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NTUA

NATIONAL TECHNICAL UNIVERSITY OF ATHENS
SCHOOL OF MECHANICAL ENGINEERING / THERMAL SECTION
LABORATORY OF STEAM BOILERS AND THERMAL PLANTS
CERTIFICATION UNIT OF THERMAL SYSTEMS

CE 0617



Product Certification
Certificate Number:
127-7

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Certification of Space Heaters with Hot water boilers operating with liquid & gas fuel

CERTIFICATION UNIT OF THERMAL SYSTEMS

«NEWSLETTER»
for the «CERTIFICATION OF SPACE HEATERS WITH HOT WATER BOILERS»
according to:
the DIRECTIVE 92/42/EEC,
the regulation (EU) num. 811/2013, supplementing Directive 2010/30/EU,
the regulation (EU) 813/2013, implementing Directive 2009/125/EC,
the regulation (EU) 2016/426 on appliances burning gaseous fuels and repealing Directive 2009/142/EC
&
for the «System Inspection, Verification and Certification, E_{CHP} Quantity Determination in Cogeneration, Electricity and Heat High Performance (CEHHP)».
According to:
Decision RAE 1599/2011 (G.G. B' 179/2012) as amended by Decision RAE 410/2016 (GG 4081/B/2016).
Decision Δ5–ΗΛ/Γ/Φ1/οικ. 23278 (GG B' 3108/2012).
Decision Δ5–ΗΛ/Γ/Φ 1/οικ.15606 & 15641 (GG B' 1420/2009).
Decision Δ5–ΗΛ/Γ/Φ1/749 (GG B' 889/2012).
Decision Δ6/Φ1/οικ. 8786 (GG 646/B/2010).
Law 3468 / (GG 129/A/2006).

ATHENS, MAY 2021

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1. LEGISLATIVE INFORMATION

On 06/09/2013 the following regulations - EU announcement were issued:

- **COMMISSION REGULATION (EU) No 813/2013 of 02/08/13** implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for space heaters and combination heaters.
- **COMMISSION DELEGATED REGULATION (EU) 811/2013 of 18/02/13** supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device.
- **Official Journal C 207 of the European Union (03/07/14):** Commission communication in the framework of the implementation of Commission Regulation (EU) No 813/2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for space heaters and combination heaters and of Commission Delegated Regulation (EU) No 811/2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device.
- According to the Regulation 813/2013/EU the Directive 92/42/EEC is **repealed, except for Articles 7(2) and 8 there of and Annexes III to V:**
- **III: Module B: EC type-examination.**
- **IV: Module C: Conformity to type, Module D: Production quality assurance & MODULE E : PRODUCT QUALITY ASSURANCE.**
- **V: Minimum criteria to be considered by Member States for the notification of bodies.**

without prejudice to the obligations of the Member States relating to the transposition into national law and application of that Directive until the eco-design requirements set out in Annex II of this Regulation start to apply.

- **REGULATION (EU) 2016/426 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on appliances burning gaseous fuels and repealing Directive 2009/142/EC**

1.1 Scope.

The purpose of the "Newsletter" is to inform the interested parties about the legal status of space heaters with hot water boilers.

The legislative regime is mentioned:

- the requirements to be met, in accordance with the requirements of the harmonized test standards.
- in the procedures to be followed for the certification of boilers.
- the penalties to be imposed for non-compliance of legislation.

1.2 Object.

- **Regulation 813/2013/EU:** This Regulation establishes eco-design requirements for the placing on the market and/or putting into service of space heaters and combination heaters with a rated heat output ≤ 400 kW, including those integrated in packages of space heater, temperature control and solar device or packages of combination heater, temperature control

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and solar device as defined in Article 2 of Commission Delegated Regulation (EU) No 811/2013.

This Regulation shall not apply to:

- a) heaters specifically designed for using gaseous or liquid fuels predominantly produced from biomass.
 - b) heaters using solid fuels.
 - c) heaters within the scope of Directive 2010/75/EU of the European Parliament and of the Council.
 - d) heaters generating heat only for the purpose of providing hot drinking or sanitary water.
 - e) heaters for heating and distributing gaseous heat transfer media such as vapour or air.
 - f) cogeneration space heaters with a maximum electrical capacity of 50 kW or above.
 - g) heat generators designed for heaters and heater housings to be equipped with such heat generators placed on the market before 1 January 2018 to replace identical heat generators and identical heater housings. The replacement product or its packaging shall clearly indicate the heater for which it is intended.
- Regulation 811/2013/EU:** This Regulation establishes requirements for the energy labelling of, and the provision of supplementary product information on, space heaters and combination heaters with a rated heat output ≤ 70 kW, packages of space heater ≤ 70 kW, temperature control and solar device and packages of combination heater ≤ 70 kW, temperature control and solar device.

This Regulation shall not apply to:

- a) heaters specifically designed for using gaseous or liquid fuels predominantly produced from biomass.
- b) heaters using solid fuels.
- c) heaters within the scope of Directive 2010/75/EU of the European Parliament and of the Council.
- d) heaters generating heat only for the purpose of providing hot drinking or sanitary water.
- e) heaters for heating and distributing gaseous heat transfer media such as vapour or air.
- f) cogeneration space heaters with a maximum electrical capacity of 50 kW or above.

Responsibilities of suppliers and timetable (Article 3)

Including:

- a product fiche, as set out in point 1 of Annex IV, is provided for each space heater, whereby: for heat pump space heaters, the product fiche is provided at least for the heat generator; for space heaters intended for use in packages of space heater, temperature control and solar device, a second fiche, as set out in point 5 of Annex IV, is provided.

SPECIFIC FOR SPACE HEATERS

- I) The information in the product fiche of the space heater shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:
 - a) supplier's name or trademark.
 - b) supplier's model identifier.
 - c) the seasonal space heating energy efficiency class of the model, determined in accordance with point 1 of Annex II.
 - d) the rated heat output, including the rated heat output of any supplementary heater, in kW, rounded to the nearest integer (for heat pump space heaters under average climate conditions)

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- e) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters under average climate conditions).
- f) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of GCV, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters under average climate conditions).
- g) the sound power level L_{WA}, indoors, in dB, rounded to the nearest integer (for heat pump space heaters if applicable).
- h) any specific precautions that shall be taken when the space heater is assembled, installed or maintained.

in addition, for cogeneration space heaters:

- i) the electrical efficiency in %, rounded to the nearest integer

in addition, for heat pump space heaters:

- j) the rated heat output, including the rated heat output of any supplementary heater, in kW, under colder and warmer climate conditions, rounded to the nearest integer.
- k) the seasonal space heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII.
- l) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of GCV, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII.
- m) the sound power level L_{WA}, outdoors, in dB, rounded to the nearest integer.
- II) One fiche may cover a number of space heater models supplied by the same supplier.
- III) The information contained in the fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in point 1.1 not already displayed on the label shall also be provided.

