



Prishtina, 4 November 2014

Explanatory paper  
on  
the Reasons of Non-application by DH Termokos for the 2014/2015 Season  
Tariffs

## 1. Introduction

The explanations for the reasons related to the non-application by DH Termokos for the 2014/2015 hearing season tariffs are herewith given. The main reason is related to the implementation of the co-generation project, namely the influence of this project in considerable changes in the operation and assets of the DH Termokos. Furthermore, another reason is the weak operational and financial performance of the DH Termokos in the previous seasons.

These explanations are given below in more detail.

## 2. Co-generation Project Influence in the Changes of Operation and Assets of the DH Termokos

The Co-generation Project contains some specific components which have a crucial influence in the change of the DH Termokos operations, and also in its assets, compared to the up-to-date operation and existing assets of the DH Termokos. These considerable changes have an effect in operational costs (OPEX) and capital costs (CAPEX) of the enterprise, which are a basis for the planning (projections) which the tariff application must contain.

### 2.1 Influence in Operation/ Operational Costs of the DH Termokos

The main change is in the production of thermal energy (heating) and, consequently, in some other operational components, such as: the operation of two heat exchange stations – one in TC Kosova B and the other in DH Termokos; operation and maintenance of conveyor pipe of TC Kosova B – DH Termokos, having a length of about 11 km; operation of the computer control system and monitoring for equipments, and relevant data of co-generation.

#### Thermal energy production (heat)

- In the co-generation project, the main quantity of thermal energy (heat) that will be obtained by the extraction of steam in the turbines of two units B1 and B2, having a thermal capacity of  $2 \times 70 \text{ MW}_{\text{THERMAL}}$ , or a total of  $140 \text{ MW}_{\text{THERMAL}}$ .



- The two heavy fuel oil boilers in the heating of Termokos, having a capacity of 2x58 MW or a total of 116 MW, shall not be decommissioned. Instead, they will serve as a backup that will be used in case of an unexpected interruption of B1 or B2 units, and will be used to meet the demands in the peak of heat consumption.

#### Other operational components

- Operation of two heat exchange stations – the heat exchange station in TC Kosova B and the heat exchange station in DH Termokos.
- Operation of heat supply network, having a length of about 11 km from TC Kosova to DH Termokos.
- Extra transmitting fluid (hot water) - Operation with three instead of two waters, which are present at the moment: the water coming from the heat exchange station in the TC Kosova B, across the heat supply network, to the heat exchange station of the DH Termokos; the primary heat supply network water; and the water of secondary heat supply network;
- Operation of control system and monitoring of equipments and relevant data of co-generation.

#### Changes in Operational Costs (CAPEX)

The said changes in the operation of central heat system of Termokos have their impact on the considerable changes in the operational costs (CAPEX) of the DH Termokos in comparison with the costs so far, which have been listed below together with basic explanations:

- The cost of thermal energy (heat) production which contains two components:
  - o Cost of thermal energy (heat) produce by TC Kosova B – this cost includes the loads for the reserved thermal capacity and the amount of heat supplied, and it is set out by the KEK – Termokos Heat Supply Agreement, which is not finalized yet, signed by the parties and granted by the ERO.
  - o Cost of the heat produced in the heavy fuel oil boilers in the district heating – this cost can be easily planned as regards the cost of the heavy fuel oil, however, when implementing the project, the number of operating days must be set / forecasted. For a realistic projection, the data of at least one heating season must be provided.
- Other operational costs – of which the following are the most important:
  - o Cost of operation of the two heat exchange stations;
  - o Cost of operation of the KEK – Termokos heat supply network;
  - o Cost of heat supply fluid (water) – which is an additional quantity to the closed circuit: heat exchange station of TC Kosova B – Heat Supply Network – Heat Exchange Station of DH Termokos;
  - o Cost of control system and monitoring of equipments and relevant data;
- Heavy fuel oil subsidy – this is an extra financial component which has also underwent a change due to the project of co-generation:



- 2014 calendar year subsidy, which was accorded for the first 2014/2015 season, in amount of 1,200,000 €, has been spent for the co-generation project due to the exceeding of investment costs;
- In the 2015 budget, it was foreseen not to have subsidy for fuel, because once the co-generation project would finish, no reason for doing so would exist.

