



Hamdi Mramori Street, No 1  
Prishtina 10000 – Kosovo  
Tel: +381 (0) 38 247 615 ext. 103  
Fax: +381 (0) 38 247 620  
e-mail: info@ero-ks.org  
www.ero-ks.org

## **ANNEX**

### **REGULATORY REPORT**

#### **Determination of Allowed Revenues for District Heating GJAKOVA JSC Heating Season 2007 - 2008**

**Prishtina, 23 October 2007**

## ANNEX

### REGULATORY REPORT

#### Determination of Allowed Revenues for District Heating GJAKOVA JSC Heating Season 2007 - 2008

### TABLE OF CONTENTS

	<u>Page</u>
<b>1. Background</b>	<b>4</b>
<b>2. Principles and Formulation of Rate of Return (RoR) Tariff Methodology</b>	<b>4</b>
<b>3. Determination of Allowed Revenues</b>	<b>7</b>
<b>3.1 Evaluation and determination of allowed operational costs</b>	<b>8</b>
<b>3.2 Evaluation and Determination of Depreciation</b>	<b>15</b>
<b>3.3 Determination of Allowed Return on RAB (Allowed Profit)</b>	<b>16</b>
<b>3.3.1 Establishment of Closing Regulatory Asset Base (RAB)</b>	<b>16</b>
<b>3.3.2 Calculation of a targeted Allowed Rate of Return on Regulatory Asset Base for all District Heating Companies in Kosovo</b>	<b>18</b>
<b>3.3.3 Calculation of the Allowed Return on Closing RAB (Allowed Profit) for DHC GJAKOVA</b>	<b>22</b>
<b>3.4 Calculation of Allowed Revenues before Reconciliation</b>	<b>22</b>
<b>3.5 Reconciliation of Allowed Revenues for district heating season 2006-2007</b>	<b>23</b>
<b>3.6 Final Calculation of Allowed Revenues for district heating season 2007 - 2008 including reconciliation of district heating season 2006-2007</b>	<b>23</b>

**REGULATORY REPORT**

**Determination of Allowed Revenues for District Heating GJAKOVA JSC  
Heating Season 2007 - 2008**

**TABLE OF CONTENTS (cont...)**

<i>Figure 1</i>	<i>Schematic presentation of allowed revenues calculation</i>	<i>5</i>
<i>Figure 2</i>	<i>Schematic presentation of forecasts of main costs proposed by DH Gjakova and accepted by ERO for the heating season 2007/2008</i>	<i>10</i>
<i>Figure 3</i>	<i>Schematic presentation of operational costs proposed by DH Gjakova and allowed by ERO for the heating season 2007/2008</i>	<i>15</i>
<i>Table 1</i>	<i>Costs presented by DHC GJAKOVA and allowed by ERO for the period 15 October 2007 – 14 October 2008, which includes full heating season 2007 - 2008</i>	<i>8</i>
<i>Table 2</i>	<i>CLOSING RAB DHC GJAKOVA and its components for district heating season 2007 - 2008</i>	<i>18</i>
<i>Table 3</i>	<i>Allowed Return (Allowed Profit) on CLOSING RAB for DHC GJAKOVA for district heating season 2007 - 2008</i>	<i>22</i>
<i>Table 4</i>	<i>Allowed Revenues before Reconciliation for district heating season 2007 - 2008</i>	<i>23</i>
<i>Table 5</i>	<i>Allowed Revenues for DHC GJAKOVA for heating season 2007 - 2008</i>	<i>24</i>

## 1. Background

According to the primary legislation – Articles 46, 47, 48 of the Law on Energy Regulator, Energy Regulatory Office (ERO) is responsible for setting the tariff methodology and approving the tariffs in the regulated energy sector; therein is a set of broad principles calling for reasonable, justifiable, and non-discriminatory principles under which energy enterprises should recover all justified costs including the reasonable return on its investment.

District heating sector in Kosovo in transmission and distribution of heat is classified as natural monopoly, while no competition exists for the time being in heat production. Therefore the district heating tariff is subject to approval by ERO.

In line with its legal obligations and powers, Energy Regulatory Office has issued Temporary Instruction I\_05\_2007 “On the Principles of Calculation of Tariffs and Prices in District Heating Sector in Kosovo for the Heating Season 2007/2008”. The Instruction determines the procedures for submission and approval of tariffs, and sets the methodology – Rate of Return (RoR) Tariff Methodology – for the purpose of calculation of tariffs, that is based on total allowed revenues, which consist of justified operational costs, depreciation and the allowed return on its Regulatory Asset Base.

Determination of allowed revenues for the heating season 2007 - 2008 has considered the following:

- Information provided by DHC GJAKOVA in its application for tariffs and prices for the heating season 2007/2008;
- Information provided by DHC GJAKOVA in its regulatory reporting – costs and revenues, assets / investment, as well as technical and customer information, that has actually taken place in the season 2006/2007;
- Reconciliation of the current tariff (heating season 2006/2007) and the projected one (heating season 2007/2008); reconciliation is based on the difference between the projected and actual revenues of the previous heating season (2006/2007) provided by regulatory reporting of DHC GJAKOVA to ERO.

### Notes:

- DHC GJAKOVA has submitted to ERO its tariff application on 10<sup>th</sup> of September 2007;
- ERO issued comments to DHC GJAKOVA tariff application on 25<sup>th</sup> of September 2007, requesting corrections, additional explanation and information / documentation;
- DHC GJAKOVA re-submitted tariff application with corrections, additional explanations and information / documentation on 28<sup>th</sup> of September 2007
- Reconciliation is issued by ERO on 29<sup>th</sup> of August, 2007

## 2. Principles and Formulation of Rate of Return (RoR) Tariff Methodology

For the purpose of calculation of the tariffs and prices including determination of allowed revenues for the heating season 2007 - 2008, the RoR methodology is applied.

### Principles

The most basic regulatory methodology for determination of allowed revenues and tariff setting is so-called Rate of Return regulation (or cost plus regulation).

The basic principle is that utility tariff must be cost reflective, so that on the one hand the customers should not pay excessively over incurred cost for their service, however on the other

hand the utility should recover all reasonable and justifiable costs plus a reasonable rate of return for its capital investment. Total cost of service is usually defined to include all of utility operational expenses i.e. to recover cost of production, distribution and supply (operation and maintenance, fuel, salaries, common costs, taxes, etc.) plus a reasonable return on its investments devoted to the service of the rate paying public.

Given that the RoR regulation do not provide incentives for enterprises to increase operating efficiency and cost saving, and on the contrary may give incentive to over-invest in capital equipment and also considering the obligation of Regulator to protect the customers, it applies that enterprises not only have to prove declared “justifiable costs” but also to demonstrate increasing operational and procurement efficiency. Such measures form the basis for reconciliation of tariffs at the beginning of the new tariff season, in which the Regulator rewards or penalises the enterprise for improving / worsening the efficiency and cost control.