Regulation 2016/426/EU: Scope:

1. This Regulation applies to appliances and fittings.
2. For the purposes of this Regulation, an appliance is considered to be ‘normally used’ where the following conditions are met:
 - a) it is correctly installed and regularly serviced in accordance with the manufacturer's instructions.
 - b) it is used with a normal variation in the gas quality and a normal fluctuation in the supply pressure as set out by Member States in their communication pursuant to Article 4(1).
 - c) it is used in accordance with its intended purpose or in a way which can be reasonably foreseen.
3. This Regulation does not apply to appliances specifically designed:
 - a) for use in industrial processes carried out on industrial premises.
 - b) for use on aircrafts and railways.
 - c) for research purposes for temporary use in laboratories. For the purposes of this paragraph, an appliance is considered to be ‘specifically designed’ when the design is only intended to address a specific need for a specific process or use.
4. Where, for appliances or fittings, the aspects covered by this Regulation are covered more specifically by other acts of Union harmonisation legislation, this Regulation does not apply or ceases to apply to such appliances or fittings in respect of those aspects.
5. The rational use of energy essential requirement laid down in point 3.5 of Annex I to this Regulation does not apply to appliances covered by a measure adopted pursuant to Article 15 of Directive 2009/125/EC.

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6. This Regulation shall not affect the obligation upon Member States to adopt measures with respect to the promotion of the use of energy from renewable sources and to the energy efficiency of buildings, in accordance with Directives 2009/28/EC, 2010/31/EU and 2012/27/EU. Such measures shall be compatible with the TFEU.

❑ REGULATION (EU) 2015/1187: Subject matter and scope

1. This Regulation establishes requirements for the energy labelling of and the provision of supplementary product information on solid fuel boilers with a rated heat output of 70 kW or less and packages of a solid fuel boiler with a rated heat output of 70 kW or less, supplementary heaters, temperature controls and solar devices.
2. This Regulation shall not apply to:
 - (a) boilers generating heat only for the purpose of providing hot drinking or sanitary water;
 - (b) boilers for heating and distributing gaseous heat transfer media such as vapour or air;
 - (c) solid fuel cogeneration boilers with a maximum electrical capacity of 50 kW or more;
 - (d) non-woody biomass boilers.

The Normative Regulations implemented by the CUTS are Annex VIII and Annex IX.

❑ REGULATION (EU) 2015/1189: Subject matter and scope

1. Without prejudice to Directive 2010/75/EU of the European Parliament and of the Council, this Regulation establishes ecodesign requirements for placing on the market and putting into service solid fuel boilers with a rated heat output of 500 kilowatt ('kW') or less, including those integrated in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices as defined in Article 2 of Delegated Regulation (EU) 2015/1187.
2. This Regulation shall not apply to:
 - (a) boilers generating heat exclusively for providing hot drinking or sanitary water;
 - (b) boilers for heating and distributing gaseous heat transfer media such as vapour or air;
 - (c) solid fuel cogeneration boilers with a maximum electrical capacity of 50 kW or more;
 - (d) non-woody biomass boilers.

The Normative Regulations implemented by the CUTS are Annex II, point 1 and Annex III.

1.3 Receivers.

The Newsletter is addressed:

- to the Manufacturers of space heaters with hot water boilers.
- to the Agents of space heaters with Hot Water Boilers.
- to the Importers of space heaters with Hot Water Boilers.
- to the Consumer Audience.

2. CONTROL BODY

The Certification Unit of Thermal Systems of the Laboratory of Steam Boilers & Thermal Plants is an accredited Body by ESYD according to EN ISO/IEC 17065.

With regard to boilers fired with solid fuels, they are excluded from the PD. 335, and the control of the energy efficiency and the quality of the exhaust gas is done according to EN 303.05 standard.

Certification Process:

According to the above, boilers must, after their certification, bear the "CE" marking and be accompanied by the EC declaration of conformity

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The confirmation of boilers' conformity manufactured on one basis consisting of:

➤ **Performance test of an "EC type" boiler.** The EC type examination is done according to **Module B : EC type-examination**, as described in Annex III of P.D. 335 as well as with §1 of Annex II of Ministerial Decision 15233/3.7.91 (FEK 487/B/4.7.91), §1 of Annex III of Regulation EU 2016/426. This module describes that part of the procedure by which a notified body ascertains and attests that an example, representative of the production envisaged, meets the relevant provisions of the Directive.

Where the type meets the relevant provisions of P.D. 335 as well as with §1 of Annex II of Ministerial Decision 15233/3.7.91 (FEK 487/B/4.7.91), the notified body issues an EC type-examination certificate to the applicant. The certificate contains the name and address of the manufacturer, the conclusion of the examination and necessary data for identification of the approved type.

➤ **EU declaration of conformity.** The declaration of conformity to the type approved is in conformity with one of the conformity assessment modules of the manufacturer or his authorized representative established within the Community, referred to in Article 7 of the Presidential Decree 335/93 as amended by Presidential Decree. 59/95 as well as in §2 of Annex II of Ministerial Decision 15233 / 3.7.91 (Government Gazette 487 / B / 4.7.91). The Assessment Modules described in Annex IV of the PD. 335 and Annex II of Ministerial Decision 15233 / 3.7.91 (Government Gazette 487 / B / 4.7.91), §2.4 of Annex III to Regulation 2016/426 is:

⇒ **Module C: Conformity to type.**

This section describes the part of the procedure by which the manufacturer or his authorized representative established within the Community certifies and declares that the products concerned conform to the type described in the EC type-examination certificate and satisfy the relevant requirements of the Directive. The manufacturer or his authorized representative established within the Community shall affix the CE marking to each appliance and draw up a written declaration of conformity. (§2 Annex III of Regulation EU 2016/426).