Based on what is mentioned above, the co-generation project influences significantly in the change of operational costs. Due to this, it was thought that at least one heating season is needed to gather data about the concretely realized operational costs, so that, based on the collected data, more accurate plans / projections for the tariffs application can be made,.

## 2.2 Impact on the DH Termokos Assets – Impact on CAPEX

The co-generation projects influences a lot in the DH Termokos Assets, hence it influences in the Regulatory Asset Base (RAB) which is the basic component for calculating the depreciation and revenues on RAB, namely, CAPEX.

As a result of the co-generation project, the main extra assets are the following:

- Heat exchange station in TC Kosova B;
- Heat supply network TC Kosova B – DH Termokos, having a length of approximately 11 km;
- Heat exchange station in DH Termokos;
- Equipments and additional installations of connections to the turbines of B1 and B2 units, namely, the connection in the distribution network of DH Termokos.

It should be emphasized that the investment costs for the co-generation project represent a value which is greater than the existing assets of DH Termokos (according to the 2013 audit report, the existing assets value as per 31 December 2013 is 5,087,185 €). It is estimated that the total investment for this project will achieve a value up to 32 million €, which represents an exceeding of the value in amount of 27 million €, pre-calculated by the feasibility study. The figure of over 32 million € has not been confirmed yet, as the project has not finished yet. We have been promised by the Project Implementation Unit and KfW that the accurate data will be available after completion of the detailed assessment of projects investment costs, which shall be available upon the completion of the project.

The structure of the investment financing of the co-generation project, which was in the initial period of the project realization, is given below:

- Donation from European Commission -	13,825,000 €;
- From KfW 6,000,000 € donation, and 5,000,000 € loan -	11,000,000 €;
- Donation from the Municipality of Prishtina -	2,000,000 €;
- Donation from the Government of Sweden -	1,800,000 €;
- Donation from the Government of Luxembourg -	1,500,000 €;
- <b>Total -</b>	<b>30,125,000 €.</b>



As it may be noticed, out of the foreseen total amount of 30,125,000 €, 25,125,000 € are donations, and 5,000,000 € are a loan from the German Development Bank (KfW).

#### Change in Capital Costs (CAPEX)

The big change in the value of assets as a result of the realization of the project of co-generation, has an enormous effect in the capital costs, more specifically in:

- The depreciation of Fix Assents – this cost, which should be included in the Allowed Returns, is calculated according to the relevant average norm of depreciation in the Regulatory Asset Base (RAB); and
- The Revenues in RAB (profit) – this cost is also one of the main components of the Allowed Revenues, which is calculated according to the Return Interest Rate (RoR-WACC) in the self-funded assets ( $RAB_F$  – which includes also the loan funded assets).

Since the project is being implemented and is not completed yet, a problem in defining the RAB exists, because, due to the exceeding of the investment value of the project, delays in implementation of the project, and the incomplete implementation of the project, the value of the new assets / investments is not known yet.

Therefore, in order to make the planning of the RAB as realistic as possible, more complete data on assets / investments is needed, which is not available at this state since the project is being implemented. Therefore, complete data for the following are needed:

- Value of New Investments –mainly related to the project of co-generation;
  - o During the joint meetings with DH Termokos and KfW – Project Implementation Unit for the monitoring of the project, we agreed that a detailed and accurate list of assets invested in the project of co-generation, which we will submit also with the ORE, shall be prepared upon the finalization of the project.
- Residual Value of existing assets – In this case, it is primarily related to the value of the two heavy fuel oil boilers with a total capacity of 116 MW<sub>THERMAL</sub> and other associated equipments. Since these are not foreseen to be decommissioned, but to be used as a backup in cases of unexpected breakdowns in TC Kosova B and to cover the peak, then their value should not be taken as complete, but in accordance with the degree of expected accessibility (given in %). In order to be as accurate as possible in planning, it is preferable to make available the data, number of days / hours for at least one season during which these boilers have been used to produce thermal energy (heat).