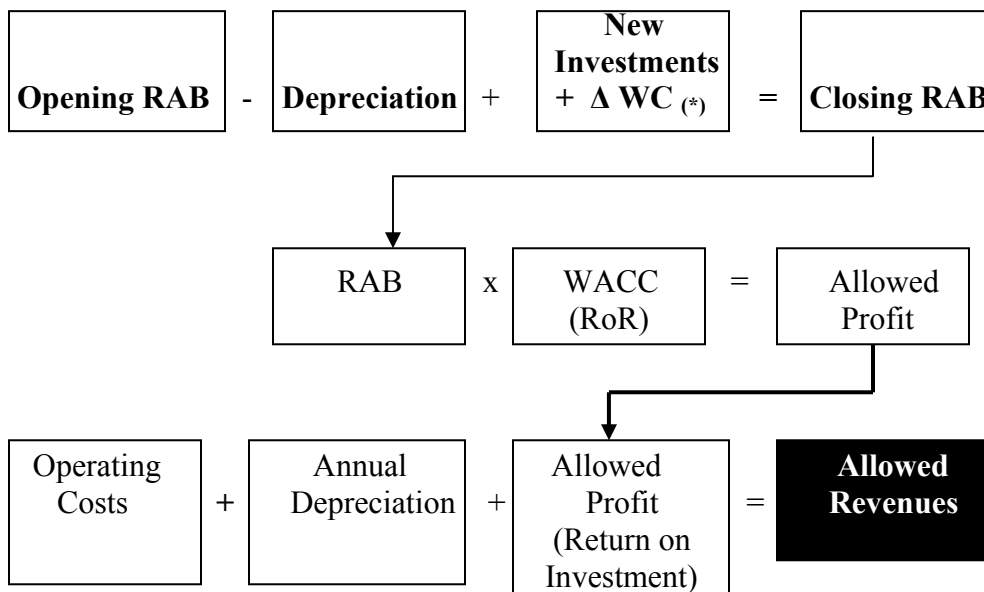
### Formulation

For the purpose of calculation of allowed revenues and for final tariff calculation, the RoR methodology is incorporated in the temporary Instruction I\_05\_2007, where is given in detail the formulation of the Rate of Return (RoR) methodology.

However for consistency reasons the formulation will be presented also in this paper.

Schematically the RoR methodology can be shown as a “building block” approach as below. The costs which enterprise is allowed to recover are built up from its operational costs, a depreciation representing ability to replace the enterprise assets, and the return on the Regulatory Asset Base (RAB), which in fact represents the allowed profit for the company.

**Figure 1: Schematic presentation of allowed revenues calculation**



-----  
 (\*) Δ WC: change in Working Capital

Allowed Revenues is calculated according to the formula:

$$\mathbf{R = OC + Annual Depreciation + (RoR \times Closing RAB)}$$

Where:

<b>R</b>	Total Allowed Revenues
<b>OC</b>	Total Operational Cost
<b>Annual Depreciation</b>	Depreciation for the respective year
<b>RoR</b>	Allowed Rate of Return (%) on Closing Regulatory Asset Base
<b>RAB</b>	Regulatory Asset Base
<b>(RoR x Closing RAB)</b>	Allowed Return or Allowed Profit (value)

Allowed revenues represent the annual cost of company consist of: i) operational costs, which are “justifiable”; ii) annual depreciation; and iii) allowed return on Regulatory Asset Base.

Operational Costs are comprised of fixed part and variable part, formulated as follows:

$$\mathbf{OC = OC_F + OC_v}$$

Operational costs represent the total yearly forecasted justified costs, thus mainly including: i) cost of fuel and other consumables (electricity, water, chemicals, spare parts), as well as losses of energy; ii) cost of system operation, repairs and maintenance; and iii) personnel costs and common costs. Allowed operational costs do not include: i) subsidies; ii) cost rejected by tax authorities, and costs of setting aside and releasing reserves; and iii) lease payments for items not kept in the bookkeeping, financial and other unjustified costs.

Regulatory Asset Base is calculated according to the formula:

$$\mathbf{Closing RAB = Book\ value\ of\ Fixed\ Assets\ (after\ cumulative\ Depreciation) + New\ Investments + Working\ Capital}$$

Regulatory Asset Base (RAB) represents the enterprise assets considered to be used and useful in the public service, that includes: i) book value of fixed assets or the initial book value of fixed assets minus accumulated depreciation; ii) new investments which are planned and approved by the regulator; and iii) Working Capital sufficient for the company to carry out its activities.

ERO will take as Rate of Return a targeted WACC (Weighted Average Cost of Capital) for District Heating Companies in Kosovo. WACC (%) is the sum of the weighted average of the targeted cost of equity and the targeted cost of debt and can be calculated according to the below formula:

$$\mathbf{WACC = [(D/V) * k_d] + [(E/V) * k_e]}$$

Where:

<b>D/V</b>	Debt share of the total capital base
<b>E/V</b>	Equity share of the total capital base
<b>V</b>	Total capital base, which is the total of Equity and Debt
<b>k<sub>d</sub></b>	Cost of debt
<b>k<sub>e</sub></b>	Cost of equity

### 3. Determination of Allowed Revenues

For determining allowed revenues of DH GJAKOVA JSC for the season 2007 - 2008, according to the adopted RoR Tariff Methodology, ERO has undertaken the following:

- 1) Evaluation and determination of allowed operational costs;
- 2) Evaluation and determination of the depreciation;
- 3) Determination of Allowed Return on RAB (allowed profit for company), which includes:
  - a) Establishment of the RAB – evaluation and approval of company fixed assets, verification and approval of planned investment, and Working Capital; and
  - b) Calculation of a targeted allowed Rate of Return (RoR), in this case targeted WACC, for District Heating Companies in Kosovo.
- 4) Reconciliation between the actual allowed revenues and the projected one for the heating season 2007 - 2008.

In determining allowed revenues ERO has taken into consideration the following:

- Information provided by DH GJAKOVA in its application for tariffs and prices for the heating season 2007/2008 – information regarding estimated revenues from heat related services, forecasted total costs, forecasted assets which includes also planned investment and forecasted cash flow, as well as the forecasted heat production and supply;
- Information provided by DH GJAKOVA in its regulatory reporting – costs and revenues, assets / investment, as well as technical and customers information, that has actually taken place in the season 2006/2007;
- Information that ERO possesses from the price reviews and tariff settings in the past years.

Given that forecasted information is one of the main information considered, it should be reliable and realistic. Generally, in forecasting / planning the business should be applied a realistic approach, followed by comprehensive assessment of multiple factors affecting the business; i.e. assessment of the market and prospecting / expanding customer base, assessment of production / supply capabilities and financial capabilities of the company. Certainly the proper forecasting / planning have to be based on the past data that company has realised during a certain period.