2.1 Accreditation of Laboratory of Steam Boilers & Thermal Plants.

The Laboratory of Steam Boilers & Thermal Plants of NTUA is accredited (**as a Certification Unit of Thermal Systems - CUTS**) by Hellenic Accreditation System according to the European Standard ELOT EN ISO/IEC 17065 (Number of Certificate 127) in line with E.C. Directives, as a Products Certification Body of hot water boilers supplied with oil and gaseous fuels and in Voluntary Sector supplied with solid fuel.

The **Certification Unit of Thermal Systems (CUTS)** of the Laboratory is recognized as a Notified Body in European Union with identification number CE 0617.

Also, the **CUTS** of the Laboratory ensures that:

- It does not supply or design products of the type it certifies.
- Does not advise or advise the applicant on how to deal with issues that are a barrier to the requested certification.
- It does not supply any other products or services that could compromise the confidentiality, objectivity and impartiality of the certification process and its decisions.

In addition, the Laboratory of Steam Boilers & Thermal Plants of NTUA has been accredited as the Environmental Measurement Unit by the Hellenic Accreditation System (ESYD) according to the European Standard EN ISO / IEC 17025 and with all the additional requirements as specified in European Standard ELOT CEN / TS 15675 in the field of Environmental Testing with **Accreditation Certificate Nu 648** with scope:

1. Isokinetic sampling and determination of mass concentration of particulate matter and
2. Sampling and determination of emissions of PM10 and PM2.5 particles.
3. Measurement of velocity and volume flow rate of gas streams in ducts.
4. Determination of water vapor in ducts.

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5. Sampling and Determination of the concentration for O₂, CO₂, CO, SO₂, NO_x & N₂O.
6. Sampling and Determination of the mass concentration Total Organic Carbon (TOC) with flame ionization detector (FID).
7. Sampling for the determination of PCDDs/PCDFs and like dioxin PCBs.
8. Sampling for the determination of As,Cd,Cr,Co,Cu,Mn,Ni,Pb,Sb,Ti and V.
9. Sampling for the determination of total Hg.
10. Validation and performance test of automatic measurement systems.

The CUTS states that all information during certification is confidential and can be made available to the public only after the applicant has been informed or authorized. An exception is the information already published by the applicant.

The parts of the information that need to be published or made available on request in a directory (through publications, electronic media or other means) are defined by the relevant procedures.

At the very least, the CUTS provide information on request for the validity of the certification granted.

CUTS reserve the right to publish a list of hot water boilers that have been certified by itself on the website of the Laboratory of Steam Boilers & Thermal Plants of the National Technical University of Athens.

3. KIND & COSTS OF SERVICES PROVIDED FOR THE BOILERS CERTIFICATION

3.1 Kind of services provided.

Module B: EC type-examination (P.D. 335, Annex III) - Paragraph 1, Annex II (G.G. 487/B/4.7.91).

- Control of Technical File.
- Testing and verifying the predictions and adequacy of the Technical File.
- Issuing of certificates - EC type-examination certificates.

Module C: Conformity to type (P.D. 335, Annex IV) - Paragraph 2, Annex II (G.G. 487/B/4.7.91).

- Performance of inspections at the manufacturer's premises at irregular intervals, taking samples, carrying out tests as necessary to establish that the manufactured products conform to the type for which an EC type-examination certificate has been issued.

MODULE G: CONFORMITY BASED ON UNIT VERIFICATION

According to § 6 of Regulation EU/2016/426

- Control of Technical File.
- EC type-examination certificate and EU declaration of conformity.
- CE marking and EU declaration of conformity.

The following procedures of Modules B & C are followed.

D). Cost of testing space heaters with hot water boiler for giving certificate " EC" type Examination, which is issued according to the: P.D. 335/16-8-93 G.G. 143/A/2-9-93, **Module B** of article 7 & P.D. 59/21-2-95 ΦΕΚ 46/A/27-2-95 and with the Ministerial Decision 15233/3.7.91 (G.G. 487/B/4.7.91) Paragraph 1, Annex II, §1 of Annex III of Regulation EU 2016/426.

In the case of series-manufactured boilers, the number of test samples shall be determined in accordance with the relevant standards:

ELOT EN 303-2:2017, Annex 4.8,

ELOT EN 303.03, Annex F,

ELOT EN 303-5 E2, Paragraph 5.1.4

which refer that for boilers in a product range which has the same constructional design it is sufficient to test only the smallest and largest boiler provided the ration in heat output of the smallest to the largest boiler is less than or equal to 1: 2. If, however, within the same product range, the ratio is larger than 1: 2 then so many intermediate sizes shall be tested so that the ratio 1: 2 is not exceeded.

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The space heater with boiler manufacturer will ensure that all boilers of a production line, even those not tested, comply with the requirements of the standards / instructions. The results of untested boilers shall be determined by linear interpolation based on the rated useful output of the boilers tested, under the responsibility of the manufacturer.

During the EC type examination the following tests are performed:

1. Check of the technical file which accompanies the space heater.

2. Perform tests of “type”, which includes:

⇒ Measurement of the space heater’s nominal heat output.

⇒ Determination of efficiency to nominal load.

⇒ Analysis of flue gas quality.

⇒ Determination of efficiency to part load.

⇒ Measurement of starting pressure of the burner

3. Issue “EC” – type Examination certificate.

The total cost per space heater for the issue of the EC type-examination certificate in relation to the nominal heat output is given in the following Table 1:

TABLE 1: Costs for providing EC Type Examination Certificate of Space Heaters with Hot Water Boilers supplied with <u>Liquid or Gaseous Fuels</u>.	
Nominal heat output in [kW]	Total cost EC type examination per boiler in [€]
from 4 up to 99	2500 + VAT
from 100 up to 249	2900 + VAT
from 250 up to 400	3500 + VAT
TABLE 2: Costs for providing EC type Unit Verification of Space Heaters with Hot Water Boilers supplied with <u>Liquid or Gaseous Fuels</u>.	
Nominal heat output in [kW]	Total cost EC type examination per boiler in [€]
<u>from 401 up to 750</u>	4000 + VAT
<u>from 751 up to 1000</u>	5000 + VAT
TABLE 3: Costs for providing service for energy control and flue gas quality (air pollutants and SSP) of Space Heaters with Hot Water Boilers supplied <u>with solid fuels (excluding the process of CE marking)</u>.	
Nominal heat output in [kW]	Total cost EC type examination per boiler in [€]
from 4 up to 99	3500 + VAT
from 100 up to 249	3900 + VAT
from 250 up to 400	4300 + VAT
<u>from 401 up to 750</u>	5000 + VAT
<u>from 751 up to 1000</u>	6000 + VAT

SSP: Suspended solid particles.

