



Draft text

Grand-Ducal draft regulation concerning the operating procedures for heat pumps

We, the undersigned, Henri, Grand Duke of Luxembourg, Duke of Nassau;

Having regard to Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast);

Having regard to the law of DD MM YYYY concerning the operation of heat pumps;

Having regard to the financial statement;

Hereby order as follows:

Article 1. Acceptance of heat pump installations

(1) The application for acceptance contains the elements listed in Annex I and is made electronically using a form made available to the company. At the request of the Environment Administration, the Chamber of Skilled Trades and Crafts forwards the application for acceptance to it. The forwarding is done electronically.

(2) The acceptance agent inspects the elements prescribed by Annex II and records them in a duly completed acceptance report conforming to the specifications of Annex III.

(3) When the acceptance is positive, the acceptance agent sends the acceptance report to the heat pump installation operator and sends a copy of this report to the Environment Administration within fifteen days of the date of acceptance. The transmission of the acceptance report is done on the basis of an electronic form made available by the Environment Administration.

(4) When the acceptance agent finds one or more non-conformities listed in Annex II, Point 1), they mark this/these non-conformity(ies) as elements to be monitored on the acceptance report. This report is sent to the operator of the heat pump installation and a copy is sent within fifteen days of the date of acceptance to the Environment Administration. The transmission of the acceptance report is done on the basis of an electronic form made available by the Environment Administration.

(5) When the acceptance agent finds one or more non-conformities listed in Annex II, Point 2), they mark this/these non-conformity(ies), which gives rise to a conditional acceptance, on the acceptance report. This report is sent to the operator of the heat pump installation and a copy is sent within fifteen days of the date of acceptance to the Environment Administration. The transmission of the acceptance report is done on the basis of an electronic form made available by the Environment Administration.



The heat pump installation can be kept in service provided that it is brought into compliance within three months. This deadline may, however, exceptionally be exceeded if such an extension is duly justified. In this case, the heat pump installation operator sends a detailed explanation, including a timeline, to the Environment Administration for approval within two weeks.

After the compliance work has been completed, the operator carries out a new acceptance procedure. In the event that this new acceptance is not carried out or reveals the same non-conformities, the heat pump installation is deemed not to comply with the provisions of this regulation and is taken out of service in accordance with Article 7 of the Law of DD MM YYYY concerning the operation of heat pumps.

(6) When the acceptance agent observes the non-conformity referred to in Annex II, Point 3), the acceptance is negative. In this case, the heat pump installation is taken out of service in accordance with Article 7 of the Law of DD MM YYYY concerning the operation of heat pumps until it is brought into compliance. The acceptance agent marks the non-conformity on the acceptance report along with the probable cause(s) of this non-conformity. They transmit this report to the operator of the heat pump installation and transmit a copy within two weeks to the Environment Administration. The transmission of the acceptance report is done on the basis of an electronic form made available by the Environment Administration.

A negative acceptance gives rise to a new acceptance procedure.

(7) During the reception of a heat pump installation, the acceptance agent provides advice to the operator on the following points:

- 1° adjustment and optimisation of the heat pump installation;
- 2° behaviour in case of malfunction;
- 3° safety instructions;
- 4° legal obligations of the operator.

Art. 2. Periodic inspection of heat pump installations

(1) The inspector carries out the inspection of the elements prescribed by Annex IV and records them in a periodic inspection report duly completed and conforming to the specifications of Annex V.

(2) When the periodic inspection is positive, the inspector sends the periodic inspection report to the operator of the heat pump installation and to the Environment Administration within fifteen days of the date of the periodic inspection. The transmission of the periodic inspection report is done on the basis of an electronic form made available by the Environment Administration.

(3) When the inspector finds one or more non-conformities listed in Annex IV, Point 1), they mark this/these non-conformity(ies) as elements to be monitored on the periodic inspection report. This report is sent to the operator of the heat pump installation and, within two weeks of the date of the periodic inspection, to the Environment Administration. The transmission of the inspection report is done on the basis of an electronic form made available by the Environment Administration.



(4) When the inspector finds one or more non-conformities listed in Annex IV, Point 2), they mark this/these non-conformity(ies), which gives rise to a conditional inspection, on the periodic inspection report. This report is sent to the operator of the heat pump installation and, within two weeks of the date of the periodic inspection, to the Environment Administration. The transmission of the periodic inspection report is done on the basis of an electronic form made available by the Environment Administration.