It must be noted here, that although DH Gjakova's tariff application was quite detailed and more complete and accurate than previous years, in some points are noted few inconsistencies, and incomplete and in-correct information. Despite ERO's intervention with comments in form of requests for correction and completion, still for few items we didn't get satisfactory explanation nor proper corrections, and some above mentioned information provided by DH Gjakova, often was not complete, unrealistic and not supported by the appropriate documentation - not fully in line with the Instructions on regulatory reporting, and tariffs and prices (Instruction I\_04\_2007 and I\_05\_2007) – which has caused additional difficulties.

In fact, as far as forecasted information is concerned (stipulated in the Article 7.2 point "d"), DH Gjakova has submitted to ERO, the spreadsheet consisting of forecasted incomes and costs supported with technical and customer data; forecasted balance sheet and the forecasted cash flow for the period covering full district heating season – 15 October 2007 – 14 October 2008, and the draft auditors report for statutory financial statements. Even after ERO's comments in form of requests for correction, completion and additional explanation, still some data and information remained incorrect and uncompleted, and DH Gjakova didn't submit the final auditors' report. However ERO has put significant efforts and expertise in evaluating the forecasted information provided by DH Gjakova. In depth analysis and the assessment of the presented information were

conducted, followed by benchmarking comparison with the data from the previous seasons, in order to exactly determine allowed revenues for the upcoming heating season 2007/2008.

### 3.1 Evaluation and determination of allowed operational costs

Operational costs submitted by DH GJAKOVA for the period 15 October 2007 – 14 October 2008, covering full district heating season 2007/2008, are structured in variable and fixed. However this division, in terms of allocation of certain items to the respective groups of costs, is not fully in compliance with advanced accounting principles and Kosovo Accounting Standards.

In this section are tabled forecasted costs as presented by DHC Gjakova and the allowed operational cost as approved by ERO (Table 1). The table will follow the analytical explanation of each determined main item consisting operational costs.

**Table 1: Costs presented by DH GJAKOVA and allowed by ERO for the period 15 October 2007 – 14 October 2008, which includes full heating season 2007/2008**

<b>Costs / Kostot</b>		<b>DH GJAKOVA JSC</b>		Proposed by Propozuar nga DH Gjakova	Allowed by ERO Lejuar nga ZrRE
	<b>Variable costs:</b>	<b>Kostot</b>	<b>variabël</b>		
1	Heavy oil	Mazut		580,000	548,850
2	Transport	Transporti		500	500
3	Diesel	Naftë		2,000	2,000
4	Fuel (petrol)	Benzinë		6,000	4,000
5	Chemicals	Kemikaljet		3,000	3,000
6	Water	Uji		6,000	4,500
7	Electricity	Energia elektrike		60,000	50,000
8	Staff cost (dir. labor)	Kosto e personelit (puna direkte)		68,770	68,770
9	<b>total variable</b>			<b>726,270</b>	<b>681,620</b>
	<b>Fixed costs</b>	<b>Kostot</b>	<b>fikse:</b>		
	<b>Materials, Services</b>	<b>Materialet/Shërbimet</b>			
10	Spare parts	Shpenz. e pjeseve rez.		8,000	8,000
11	Repairs	Riparimi		16,000	15,000
12	Maintenance	Mirmbajt.		8,000	6,000
13	Small items	Shp. Materiali imte		2,000	2,000
14	Cleaning	Shp. Direkte pastrim		700	500
15	Office Supply	materiali zyrtar		2,500	2,500
16	Fuels	derivate		700	500
17	<b>Sub-total</b>			<b>37,900</b>	<b>34,500</b>
	<b>Personnel Costs</b>	<b>Shpenzimet e Personelit</b>			
18	Salaries	Pagat mujore		72,000	72,000
19	Food	Ushqimi		11,500	11,500
20	Sal. of Board. Memb.	Pagat e Anëtar. Bordit		4,840	4,840
21	Pension fund	Fondi per Pension		4,410	4,410
22	<b>Sub-total</b>			<b>92,750</b>	<b>92,750</b>

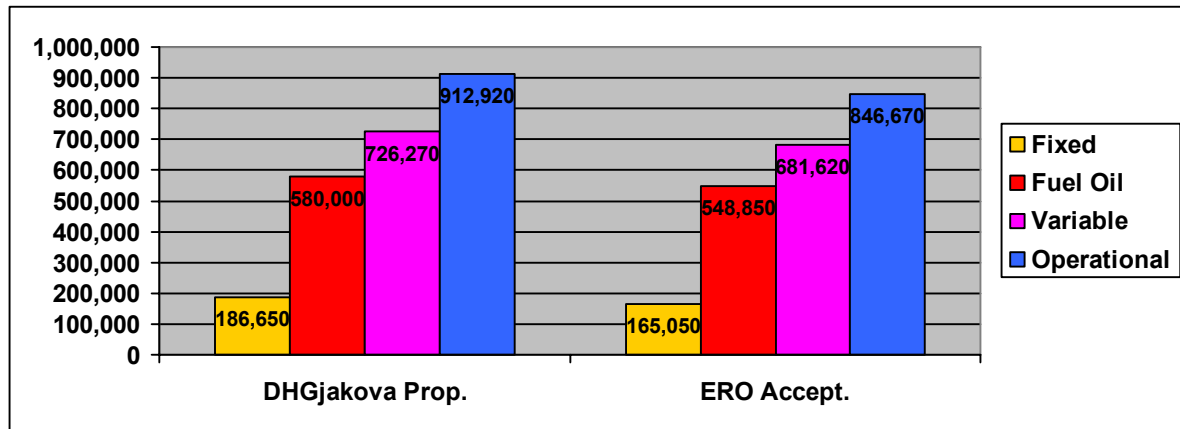
	<b>Other oper. costs</b>	<b>Shpenzimet tjera operative</b>		
23	Auditing	Auditimi	15,000	12,000
24	Telephone	Telefoni	3,500	2,500
25	Representation	Reprecentacioni	3,000	3,000
26	Advertising	Reklama, publikime	5,000	3,000
27	Financial costs	Shp. Fin.	2,000	2,000
28	Municipality costs	Shp. Kommunale	6,000	3,500
29	Other administration	Shp. tjera admin.	2,500	1,500
30	Computer materials	Materiale kompj.	2,500	2,500
31	Licensing fee	Pagesa per license	1,500	1,800
32	Admin / Court fee	Taksa admin / gjyqësore	8,000	4,000
33	Others	Tjera	7,000	2,000
34	<b>Sub-total</b>		<b>56,000</b>	<b>37,800</b>
35	<b>Total Fixed Costs</b>	<b>Totali i Shpenzimeve Fikse</b>	<b>186,650</b>	<b>165,050</b>
36	<b>Total Operational Costs</b>	<b>Totali i Shpenz. Operative</b>	<b>912,920</b>	<b>846,670</b>
37	<b>Fixed costs</b>	<b>Kostot fikse</b>	186,650	165,050
38	<b>Variable costs</b>	<b>Kostot variab.</b>	726,270	681,620
39	<b>Subsidy for mazut</b>	<b>Subvenc. per mazut</b>	200,000	200,000
40	<b>Subsidy for repairs</b>	<b>Subvenc. per riparime</b>	150,000	150,000
41	<b>Allowed operational costs (OC)</b>	<b>Kostot e lej. oper.</b>	<b>562,920</b>	<b>496,670</b>
42	<b>Fixed part of OC</b>	<b>(OCf) Pjesa Fikse</b>	<b>115,091</b>	<b>96,821</b>
43	<b>Variable part of OC</b>	<b>(OCv) Pjesa Variab.</b>	<b>447,829</b>	<b>399,849</b>

