

Pursuant to Article 15, Paragraph 1, Item 3 and in connection with Article 55 of the Energy Law (Official Gazette of the Republic of Serbia No. 84/04) and Article 12 of the Statute of the Energy Agency of the Republic of Serbia (Official Gazette of the Republic of Serbia No. 52/05),

the Council of the Energy Agency of the Republic of Serbia, at the 77th Council Session held on 23 April 2008, passed the following

DECISION

on Natural Gas Transmission and Distribution Connection Charging Methodology

*(This Decision was published in the Official Gazette of the Republic of Serbia,
No. 48, dated 2 May 2008)*

1. The Natural Gas Transmission and Distribution Connection Charging Methodology (hereinafter referred to as the Methodology) is attached to this Decision and forms an integral part thereof.
2. Natural gas transmission and distribution entities shall harmonize their acts on setting transmission and distribution connection charges with the Methodology, within 15 days after the date of publication in the "Official Gazette of the Republic of Serbia".
3. Energy entities shall submit their acts on setting charges for connection to the transmission network and for standard connection to the distribution network, upon their adoption, with a reasoned exposition of the calculation of set standards and charges to the Energy Agency of the Republic of Serbia, 15 days prior to enforcement of these acts, at the latest, for verification of compliance with the Methodology.
4. Natural gas transmission and distribution connection charges shall be calculated in line with the Methodology as of 1 July 2008.
5. As of coming of the Methodology into force the Decision on determining the Natural Gas Transmission and Distribution Connection Charging Methodology, No. 33-2/2007-D I, dated 2 February 2007, and the Natural Gas Transmission and Distribution Connection Charging Methodology forming an integral part thereof (Official Gazette of the Republic of Serbia, No. 18/2007) shall cease to be valid.
6. This Decision shall be published in the "Official Gazette of the Republic of Serbia".

No: 340/2008-D-I/1

Belgrade, 23 April 2008

Council of the Energy Agency of the Republic of Serbia

Council President

Ljubo Macic

NATURAL GAS TRANSMISSION AND DISTRIBUTION CONNECTION CHARGING

M E T H O D O L O G Y

I. SUBJECT MATTER

This Methodology provides a more elaborate definition of criteria and methods of setting charges of connecting system users' facilities to natural gas transmission or distribution networks (hereinafter referred to as the Methodology).

II. TERMS

The terms used herein shall have the following meaning:

Distance frontier – a distance range from network within which variable part of standard connection charges is calculated for a standard distance from network;

Energy entity – an entity carrying out the energy activity of natural gas transmission or distribution.

System user – a producer or customer of natural gas whose facility is to be connected to the system based on an approval for connection;

Network – pipelines for natural gas transmission or distribution functionally interlinked into a technical and technological system to which system users' facilities are to be connected or are connected;

Facility – a facility which is to be connected to the natural gas transmission or distribution network based on an approval for connection;

Connection – installations, devices, equipment, and materials used, in conformity with the approval for connection, for physical connection of a facility to the network at the nearest technically and legally feasible point of connection, including also the metering device;

System – energy facilities for natural gas transmission or distribution – networks, other energy facilities (metering, regulation and metering and regulation devices), telecommunication, information and other infrastructure (data collection, supervision and control systems etc) required for natural gas transmission / distribution;

Actual cost – direct cost of the energy entity incurred by provision of charge breakdown components for a particular connection;

Network capacity usage ratio – the ratio of designed capacity to used capacity of the network to which the user's facility is to be connected;

Standard distance from network – a measurement for determining the standard connection charge;

Distance from network – actual distance between the facility to be connected and the nearest technically and legally feasible point of connection to the transmission or distribution network, measured along the pipeline route. The nearest point in the distribution network is deemed to be the point on the distribution pipeline on the side of the street where the facility to be connected is situated, and it doesn't include crossing the street unless the street is crossed because of one user only and the pipe cross-section at the crossing is determined for that user only;

Market price of connection charge breakdown components – a price reached on the market under most favourable conditions at the time the final provision of connection charge breakdown components is undertaken; which is calculated in this way for all standard connection types applying at the time the act on setting standard connection charge levels is issued;

Price of the connection charge breakdown components provided on one's own – has the same meaning as in the International Accounting Standard 16; which is calculated in this way for all standard connection types at the time the act on setting standard connection charge levels is issued;

III. CRITERIA FOR SETTING CONNECTION CHARGES, CHARGE BREAKDOWN AND CONNECTION CATEGORIES

III.1. Criteria for Setting Connection Charges

Criteria for setting connection charges are as follows: approved capacity, location of connection, type of equipment, devices and materials to be installed, type of works to be executed and other arrangements required to set up a connection.

When setting and calculating connection charge levels in accordance with this Methodology, the energy entity may include only actual connection charges/connection charge breakdown components incurred.

III. 2. Connection Charge Breakdown

Connection charges include:

- 1) Costs of design preparation and of gathering required documentation;
- 2) Costs of purchasing devices, equipment, and material;
- 3) Costs of works;
- 4) Costs of specialists and operational works required to connect a facility to the system, and
- 5) Part of system costs incurred as a prerequisite for connecting a facility to the distribution or transmission network (semi-deep connection costs).

III.3. Connection Categories

Subject to the network pressure at the point of connection, maximum meter capacity, connection method and number of meters installed in one facility and connected to one regulation device, connections can be divided into three categories:

- 1) Standard connection;
- 2) Custom connection, and
- 3) Group connection.

IV. SETTING CONNECTION CHARGES

IV.1. STANDARD CONNECTION

IV.1.1. Definition

A connection to (polyethylene or steel) distribution network at pressure less than 6 bar with household meter and regulation set (HMRS) of maximum capacity 10 m³/h shall be deemed to be a standard connection, where standardised equipment, devices and materials are installed and for which standard works are carried out in the course of construction.

Subject to the maximum HMRS capacity, or the meter type, the following connection types are set:

Number	Meter type	Maximum capacity
1.	G – 2.5	4 m ³ /h
2.	G – 4	6 m ³ /h

3.	G - 6	10 m ³ /h
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IV.1.2. Method of Setting Connection Charges

IV.1.2.1. Construction Costs of Connection

IV.1.2.1.1. Standard connection charges are set for each standard connection type on the basis of:

- Average costs of design preparation and gathering required documentation;
- Average standardised quantity of necessary equipment, devices and materials to be installed;
- Average costs of works, and
- Average costs of specialist and operational works required to connect a facility to network.

Standard connection costs may be:

- Fixed, and
- Variable.

Fixed costs consist of costs not dependent on distance the facility is from network.

Variable costs consist of costs dependent on distance the facility is from network, expressed per metre of length, which are calculated:

- If the distance from network is up to the distance frontier – for a standard distance,
- If the distance from network is exceeding the distance frontier – the amount calculated for the standard distance increases by the difference amount between the actual distance and the distance from network to frontier.

The standard distance from network is equal to the average distance between network and facility on all energy entity's networks with pressure less than 6 bars, measured along the pipeline route, and is not more than 12 metres in length.

The distance range between network and distance frontier is calculated by multiplying the number 1,67 by the standard distance from network, measured along the pipeline route, and may cover 20 metres, at the maximum.

IV.1.2.1.1.1 Costs of Design Preparation and Gathering Required Documentation

IV.1.2.1.1.1.1 Costs of design preparation and gathering required documentation consist of cost of preparing the household gas connection design (main design or as-built design), costs of geodetic connection survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map.