The heat pump installation can be kept in service provided that it is brought into compliance within three months. This deadline may, however, exceptionally be exceeded if such an extension is duly justified. In this case, the heat pump installation operator sends a detailed explanation, including a timeline, to the Environment Administration for approval within two weeks.

After the compliance work has been completed, the operator arranges for a new periodic inspection. In the event that this new periodic inspection is not carried out or reveals the same non-conformities, the heat pump installation is deemed not to comply with the provisions of this regulation and is taken out of service in accordance with Article 7 of the Law of DD MM YYYY concerning the operation of heat pumps.

(5) When the inspector observes the non-conformity referred to in Annex IV, Point 3), the periodic inspection is negative. In this case, the heat pump installation is taken out of service in accordance with Article 7 of the Law of DD MM YYYY concerning the operation of heat pumps until it is brought into compliance. The inspector marks the non-conformity on the periodic inspection report along with the probable cause(s) of this non-conformity. They transmit this report to the operator of the heat pump installation and transmit it within fifteen days of the date of the periodic inspection to the Environment Administration. The transmission of the inspection report is done on the basis of an electronic form made available by the Environment Administration.

For the recommissioning of the heat pump installation, the operator shall carry out all necessary operations to remedy the non-compliance.

(6) Heat pump installations with a rated useful output exceeding 70 kW and that are explicitly governed by an agreed energy performance criterion or a contractual agreement setting an agreed level of energy efficiency improvement, such as the energy performance contracts defined in Article 3, Point 4 of the Law of DD MM YYYY concerning the operation of heat pumps, or that are managed by a utility service manager or a network operator and are therefore subject to performance monitoring measures for the systems, are exempt from the periodic inspection requirements laid down in Annex IV, Point 1), Letter b), provided that the overall impact of such an approach is equivalent to that resulting from a full inspection.

Also exempt from the periodic inspection requirements set out in Annex IV, Point 1), Letter b), are heat pump installations with a rated useful output exceeding 70 kW installed in buildings equipped with a building automation and control system able to:

1. continuously monitor, record and analyse energy consumption and allow it to be adjusted continuously;



2. assess the energy efficiency of the building in relation to reference values, detect losses in efficiency of building technical systems and inform the person responsible for the installations or technical management of the building of the possibilities for improving energy efficiency;
3. enable communication with connected building technology systems and other devices inside the building and be interoperable with building technology systems involving different types of patented technologies, devices and manufacturers;
4. no later than 29 May 2026, monitor the quality of the indoor environment.

Also exempt from the periodic inspection requirements set out in Annex IV, Point 1), Letter b), are heat pump installations with a rated useful output exceeding 70 kW installed in buildings equipped with the following elements:

1. continuous electronic monitoring functionality that measures the effectiveness of the systems and informs the owners or managers of the building in the event of a significant variation and when maintenance of the system is required;
2. effective control functionalities to ensure optimal energy production, distribution, storage and use, and, where appropriate, hydraulic balancing;
3. an ability to react to external signals and adjust energy consumption.

(7) In the event that the periodic inspection is carried out for a heat pump installation that has not been accepted, the inspector gives advice to the operator on the points listed in Article 1, Paragraph 7.

(8) The periodic inspection report includes recommendations from the inspector for the rational use of electrical and thermal energy based on the heat pump installation and the needs of the operator.

Art. 3. Decommissioning

The decommissioning statement is made by transmitting the duly completed form according to Annex VI to the Environment Administration within two weeks of dismantling or emptying. The transmission is done on the basis of an electronic form made available by the Environment Administration.

Art. 4. Repealing provision

The Grand-Ducal Regulation of DD MM YYYY relating to the procedures for accepting heat pumps is repealed.

Art. 5. Executory clause

The Minister responsible for the Environment and the Minister responsible for Energy are each charged, within their respective areas of competence, with the implementation of this regulation, which will be published in the Official Journal of the Grand Duchy of Luxembourg.