#### Technical and Customer data (supporting data related to the costs)

Heating space	m2	Sip. ngroh.	Residential	Amvisri	69,000	69,000
Heating space	m2	Sip. ngroh.	Com.&inst.	Kom Inst.	75,000	75,000
Tot. heat. Sp.	m2	Sip. Ng. tot.			144,000	144,000
Staff	-	Personeli			34	34
Average salary	Euro	Paga mes.			311	311
Cost of salaries	Euro	Kost. pagave			126,888	126,888
Product. of heat	MWh	Prodh. ngr.			21,357	18,225
Sales of heat	MWh	Shitja e ngr.			18,153	15,491
Cons. of mazut	ton	Kons. i maz.			2,000	1,920
Price of mazut	Euro/t	Cmimi i maz.			290	290
Av. cost per ton	Euro/t	Kost.mes/ ton			Not presented	285.86
Cost of mazut	Euro	Kost. e maz.			580,000	548,850

In the chart below schematically are presented main costs as proposed DH Gjakova and accepted by ERO:

**Figure 2. Schematic presentation of forecasts of main costs proposed by DH Gjakova and accepted by ERO for the heating season 2007/2008**



### Analytical explanation

The below presented analytical explanation for every group of cost and for main items constituting the particular group of costs, gives detailed explanation and justification for determined allowed costs.

#### - Variable costs:

- Item No.1 – heavy fuel oil (mazut):
  - Mazut cost proposed by DH Gjakova (€580,000) is based on the forecasted consumption quantity 2,000 ton and the purchase price of 290 €/ton; the proposed purchase price is estimated by taking into account purchase prices in the last season that consist of Platts (market) price, custom duty, and the premium, and the fuel oil prices in the market. It is to be noted that market (Platts) price has shown constant increase affecting the increase of total purchase price of mazut.
  - Based on the heat demand by customers, ability of DH Gjakova to meet the real customer demand (evaluated in the range from 75 – 80 % in studies regarding district heating sector in Kosovo – for this season ERO has adopted 75%), taking into account distribution and generation losses, and based on data for fuel consumption, heat production and heat supplied to customers' substations of previous seasons particularly heating season 2006/07, ERO evaluates that 1,920 ton is the sufficient quantity of fuel (mazut).
  - Mazut cost allowed by ERO of € 548,850 is calculated on the basis of the accepted quantity 1,920 ton and the average unit cost of mazut of 285.86 €/t.  
The calculation of mazut cost is done by taking into account the following:
    - Stock of fuel ending season 2006/07 was 473.27 tons
    - Average unit cost of fuel for season 2006/07 was 273.20 €/t
    - As for above, in order to reach forecasted consumption quantity of 1,920 ton, DH Gjakova in the season 2007/08 will have to purchase the quantity:  
 $1,920 - 473.27 = 1,446.73$  tons.
    - Cost of stock fuel is:  $473.27 \text{ t} * 273.20 \text{ €/t} = \mathbf{129,298 \text{ €}}$
    - Cost of fuel to be purchased in the season 2007/08 is:  
 $1,446.73 \text{ t} * 290 \text{ €/t} = \mathbf{€ 419,552}$
    - Overall cost of fuel for the season 2007/08 will be:  
 $129,298 \text{ €} + 419,552 \text{ €} = \mathbf{€ 548,850}$

- Note: For covering the cost of mazut, it is foreseen that the Kosovo Consolidated Budget will provide a subsidy for mazut purchase in the value of € 200,000. The subsidized value is not accepted as the real cost for the company.
- Item No. 2 – Transport and Item No. 3 – Diesel are accepted as proposed by DH Gjakova.
- Item No. 4 – Fuel petrol
  - In its tariff application DH Gjakova has proposed the cost for petrol fuel in the value of € 6,000;
  - ERO evaluates that this is too high forecast of petrol consumption, since in the season 2005/2006, the actual cost of petrol and diesel jointly was € 3,486. As for that ERO decides to accept the cost of petrol fuel in the value of € 4,000
- Item No.5 – Chemicals and Item No 6 – Water:
  - Cost of chemicals for water treatment and cost of consumed water proposed by DHC Gjakova is respectively € 3,000 and € 6,000; for the proposed values is not given additional explanation as to justify presented cost, e.g. the quantities of chemicals and corresponding prices.
  - In its regulatory reporting DH Gjakova presented the cost of treated water (which represents the cost of raw water and chemicals) in the value of € 4,255. Considering above, and also taking into account forecasted quantity of 7,350 m<sup>3</sup> for water consumption for upcoming season presented by DH Gjakova and the actual price of water of 0.55 €/ m<sup>3</sup>, ERO has evaluated the proposed **cost for chemicals of € 3,000** is acceptable, while for the **raw water** decided to accept the cost in the value of **€4,500**. DH Gjakova should put efforts prevent and repair leakages in the distribution system as to minimize water and heat losses.
- Item No. 7 – Cost of electricity:
  - DH Gjakova is proposed cost of electricity in the value of € 60,000, which represent the increase from previous years, which is justified by the expected expansion of the network for 3 km. Explicitly, for the season 2006/2007 it was forecasted and allowed € 55,000 electricity cost while actual cost of electricity in the season 2006/2007 was € 47,460.
  - Considering the above stated facts, also taking into account that the price of electricity remained the same, and the fact that the network expansion isn't such as to significantly impact the electricity cost, ERO decides to allow the **cost of electricity** in the value of **€ 50,000**.
- Item No. 8 – Staff cost (direct labor) proposed by DH Gjakova totals € 68,770 and consist of:
  - Salaries: € 55,000
  - Food: € 10,500, and
  - Pension contribution: € 3,270,

ERO has accepted proposed **staff cost** in the total value of **€ 68,770**.

Total variable costs by ERO accepted as justifiable are **€ 681,620**, which is € 44,650 less than the total variable cost proposed by DHC Gjakova (€ 726,270); however by ERO accepted variable costs are by € 106,284 higher than actual variable costs as per ERO's decision for the heating season 2006/2007 (€ 575,336). This increase of variable costs from previous season is mainly because of the higher mazut consumption and cost that ERO has decided for the reasons

described under the item No. 1 above, in order to “top up” (cover) additional cost for planned expansion of the network and increase of customer base.