Note 1: The cost of EC type examination can be adjusted.

Note 2: CUTS Policy for discount on EC Type Examination costs.

☛ If the manufacturer or his authorized representative applies for the EC type-examination for space heaters with boilers with a number of more than five (5) or belonging to different series and of more than three (3) space heaters with boiler series, a 10% discount on the net amount of the service cost is provided.

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- If an EC Type Examination Certificate for liquid fuel space heaters with boilers has been issued to the manufacturer or authorized representative by the CUTS and he wants the EC Type Examination Certificate with Gaseous Fuel to be issued for the same space heaters with boilers, then he will get a 15% discount for the costing listed in Table 1.
- Depending on the manufacturer's or agent's history, the maximum discount that can be made by the CUTS is up to 25% on the cost of the requested service.

Note 3: Costs of preliminary tests (up to two working days) that do not lead to results according to the legislation in force or which lead to impossibility to issue results are invoiced at **1/4** of the price list in Tables 1, 2 & 3. Their cost may be adjusted.

Note 4: CUTS policy on pricing of energy control of hot water boilers supplied with solid fuels. Costs can be adjusted.

- Chemical analyzes (stoichiometric analysis and determination of calorific fuel value) will be carried out by a collaborating accredited analytical laboratory and the additional costs will burden the manufacturer.
- If the manufacturer or the agent requests the energy audit of space heaters with boilers with a number of more than three (3) a 10% discount on the net amount of the invoiced service cost will be deducted.
- In case an energy audit of the same boiler for more than one fuel - power supply system will be deducted a 15% discount for each additional fuel - supply system on the net amount of the invoiced service cost.
- The completion of the energy audit and the quality of the flue gas is accompanied by a written technical report of the space heater with boiler, which contains all the necessary information and is sent to the manufacturer or his authorized agent.
- **As mentioned above, "CE" certification does not apply to space heaters with hot water boilers supplied with solid fuels.**

The procedure followed is the customer's application to the CUTS and the technical file of the space heaters with boilers to be examined. Then send an acceptance certificate from the CUTS to the Customer and test the boiler for energy evaluation & flue gas quality control. The procedure is completed by sending the corresponding technical report to the manufacturer or his authorized agent.

II). Cost of monitoring the conformity of the company's hot water boilers to the "type" for providing "CE" certificate of Conformity, which is provided according to: P.D. 335/16-8-93 G.G. 143/A/2-9-93 Module C of Article 7 & P.D. 59/21-2-95 G.G. 46/A/27-2-95, as well as according to the Regulation (EU) 2016/426 (Annex III, Paragraph 2 of the Regulation).

At this phase the following tasks are carried out:

- 1) Inspection in the manufacturing site of the products for the purpose of testing the conformity of the manufactured boilers to the type described in the EC type-examination certificate.
- 2) Issue of "CE" certificate of Conformity.

The costing of the above works is as follows:

- For **the first inspection** the cost is 1500 € plus VAT (fixed cost: 500 € plus VAT, inspection: 1000 € plus VAT) and the extra charge for the off-site and accommodation allowance, which will be paid upon acceptance of the CUTS of Laboratory of Steam Boilers & Thermal Plants to monitor the conformity of the produced hot water boilers of the company.
- The annual cost of renewal of the CE marking will be € 1000 plus VAT, provided that the renewal is continuous each year, otherwise invoiced as the 1st inspection and the extra charge for the off-site and residence allowance.
- The cost of the inspection for boiler manufacturers based outside of Attica is 10% off the net amount is deducted. This discount applies when the number of inspected rows is two (2) or more.
- The period of certification is usually one (1) year. Where the validity of the certificate is less than one year, the cost shall be adjusted proportionately for the period of validity of the certificate. Also, the CUTS may decide that the certificate should last longer than one (1) year if the manufacturer

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deliberately and continuously renews the certification without significant non-compliance during the inspection.

- The payment of the fee for the issue of the EC Type Certificate of Certification and the CE Certificate of Conformity shall be paid before the check, with deposit to **Euro Account. Numb.: 080/300079-60** and **IBAN GR 69 0110 0800 0000 0803 0007 960 of NATIONAL BANK OF GREECE** (38 STADIOU STREET. 10564 ATHENS GREECE), (NTUA Special Account for Research Grants). For the issue of the invoice you should send us by email or fax the following:
 - The bank document of payment.
 - Company's data (Name, address, Buis. Reg number).

4. EXAMINATION FRAMEWORK FOR EC TYPE-EXAMINATION CERTIFICATION AND CERTIFICATE'S VALIDITY CONDITIONS.

The examination framework for the EC type - examination certificate and the conditions of validity of the certificate are:

4.1 Examination Framework

↪ Checks carried out include:

- ♦ **Energy Performance & Environmental Performance Audit (Exhaust Quality)** in accordance with the following European Standards as appropriate:

<u>Field of Certification</u>	<u>Type of Certification</u>	<u>Normative Regulations / Standards / In House Procedures</u>
1. <u>Space Heaters / Hot water boilers with oil usage</u>	- EC type examination (Annex III, module B) - Conformity to type (Annex IV, module C)	Directive 92/42/EEC - P.D. 335/93 (G.G.143/A/93) - P.D. 59/95 (G.G. 46/A/95) - 2009/125/EC (P.D. 7/11 (G.G. 14/A/11-02-2011)), which is supplemented by Regulations (EU) 813/2013** and amended by Directive 2012/27/EU (Law 4342/2015, Part B' (G.G. 143/A/09-11-2015)). - 2010/30/EU (J.M.D. 12400/1108/11 (GG 2301/B/14-10-2011)), which is supplemented by Regulation 811/2013**, amended by Directive 2012/27/EU (Law 4342/2015, Part B' (G.G. 143/A/09-11-2015)) and repealed by Regulation (EU) 2017/1369. - ELOT EN 303-1 E3:2017*, - ELOT EN 303-2 E3:2017*, - ELOT EN 304 E2:2017*, - ELOT EN 303-4:1999*, - ELOT EN 303-6:2000*, - ELOT EN 267+A1:2012*,
2. <u>Space Heaters / Hot water boilers with usage of gaseous fuels</u>		- ELOT EN 303-1 E3:2017*, - ELOT EN 303-3: 1998*, ELOT EN 303-3/A2:2005*, - ELOT EN 303-7:2011*, - ELOT EN 15502-1+A1:2015*, - ELOT EN 15502-2-1+A1:2017*, - ELOT EN 15502-2-2:2014*, - ELOT EN 656:1999*, ELOT EN 656/A1:2008*
<u>Field of Certification</u>	<u>Type of Certification</u>	<u>Normative Regulations / Standards / In House Procedures</u>
<u>Appliances burning gaseous fuels</u> -Space heating appliances - Appliances for hot water production - Appliances for combined hot water production and space heating	- EU type-Examination - production type (Annex III, §1, Module B) - Conformity to type based on internal production control plus supervised product checks at random intervals (Annex III, §2, Module C2) - Conformity based on unit verification (Annex III, §6, Module G)	Regulation (EU) 2016/426 - ELOT EN 303-1 E3:2017*, - ELOT EN 303-3: 1998*, ELOT EN 303-3/A2:2005, - ELOT EN 303-7:2011, - ELOT EN 15502-1+A1:2015*, - ELOT EN 15502-2-1+A1:2017*, - ELOT EN 15502-2-2:2014*, - ELOT EN 656:1999, ELOT EN 656/A1:2008

* The reference to non-harmonized European Standards, Regulations or Normative documents indicates that only a specific part of the requirements of the above European Standards, Regulations or Normative documents, complement, either the harmonized European Standards EN, which fulfil essential requirements of European Directives, or the provisions of European Directives, to the degree that is necessary for the assessment of the compliance of the product.

** The reference to Regulations (EU) 813/2013 and 811/2013 indicates only heaters with boiler.

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- For solid Fuel:

<u>Field of Certification</u>	<u>Type of Certification</u>	<u>Normative Standards / Procedures</u>	<u>Regulations / In House</u>
<u>Space Heaters / Heating boilers supplied with solid fuels.</u>	-Type examination, inspection testing: 1. Energy efficiency 2. Quality of waste gas	Procedure of the Certification Body Π-E_D8.1.19, according to: - ELOT EN 303-5 E2/19-06-2012, - MD 189533: “Regulation of issues relevant to the permanent combustion chamber for heating of building and water” [GG 2654/B/ 9-11-11]. and based on the Regulations (EU): - 2015/1189 (Annex II, point 1, Annex III) and - 2015/1187 (Annex VIII, Annex IX).	

- For HECHP:

<u>Field of Certification</u>	<u>Type of Certification</u>	<u>Normative Standards / Procedures</u>	<u>Regulations / In House</u>
<u>High Efficiency Cogeneration of Heat and Power Plants (HECHP)</u>	Inspection, verification and approval of systems, determination of ECHP in HECHP plants. (Inspection of either existing or new HECHP plant).	A) Decision RAE 1599/2011 (GG 179/B/2012) as amended by Decision RAE 410/2016 (GG 4081/B/2016). B) M.D. Δ5-ΗΛ/Γ/Φ1/οικ. 23278 (GG 3108/B/2012). C) M.D. Δ5-ΗΛ/Γ/Φ1/οικ.15606 & 15641 (GG 1420/B/2009). D) M.D. Δ5-ΗΛ/Γ/Φ1/749 (GG 889/B/2012). E) M.D. Δ6/Φ1/οικ. 8786 (GG 646/B/2010). F) Law 3468 / (GG 129/A/2006).	

4.2 Terms of validity of the examination certificate

The space heater with boiler must be accompanied by the manufacturer's declaration of conformity as well as installation, adjustment, maintenance and use instructions.

The warnings on the device and its packaging must clearly indicate the type of gas, feed pressure and any restrictions on use, in particular the limitation that the appliance should only be placed in rooms with sufficient ventilation.

The EC-EU type examination certificate (Directive 92/42 / EEC and Regulation EU / 2016/426) has a maximum validity of ten (10) years from its date of issue.

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5. FLOW CHART OF THE CERTIFICATION PROCEDURE UNDER THE MODULES B & C - REQUIRED DOCUMENTS

5.1 Module B & Paragraph 1, Annex II (G.G. 487/B/4.7.91) §1 of Annex III of Regulation EU 2016/426 - Issue of EC type-examination certificate

The flow diagram of the procedure to be followed for the granting of the EC type-examination certificate and the sequence of the operations by object is:

1. Contact - Inform the manufacturer or his authorized representative
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation
<ul style="list-style-type: none"> • Provide a Newsletter to the manufacturer or his authorized representative
2. Application for EC type-examination certificate
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation
The application includes:
<ul style="list-style-type: none"> • Application on a CUTS form, indicating the name, address of the manufacturer or his authorized representative, the requested service and a statement to inform the cost accounting and operating instructions. • Written declaration that the same application has not been submitted to any other notified body. • Technical File of the space heater with boiler, which will be delivered to a dossier where the following sections will be distinguished with dividers which will include: <ol style="list-style-type: none"> 1. The first section: Technical manual, consisted of: <ul style="list-style-type: none"> <input type="checkbox"/> Full technical description of the space heater with boiler and accessories if considered to be integral parts of the boiler. <input type="checkbox"/> Assembly, operation and maintenance instructions for the space heater with boiler. 2. The second section: <ul style="list-style-type: none"> <input type="checkbox"/> Complete construction drawings (views, sections, memos with increasing number of construction materials, etc.) of the space heater with boiler. <input type="checkbox"/> Descriptions and explanations of drawings, which are necessary for their understanding. 3. The third section will include: <ul style="list-style-type: none"> <input type="checkbox"/> Detailed table of the materials used and their technical specifications. <input type="checkbox"/> Material Certificates (Steel Plate, Cast Iron, Tubes, Insulation, Other). <input type="checkbox"/> A list of standards (eg EN) applied by the company in full or in part, as well as descriptions of the solutions applied by the manufacturer to meet the essential requirements where the standards are not applied. 4. The results of the design calculations and the examinations carried out. <ul style="list-style-type: none"> <input type="checkbox"/> Thermotechnical calculations and reference to corresponding calculation methods. <input type="checkbox"/> Strength calculations and reference to a standard under which the audit is carried out. 5. The company's test reports (with regard to the tests reported in EN 301-1:2017, (eg the prototype hydraulic test, the hydraulic test during the production process, test for gas soundness, etc.)) as well as the registration protocols of the results. 6. Newsletter (Prospectus) of the boiler. <ul style="list-style-type: none"> <input type="checkbox"/> Manufacturer's declaration proposing burners (at least three) that can be combined to be used with the boiler when placed on the market. <input type="checkbox"/> Operator's manual of the burner to be used when controlling the boiler. <input type="checkbox"/> Certificate of suitability of the burner with regard to: <ul style="list-style-type: none"> - The burner's technical requirements for the burner according to EN 267. - The safety of electrical equipment of the boiler and the interfaces (eg. connectors) between control devices. - The electromagnetic compatibility. 7. Photographs of the boiler and its accessories (such as turbulators) as available on the market. <ul style="list-style-type: none"> <input type="checkbox"/> With and without covers. <input type="checkbox"/> With and without insulation. <input type="checkbox"/> The main body (combustion chamber & tubes) of the space heater with boiler. <input type="checkbox"/> The Heat Exchanger if possible.