Costs of preparing a household gas connection design (main design and as-built design) are calculated based on the market price per design, or the charge paid at the time the design was prepared by the energy entity itself. The price is calculated by multiplying the person-hour according to the standardised level of educational attainment and occupational profile of persons preparing the design, and may amount to 2, 5 engineer-hours, at the maximum, for the design preparation.

Costs of geodetic connection survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map are calculated in accordance with the market prices, and may not exceed amounts listed in the official price list of the Republic Geodetic Authority.

Costs referred to under item IV.1.2.1.1.1.1. are entirely fixed.

IV.1.2.1.1.1.2. In case standard connection charges for a particular customer entail also costs associated with regulating ownership relations, standard connection charges set in accordance with item

IV.1.2.1.1.1. shall be increased by the actual amount of costs incurred by regulating ownership relations, and shall be indicated separately.

IV.1.2.1.1.1.3. In case standard connection charges for a particular customer entail also costs associated with acquiring an approval for construction or an approval for usage, standard connection charges set in accordance with item IV.1.2.1.1.1. shall be increased by the actual amount of costs incurred by acquiring an approval for construction or an approval for usage, and shall be indicated separately.

IV.1.2.1.1.2. Costs of Purchasing Devices, Equipment, and Material

IV.1.2.1.1.2.1 Costs of equipment, devices and materials consist of costs of purchasing standardised quantities of equipment, devices and materials to be installed in accordance with technical regulations and the code of the grid to which the facility is to be connected.

The costs are calculated by multiplying the specified standardised quantities of equipment, devices and materials by the market price, or by the charge paid where equipment, devices and materials were provided by the energy entity itself.

Costs of equipment, devices, and materials may be fixed and variable.

IV.1.2.1.1.3. Costs of Works

IV.1.2.1.1.3.1. Costs of carrying out works comprise labour costs, costs of usage of machinery, special tools, equipment and costs of vehicle usage.

IV.1.2.1.1.3.2. Costs of labour engaged in carrying out requisite standard works are calculated by multiplying the determined market price, expressed per specified measurement unit, by the standardised number of person-hours required for the execution of these works, or by the standardised consumption per relevant measurement unit; or, where the energy entity carries out works on its own, by multiplying the price per person-hour, according to the standardised level of educational attainment and occupational profile of persons carrying out the works, by the standardised number of person-hours required for the execution of these works. Standard construction works include: ditch cutting, filling ditches with sand and earth, restoring public places.

IV.1.2.1.1.3.3. Costs of using operator-driven machinery for constructing a connection are calculated by multiplying the market price of D-2 motor fuel by 15 litres of the same fuel. Costs of using special operator-driven tools and equipment are set equal to 15% of the costs of using operator-driven machinery calculated in accordance with this item.

IV.1.2.1.1.3.4. Costs of vehicles with drivers used for setting up a connection are calculated by multiplying the market price of BMB – 95 fuel by 30 litres of the same.

Costs mentioned under item IV.1.2.1.1.3.2. may be fixed or variable.

Costs mentioned under item IV.1.2.1.1.3.3. and IV.1.2.1.1.3.4. are entirely fixed.

IV.1.2.1.1.4. Costs of Specialist and Operational Works

IV.1.2.1.1.4.1. Costs of specialist and operational works required to connect a facility to network consist of costs of determining technical conditions for construction of a connection (identifying the location of HMRS and the connection route), professional supervision of execution of construction and machinery mounting works lasting 45 minutes per connection, at the maximum, as well as technical control of the interior gas installation prior to the initial gas delivery to the facility.

Costs of specialist and operational works required to connect a facility to the network include costs of works calculated on the basis of the works' market price, or, where energy entities carry out works on their own, the charge per person-hour, according to the standardised level of educational attainment and

occupational profile of persons engaged in setting up a connection, and the standardised number of person-hours required to complete these works.

Costs mentioned under item IV.1.2.1.1.4.1 are entirely fixed.

IV.1.2.2. Semi-Deep Connection Costs

IV.1.2.2.1. Semi-deep connection costs are determined on the basis of the maximum HMRS capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

The energy entity may determine the usage ratio for each network individually, or a single value for all networks with working pressure $p < 6$ bar, but it may not combine these two methods of determining the network usage ratio.

Where, in the course of creating technical conditions to connect its own facility, the user had to bear costs of constructing a part of the network, semi-deep connection costs are not included in the calculation.

IV.1.3. Method of Calculating Connection Charges

IV.1.3.1. Total Connection Charges

IV.1.3.1.1. Standard connection charges include costs of constructing a connection and semi-deep connection costs, and are calculated according to the following formula:

$$T_{t_{pi}} = T_{l_{t_{pi}}} + DT_{St_{pi}}$$

Where:

i = a standard connection type set in accordance with the criteria specified in this Methodology;

$T_{t_{pi}}$ = standard i -type connection charge;

$T_{l_{t_{pi}}}$ = costs of constructing an i -type standard connection, and

$DT_{St_{pi}}$ = semi-deep connection costs of an i -type standard connection.

IV.1.3.2. Connection Construction Costs

IV.1.3.2.1. Costs of constructing an i -type standard connection at a distance range from network up to the distance frontier, are:

$$T_{l_{t_{pi}}} = TPD + TKMRS_i + TOO + TR + TSO$$

Where:

TPD = costs of design preparation and gathering required documentation;

TKMRS $_i$ = costs of HMRS of an i -type connection;

TOO = costs of other equipment, devices and materials required to construct a connection;

TR = costs of works carried out on a connection, and

TSO = costs of specialist and operational works required to connect a facility to network, whereby:

$$TOO = F_{TOO} + J_{VTO} * TU \text{ and}$$

$$TR = F_{TR} + J_{VTR} * TU$$

or,

$$T_{tpi} = TPD + TKMRSi + (FTOO + JVTO * TU) + (FTR + JVTR * TU) + TSO + DTStpi \quad (1)$$

Where:

FTOO = fixed costs of other requisite equipment, devices and material;

JVTO = unit variable costs of requisite equipment, devices and material (in dinar per metre);

TU = standard distance from network;

FTR = fixed costs of executed works, and

JVTR = unit variable costs of executed works (in dinar per metre).

After classifying costs into fixed and variable, the formula (1) is reduced to the following:

$$T_{tpi} = TKMRSi + OFT + JVT * TU + DTStpi$$

Where:

OFT = other fixed costs of connection (without costs of HMRS) and

JBT = unit variable costs of connection (in dinar per metre),

Which are calculated according to the formula below:

$$OFT = TPD + FTOO + FTR + TSO$$

$$JBT = JVTO + JVTR$$

IV.1.3.2.2. In case the distance between facility and network is exceeding the distance frontier, the connection construction costs are calculated according to the following formula:

$$DT_{tpi} = T_{tpi} + JVT * RU$$

Where:

DT_{tpi} = total standard connection charges for an i-type connection when the distance between facility and network is exceeding the distance frontier, and

RU = difference between the distance the facility is from network, measured along the pipeline route, and the distance from network to distance frontier.

IV.1.3.3. Adjustment to Calculation of Connection Construction Costs

IV.1.3.3.1. Where a standard connection and distribution network are constructed in parallel, standard connection construction charges shall be decreased by 20% of connection construction costs for a standard distance from network and shall be calculated according to the following formula:

a) for a distance from network equal or less than the standard distance:

$$T_{tpi} = 0,8 * T_{ltpi} + DTStpi,$$

b) for a distance from network exceeding the distance frontier:

$$DT_{tpi} = 0,8 * T_{ltpi} + JVT * RU + DTStpi$$

IV.1.3.3.2. Where connecting a facility of one particular user requires crossing the street, whereby the size of the pipeline cross-section is set so as to exclusively meet the needs of that particular user, connection charges include also costs applicable to crossing the street.