Therefore, based on what is stated above, it can be concluded that in this stage when the project has not finished yet, there are many questions related to the investments and, in general, assets which shall be used for the heat service provision. For this reason, each forecast of the RAB value would rely on the non-confirmed and incomplete values. Hence, the forecast of capital costs – depreciation and return in RAB – would be quite unreal and questionable, and it would have a great impact on the general projection for the Allowed Income and setting of tariffs.

### **3. Operational and Financial Performance of the DH Termokos**



As it is widely known, the operational and economic-financial performance of the DH Termokos has been very weak, particularly during the last two seasons, with such performance representing an extra difficulty to make genuine plans (forecasts) for setting Allowed Revenues and tariffs.

### 3.1 Operational Performance

Operational performance of the DH Termokos, in terms of production and supply of customers with heat (thermal energy), has been very poor. Due to financial difficulties that have prevented the provision of sufficient quantities of heavy fuel oil, the thermal energy production has been at a significantly lower level than planned in the relevant tariff reviews. This further influenced the insufficient supply of customers with heat – thus, in general, the supply experienced plentiful outages and was of a poor quality. As concrete example, during the previous season 2013/2014, the heat supply started in the late-November 2014, and ended in mid-March 2014 – i.e. not even 4 full months. In addition, even during this period, the supply experienced short outages and the heat was of poor quality.

In order to illustrate the weak performance of the DH Termokos in the production and supply of costumers with heat, the data gathered during the monitoring of previous season 2013/2014 have been briefly presented below.

#### Supply and consumption of heavy fuel oil –2013/2014 season

The data gathered during the monitoring of the supply and consumption of heavy fuel oil during the previous season has been presented in the table below.

Supply of heavy fuel oil and consumption - DH Termokos, 2013/2014 season									
		10/20 13	11/201 3	12/201 3	01/201 4	02/201 4	03/201 4	Total	
1	Quantity of heavy fuel oil supplied [ton]	-	-	-	-	-		<b>5,459.86</b>	
2	Consumption of heavy fuel oil [ton]	18.62*	794.24	1,703.86	1,359.33	983.56	533.74	<b>5,393.35</b>	
3	Reserves of heavy fuel oil at the beginning of season [ton]								<b>180</b>
4	Reserves of heavy fuel oil at the end of season [ton]								<b>245.65</b>

*\* the quantity of the heavy fuel oil consumed in October served only as a test in the context of preparations for the heating season*



A comparison of the consumption of fuel and its planned quantities is presented in the following table.

<b>DH Termokos – consumption of heavy fuel oil in 2013/2014 season</b>			
Planned [ton]	Actual [ton]	Difference [ton]	Actual [%]
11,700.00	5,393.35	6,306.65	46.10

Therefore, as it can be seen from the above-mentioned data, the quantity of supply of heavy fuel oil was 5,459 tons, while the consumption of heavy fuel oil was 5,393 tons, which, compared with the planning (forecasts), represents a realization of 46 % only.

#### Production, supply and system losses

Lack of financial resources to secure sufficient heavy fuel oils affected in chain the production and supply of heat.

<b>NQ Termokos- thermal energy balance - 2013/2014 season</b>						
Energy from fuel	Net generation of heat	Generation losses	District heating efficiency	Distribution losses		Supply
[MW <sub>T</sub> h]	[MW <sub>T</sub> h]	[MW <sub>T</sub> h]	[%]	[MW <sub>T</sub> h]	[%]	[MW <sub>T</sub> h]
60,952.20	51,528.21	3,328.77	84.53	9,723.79	18.87	41,804.42

Production and supply of heat realized in 2013/2014 season was significantly lower when compared with relevant forecasts (planning) made during the tariff reviews of previous seasons. The realization of heat production and supply is shown in the table below.