- Fixed Costs

- Cost group – Materials and Services:

- Item No.10 – **Cost of spare parts** is accepted as presented by DH Gjakova in the value of **€ 8,000**.
- Item No. 11 – Repairs and Item No. 12 – Maintenance:
  - Cost for repairs and maintenance cost proposed by DHC Gjakova is respectively €16,000 and €8,000; while in regulatory reporting of actual costs for season 2006/2007, the cost for maintenance and repairs reported by DH Gjakova was €12,556.
  - Considering the big discrepancy of the proposed costs for repairs and maintenance for the season 2007/2008 vs. reported for the season 2006/2007, ERO couldn't accept the proposed values; however, in order for DH Gjakova to may improve quality of heating and its customer service, ERO allowed **cost for repairs** to be **€15,000** and **cost for maintenance** to be **€6,000**. The sum is slightly less than proposed, but significantly higher than actual cost for repairs and maintenance reported during the previous season.
- Item No. 13: Cost of small items and Item No. 15: Office supplies – are accepted as proposed by DH Gjakova in the value **€ 2,000** and **€ 2,500** respectively.
- Item No. 14: “Cost of Cleaning” and item No. 16: “Cost of Fuels” are reduced from €700 to €500 as allowed in the last season.

- Cost group – Personnel Costs (other than direct labor)

- Item No. 18 – Salaries
  - The cost for salaries proposed by DHC Gjakova is € 72,000  
Note: Total salaries of the company (direct labour and other dept.) are € 127,000, and are calculated for staff number 34 and the average monthly salary of € 311.
  - Since the costs of salaries approximately matches with actual cost of salaries reported for the season 2007/08 and also approximately matches with the table of staff positions and respective salary levels provided by ERO, it was decided to accept the proposed cost for salaries.
- Items No. 19 - Cost for Food
  - Cost for food proposed by DHC Gjakova is €11,500;
  - Note: Cost of food for the total number of company employees (direct labour and other dept.) is €22,000, which is calculated for 34 employees receiving €54/month.
  - Because of the very slight increase from last year (from 52 €/month to 54 €/month), ERO has decided to accept the cost for food as presented (proposed) by DH Gjakova.
- Item No. 20 – Remuneration of Board members: DH Gjakova presented the **payment of board members** in the value of **€ 4,840**, and ERO has accepted.
- Item No. 21 – “Pension fund” (contribution payable by the company)
  - The cost for pension contribution proposed by DHC Gjakova is €4,410;

- According to the regulation on pension contribution, 5% of the employees' income is payable by the company; so ERO accepts presented by DH Gjakova the value of **€4,410** for the **cost of pension contribution**.
- Cost group – Other fixed costs
- Item No.23 – Cost of auditing
  - DH Gjakova proposed auditing cost in the value of € 15,000 and for such proposed amount didn't present any additional evidence, e.g. invoices from last years auditing.
  - Following the approach that auditing cost is determined by bids, ERO decided to allow **€ 12,000** for **cost of auditing**
- Item No. 24 – Telephone cost
  - Cost for telephone presented by DHC Gjakova is € 3,500.
  - ERO has allowed the **cost for telephone** in the value of **€2,500**, also recommending that overhead costs should be minimised as much as possible.
- Item No. 25 – Representation
  - Cost for representation proposed by DH Gjakova is €3,000;
  - ERO has evaluated that this cost is presented at the reasonable level, and allowed the value of **€ 3,000** for **representation cost**.
- Item No. 26 – Advertisement and publication of notices
  - DHC Gjakova has proposed the cost of advertisement to be € 5,000;
  - ERO recognizes the need for advertising; however, as district heating is limited to the municipality territory, only advertising in local media has to take place. So ERO evaluates and allows the **cost for advertisement** in the value of **€3,000**.
- Item No.27 – Financial cost
  - Financial cost presented by DHC Gjakova is € 2,000.
  - ERO evaluates that this sum corresponds to the usual financial transaction made by the company, so the accepted **financial cost** is **€ 2,000**.
- Item No.28 – Municipality costs
  - Municipality cost proposed by DHC Gjakova is € 6,000, for which additional written explanation is given, saying that it includes cost for waste and waste water and the property tax. In regulatory reporting of previous year it is presented the municipality cost in the value of € 2,636, which comprises of property tax in the value of € 1,647 and waste and waste water removal in the value of € 989.
  - ERO evaluates that proposed sum is too high and considering the above stated facts decided to accept and allow **municipality cost** in the value of **€ 3,500**.
- Item No. 29 – Other administration costs
  - Other administration cost of €2,500 is proposed by DHC Gjakova, without giving any breakdown or explanation;
  - Following the approach that the company should keep overhead cost as low as possible, ERO estimates that for **other administration costs** the value of **€ 1,500** is reasonable.
- Item No. 30 – Computer Materials
  - DH Gjakova has presented the cost to be €2,500;

- ERO evaluates that **cost of computer materials** in the amount of **€2,500** should be allowed as justifiable.
- Item No.31 – Licensing fee
  - DH Gjakova has presented the cost in the value of €1,500, which doesn't correspond to the forecasted heat generation presented by them.
  - Based on our calculation of the heat generation (ca. 18,000 MWh) and the schedule of fees adopted and issued by ERO Board, it is accepted **cost for the licensing fee** in the value of **€1,800**
- Item No. 32 – Administrative/Court fees:
  - DHC Gjakova presented this cost in the value of € 8,000, which is based on the forecasted expenses due to the law suit that plans to be filed in the court against debtors.
  - Even though ERO does recognize this expense, based on the average number of the law suits and the court fee in the range of €35 – €150 depending on the “value of the contest”, ERO evaluated that vale of **€ 4,000** for this cost is justifiable and allowable.
- Item No. 34 – Others
  - The costs under item others is proposed to be € 7,000, stating that this cost mainly comprises of safety equipment (e.g. fire extinguishers etc), but without specifying exactly the what costs are included and their respective values;
  - ERO considers this cost as excessive and allows only **€ 2,000** for the cost under the item “**others**”.

Total fixed costs accepted by ERO as justifiable is at the level of **€165,050**, which is €21,600 less than total fixed cost of €186,650 proposed by DH Gjakova; however the allowed fixed costs are significantly higher (€28,800) than the fixed cost allowed for the heating season 2006/2007 (€136,250). This value allowed by ERO is meant to cover all reasonable fixed cost of the company with assumption that DHC Gjakova would increase its customer service by regularly maintaining the system, preventing the malfunctions of the system, and timely reacting in repairing eventual breaks. The allowed fixed operational costs are also meant to cover the cost related to the increased efforts for improving overall management of the company, improvement of financial accounting system, establishment of management information and reporting system, and most important to increase the payment collection as well as to detect and prevent illegal take of heat.

#### - Allowed operational costs

Allowed operational cost consists of the sum of the fixed and variable costs and does not include the value of the subsidies.