IV.1.3.3.3. Should a user, on the basis of defined conditions and the consent of the energy entity to whose network he is to be connected, carry out connection works on his own, items in respect of those works, i.e.

the amount of costs relating to those items are to be excluded from connection charges. Works shall be carried out under specialist supervision of the energy entity.

IV.1.3.3.4. Where, at user's request, equipment of higher standard than that prescribed is used in the course of constructing a standard connection, connection charges are set equal to costs calculated according to the formula referred to under item IV.1.3.1.1 plus the difference between actual costs of such equipment and standardised costs of equipment of prescribed standard.

IV.1.3.3.5. Where, at user's request, construction works of higher standard than that prescribed are executed in the course of constructing a standard connection, connection charges are set equal to the costs calculated according to the formula referred to under item IV.1.3.1.1 plus the difference between actual costs of such works and standardised costs of works of prescribed standard.

IV.1.3.3.6. When a connection was partially constructed at the expense of the user prior to the issuing of a Connection Approval, those charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology and shall be indicated separately.

IV.1.3.4. Semi-Deep Connection Costs

IV.1.3.4.1. Semi-deep connection costs are calculated on the basis of the maximum HMRS capacity, capacity unit costs and capacity usage ratio of the network to which the facility is to be connected:

$$DTStp = KAPtp * Ktp * (1 - SIM) \text{ (din),} \quad SIM \leq 0,60$$

$$DTStp = 0 \text{ for } SIM > 0,60$$

where:

$DTStp$ = semi-deep costs of a standard connection

$KAPtp$ = maximum HMRS capacity of a standard connection (m^3/h)

Ktp = capacity unit costs, i.e. the coefficient for which the value is being determined

$$K_{tp} = 3000 \frac{\partial uH}{m^3/h}, \text{ and}$$

SIM – capacity usage ratio of the network to which the facility is to be connected, which is calculated according to the formula below:

$$SIM = IKM / PKM$$

where:

IKM – network used capacity, and

PKM – designed capacity of the distribution network to which the facility is to be connected to.

Network used capacity is calculated from the formula below:

$$IKM = UKtp + \sum OKip + \sum MKgp$$

where:

$UKtp$ = total capacity of standard connections constructed within the network to which the facility is to be connected;

$\sum OKip$ = sum of approved capacities of all custom connections within the network to which the facility is to be connected, and

$\sum MK_{gp}$ = sum of maximum capacities of regulation devices of group connections within the network to which the facility is to be connected, and

UK_{tp} is calculated according to the following formula:

$$UK_{tp} = BR_{itp} * 1,2 \left(m^3/h \right)$$

Where:

BR_{itp} = total number of standard connections constructed within the network to which the facility is to be connected.

IV.2. CUSTOM CONNECTION

IV.2.1. Definition

A custom connection is a connection to the:

- transmission network;
- distribution network with pressure of ≥ 6 bar;
- distribution network with pressure less than 6 bar with a maximum metering-regulation station (MRS) capacity above 10 m³/h, and
- any other connections not meeting criteria for standard or group connections within the meaning of this methodology.

IV.2.2. Method of Setting Connection Charges

IV.2.2.1. Construction Costs of Connection

IV.2.2.1.1. Custom connection charges are equal to the sum of actual costs of:

- design preparation;
- gathering requisite documentation, prescribed consents and approvals;
- resolving property ownership relations associated with a particular connection;
- carrying out preparation works;
- purchasing devices, equipment and materials;
- labour engaged in construction, machinery-mounting and electrical works associated with construction of a connection, usage of operator-driven machinery, special tools and equipment and usage of vehicles with a driver;
- equipping a metering point;
- geodetic designation of the route, geodetic survey of the connection route, and updating pipeline cadastral books, and modifications to the pipeline cadastral map
- commissioning and putting into service;
- carrying out other specialist and operational works required to connect a facility to the network: on-site visits to identify the location of the MRS and the connection route with a view to determining the technical conditions for connection; professional supervision of construction, machinery mounting and electrical works; and technical control of interior gas installations prior to initial gas delivery to the connection, in conformity with the technical regulations and the code of the grid to which the facility is to be connected and the criteria specified in this Methodology.

IV.2.2.2. Semi-Deep Connection Costs

IV.2.2.3.1. Semi-deep costs of connecting to the distribution network with working pressure of $p < 6$ bar are determined on the basis of the approved MRS capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

For networks with working pressure of $p < 6$ bar, the energy entity may determine the network usage ratio for each network individually or a single value for all networks operating at that pressure, but it may not combine these two methods to determine the network usage ratio.

IV.2.2.3.2. Semi-deep costs of connecting to the distribution network with working pressure of $6 \leq p < 16$, or to the transmission network, are determined from the approved MRS capacity and the fixed unit costs in dinar per m^3/h .

IV.2.2.3.3. Where the user has to bear costs of constructing a part of the network to create technical conditions to connect its own facility, semi-deep connection costs are calculated only as the difference between semi-deep connection costs referred to under item IV.2.2.2.1, or IV.2.2.2.2, and the invested capital, if the amount of difference is in excess of zero.

IV.2.2.3.4. Semi-deep connection costs shall not be determined for natural gas producers whose facilities are to be connected to the network.

IV.2.3. Method of Calculating Connection Charges

IV.2.3.1. Total Connection Charges

IV.2.3.1.1. Custom connection charges consist of connection construction and semi-deep connection costs, and are calculated according to the formula below:

$$\text{Tip} = \text{Tlip} + \text{DTSip}$$

where:

Tip = custom connection charges;

Tlip = costs of constructing a custom connection, and

DTSip = semi-deep connection costs of a custom connection.

IV.2.3.2. Connection Construction Costs

IV.2.3.2.1. Costs of constructing a custom connection are calculated on the basis of the project documentation, official standards of the energy entity and the market prices, or charges paid where the connection was constructed by the energy entity itself, according to the formula below:

Construction costs of a custom connection are as follows:

$$\text{Tlip} = \text{TPD} + \text{TO} + \text{TR} + \text{TSO},$$

where:

TPD = costs of design preparation, gathering requisite documentation and consent, and costs of regulating property ownership relations;

TO = costs of requisite equipment, devices and material;

TR = costs of works (preparation works, works on constructing a connection and equipping the metering point), and

TSO = costs of specialist and operational works required to connect facility to network (geodetic survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map, commissioning and putting into service).

IV.2.3.3. Adjustment to Calculation of Connection Construction Costs

IV.2.3.3.1. Where a connection of a particular user's facility requires crossing the street, whereby the size of the pipeline cross-section is set so as to exclusively meet the needs of that particular user, connection charges include any costs incurred by that connection, including also costs applicable to crossing the street.

IV.2.3.3.2. Where a user carries out connection works on his own on the basis of defined conditions and the consent of the energy entity to whose network the user is to be connected, items in respect of those works, i.e. the amount of costs relating to those items are excluded from the connection charges. Works shall be carried out under professional supervision of the energy entity.

IV.2.3.3.3. When a part of the connection was constructed at the expense of the user prior to the issuing of a Connection Approval, those connection charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology, and shall be indicated separately.

IV.2.3.3 Semi-Deep Connection Costs

IV.2.3.3.1. Semi-deep costs of a facility's custom connection to the distribution network with pressure of $p < 6$ bar are calculated according to the same method as semi-deep costs of a standard connection described under item IV.1.3.4.1, whereby

KAP_{ipt} = approved MRS capacity of a custom connection to the distribution system ($\frac{m^3}{h}$).