<b>Realization of production and supply of heat - 2013/2014 season</b>			
	Planned	Actual	% of realization
Net production of heat [MWh <sub>T</sub> ]	118,989	51,528	43.3 %
Supply of heat [MWh <sub>T</sub> ]	104,710	41,804	39.92 %

From the above data, it can be noticed that there exists a very small realization of all the main parameters of the DH Termokos operation, which negatively influences on the relevant forecasts for the setting of the allowed revenue and tariffs. Concretely, the greatest influence is on the planning of the heavy fuel oil cost, which represents the main cost, and on the planning of the quantities of thermal energy (heat) production and supply of customers with heat.



### 3.2 Financial performance

First of all, it should be emphasized that the financial performance of the DH Termokos is very low, which is mainly due to the billing that is lower than planned and also due to the lower level of payments collection.

The relevant data of monitoring, which was implemented during the 2013/2014 season, is presented below.

Enterprise:		<b>DH "Termokos" sh.a</b>		Period:		<b>2013/ 2014 season</b>	
<b>Billing and Collection of Payments</b>							
<b>2013 - 2014 Heating Season</b>							
	Sale of heat from Group	Heating Area [m2]	Billed [Euro]	Collected [Euro]	Shkalla e Collection Rate[%]	Debt [Euro]	Debt [%]
1	Domestic	634,557.45	1,223,844.06	220,585.79	18.02	1,003,258.27	81.98
2	Commercial and Institutional	391,918.02	1,095,758.07	859,092.63	78.40	236,665.42	21.60
3	Total	<b>1,026,475.47</b>	<b>2,319,602.13</b>	<b>1,079,678.44</b>	<b>46.55</b>	<b>1,239,923.69</b>	<b>53.45</b>

As it can be noted from the table above, the billing is significantly lower than planned, and this is mainly a consequence of non-billing for the months during which no heating was supplied (the heating season started in late-November 2013 and ended in mid-March 2014), as well as due to discounts in invoices for frequent outages of several days and the quality of heating. If we refer to the allowed revenues (i.e. those deriving from sale of heat), as set out in the last tariff review at the amount of 6,433,000 €, it can be seen that the realization of billing is about 36 %.

A similar aggravated situation is also found in the collection of payments from customers, with the average degree of collection of payments from two groups of customers being 46.55%.

Billing and low collection have directly influence the difficult financial situation where DH Termokos currently finds itself in. The lack of sufficient financial resources to cover the operational costs, in the first place, prevents the supply of heavy fuel oil in sufficient quantities for a sustainable heat supply. For this reason, during the cost planning, a number of dilemmas are presented in terms of the limited realistic financial sources for covering the relevant costs.



## Subsidies

Due to financial difficulties mentioned above, the DH Termokos has continuously received subsidies not only from the Budget of Kosovo, but also from Municipalities, whereby its financial ability to pay the cost of heavy fuel oil was increased.

As an illustration, the data on received during 2013/2014 season is given below.

From the Budget of Kosovo -	<b>2,402,538.17 €;</b>
From the Municipality of Prishtina -	<b>500,000.00 €</b>
<b>Total subsidies -</b>	<b>2,902,538,17 €</b>

Nevertheless, due to the fact that the project of co-generation was planned to be finished before the beginning of this season and the supply of heat by the TC Kosova B was to be implemented, then no final subsidy value was forecasted.

Given that the subsidies have played an important role in covering the costs, and considering the approach according to which the customers should not be charged for costs covered by the subsidy, during the setting of the Allowed Revenue the amount of subsidy was subtracted. Because of this, the lack of any somehow valid indication of the subsidy value makes the forecasting of subsidy very questionable and causes very negative effects in case any mistake is made in this forecast.

Based on what is stated above, it can be concluded that the weak operational and financial performance also represents difficulties to make realistic forecasts, which are needed for a complete tariff application.