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For testing a space heater with boiler supplied with solid fuel, the manufacturer shall, in accordance with EN 303-5, give the following documents:

- Drawings showing clearly the type of construction of the space heater with boiler (or space heater with boiler series) with reference to the material, welding (where appropriate) and wall thickness of pressurized parts.
- Installation and operating manual as well as other relevant documents of the manufacturer.
- A description of the space heater with boiler including the draft of the space heater with boiler data plate.
- Photos of the space heater with boiler as well as certificates of insulating materials.

The space heater with boiler plate will contain at least the following information:

- name and company domicile of the manufacturer and where available the manufacturer's symbol.
- Trade designation, type under which the boiler is marketed.
- Production number and year of construction (coding is permissible at the manufacturer's discretion).
- nominal heat output and heat output range in kW for each type of fuel.
- Space heater class regarding each fuel type that was tested.
- maximum operation pressure, in bar.
- maximum operating temperature, in degrees Celsius.
- water content in litres.
- electrical connection (V, Hz, A) and wattage in watts.
- The fuel class according to the standard.

The material and labeling used for the plate shall be durable. The labeling shall be abrasion – proof. Under normal operating conditions the plate shall not discolour so as to make its information difficult to read. Shelf – adhesive plates should not become detached as a result of moisture and temperature.

3. Evaluation of the application - Examination of the completeness of the Technical File

- **Authorized Department :** Department of Support & Validation

- **Suggestion to the General Manager of CUTS.**
- **Decision on whether or not to provide the applied service.**
- **Notification to the Control and Testing Department.**
- **Inform the manufacturer or his authorized representative.**

In the case of a positive decision, the CUTS shall inform the manufacturer or his authorized representative with the acceptance certificate.

4. Acceptance certificate

- **Authorized Department:** Department of Support & Validation

The acceptance certificate includes:

- The notification of the decision.
- The start time of work.
- The duration of the work.
- What the manufacturer must provide with the boiler.
- The total cost of the service provided.
- The terms and manner of payment of the fee for the service provided.

5. Examination of Technical File and Provided Boiler "Type".

6. Checking the energy performance of the Boiler "Type".

7. Exhaust gas quality control of the Boiler "Type".

8. Issue Test Report.

9. Issue EC Type Examination Certificate.

- **Authorized Department:** Control and Testing Department

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- **Notification to the General Manager.**
- **Notification to the Department of Support & Validation.**

The test report includes:

- Name and address of CUTS.
- A unique identifier of the test report (such as increasing number) listed on each page of the report and the total number of pages of the report.
- The identifying symbol of the notified body (CUTS).
- Name and address of customer.
- Description and identifying data of the tested boiler.
- Sampling date, the receiving date of the tested boiler and the date of the tests.
- The identification number of the test procedure.
- Measurements, tests and their results with the support of tables, diagrams, drawings and photographs, as long as it is necessary, as well as any error found.
- Signature and title or any other equivalent of the person (s) who have accepted the technical responsibility of the audit report and the date of issue.
- Statement stating that the inspection results relate only to boilers tested.
- A statement that the report should not be reproduced without CUTS approval.

10. Issue EC Type Examination Certificate

- **Authorized Department:** Department of Support & Validation

- **Issue the EC Type Examination Certificate for the manufacturer or his agent.**
- **Notification to competent bodies (Ministry of Development, ESYD).**
- **Notification to other organizations notified under the same Community harmonized legislation that performs similar conformity assessment activities and covers the same products with relevant information on issues that concern negative and, on request, positive results of conformity assessment.**

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5.2 Module C & Paragraph 1, Annex II (G.G. 487/B/4.7.91) – CE CERTIFICATE OF CONFORMITY (§2 of Annex III of Regulation EU 2016/426).

The flow diagram of the procedure to be followed for the CE marking and the sequence of work on the subject is:

1. Contact - Inform the manufacturer or his authorized representative	
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation 	
<ul style="list-style-type: none"> • Provide a Newsletter to the manufacturer or his authorized representative 	
2. Submission of Application & Declaration of Conformity for Product Surveillance and Compliance with the Type	
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation 	
The application includes:	
<ul style="list-style-type: none"> • Application on a CUTS form, indicating the requested service, name, address of the manufacturer or his authorized representative. • “CE” declaration of conformity. • Written declaration that the same application has not been submitted to any other notified body. 	
3. Evaluation of the application	
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation 	
<ul style="list-style-type: none"> • Suggestion to the General Manager. • Decision on whether or not to provide the applied service. • Notification to Department of Sampling and Conformity of Production Quality. • Inform the manufacturer or his authorized representative. 	
<p>In the case of a positive decision, the CUTS shall inform the manufacturer or his authorized representative with the acceptance certificate. <u>Before the inspection, the actions for evaluation are planned and an assessment program is prepared by the Chief Assessor and which, together with the Evaluation Team Definition, is sent to the manufacturer or his authorized representative for information.</u></p>	
4. Acceptance certificate	
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation 	
The Acceptance certificate includes:	
<ul style="list-style-type: none"> • The notification of the decision. • Control conditions (Inspection procedure, validity of the certificate). • The total cost of the applied service. • The terms and manner of payment of the fee for the service provided. 	
5. Acceptance of Control Conditions - Declaration of Conformity by the manufacturer - Private agreement.	
<ul style="list-style-type: none"> • Authorized Department: Department of Support & Validation 	
<ul style="list-style-type: none"> • A private agreement is signed between the manufacturer and the CUTS, stating that the manufacturer accepts the CUTS as a certification body for its products. 	
<ul style="list-style-type: none"> • The manufacturer or his authorized representative shall draw up a written declaration of conformity. 	