IV.2.3.3.2. Semi-deep costs of a custom connection to the distribution network with working pressure of $6 \leq p < 16$, or to the transmission network, are calculated according to the formula below.

$DTS_{ipt} = K_{ipt} * KAP_{ipt}$

where:

DTS_{ipt} = semi-deep costs of a custom connection to the distribution network with working pressure of $6 \leq p < 16$ bar, or to the transmission network;

K_{ipt} = unit cost for capacity, i.e. the coefficient for DTS_{ipt} for which the value is being determined

$K_{ipt} = 1200 \frac{din}{m^3 / h}$ and

KAP_{ipt} = approved MRS capacity of a custom connection

IV.3. GROUP CONNECTION

IV.3.1. Definition

Within the meaning of this Methodology, a connection of a multi-storey apartment facility to the distribution network with working pressure of $p < 6$ bar shall be deemed to be a group connection. Such connection is constructed from the nearest point in the distribution network to the regulation device for the facility as a whole, and further from the regulation device to the two or more metering devices. Group connection charges shall be expressed per metering devices (MD).

IV.3.2. Method of Setting Connection Charges

IV.3.2.1. Connection Construction

IV.3.2.1.1. Construction costs of a group connection are determined according to the method specified under IV.2.2.1.1. that relates to custom connections.

IV.3.2.2. Semi-Deep Connection Costs

IV.3.2.2.1. Semi-deep costs of a group connection are determined on the basis of the approved regulation device capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

The energy entity may determine the network usage ratio for each network individually, or a single value for all networks with working pressure of $p < 6$ bar, but it may not combine these two methods of determining the network usage ratio.

IV.3.3. Method of Calculating Connection Charges

IV.3.3.1. Connection Construction

IV.3.3.1.1. The group connection charge is calculated according to the same method as the charge of a custom connection described under item IV.2.3.1.1.

IV.3.3.2. Adjustment to Calculation of Connection Construction Costs

IV.3.3.2.1. Where a user carries out connection works on his own on the basis of defined conditions and the consent of the energy entity to whose network the user is to be connected, items in respect of those works, i.e. the amount of costs relating to those items are excluded from the connection charges. Works shall be carried out under professional supervision of the energy entity.

IV.3.3.2.2. Where a part of the connection was constructed at the expense of the user prior to the issuing of a Connection Approval, the connection charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology, and shall be indicated separately.

IV.3.3.3. Semi-deep Connection Costs

IV.3.3.3.1 Semi-deep costs of a group connection are determined on the basis of the maximum capacity of the foreseen regulation device, the capacity unit cost and usage ratio of the network to which the facility is to be connected, and is calculated according to the method described under item IV.1.3.4.1 for the group connection as a whole, where

KAP_{gp} = maximum capacity of the foreseen group connection regulation device ($\frac{m^3}{h}$).

IV.3.3.4. Connection Charge per Metering Device

IV.3.3.4.1. Subject to the ratio of the number of MD installed in parallel with the construction of a group connection to the possible number of MD, the connection charge per metering device is calculated as follows:

$$Tkms = (Tgp + DTSgp) / (Kgp * BRpkms)$$

where:

Tkms = charge per MD;

Tgp = costs of constructing a group connection;
 DTSgp = semi-deep costs of a group connection;
 Kgp = group connection coefficient, and
 BPpkms = number of possible MD;

The group connection coefficient depends on the ratio of the number of MD installed in parallel with the construction of a group connection to the possible number of MD:

$$Kz = BRkms / BRpkms$$

where:

Kz = coefficient of interest

BRkms = number of MD installed in parallel with the construction of the group connection.

The group connection coefficient is determined in accordance with the table below:

Number	Coefficient of interest	Group connection coefficient
1.	$Kz \geq 0,875$	$Kgp = Kz$
2.	$0,50 \leq Kz < 0,875$	$Kgp = (Kz - 0,5)/3 + 0,75$
3.	$Kz < 0,50$	$Kgp = Kz + 0,25$

IV.3.3.4.2. In case of setting up a subsequent connection within the facility connected to the network via a group connection, the connection charge per MD is calculated to the amount of the charge of a standard connection of the same type. Within the meaning of this item, a user's connection for which approval is granted after initial gas delivery to the facility shall be deemed to be a subsequent connection.

V. CONNECTION CHARGES IN SPECIAL CASES

Within the meaning of this Methodology, the following cases shall be deemed to be special cases for determining connection charges:

- 1) modification to a connection constructed based on an approval for connection;
- 2) reconnection of a facility to network when a request for issuing approval for connection is submitted after forced disconnection from the system, and
- 3) connection within the network of the same energy entity of a user who already had a standard connection or MD at a group connection elsewhere, in case of relocation or demolition of the connected facility.

Connection charges in above mentioned special cases are determined as follows:

- in case of modifications to a connection, connection charges are determined according to additional actual costs incurred by such a connection. If there have been changes to the approved capacity, semi-deep costs pertaining to a custom connection are determined only for the increase in the approved capacity, whereas semi-deep costs pertaining to standard and group connections are determined only where the meter has been changed, for the difference between the maximum capacities of meters.

- where a connection of a facility is approved when a request for issuing approval for connection is submitted after forced disconnection from the system, connection charges are determined from the additional actual costs incurred by such a connection, except when forced disconnection was a result of an unauthorized connection of interior gas installations to the transmission/distribution system, or of using gas without a connection approval, in which case charges are determined according to the method set forth in this charging methodology pertaining to facilities connecting to network for the first time.
- In case a connection, due to relocation or demolition of the connected facility, is granted to a user who already had a standard connection or MD at a group connection elsewhere within the network of the same energy entity, the charge paid by the applicant for HMRS or MD at the time the previous connection was set up shall be deducted from the calculated connection charges.

VI. APPLICATION OF THE METHODOLOGY

Natural gas transmission and distribution entities shall set standards for calculating connection charges. Natural gas distribution entities determine also the level of charges for each standard connection type, based on official standards.

The act on setting standard connection charge levels shall include a detail structure of average quantities, set standards and individual costs per each of the connection charge breakdown component specified in this methodology (in respect of the design preparation, gathering documentation, type of devices, equipment, materials, works and other arrangements for constructing a connection) in accordance with the items listed in the excel table "Standard connection charges" which forms an integral part of this methodology.

Energy entities shall submit a copy of the acts on setting charge levels referred to in paragraph 1. and 2. hereof, prior to their enforcement, with a reasoned exposition of the calculation of set standards and charges, to the Energy Agency of the Republic of Serbia.

In line with the principles of transparency and non-discrimination, an energy entity shall make available its acts, based on which connection charges, i.e. the charge level and the charging method are set, to applicants requiring connection.

In their acts on setting connection charges referred to in paragraph 2. hereof, energy entities may, based on the principles of transparency and non-discrimination, provide for discounts and certain payment conditions for connection charges if such benefits are offered to all potential users under equal general conditions.

The capacity usage ratio for networks with pressure <6 bar and the level of standard connection charges for the following year shall be set on an annual basis, by 30 November of the current year, at the latest. However, in case of a rise in retail prices of more than 10 % according to data published by the competent statistics office, the level of standard connection charges may be adjusted within the year for the period from the date of passing the act on setting connection charge levels to the date of adjusting those charges, of which the Agency shall be informed.