Annex I

Application for acceptance

The application for acceptance contains at least the following information:

- 1) last name, first name and full address of the operator;
- 2) precise address and locations of the heat pump installation;
- 3) location of energy use: existing/new building (single-family home or residence/apartments, administrative, commercial or industrial building, other), year of construction;
- 4) Maximum thermal load for heating the building in kW, including the outside temperature in °C for which the maximum thermal load was determined, and the energy reference area in m² and the thermal power in kW for the production of domestic hot water, where applicable;
- 5) type of heat pump installation (air/water, water/water, ground/water, other);
- 6) type of refrigerant, fluid load in kg;
- 7) brand, model, year of construction and thermal output in kW of the heat pump installation at the design point according to ILNAS-EN 14511 or ILNAS-EN 14825 standards;
- 8) type and maximum thermal power in kW of the auxiliary heating (electric resistance, combustion installation fuelled by gaseous, liquid or solid fuels, other), if applicable;
- 9) date of commissioning;
- 10) name, address and code of the company applying for the acceptance.



Annex II

Elements to inspect upon receiving the heat pump installation

- 1) Elements leading, in case of non-compliance, to an acceptance with elements to monitor:
 - a) documentation of the design and sizing of the heat pump installation, including the types and flow temperatures of the heat distribution systems, based on the calculation of the maximum thermal load for heating the building and the thermal power for the production of domestic hot water;
 - b) compliance with the installation and location conditions as indicated by the manufacturer;
 - c) determination of the starting and returning temperatures in the heating circuit, if seasonal conditions permit;
 - d) determination of the starting and returning temperatures in the brine circuit, if applicable and if seasonal conditions permit;
 - e) the presence of the heat pump installation register in accordance with the terms of Article 7 of Regulation (EU) 2024/573 of the European Parliament and of the Council of 7 February 2024 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) 517/2014, regardless of the type of refrigerant;
 - f) the presence of a label on the part of the heat pump installation containing the refrigeration circuit according to the terms of Article 12 of the aforementioned Regulation (EU) 2024/573, regardless of the type of refrigerant.
- 2) Elements leading, in case of non-compliance, to a conditional acceptance:
 - a) existence of the calculation of the maximum thermal load for heating the building, including the outside temperature for which the maximum thermal load was determined, the energy reference area and the thermal power for the production of domestic hot water, where applicable;
 - b) implementation and documentation of the hydraulic balancing of the heating network;
 - c) condition and operation of the components of the heating circuit and piping;
 - d) thermal insulation of domestic hot water and heat distribution pipes according to the requirements of the amended Grand-Ducal Regulation of 9 June 2021 concerning the energy performance of buildings;
 - e) adjustment of the bivalence point according to needs, if necessary;
 - f) existence and operation of a separate or integrated electricity meter used to measure the electricity consumption of the heat pump installation;



- g) existence and operation of a separate or integrated electricity meter used to measure the electricity consumption of the electric auxiliary heating, if applicable, unless this is not technically possible;
 - h) existence and operation of a separate or integrated heat meter used to measure the heat supplied by the heat pump installation;
 - i) existence and operation of a pressure gauge in the brine circuit, if applicable.
- 3) Elements leading, in case of non-compliance, to a negative acceptance:
- sealing and operation of the refrigeration circuit.



Annex III

Heat pump installation acceptance report

The heat pump installation acceptance report contains at least the following data:

1) Operation:

- a) last name, first name and full address of the operator;
- b) precise address and locations of the heat pump installation;
- c) documentation of the name plate and identification number of the heat pump installation;
- d) location of energy use: existing/new building (single-family home or residence/apartments, administrative, commercial or industrial building, other), year of construction;
- e) compliance with the acoustic requirements of the heat pump installation in accordance with the provisions of the amended Grand-Ducal Regulation of 7 April 2022 determining the implementing measures of the Law of 23 December 2016 establishing an aid scheme for the promotion of sustainability, the rational use of energy and renewable energies in the housing sector, respectively in accordance with the Law of DD MM YYYY establishing an aid scheme for the promotion of sustainability, the rational use of energy and renewable energies in the housing sector from the date of entry into force of the latter.

2) Nature of the heat pump installation:

- a) type of heat pump installation (air/water, water/water, ground/water, other);
- b) type of refrigerant, fluid load in kg;
- c) brand, model, year of construction and thermal output in kW of the heat pump installation at the design point according to ILNAS-EN 14511 or ILNAS-EN 14825 standards;
- d) type and maximum thermal power in kW of the auxiliary heating, if applicable;
- e) capacity of the buffer tank in litres, if applicable;
- f) documentation of the soundproofing equipment, including the name plate, if applicable;
- g) date of commissioning;

3) date and results of the control of the elements listed in Annex II that are applicable;

4) overall result (positive acceptance, negative acceptance, conditional acceptance, acceptance with elements to monitor);

5) Acceptance agent:

first name and last name of the acceptance agent and signature of the acceptance agent;



- 6) observations of the acceptance agent;
- 7) advice provided to the operator by the acceptance agent.