DH Gjakova presented the subsidy for fuel (mazut) in the value of €200,000; this value presents a certain portion of the total cost of mazut, which Kosovo Consolidated Budget plans to donate. In addition, DH Gjakova presented also the subsidy in the value of €150,000, which is forecasted to be received for repair works. This gives the **total subsidies** in the value of **€350,000**.

The vales of subsidies are accepted by ERO as presented by DH Gjakova.

The subsidised value is not accepted as real cost borne by the company and as such cannot be included in the allowed operational costs.

The allowed operational costs are calculated according to following formula:

$$\text{OC} = \text{Variable Costs} + \text{Fixed Costs} - \text{Subsidies}$$

From the formula we calculate that:

**Allowed Operational Costs are in the value of €496,670.**

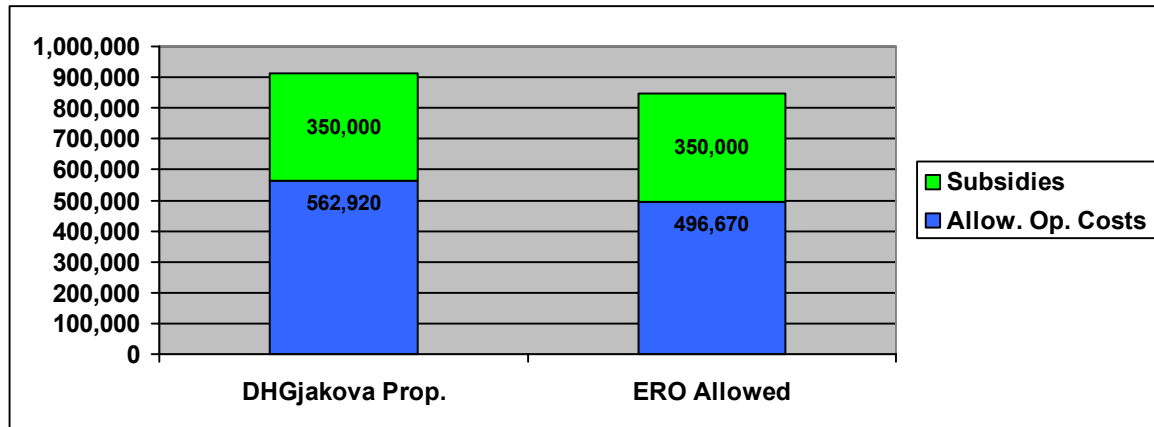
This value represents by ERO allowed total operational costs, which sum is less by €66,250 than proposed by DH Gjakova (€562,920). However, these costs are higher by €105,233 than forecasted/allowed for the heating season 2006/2007 (€391,437), and these costs are higher by €127,853 than actual operational costs as per ERO's decision for the heating season 2006/2007 (€368,817). This increase of allowed operational costs from previous season is mainly because of the planned expansion of the network and customer base, causing increase in general of the items constituting the costs.

Based on the proportion of the fixed costs versus variable costs, the division between the fixed part and variable part of allowed operational costs is as follows:

**Fixed part of allowed operational costs (OCf) is €96,821, and  
Variable part of allowed operational costs (OCv) is €399,849.**

In the chart below schematically are presented allowed operational costs excluding subsidies as proposed DH Gjakova and accepted by ERO:

**Figure 3: Schematic presentation of operational costs proposed by DH Gjakova and allowed by ERO for the heating season 2007/2008**



### 3.2 Evaluation and Determination of Depreciation

DHC Gjakova submitted the annual depreciation value of €280,000 for the period 15 October 2007 – 14 October 2008. As no detailed calculation of the depreciation is included, ERO has to define the annual depreciation based on below assumptions. In the meantime we urge DH Gjakova to provide us as soon as possible with a detailed calculation of annual and cumulative depreciation.

Based on the previous experience and on the verbal explanation from DHC Gjakova, the depreciation is calculated on the basis of the UNMIK Regulation 2002/3 that follows three categories of depreciation:

- Buildings and other permanent structure (5%).
- Plant and machinery, heavy transport vehicles, earth moving equipment, other heavy vehicles, and all other tangible assets (15%).
- Equipment, automobiles and light trucks, computers, peripherals and other data processing equipment, office furniture and equipment, instruments, sundries and other accessories (20%).

ERO evaluated the annual depreciation for the district heating season 2006-2007 and it was in the final reconciliation defined at €181,800. We assume for the district heating season 2007-2008 that there will not be any disposals of investments; and further that not any investment within Closing RAB at the end of district heating season 2006-2007 was already fully depreciated. By this we can take over the same depreciation amount for existing investments for district heating season

from the district heating season 2006-2007, which is equal to €1,248; and we will add the depreciation on the planned new investments for the district heating season 2007-2008, which is at the value of €200,000 minus €150,000 coming from donations, which is equal to €50,000. We assume that those new planned investments fall into the category of Plant and Machinery, which has an annual depreciation rate of 15% or an equivalent amount of €50,000 \* 15% = €7,500. In total we will get an **annual depreciation for the district heating season 2007-2008** of:

$$€181,800 + €1,248 + €7,500 = €190,548$$

### **3.3 Determination of Allowed Return on RAB (Allowed Profit)**

As mentioned before, the calculation / determination of allowed return on Closing RAB involves:

- ➔ establishment of Closing Regulatory Asset Base (RAB); and
- ➔ calculation of the allowed Rate of Return (RoR), which will be determined at WACC level.

Those two above important elements will be calculated below in detail.

#### **3.3.1 Establishment of Closing Regulatory Asset Base (RAB)**

Establishment of Closing RAB is the main factor for calculating the company's allowed profit. Closing RAB consists of the book value of company's Fixed Assets, new planned Investments, and Working Capital.

##### **3.3.1.1 Determination of value of existing Fixed Assets (after cumulative depreciation)**

DH GJAKOVA presented to ERO the forecasted value of the Fix Assets after accumulated depreciation in the forecasted Balance Sheet 2007 – 2008, amounting €2,963,000, which value reflects the value of assets as stated on the Balance Sheet as per 31 December 2006 of the auditors. Regarding the book value of Fixed Assets in the Balance Sheet as per 31 December 2006, the auditor's report clearly mentions that there is no evidence that an impairment test has been performed over the significant items of DH GJAKOVA's property, plant and equipment and accordingly **the auditors were not able to obtain reasonable assurance** as to the net carrying

value of DHC GJAKOVA's property, plant and equipment at 31 December 2006. For this reason ERO decides to take the book value of Fixed Assets after accumulated depreciation as in the reconciliation for the district heating season 2006-2007 allowed by ERO, which was €1,969,219. ERO will add the new investments as mentioned in the reconciliation for the district heating season 2006-2007, which is €8,320, by which the total RAB at the end of 2006-2007 is defined at €1,977,539. From this amount ERO will deduct the annual depreciation for the district heating season 2006 -2007, which is €181,800; and 15% of the €8,320 new investments, amounting €1,248; or in total €183,048. Consequently, the final **book value of Fixed Assets (after cumulated depreciation)**, is defined at €1,977,539 - €183,048 = **€1,794,491** for the district heating season 2007-2008.