Pursuant to Article 15, Paragraph 1, Item 3 and in connection with Article 55 of the Energy Law (Official Gazette of the Republic of Serbia No. 84/04) and Article 12 of the Statute of the Energy Agency of the Republic of Serbia (Official Gazette of the Republic of Serbia No. 52/05),

the Council of the Energy Agency of the Republic of Serbia, at the 77th Council Session held on 23 April 2008, passed the following

DECISION

on Natural Gas Transmission and Distribution Connection Charging Methodology

(This Decision was published in the Official Gazette of the Republic of Serbia, No. 48, dated 2 May 2008)

1. The Natural Gas Transmission and Distribution Connection Charging Methodology (hereinafter referred to as the Methodology) is attached to this Decision and forms an integral part thereof.
2. Natural gas transmission and distribution entities shall harmonize their acts on setting transmission and distribution connection charges with the Methodology, within 15 days after the date of publication in the "Official Gazette of the Republic of Serbia".
3. Energy entities shall submit their acts on setting charges for connection to the transmission network and for standard connection to the distribution network, upon their adoption, with a reasoned exposition of the calculation of set standards and charges to the Energy Agency of the Republic of Serbia, 15 days prior to enforcement of these acts, at the latest, for verification of compliance with the Methodology.
4. Natural gas transmission and distribution connection charges shall be calculated in line with the Methodology as of 1 July 2008.
5. As of coming of the Methodology into force the Decision on determining the Natural Gas Transmission and Distribution Connection Charging Methodology, No. 33-2/2007-D I, dated 2 February 2007, and the Natural Gas Transmission and Distribution Connection Charging Methodology forming an integral part thereof (Official Gazette of the Republic of Serbia, No. 18/2007) shall cease to be valid.
6. This Decision shall be published in the "Official Gazette of the Republic of Serbia".

No: 340/2008-D-I/1

Belgrade, 23 April 2008

Council of the Energy Agency of the Republic of Serbia

Council President

Ljubo Macic

NATURAL GAS TRANSMISSION AND DISTRIBUTION CONNECTION CHARGING

M E T H O D O L O G Y

I. SUBJECT MATTER

This Methodology provides a more elaborate definition of criteria and methods of setting charges of connecting system users' facilities to natural gas transmission or distribution networks (hereinafter referred to as the Methodology).

II. TERMS

The terms used herein shall have the following meaning:

Distance frontier – a distance range from network within which variable part of standard connection charges is calculated for a standard distance from network;

Energy entity – an entity carrying out the energy activity of natural gas transmission or distribution.

System user – a producer or customer of natural gas whose facility is to be connected to the system based on an approval for connection;

Network – pipelines for natural gas transmission or distribution functionally interlinked into a technical and technological system to which system users' facilities are to be connected or are connected;

Facility – a facility which is to be connected to the natural gas transmission or distribution network based on an approval for connection;

Connection – installations, devices, equipment, and materials used, in conformity with the approval for connection, for physical connection of a facility to the network at the nearest technically and legally feasible point of connection, including also the metering device;

System – energy facilities for natural gas transmission or distribution – networks, other energy facilities (metering, regulation and metering and regulation devices), telecommunication, information and other infrastructure (data collection, supervision and control systems etc) required for natural gas transmission / distribution;

Actual cost – direct cost of the energy entity incurred by provision of charge breakdown components for a particular connection;

Network capacity usage ratio – the ratio of designed capacity to used capacity of the network to which the user's facility is to be connected;

Standard distance from network – a measurement for determining the standard connection charge;

Distance from network – actual distance between the facility to be connected and the nearest technically and legally feasible point of connection to the transmission or distribution network, measured along the pipeline route. The nearest point in the distribution network is deemed to be the point on the distribution pipeline on the side of the street where the facility to be connected is situated, and it doesn't include crossing the street unless the street is crossed because of one user only and the pipe cross-section at the crossing is determined for that user only;

Market price of connection charge breakdown components – a price reached on the market under most favourable conditions at the time the final provision of connection charge breakdown components is undertaken; which is calculated in this way for all standard connection types applying at the time the act on setting standard connection charge levels is issued;

Price of the connection charge breakdown components provided on one's own – has the same meaning as in the International Accounting Standard 16; which is calculated in this way for all standard connection types at the time the act on setting standard connection charge levels is issued;

III. CRITERIA FOR SETTING CONNECTION CHARGES, CHARGE BREAKDOWN AND CONNECTION CATEGORIES

III.1. Criteria for Setting Connection Charges

Criteria for setting connection charges are as follows: approved capacity, location of connection, type of equipment, devices and materials to be installed, type of works to be executed and other arrangements required to set up a connection.

When setting and calculating connection charge levels in accordance with this Methodology, the energy entity may include only actual connection charges/connection charge breakdown components incurred.

III. 2. Connection Charge Breakdown

Connection charges include:

- 1) Costs of design preparation and of gathering required documentation;
- 2) Costs of purchasing devices, equipment, and material;
- 3) Costs of works;
- 4) Costs of specialists and operational works required to connect a facility to the system, and
- 5) Part of system costs incurred as a prerequisite for connecting a facility to the distribution or transmission network (semi-deep connection costs).

III.3. Connection Categories

Subject to the network pressure at the point of connection, maximum meter capacity, connection method and number of meters installed in one facility and connected to one regulation device, connections can be divided into three categories:

- 1) Standard connection;
- 2) Custom connection, and
- 3) Group connection.

IV. SETTING CONNECTION CHARGES

IV.1. STANDARD CONNECTION

IV.1.1. Definition

A connection to (polyethylene or steel) distribution network at pressure less than 6 bar with household meter and regulation set (HMRS) of maximum capacity 10 m³/h shall be deemed to be a standard connection, where standardised equipment, devices and materials are installed and for which standard works are carried out in the course of construction.

Subject to the maximum HMRS capacity, or the meter type, the following connection types are set:

Number	Meter type	Maximum capacity
1.	G – 2.5	4 m ³ /h
2.	G – 4	6 m ³ /h

3.	G - 6	10 m ³ /h
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IV.1.2. Method of Setting Connection Charges

IV.1.2.1. Construction Costs of Connection

IV.1.2.1.1. Standard connection charges are set for each standard connection type on the basis of:

- Average costs of design preparation and gathering required documentation;
- Average standardised quantity of necessary equipment, devices and materials to be installed;
- Average costs of works, and
- Average costs of specialist and operational works required to connect a facility to network.

Standard connection costs may be:

- Fixed, and
- Variable.

Fixed costs consist of costs not dependent on distance the facility is from network.

Variable costs consist of costs dependent on distance the facility is from network, expressed per metre of length, which are calculated:

- If the distance from network is up to the distance frontier – for a standard distance,
- If the distance from network is exceeding the distance frontier – the amount calculated for the standard distance increases by the difference amount between the actual distance and the distance from network to frontier.

The standard distance from network is equal to the average distance between network and facility on all energy entity's networks with pressure less than 6 bars, measured along the pipeline route, and is not more than 12 metres in length.

The distance range between network and distance frontier is calculated by multiplying the number 1,67 by the standard distance from network, measured along the pipeline route, and may cover 20 metres, at the maximum.

IV.1.2.1.1.1 Costs of Design Preparation and Gathering Required Documentation

IV.1.2.1.1.1.1 Costs of design preparation and gathering required documentation consist of cost of preparing the household gas connection design (main design or as-built design), costs of geodetic connection survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map.

Costs of preparing a household gas connection design (main design and as-built design) are calculated based on the market price per design, or the charge paid at the time the design was prepared by the energy entity itself. The price is calculated by multiplying the person-hour according to the standardised level of educational attainment and occupational profile of persons preparing the design, and may amount to 2, 5 engineer-hours, at the maximum, for the design preparation.