Annex IV

Elements to inspect during the periodic inspection of the heat pump installation

- 1) Elements leading, in case of non-compliance, to an inspection with elements to monitor:
 - a) determination of the amount of electrical energy consumed by the heat pump installation and the amount of heat supplied by the heat pump installation since the date of acceptance/last inspection;
 - b) determination of performance by means of the ratio between the amount of heat supplied by the heat pump installation and the amount of electrical energy consumed since the date of acceptance/last inspection;
 - c) compliance with the installation and location conditions as indicated by the manufacturer;
 - d) determination of the starting and returning temperatures in the heating circuit, if seasonal conditions permit;
 - e) determination of the starting and returning temperatures in the brine circuit, if applicable and if seasonal conditions permit;
 - f) documentation of the heating curve;
 - g) thermal insulation of domestic hot water and heat distribution pipes according to the requirements of the amended Grand-Ducal Regulation of 9 June 2021 concerning the energy performance of buildings;
 - h) the presence of the heat pump installation register according to the terms of Article 7 of the aforementioned Regulation (EU) 2024/573, regardless of the type of refrigerant;
 - i) the presence of a label on the part of the heat pump installation containing the refrigeration circuit according to the terms of Article 12 of the aforementioned Regulation (EU) 2024/573, regardless of the type of refrigerant.
- 2) Elements leading, in the event of non-compliance, to a conditional inspection:
 - a) condition and operation of the components of the heat pump installation;
 - b) condition and operation of the components of the heating circuit and piping;
 - c) adjustment of the bivalence point according to needs;
 - d) operation of the electricity meter(s) used to measure the electricity consumption of the heat pump installation or the electric auxiliary heating;
 - e) operation of the heat meter used to measure the heat supplied by the heat pump installation;
 - f) operation of the pressure gauge in the brine circuit, if applicable;
 - g) operation and documentation of any element of the heat pump installation that has been



modified since the acceptance/last inspection.

3) Elements leading, in case of non-compliance, to a negative inspection:

sealing and operation of the refrigeration circuit.



Annex V

Periodic inspection report of the heat pump installation

The periodic inspection report for the heat pump installation contains at least the following data:

1) Operation:

- a) last name, first name and full address of the operator;
- b) address, precise locations and identification number of the heat pump installation;
- c) location of energy use: existing/new building (single-family home or residence/apartments, administrative, commercial or industrial building, other), year of construction;

2) Nature of the heat pump installation:

- a) type of heat pump installation (air/water, water/water, ground/water, other);
- b) type of refrigerant, fluid load in kg;
- c) brand, model, year of construction and thermal output in kW of the heat pump installation at the design point according to ILNAS-EN 14511 or ILNAS-EN 14825 standards;
- d) type and maximum thermal power in kW of the auxiliary heating, if applicable;
- e) date of commissioning and last inspection;

3) date and results of the control of the elements listed in Annex IV that are applicable;

4) overall result (positive inspection, negative inspection, conditional inspection, inspection with elements to monitor);

5) Inspector:

- a) company and company code;
- b) first and last name of the inspector, certification of the inspector;

6) observations of the inspector;

7) recommendations provided to the operator by the inspector.



Annex VI

Heat pump installation decommissioning form

The decommissioning form of a heat pump installation contains at least the following data:

1) Operation:

- a) last name, first name and full address of the operator;
- b) address and identification number of the heat pump installation;

2) Nature of the heat pump installation:

- a) type of heat pump installation (air/water, water/water, ground/water, other);
- b) brand, model, year of manufacture and thermal output in kW of the heat pump installation at the design point according to ILNAS-EN 14511 or ILNAS-EN 14825 standards;
- c) date of commissioning;
- d) date of decommissioning;
- e) type of refrigerant, fluid load in kg;
- f) load of recovered refrigerant in kg and subsequent use (recycling, regeneration, destruction);

3) reasons for the decommissioning;

4) description of the follow-up (complete removal of equipment related to the heat pump installation, implementation of a new installation, other);

5) Company:

name, address, certification and company code.