, because the saving is achieved from the first year and the Operator benefits for the entire RPD from the saving, no amount is transferred to the next RPD.
- So, the only remaining aspect is the sharing of the benefit with the Users of the Network (which is the second main purpose of the mechanism). The example assumes that the sharing factor is 50%, so the benefit passed on to Users is equal to 5 points (= 50% x 10) per year for 4 years. For practical reasons, the adjustment is implemented with a two-year delay, so the adjustments to the Required Revenue shall be made from year 3 of RPD-1. The amounts are also adjusted for inflation and then added to the estimated Controllable Operating Expenditures of that year to derive the revised Controllable Operating Expenditures for the calculation of the Required Revenue for that year.



### Example 2 – Savings in year 3 of RPD-1 / 70% sharing factor

8. The second example adopts the same assumptions with the only difference that the saving is achieved in the 3<sup>rd</sup> year of the 1<sup>st</sup> RPD (instead of the 1<sup>st</sup>) and assumes that the Sharing Factor is equal to 70%. The elements of this example are presented in the Table below.
9. In contrast to the first example, in order to maintain the time consistency of the incentive, the savings of the Operator are transferred to the 2<sup>nd</sup> RPD so that the total number of years for which the Operator benefits remain 4. Therefore, as shown in the Table, the ‘Sharing Adjustment’ is 10 units for each of the first two years of the 2<sup>nd</sup> RPD.
10. Afterwards, the ‘Sharing Adjustment’ is calculated which is equal to 3 units [= (1 - 70%) x 10 units] per year for 4 years. As in the first example, the adjustment is implemented with a two-year delay and inflation is calculated. As shown in the table, in the third and fourth year the net adjustment is equal to 7 points, as it is the sum of the two sub-elements of the incentive - the Carryover Adjustment (10 points in this example) and the Sharing Adjustment (-3 points in the example).

Regulatory Period	RPD-1				RPD-2			
Year of Regulatory Period	1	2	3	4	1	2	3	4
<b>Step 1: Calculation of the Incremental Efficiency Gain or Loss (IEGL)</b>								
Forecast Controllable Operating Expenditures (FCOE)	100.0	100.0	100.0	100.0	90.0	90.0	90.0	90.0
Outturn Controllable Operating Expenditures (OCOE)	100.0	100.0	90.0	90.0	90.0	90.0	90.0	90.0
Efficiency Saving (or overspend) of Controllable Operating Expenditures (ES)	-	-	10.0	10.0	-	-	-	-
Incremental Efficiency Gain or Loss (IEGL)	-	-	10.0	-	-	-	-	-
<b>Step 2: Calculation of the carryover adjustment</b>								
Sum of the Incremental Efficiency Gain or Loss	-	-	10.0	10.0	10.0	10.0	-	-
Regulatory Period	RPD-1				RPD-2			
Loss								
Additional Incremental Efficiency Gain or Loss that is carried over to the next RPD	-	-	-	-	10.0	10.0	-	-
<b>Step 3: Calculation of the sharing adjustment</b>								
<b>a</b>								
<b>Sharing factor (SF) – 70%</b>								
Sharing Adjustment	-	-	-3.0	-3.0	-3.0	-3.0	-	-
<b>Step 4: Calculation of the totalment EFFi adjus</b>								
Adjustment (without inflation)	-	-	-	-	-3.0	-3.0	7.0	7.0
Inflation	3%	3%	3%	3%	3%	3%	3%	3%
Adjustment (with inflation)	-	-	-	-	-3.2	-3.2	7.4	7.4

<b>Revised Controllable Operating Expenditures for determining the RR</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>86.8</b>	<b>86.8</b>	<b>97.4</b>	<b>97.4</b>
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