Costs of geodetic connection survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map are calculated in accordance with the market prices, and may not exceed amounts listed in the official price list of the Republic Geodetic Authority.

Costs referred to under item IV.1.2.1.1.1.1. are entirely fixed.

IV.1.2.1.1.1.2. In case standard connection charges for a particular customer entail also costs associated with regulating ownership relations, standard connection charges set in accordance with item

IV.1.2.1.1.1. shall be increased by the actual amount of costs incurred by regulating ownership relations, and shall be indicated separately.

IV.1.2.1.1.1.3. In case standard connection charges for a particular customer entail also costs associated with acquiring an approval for construction or an approval for usage, standard connection charges set in accordance with item IV.1.2.1.1.1. shall be increased by the actual amount of costs incurred by acquiring an approval for construction or an approval for usage, and shall be indicated separately.

IV.1.2.1.1.2. Costs of Purchasing Devices, Equipment, and Material

IV.1.2.1.1.2.1 Costs of equipment, devices and materials consist of costs of purchasing standardised quantities of equipment, devices and materials to be installed in accordance with technical regulations and the code of the grid to which the facility is to be connected.

The costs are calculated by multiplying the specified standardised quantities of equipment, devices and materials by the market price, or by the charge paid where equipment, devices and materials were provided by the energy entity itself.

Costs of equipment, devices, and materials may be fixed and variable.

IV.1.2.1.1.3. Costs of Works

IV.1.2.1.1.3.1. Costs of carrying out works comprise labour costs, costs of usage of machinery, special tools, equipment and costs of vehicle usage.

IV.1.2.1.1.3.2. Costs of labour engaged in carrying out requisite standard works are calculated by multiplying the determined market price, expressed per specified measurement unit, by the standardised number of person-hours required for the execution of these works, or by the standardised consumption per relevant measurement unit; or, where the energy entity carries out works on its own, by multiplying the price per person-hour, according to the standardised level of educational attainment and occupational profile of persons carrying out the works, by the standardised number of person-hours required for the execution of these works. Standard construction works include: ditch cutting, filling ditches with sand and earth, restoring public places.

IV.1.2.1.1.3.3. Costs of using operator-driven machinery for constructing a connection are calculated by multiplying the market price of D-2 motor fuel by 15 litres of the same fuel. Costs of using special operator-driven tools and equipment are set equal to 15% of the costs of using operator-driven machinery calculated in accordance with this item.

IV.1.2.1.1.3.4. Costs of vehicles with drivers used for setting up a connection are calculated by multiplying the market price of BMB – 95 fuel by 30 litres of the same.

Costs mentioned under item IV.1.2.1.1.3.2. may be fixed or variable.

Costs mentioned under item IV.1.2.1.1.3.3. and IV.1.2.1.1.3.4. are entirely fixed.

IV.1.2.1.1.4. Costs of Specialist and Operational Works

IV.1.2.1.1.4.1. Costs of specialist and operational works required to connect a facility to network consist of costs of determining technical conditions for construction of a connection (identifying the location of HMRS and the connection route), professional supervision of execution of construction and machinery mounting works lasting 45 minutes per connection, at the maximum, as well as technical control of the interior gas installation prior to the initial gas delivery to the facility.

Costs of specialist and operational works required to connect a facility to the network include costs of works calculated on the basis of the works' market price, or, where energy entities carry out works on their own, the charge per person-hour, according to the standardised level of educational attainment and

occupational profile of persons engaged in setting up a connection, and the standardised number of person-hours required to complete these works.

Costs mentioned under item IV.1.2.1.1.4.1 are entirely fixed.

IV.1.2.2. Semi-Deep Connection Costs

IV.1.2.2.1. Semi-deep connection costs are determined on the basis of the maximum HMRS capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

The energy entity may determine the usage ratio for each network individually, or a single value for all networks with working pressure $p < 6$ bar, but it may not combine these two methods of determining the network usage ratio.

Where, in the course of creating technical conditions to connect its own facility, the user had to bear costs of constructing a part of the network, semi-deep connection costs are not included in the calculation.

IV.1.3. Method of Calculating Connection Charges

IV.1.3.1. Total Connection Charges

IV.1.3.1.1. Standard connection charges include costs of constructing a connection and semi-deep connection costs, and are calculated according to the following formula:

$$T_{t_{pi}} = T_{l_{t_{pi}}} + DT_{St_{pi}}$$

Where:

i = a standard connection type set in accordance with the criteria specified in this Methodology;

$T_{t_{pi}}$ = standard i -type connection charge;

$T_{l_{t_{pi}}}$ = costs of constructing an i -type standard connection, and

$DT_{St_{pi}}$ = semi-deep connection costs of an i -type standard connection.

IV.1.3.2. Connection Construction Costs

IV.1.3.2.1. Costs of constructing an i -type standard connection at a distance range from network up to the distance frontier, are:

$$T_{l_{t_{pi}}} = TPD + TKMRS_i + TOO + TR + TSO$$

Where:

TPD = costs of design preparation and gathering required documentation;

TKMRS $_i$ = costs of HMRS of an i -type connection;

TOO = costs of other equipment, devices and materials required to construct a connection;

TR = costs of works carried out on a connection, and

TSO = costs of specialist and operational works required to connect a facility to network, whereby:

$$TOO = F_{TOO} + J_{VTO} * TU \text{ and}$$

$$TR = F_{TR} + J_{VTR} * TU$$

or,

$$T_{t\pi} = TPD + TKMRS_i + (FTOO + JVTO * TU) + (FTR + JVTR * TU) + TSO + DTSt_{\pi} \quad (1)$$

Where:

FTOO = fixed costs of other requisite equipment, devices and material;

JVTO = unit variable costs of requisite equipment, devices and material (in dinar per metre);

TU = standard distance from network;

FTR = fixed costs of executed works, and

JVTR = unit variable costs of executed works (in dinar per metre).

After classifying costs into fixed and variable, the formula (1) is reduced to the following:

$$T_{t\pi} = TKMRS_i + OFT + JVT * TU + DTSt_{\pi}$$

Where:

OFT = other fixed costs of connection (without costs of HMRS) and

JBT = unit variable costs of connection (in dinar per metre),

Which are calculated according to the formula below:

$$OFT = TPD + FTOO + FTR + TSO$$

$$JBT = JVTO + JVTR$$

IV.1.3.2.2. In case the distance between facility and network is exceeding the distance frontier, the connection construction costs are calculated according to the following formula:

$$DT_{t\pi} = T_{t\pi} + JVT * RU$$

Where:

DT_{tπ} = total standard connection charges for an i-type connection when the distance between facility and network is exceeding the distance frontier, and

RU = difference between the distance the facility is from network, measured along the pipeline route, and the distance from network to distance frontier.

IV.1.3.3. Adjustment to Calculation of Connection Construction Costs

IV.1.3.3.1. Where a standard connection and distribution network are constructed in parallel, standard connection construction charges shall be decreased by 20% of connection construction costs for a standard distance from network and shall be calculated according to the following formula:

a) for a distance from network equal or less than the standard distance:

$$T_{t\pi} = 0,8 * T_{l\pi} + DTSt_{\pi},$$

b) for a distance from network exceeding the distance frontier:

$$DT_{t\pi} = 0,8 * T_{l\pi} + JVT * RU + DTSt_{\pi}$$

IV.1.3.3.2. Where connecting a facility of one particular user requires crossing the street, whereby the size of the pipeline cross-section is set so as to exclusively meet the needs of that particular user, connection charges include also costs applicable to crossing the street.