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6. Examination of the Declaration of Conformity to the approved type
7. Inspection procedure at manufacturer's premises.
8. Issue a certificate for the possibility of affixing the CE marking.

- **Authorized Department:** Department of Sampling and Conformity of Production Quality

- **Notification to the General Manager.**
- **Notification to the Department of Support & Validation.**

- In the process of inspection, the CUTS has the right to receive on site an appropriate sample of the finished product to check that production complies with the requirements of the respective Directive.

9. Issue a CE Certificate of Conformity

- • **Authorized Department:** Department of Support & Validation

- **Issue the EC Type Examination Certificate for the manufacturer or his agent.**
- **Notification to competent bodies (Ministry of Development and Investments, ESYD).**

- **Notification to other organizations notified under the same Community harmonized legislation that performs similar conformity assessment activities and covers the same products with relevant information on issues that concern negative and, on request, positive results of conformity assessment.**

5.3 Procedure for the issue of a certificate.

The inspecting persons shall complete the following forms, which they shall give to the manufacturer / authorized representative after the end of the inspection:

- Total reference report of the inspection non-conformities in the installations of manufacturer / agent. (C-F02_D1.6)
- Reference report of the inspection non-conformities in the installations of manufacturer / agent. (C-F02_D1.4)
- Total reference report of the inspection remarks in the installations of manufacturer / agent. (C-F02_D1.5)
- Reference report of the inspection remarks in the installations of manufacturer / agent. (C-F02_D1.3)

They then write and send Minutes of Inspection listing all the findings and remarks - non-conformities made during the inspection and the measures to be taken by the manufacturer or his authorized representative in case of divergence

After writing minutes of inspection the corrective actions taken by the manufacturer or the agent in case of divergence, a report for the certification of hot water boilers (P-Φ02_D1.7) is prepared by the inspectors who have carried out the inspection to the certifying officer (General Director) who decides whether or not to issue the certificate (whether or not to approve the introductory report)

In the case that two months have passed and the CUTS has received no response to the manufacturer's non-compliance, then the introductory report on the certification is negative.

The certificate is given when the necessary action has been taken by the manufacturer - its agent to remove the non-conformities.

The Department of Sampling and Conformity of Production Quality of the CUTS issues a certificate signed by the General Director of the CUTS and / or by the authorized member of the **Audit Committee for CUTS Certification Services**, and provides the manufacturer with the possibility of affixing the CE marking to the boilers it manufactures.

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During the inspection, the manufacturer or his authorized agent shall allow access to records and plant facilities related to the products to be certified while observers may be present if possible (such as ESYD evaluators).

The CUTS through the Support & Validation Department grants the manufacturer or his authorized agent the certificate of the CE marking on the products he manufactures. The standard time period of validity of the certificate is one (1) year.

The CUTS does not delegate responsibilities to an outside person or entity for the granting, maintenance, extension, suspension and revocation of certification.

The manufacturer or his authorized agent is obliged to immediately notify any changes that affect the compliance of the product with the certification as well as changes related to the certification such as:

- The legal, commercial, organizational structure or property.
- Organization and management (personnel).
- Changes in product or method of production.
- Contact address and production units.
- Significant changes to the quality system.

The CUTS shall notify in advance any changes it intends to make to its certification requirements and that each manufacturer or authorized representative shall make the necessary arrangements within a reasonable time.

5.4 Withdrawal process - Certificate Revocation Process.

⇒ As a result of the different control results and if the manufacturer or his authorized agent does not accept them, the results are notified to the Ministry of Development through a reasoned report prepared by the Support and Validation Department and signed by the General Director. The sanctions described in the PD 335 are then applied.

⇒ Before the expiration of the certificate expiration date, CUTS communicate with the manufacturer or his authorized agent for the certificate renewal where he / she can refuse, the CUTS informs the competent Departments of the Ministry of Development about the renewal or withdrawal of the certificate.

With the suspension or revocation of certification any reference to the CUTS and the use of the CE marking is forbidden.

With the suspension or revocation of certification, the use of promotional material is stopped and the manufacturer or agent takes action as required by the CUTS.

In case that after the product certification, any change that changes the certification data will come to the attention of CUTS, then the CUTS may proceed to the temporary suspension of the certificate until such changes have ceased.

5.5 Complaint / protest handling process.

5.5.1 "EC" type examination certificate.

In the event that the CUTS do not issue the EC Type-Examination Certificate to the manufacturer or his authorized agent established within the Community, the CUTS through the Support & Validation Department explains in detail the non-granting of the certificate.

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The manufacturer has the possibility to appeal an objection which is examined first by a committee including the General Director and the Quality Assurance Director. Upon receipt of the complaint or appeal, the CUTS confirm the manufacturer or the agent if the complaint or appeal is related to the certification activities for which CUTS is responsible and if CUTS is facing them. This committee shall examine the test reports and substantiate the objection.

Secondary examination of the objection is possible after submission to the **Certification Services Audit Committee** set up by the CUTS and its composition represents all relevant parts on policy-making and principles in terms of content and functioning certification system, and takes a final decision on the objection.

5.5.2 CE Certificate of Conformity.

In the case that the CUTS do not issue a certificate to the manufacturer or his authorized agent established within the Community, the CUTS through the Support & Validation Department explains in detail the non-granting of the certificate.

The manufacturer has the possibility to appeal an objection, which is examined first of all by a committee including the General Director and the Quality Assurance Manager. Upon receipt of the complaint or appeal, the CUTS confirm the manufacturer or the agent if the complaint or appeal is related to the certification activities for which he is responsible and if CUTS is facing them. This committee shall examine the test reports and substantiate the objection.

Secondary examination of the objection is possible after submission to the **Certification Services Audit Committee** set up by the CUTS and its composition represents all relevant parts on policy-making and principles in terms of content and functioning certification system, and takes a final decision on the objection.

5.6 Procedures for the use of the certification mark - the CUTS notification number.

The CUTS provide any explanation regarding certification if requested.