### 3.3.1.2 Determination of New Investments

DH GJAKOVA presented in its forecasted Cash Flow and Balance Sheet for the period 15 October 2007 to 14 October 2008, new planned investments at the value of €200,000. For the proposed investment it wasn't submitted any of requested details such as specification of investment project(s), respective values, financial and technical feasibility etc. However DH GJAKOVA mentioned that it will receive €150,000 from donations to realise those investments. Consequently ERO can only take €200,000 minus €150,000 into consideration, which is **€50,000** as **new investments** in the Regulatory Asset Base.

### 3.3.1.3 Determination of the Working Capital

DHC GJAKOVA didn't presented calculated Working Capital, but presented to ERO the forecasted Balance Sheet for the period 15 October 2007 – 14 October 2008; ERO has analysed the Current Assets and Current Liabilities as stated therein and calculated the working capital as tabled below:

#### Forecasted Balance Sheet

In €

##### Current Assets

Cash	73,000
Account Receivables	278,100
Inventories	88,000
Other current assets	60,000

-----  
**Total Current Assets** **499,100**  
 -----

In €

##### Current Liabilities

Account Payables	46,100	
Accrued Liabilities	132,000	0
Other Current Liabilities	51,000	

-----  
**Total Current Liabilities** **229,100**  
 -----

-----  
**Working Capital** **270,000**  
 -----

As said above Working Capital was not calculated and reported in tariff application of DHC GJAKOVA and based on the presented forecasted Balance Sheet the **Working Capital** amounts to **€270,000**. This amount will be taken into account by ERO as target Working Capital for the district heating season 2007-2008, for the purpose of calculation of Closing Regulatory Asset Base (RAB).

Closing Regulatory Asset Base (RAB) is calculated as follows:

**Closing RAB = Book value of Assets (after cumulative depreciation) + New Investments + Working Capital**

**This results, as mentioned in Table 2, in a value of € 2,114,491.**

In Table 2 below we summarise the components of Closing RAB and its respective value.

**Table 2: CLOSING RAB DHC GJAKOVA and its components for district heating season 2007 - 2008**

		In €	
<b>Closing Regulatory Asset Base DHC GJAKOVA for DH season 2007 - 2008</b>		<b>Proposed by Propozuar nga DHC GJAKOVA</b>	<b>Allowed by ERO Lejuar nga ZRrE</b>
<b>3.3.1.1.</b>	<b>Book value existing Fixed Assets (after cumulative depreciation)</b>	<b>2,963,000</b>	<b>1,794,491</b>
<b>3.3.1.2.</b>	<b>New investments (excluding donations)</b>	<b>200,000</b>	<b>50,000</b>
<b>3.3.1.3.</b>	<b>Working Capital</b>	<b>270,000</b>	<b>270,00</b>
	<b>Regulatory Asset Base</b>	<b>3,433,000</b>	<b>2,114,491</b>

### **3.3.2 Calculation of a targeted Allowed Rate of Return on Regulatory Asset Base for all District Heating Companies in Kosovo**

The objective of a reasonable Rate of Return (RoR) on the Regulatory Asset Base (RAB) is to provide a guarantee for the district heating enterprises to continue to invest in their Assets, both in order to replace them and to expand them.

A reasonable RoR is considered to be the rate of the 'Weighted Average Cost of Capital' (WACC), which is calculated on the components of the capital base, taking into account the weights compromised of the amounts of these capital components. In other words, WACC is the sum of the Weighted Average of the cost of Equity and the cost of Debt.

For the cost of Equity, ERO is following an internationally acclaimed methodology the so-called “Capital Asset Pricing Model” (CAPM). The CAPM expresses the expected cost of Equity as the risk-free ( $r_f$ ) rate plus an equity risk premium (ERP). We can define ERP as the difference between the equity market risk premium – i.e. the return expected on the market well diversified portfolio – and the risk-free rate of return, and is expressed in the below formula:

$$\mathbf{ERP = (r_m - r_f)}$$

The rate of ERP depends on the risk of investing in the particular country’s market.

Value of pre-tax WACC can be calculated according to the following formula:

$$\mathbf{WACC_{pre-tax} = [(D/V)*k_d] + [(E/V)*k_e]}$$

Where:

<b>D/V</b>	Debt share of the total capital base
<b>E/V</b>	Equity share of the total capital base
<b>V</b>	Total capital base, which is the total of Equity and Debt
<b>k<sub>d</sub></b>	Cost of Debt
<b>k<sub>e</sub></b>	Cost of Equity

**The cost of Debt (k<sub>d</sub>)** is a contractual commitment and is the rate the enterprise will pay on future debt issues and is expressed in the following formula:

$$\mathbf{k_d = r_f + d_{rp}}$$

where:

<b>r<sub>f</sub></b>	Risk free rate
<b>d<sub>rp</sub></b>	Debt risk premium

**The cost of Equity (k<sub>e</sub>)** can be calculated as:

$$\mathbf{k_e = r_f + \beta_e * (r_m - r_f)}$$

where:

<b>r<sub>f</sub></b>	Risk free rate and it is derived from an estimate from the return available on Government Bonds and conventional gilts
<b>β<sub>e</sub></b>	“Beta”: risk-measure for the specific company
<b>(r<sub>m</sub> - r<sub>f</sub>)</b>	Equity market risk premium minus the risk-free rate of return

“The risk premium” of any Asset is further determined by its “beta” and by the expected market risk premium that investors will demand from the market as a whole. The “beta” factor measures the volatility of an individual company’s return relative to the stock market as a whole.

Below we estimate the targeted cost of Debt and the targeted cost of Equity for the district heating enterprises in Kosovo in order to come to a targeted pre-tax WACC for the district heating season 2006-2007 and following.

### 3.3.2.1 Cost of Debt

Historic outcomes of Debt share of the total capital base – also called gearing – for DHC TERMOKOS and DHC GJAKOVA during District Heating season 2005-2006 were based on their respective received financial data at that time and defined at 50% and 73% respectively. For this district heating season and the following ones, ERO decides to have a targeted D/V ratio between 50% and 73% and puts it at 60/100 (60% debt and 40% equity). This 60% gearing should be used in the estimation of a commercial pre-tax WACC for the district heating enterprises in Kosovo.

Return on Debt is expressed in the formula below:

$$k_d = r_f + d_{rp}$$

where:

$r_f$  Risk free rate  
 $d_{rp}$  Debt risk premium

Regarding the Risk free debt rate ( $d_f$ ) we assume that if the Government of Kosovo would issue bonds, it would attract initially at least a credit rating below investment grade. We assume that Kosovo would be rated somewhat below Ukraine and Turkey, which both have a credit rating of BB-. It therefore seems reasonable to assume **a real risk-free rate on debt of 5.5% for Kosovo**, which lies between the average yield for Ukraine and Turkey and that of Argentina.