IV.1.3.3.3. Should a user, on the basis of defined conditions and the consent of the energy entity to whose network he is to be connected, carry out connection works on his own, items in respect of those works, i.e.

the amount of costs relating to those items are to be excluded from connection charges. Works shall be carried out under specialist supervision of the energy entity.

IV.1.3.3.4. Where, at user's request, equipment of higher standard than that prescribed is used in the course of constructing a standard connection, connection charges are set equal to costs calculated according to the formula referred to under item IV.1.3.1.1 plus the difference between actual costs of such equipment and standardised costs of equipment of prescribed standard.

IV.1.3.3.5. Where, at user's request, construction works of higher standard than that prescribed are executed in the course of constructing a standard connection, connection charges are set equal to the costs calculated according to the formula referred to under item IV.1.3.1.1 plus the difference between actual costs of such works and standardised costs of works of prescribed standard.

IV.1.3.3.6. When a connection was partially constructed at the expense of the user prior to the issuing of a Connection Approval, those charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology and shall be indicated separately.

IV.1.3.4. Semi-Deep Connection Costs

IV.1.3.4.1. Semi-deep connection costs are calculated on the basis of the maximum HMRS capacity, capacity unit costs and capacity usage ratio of the network to which the facility is to be connected:

$$DTStp = KAPtp * Ktp * (1 - SIM) \text{ (din),} \quad SIM \leq 0,60$$

$$DTStp = 0 \text{ for } SIM > 0,60$$

where:

$DTStp$ = semi-deep costs of a standard connection

$KAPtp$ = maximum HMRS capacity of a standard connection (m^3/h)

Ktp = capacity unit costs, i.e. the coefficient for which the value is being determined

$$K_{tp} = 3000 \frac{\partial uH}{m^3/h}, \text{ and}$$

SIM – capacity usage ratio of the network to which the facility is to be connected, which is calculated according to the formula below:

$$SIM = IKM / PKM$$

where:

IKM – network used capacity, and

PKM – designed capacity of the distribution network to which the facility is to be connected to.

Network used capacity is calculated from the formula below:

$$IKM = UKtp + \sum OKip + \sum MKgp$$

where:

$UKtp$ = total capacity of standard connections constructed within the network to which the facility is to be connected;

$\sum OKip$ = sum of approved capacities of all custom connections within the network to which the facility is to be connected, and

$\sum MK_{gp}$ = sum of maximum capacities of regulation devices of group connections within the network to which the facility is to be connected, and

UK_{tp} is calculated according to the following formula:

$$UK_{tp} = BR_{itp} * 1,2 \left(m^3/h \right)$$

Where:

BR_{itp} = total number of standard connections constructed within the network to which the facility is to be connected.

IV.2. CUSTOM CONNECTION

IV.2.1. Definition

A custom connection is a connection to the:

- transmission network;
- distribution network with pressure of ≥ 6 bar;
- distribution network with pressure less than 6 bar with a maximum metering-regulation station (MRS) capacity above 10 m³/h, and
- any other connections not meeting criteria for standard or group connections within the meaning of this methodology.

IV.2.2. Method of Setting Connection Charges

IV.2.2.1. Construction Costs of Connection

IV.2.2.1.1. Custom connection charges are equal to the sum of actual costs of:

- design preparation;
- gathering requisite documentation, prescribed consents and approvals;
- resolving property ownership relations associated with a particular connection;
- carrying out preparation works;
- purchasing devices, equipment and materials;
- labour engaged in construction, machinery-mounting and electrical works associated with construction of a connection, usage of operator-driven machinery, special tools and equipment and usage of vehicles with a driver;
- equipping a metering point;
- geodetic designation of the route, geodetic survey of the connection route, and updating pipeline cadastral books, and modifications to the pipeline cadastral map
- commissioning and putting into service;
- carrying out other specialist and operational works required to connect a facility to the network: on-site visits to identify the location of the MRS and the connection route with a view to determining the technical conditions for connection; professional supervision of construction, machinery mounting and electrical works; and technical control of interior gas installations prior to initial gas delivery to the connection, in conformity with the technical regulations and the code of the grid to which the facility is to be connected and the criteria specified in this Methodology.

IV.2.2.2. Semi-Deep Connection Costs

IV.2.2.3.1. Semi-deep costs of connecting to the distribution network with working pressure of $p < 6$ bar are determined on the basis of the approved MRS capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

For networks with working pressure of $p < 6$ bar, the energy entity may determine the network usage ratio for each network individually or a single value for all networks operating at that pressure, but it may not combine these two methods to determine the network usage ratio.

IV.2.2.3.2. Semi-deep costs of connecting to the distribution network with working pressure of $6 \leq p < 16$, or to the transmission network, are determined from the approved MRS capacity and the fixed unit costs in dinar per m^3/h .

IV.2.2.3.3. Where the user has to bear costs of constructing a part of the network to create technical conditions to connect its own facility, semi-deep connection costs are calculated only as the difference between semi-deep connection costs referred to under item IV.2.2.2.1, or IV.2.2.2.2, and the invested capital, if the amount of difference is in excess of zero.

IV.2.2.3.4. Semi-deep connection costs shall not be determined for natural gas producers whose facilities are to be connected to the network.

IV.2.3. Method of Calculating Connection Charges

IV.2.3.1. Total Connection Charges

IV.2.3.1.1. Custom connection charges consist of connection construction and semi-deep connection costs, and are calculated according to the formula below:

$$\text{Tip} = \text{Tlip} + \text{DTSip}$$

where:

Tip = custom connection charges;

Tlip = costs of constructing a custom connection, and

DTSip = semi-deep connection costs of a custom connection.

IV.2.3.2. Connection Construction Costs

IV.2.3.2.1. Costs of constructing a custom connection are calculated on the basis of the project documentation, official standards of the energy entity and the market prices, or charges paid where the connection was constructed by the energy entity itself, according to the formula below:

Construction costs of a custom connection are as follows:

$$\text{Tlip} = \text{TPD} + \text{TO} + \text{TR} + \text{TSO},$$

where:

TPD = costs of design preparation, gathering requisite documentation and consent, and costs of regulating property ownership relations;

TO = costs of requisite equipment, devices and material;

TR = costs of works (preparation works, works on constructing a connection and equipping the metering point), and

TSO = costs of specialist and operational works required to connect facility to network (geodetic survey, costs of updating pipeline cadastral books and modifications to the pipeline cadastral map, commissioning and putting into service).

IV.2.3.3. Adjustment to Calculation of Connection Construction Costs

IV.2.3.3.1. Where a connection of a particular user's facility requires crossing the street, whereby the size of the pipeline cross-section is set so as to exclusively meet the needs of that particular user, connection charges include any costs incurred by that connection, including also costs applicable to crossing the street.

IV.2.3.3.2. Where a user carries out connection works on his own on the basis of defined conditions and the consent of the energy entity to whose network the user is to be connected, items in respect of those works, i.e. the amount of costs relating to those items are excluded from the connection charges. Works shall be carried out under professional supervision of the energy entity.

IV.2.3.3.3. When a part of the connection was constructed at the expense of the user prior to the issuing of a Connection Approval, those connection charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology, and shall be indicated separately.

IV.2.3.3 Semi-Deep Connection Costs

IV.2.3.3.1. Semi-deep costs of a facility's custom connection to the distribution network with pressure of $p < 6$ bar are calculated according to the same method as semi-deep costs of a standard connection described under item IV.1.3.4.1, whereby

KAP_{ipd} = approved MRS capacity of a custom connection to the distribution system (m^3/h).