According to the PD. 335 - Article 7 and Presidential Decree. 59 - Article 5 and its Annex III (Government Gazette 487 / B / 4.7.91), the manufacturer is obliged to affix to his products, after their certification, the CE marking with a specific dimension, in a visible, legible and indelible form, and it is forbidden to affix to these products any other mark, sign or indication which may cause confusion with the CE marking as to its meaning or its graphic representation.

The CE marking shall be followed by the identification number of the notified body responsible for the verification. The surveillance of the sign is periodic through emergency inspections or the use of printed material available from the manufacturer / authorized agent.

The identification number shall be clearly, legibly and indelibly marked with the same CE marking dimensions. If observed by the CUTS, misuse including false allegations of certification and misuse of its signals, it recommends that the manufacturer or its authorized agent take corrective action to comply with applicable law.

Also on the nameplate bearing the CE marking, the following should also be mentioned:

- The manufacturer's name.
- The brand name of the appliance.
- The characteristics of the electrical current with which the device is fed, as appropriate.
- The category of the appliance.
- **The energy efficiency mark. (According to Directive 2005/32 / EC it has been abolished).**

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In addition, and depending on the type of appliance, the necessary information for the installation (pressure, temperature, type of fuel, etc.) is added.

The manufacturer declares products that are certified only in relation to the object for which the certification has been granted and uses it to demonstrate compliance with specified standards. If the manufacturer or agent has to give copies of certification forms to others, then they must reproduce them in their entirety and not in part. In the event of partial breeding, it must be licensed by the CUTS.

In the case that the manufacturer or his authorized agent fails to comply with CUTS instructions, it informs the Supervisory Body which is the Ministry of Development and has the right to revoke the relevant certificate, to publish the breach and, if necessary, to other legal actions.

Inspections carried out annually at the manufacturer's premises or his authorized agent are checked by the CUTS if proper use is made of the marks and in a way that does not confuse buyers.

The CUTS also seek to ensure that no certificate or report is used in a misleading way, and any reference made by the manufacturer or his authorized agent to the certification of the product must comply with the requirements of the CUTS.

The CUTS have the identification number 0617, the number with which it was notified to the European Union. If this number is incorrectly used by the manufacturer or his authorized agent, the CUTS will take measures such as a written reprimand of the manufacturer, information of the Ministry of Development & Investments - General Secretariat of Industry, revocation or withdrawal of a certificate.

5.7 Complain to suppliers

The supplier of certified products must:

- To keep a record of all complaints made known to the supplier relating to the compliance of the product with the requirements of the relevant standard and to make these records available to the CUTS when requested.
- Take appropriate action with respect to these complaints and any deficiencies found in products or services that affect compliance with the certification requirements.
- Document the actions being taken.

6. CONTROL OF HIGH EFFICIENCY COGENERATION OF HEAT AND POWER PLANTS (HECHP) AND ISSUE ACCEPTANCE CERTIFICATE OF CONFORMITY WITH THE FULFILLMENT OF THE REQUIREMENTS OF ARTICLE 4 OF Δ6/Φ1/ΟΙΚ.8786 GG B' 646/14.05.2010 KAI MD Δ5-ΗΛ/Γ/Φ1/οικ. 15606 & 15641 GG B' 1420/15.07.2009

6.1 Service provided framework.

The Certification Unit of Thermal Systems (CUTS) of the Laboratory of Steam Boilers & Thermal Plants of NTUA provides services of control of high efficiency cogeneration of heat and power plants (HECHP) and issue acceptance certificate of conformity with the fulfillment from the measuring and marking devices of the specification units defined in Article 4 of ministerial decision Δ6/Φ1/οικ.8786 G.G. B' 646/14.05.2010 and ministerial decision Δ5-ΗΛ/Γ/Φ1/οικ.15606 & 15641 ΦΕΚ B' 1420/15.07.2009, that the definition of the spatial limits of the system and the measurement points meet the requirements of ministerial decisions Δ5-ΗΛ/Γ/Φ1/οικ.15641 G.G. B' 1420/15.07.2009 και Δ6/Φ1/οικ.8786 G.G. B'

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646/14.05.2010 and that the unit exploits the exhaust gas for agricultural purposes pursuant to the fifth subparagraph of point b of paragraph 1 of Article 13 of Law 3468/2006.

6.2 Procedure for taking over the Service.

i. Submit application for measurements - Accept terms.

The application for the control of a cogeneration unit and the provision of an acceptance certificate of conformity is submitted by the customer or his authorized agent established in the European Union to the Laboratory.

The application is made in a Laboratory form, which is completed by the following:

- The name of the customer or his agent.
- The address of the customer or his agent.
- Unit type.
- Number of measured data.

ii. Sending an Acceptance Certificate.

The acceptance certificate includes:

- The timing of the control.
- The total cost of the service provided.
- The terms and ways of payment of the fee for the service provided.

6.3 Costing

The issue of the certificate is valued **at 1000 Euros + VAT, not including off-set allowances and travel and accommodation expenses**, which involves a visit to the facility for control and data collection. If additional work is needed, it is valued according to the following:

The final cost of providing the above services depends mainly on the following:

- The size of the monitored plant and the number of measured data.
- The number of people who will perform the control and evaluation of the facility.
- The location of the site under control and its distance from the Laboratory facilities. (eg at a distance of more than 40 km).

The following Table 4 gives additional elements of the service costing analysis by category.

Table 4: Analysis of service costing by category.

Category	Analysis of the cost of the provided service
A	<ol style="list-style-type: none"> 1. Payment of staff performing the audit 2. Staff payment for the processing and evaluation of the collected data and for the writing of a technical report.
B	<ol style="list-style-type: none"> 1. Payment of Faculty members of NTUA. 2. Transportation of equipment & Personnel 3. Staff accommodation (Hotel + off-site compensation)
C	FOR NTUA (Total funding – Total B) X 15%
D	VAT

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Staff pay is calculated on a hourly basis, which is indexed and given per category of staff, according to the Senate's decisions.

6.4 How to pay for services.

- Payment of the service fee is paid after checking and providing the certificate of conformity, with deposit to **Euro Account . Numb.: 080/300079-60** and **IBAN GR 69 0110 0800 0000 0803 0007 960 of NATIONAL BANK OF GREECE** (38 STADIOU STREET. 10564 ATHENS GREECE), (NTUA Special Account for Research Grants).
- For the issue of the invoice you should send us by email or fax the following:
 - The bank document of payment.
 - Company's data (Name, address, Buis. Reg number).

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