Of a sample of EU and Australian regulators, Debt risk premium ( $d_{rp}$ ) is estimated in the range between 0.84 and 1.75%. Taking into consideration the high risk of non-payment associated with the traditionally poor commercial performance of district heating enterprises in Kosovo, we estimate  $d_{rp}$  for Kosovo above this range and we suggest putting it **at 2.5%**.

The cost of debt can then be calculated as mentioned below:

$$k_d = 5.5\% + 2.5\% = 8\%$$

### 3.3.2.2 Cost of Equity

The cost of Equity is expressed in the formula below:

$$k_e = r_f + \beta_e * (r_m - r_f)$$

where:

$$ERP = (r_m - r_f)$$

Recent international regulatory decisions estimate the Equity risk premium in a range from 3.5 to 7%, and a median of 5.0%. We propose for Kosovo to use **ERP equal to 6%**.

The **average asset beta** for EU for electricity network and integrated utilities is 0.42 compared to 0.54 - 0.63 for stand-alone generation and supply utilities in the EU and USA. Given the small size of the Kosovan district heating industry, it seems reasonable to assume that demand growth – which is the main driver of revenue growth – will be more volatile relative to GDP growth – which is the main driver of stock market growth – than in more developed and larger countries. The addition of a single major customer will mean a large increase in district heating demand relative to previous levels, while the impact on GDP may be much less. In order to take account of the potentially more volatile nature of the revenues of district heating enterprises relative to GDP growth, we therefore assume a common equity above the average of EU regulatory decisions and we consider that a reasonable  $\beta_e$  for district heating companies in Kosovo is as mentioned below:

$$\beta_e = 1$$

Post-tax cost of equity is then as follows:

$$k_{e \text{ post tax}} = 5.5\% + (1 * 6\%) = 11.5\%$$

Pre tax cost of equity is multiplying the above figure of the post-tax cost of equity with the tax wedge, which formula is mentioned below:

$$\text{Tax wedge} = 1/(1-t)$$

where:

**t** Tax rate on corporate profit

The corporate tax (t) in Kosovo is 20% and the tax wedge is

$$1/(1-0.20) = 1.25$$

Pre-tax cost of equity is

$$k_{e \text{ pre-tax}} = 11.5\% * 1.25 = 14.4\%$$

As consequence of the above calculations we can calculate the pre-tax WACC – rounded to one decimal place – as mentioned below:

$$\text{WACC}_{\text{pre-tax}} = [8\% * 0.6] + [14.4\% * 0.4] = 10.6\%$$

### 3.3.3 Calculation of the Allowed Return on Closing RAB (Allowed Profit) for DH GJAKOVA

Based on the calculated  $WACC_{pre-tax}$  of 10.6% as mentioned in 3.3.2, we are now able to calculate the Allowed Return or Allowed Profit for DH GJAKOVA, which according to the below formula:

$$(RoR \times \text{Closing RAB})$$

Is equal to  $€2,114,491 \times 10.6\% = €224,136$ .

**Table 3: Allowed Return (Allowed Profit) on CLOSING RAB for DH GJAKOVA for district heating season 2007 - 2008**

Allowed Return (Allowed Profit) on Closing RAB for DH GJAKOVA for DH season 2007 - 2008		In €	
		Proposed by Propozuar nga DH GJAKOVA	Allowed by ERO Lejuar nga ZRrE
<b>CLOSING RAB</b>	<b>Closing Regulatory Asset Base</b>	<b>3,433,000</b>	<b>2,114,491</b>
<b>RoR</b>	<b>Rate of Return at WACC level</b>	<b>10.6 %</b>	<b>10.6 %</b>
	<b>Allowed Return or Allowed Profit</b>	<b>363,898</b>	<b>224,136</b>

### 3.4 Calculation of Allowed Revenues before Reconciliation

Total Allowed Revenues before Reconciliation are calculated according to the formula:

$$R_{bRec} = OC + \text{Annual Depreciation} + \text{Allowed Return on Closing RAB},$$

and is equal to **€911,354**, as mentioned in detail in Table 4.

**Table 4: Allowed Revenues before Reconciliation for district heating season 2007/08**

In €

Allowed Revenues before Reconciliation DHC GJAKOVA for DH season 2007 – 2008		Proposed by DH GJAKOVA	Allowed by ERO
<b>OC</b>	<b>Allowed operational costs</b>	<b>562,920</b>	<b>496,670</b>
	<b>Depreciation</b>	<b>280,000</b>	<b>190,548</b>
	<b>Allowed Return on Closing RAB (Allowed Profit)</b>	<b>363,898</b>	<b>224,136</b>
<b>R<sub>bRec</sub></b>	<b>Allowed Revenues before Reconciliation</b>	<b>1,206,818</b>	<b>911,354</b>

**3.5 Reconciliation of Allowed Revenues for district heating season 2006-2007**

Based on the by ERO calculated and decided reconciliation as mentioned in the “Assessment of Regulatory Reporting of District Heating GJAKOVA JSC - Comparison of Actual Data vs. Planned for the Heating Season 2006/2007” of September 2007, which is the by ERO accepted differences between the actual and planned Allowed Revenues of DHC GJAKOVA for district heating season 2006-2007, **€28,310 will be deducted** from the Allowed Revenues for the district heating season 2007-2008.

**3.6 Final Calculation of Allowed Revenues for district heating season 2007-2008 including reconciliation of district heating season 2006-2007**

Allowed Revenues are calculated according to the following formula:

$$\mathbf{R = R_{bRec} +/- Value\ of\ reconciliation}$$

So finally, **Allowed Revenues for DHC GJAKOVA for the heating season 2007-2008 is determined on €883,044**, as summarised in Table 5.

**Table 5: Allowed Revenues for DHC GJAKOVA for heating season 2007-2008**

In €

Allowed Revenues – DHC GJAKOVA for DH season 2007 – 2008		Allowed by ERO
<b>R<sub>bRec</sub></b>	<b>Allowed Revenues before Reconciliation DH season 2007-2008</b>	<b>911,354</b>
	<b>Reconciliation DH season 2006-2007</b>	<b>-28,310</b>
<b>R</b>	<b>Allowed Revenues</b>	<b>883,044</b>

In line with the proportion of fixed and variable operational costs before subsidies – which is €165,050 and €681,620 respectively – the percentage of the **fixed part is 19.50%** and the percentage of the **variable part 80.50%**. For the district heating season 2007-2008 the split in allowed revenues is therefore as mentioned below:

**Fixed part of Allowed Revenues (R<sub>F</sub>)**                      **€172,141; and**

**Variable part of Allowed Revenues (R<sub>V</sub>)**                      **€710,903.**