IV.2.3.3.2. Semi-deep costs of a custom connection to the distribution network with working pressure of $6 \leq p < 16$, or to the transmission network, are calculated according to the formula below.

$DTS_{ipt} = K_{ipt} * KAP_{ipt}$

where:

DTS_{ipt} = semi-deep costs of a custom connection to the distribution network with working pressure of $6 \leq p < 16$ bar, or to the transmission network;

K_{ipt} = unit cost for capacity, i.e. the coefficient for DTS_{ipt} for which the value is being determined

$K_{ipt} = 1200 \frac{din}{m^3 / h}$ and

KAP_{ipt} = approved MRS capacity of a custom connection

IV.3. GROUP CONNECTION

IV.3.1. Definition

Within the meaning of this Methodology, a connection of a multi-storey apartment facility to the distribution network with working pressure of $p < 6$ bar shall be deemed to be a group connection. Such connection is constructed from the nearest point in the distribution network to the regulation device for the facility as a whole, and further from the regulation device to the two or more metering devices. Group connection charges shall be expressed per metering devices (MD).

IV.3.2. Method of Setting Connection Charges

IV.3.2.1. Connection Construction

IV.3.2.1.1. Construction costs of a group connection are determined according to the method specified under IV.2.2.1.1. that relates to custom connections.

IV.3.2.2. Semi-Deep Connection Costs

IV.3.2.2.1. Semi-deep costs of a group connection are determined on the basis of the approved regulation device capacity, capacity unit cost and usage ratio of the distribution network to which the facility is to be connected.

The energy entity may determine the network usage ratio for each network individually, or a single value for all networks with working pressure of $p < 6$ bar, but it may not combine these two methods of determining the network usage ratio.

IV.3.3. Method of Calculating Connection Charges

IV.3.3.1. Connection Construction

IV.3.3.1.1. The group connection charge is calculated according to the same method as the charge of a custom connection described under item IV.2.3.1.1.

IV.3.3.2. Adjustment to Calculation of Connection Construction Costs

IV.3.3.2.1. Where a user carries out connection works on his own on the basis of defined conditions and the consent of the energy entity to whose network the user is to be connected, items in respect of those works, i.e. the amount of costs relating to those items are excluded from the connection charges. Works shall be carried out under professional supervision of the energy entity.

IV.3.3.2.2. Where a part of the connection was constructed at the expense of the user prior to the issuing of a Connection Approval, the connection charge breakdown components born by the user prior to the issuing of the Connection Approval shall be deducted from the connection charges calculated in accordance with this Methodology, and shall be indicated separately.

IV.3.3.3. Semi-deep Connection Costs

IV.3.3.3.1 Semi-deep costs of a group connection are determined on the basis of the maximum capacity of the foreseen regulation device, the capacity unit cost and usage ratio of the network to which the facility is to be connected, and is calculated according to the method described under item IV.1.3.4.1 for the group connection as a whole, where

KAP_{gp} = maximum capacity of the foreseen group connection regulation device ($\frac{m^3}{h}$).

IV.3.3.4. Connection Charge per Metering Device

IV.3.3.4.1. Subject to the ratio of the number of MD installed in parallel with the construction of a group connection to the possible number of MD, the connection charge per metering device is calculated as follows:

$$Tkms = (Tgp + DTSgp) / (Kgp * BRpkms)$$

where:

Tkms = charge per MD;

Tgp = costs of constructing a group connection;
 DTSgp = semi-deep costs of a group connection;
 Kgp = group connection coefficient, and
 BPpkms = number of possible MD;

The group connection coefficient depends on the ratio of the number of MD installed in parallel with the construction of a group connection to the possible number of MD:

$$Kz = BRkms / BRpkms$$

where:

Kz = coefficient of interest

BRkms = number of MD installed in parallel with the construction of the group connection.

The group connection coefficient is determined in accordance with the table below:

Number	Coefficient of interest	Group connection coefficient
1.	$Kz \geq 0,875$	$Kgp = Kz$
2.	$0,50 \leq Kz < 0,875$	$Kgp = (Kz - 0,5)/3 + 0,75$
3.	$Kz < 0,50$	$Kgp = Kz + 0,25$

IV.3.3.4.2. In case of setting up a subsequent connection within the facility connected to the network via a group connection, the connection charge per MD is calculated to the amount of the charge of a standard connection of the same type. Within the meaning of this item, a user's connection for which approval is granted after initial gas delivery to the facility shall be deemed to be a subsequent connection.

V. CONNECTION CHARGES IN SPECIAL CASES

Within the meaning of this Methodology, the following cases shall be deemed to be special cases for determining connection charges:

- 1) modification to a connection constructed based on an approval for connection;
- 2) reconnection of a facility to network when a request for issuing approval for connection is submitted after forced disconnection from the system, and
- 3) connection within the network of the same energy entity of a user who already had a standard connection or MD at a group connection elsewhere, in case of relocation or demolition of the connected facility.

Connection charges in above mentioned special cases are determined as follows:

- in case of modifications to a connection, connection charges are determined according to additional actual costs incurred by such a connection. If there have been changes to the approved capacity, semi-deep costs pertaining to a custom connection are determined only for the increase in the approved capacity, whereas semi-deep costs pertaining to standard and group connections are determined only where the meter has been changed, for the difference between the maximum capacities of meters.

- where a connection of a facility is approved when a request for issuing approval for connection is submitted after forced disconnection from the system, connection charges are determined from the additional actual costs incurred by such a connection, except when forced disconnection was a result of an unauthorized connection of interior gas installations to the transmission/distribution system, or of using gas without a connection approval, in which case charges are determined according to the method set forth in this charging methodology pertaining to facilities connecting to network for the first time.
- In case a connection, due to relocation or demolition of the connected facility, is granted to a user who already had a standard connection or MD at a group connection elsewhere within the network of the same energy entity, the charge paid by the applicant for HMRS or MD at the time the previous connection was set up shall be deducted from the calculated connection charges.

VI. APPLICATION OF THE METHODOLOGY

Natural gas transmission and distribution entities shall set standards for calculating connection charges. Natural gas distribution entities determine also the level of charges for each standard connection type, based on official standards.

The act on setting standard connection charge levels shall include a detail structure of average quantities, set standards and individual costs per each of the connection charge breakdown component specified in this methodology (in respect of the design preparation, gathering documentation, type of devices, equipment, materials, works and other arrangements for constructing a connection) in accordance with the items listed in the excel table "Standard connection charges" which forms an integral part of this methodology.

Energy entities shall submit a copy of the acts on setting charge levels referred to in paragraph 1. and 2. hereof, prior to their enforcement, with a reasoned exposition of the calculation of set standards and charges, to the Energy Agency of the Republic of Serbia.

In line with the principles of transparency and non-discrimination, an energy entity shall make available its acts, based on which connection charges, i.e. the charge level and the charging method are set, to applicants requiring connection.

In their acts on setting connection charges referred to in paragraph 2. hereof, energy entities may, based on the principles of transparency and non-discrimination, provide for discounts and certain payment conditions for connection charges if such benefits are offered to all potential users under equal general conditions.

The capacity usage ratio for networks with pressure <6 bar and the level of standard connection charges for the following year shall be set on an annual basis, by 30 November of the current year, at the latest. However, in case of a rise in retail prices of more than 10 % according to data published by the competent statistics office, the level of standard connection charges may be adjusted within the year for the period from the date of passing the act on setting connection charge levels to the date of adjusting those charges, of which the Agency shall be informed.