

# Amendments to Technical Booklets

This document contains amendments to the  
following Technical Booklets: F1 and F2

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2014



## Section 1 Introduction

This document contains amendments to the Technical Booklets F1 and F2. Section 2 sets out those amendments.

The changes to Technical Booklets F1 and F2 take effect from 25th February 2014. The previous editions will continue to apply to work started before 25th February 2014, or to work subject to a building notice or full plans application submitted before that date.

The changes to Technical Booklets F1 and F2 are made to take account of a recast of the European Energy Performance of Buildings Directive (Directive 2010/31/EU) with amended guidance for –

- (a) consideration of high-efficiency alternative systems;
- (b) buildings exempted from certain energy efficiency requirements;
- (c) recognition of the term “major renovation”.

Regulation 43B “Nearly zero-energy requirements for new buildings” will not come into operation until 2019. Changes to Technical Booklets F1 and F2 will be provided nearer to the time that this regulation comes into operation.

Buildings of statutory undertakers (exempted from compliance with the Building Regulations under Regulation 4 of the Building Regulations) need to comply with the requirements of the Energy Performance of Buildings Directive (recast) unless exempt from Building Regulations (i.e. exempted under Regulation 38 of the Building Regulations 2012). Where not exempt, buildings of statutory undertakers need to comply with the following regulations under the Building Regulations 2012: regulations 40 (CO<sub>2</sub> emission rates for new buildings), 43(1)(a) (in respect of major renovations of existing buildings), 43A (consideration of high-efficiency alternative systems for new buildings) and 43B (nearly zero-energy requirements for new buildings).



## **Section 2      Amendments to Technical Booklets F1 and F2: 2012 edition**

The amendments to Technical Booklets F1 and F2 are set out as follows –

Technical Booklet F1 – Appendix A

Technical Booklet F2 – Appendix B.



**(1) Page 3**

Under the heading “Requirements” in the first paragraph and after “43” on the second line insert –

“, 43A”.

**(2) Page 3**

Under the heading “Requirements” and after the first paragraph insert –

“Regulation 43B “Nearly zero energy requirements for new buildings” will not come into operation until 1st January 2019. It is the intention of the Department that guidance on this matter will be provided nearer to the time that this regulation comes into operation.”.

**(3) Page 5**

Under the heading “The Energy Performance of Buildings Directive” delete the complete paragraph and substitute –

“Part F implements Articles 2 to 9 of Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.”.

**(4) Page 6**

Within the extract from the Building Regulations, delete regulation 38 (Application and interpretation) and substitute –

**“Application and interpretation**

**38.—**(1) Subject to paragraphs (2), (3) and (4) this Part shall apply to any building and where a building contains one or more dwellings to each dwelling separately.

(2) The energy efficiency requirements shall not apply to—

- (a) protected buildings, where compliance with the energy efficiency requirements would unacceptably alter their character or appearance;
- (b) buildings used as places of worship and for religious activities;
- (c) temporary buildings with a planned time of use of 2 years or less, industrial sites, workshops and non-residential agricultural buildings with a low energy demand; and
- (d) stand-alone buildings other than dwellings, with a total useful floor area of less than 50 m<sup>2</sup>.

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(3) Regulation 40 shall not apply to—

- (a) the extension of a dwelling; and
- (b) the extension of a building other than a dwelling, unless the extension has a total useful floor area that is both—
  - (i) greater than 100 m<sup>2</sup>; and
  - (ii) greater than 25% of the total useful floor area of the existing building.

(4) Regulation 45 shall not apply to the provision or extension of any fixed building service where commissioning is not possible.

(5) In this Part, the following terms have the same meaning as in European Parliament and the Council Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings (recast)—

- (i) “industrial sites”;
- (ii) “low energy demand”;
- (iii) “non-residential agricultural buildings”;
- (iv) “places of worship”;
- (v) “religious activities”;
- (vi) “stand-alone”; and
- (vii) “workshops”.

(6) In this Part—

“Building envelope” in relation to a building, means the walls, floor, roof, windows, doors, roof windows and rooflights;

“Change of energy status” means any change which results in a building becoming a building to which the energy efficiency requirements of these Regulations apply, where previously it was not;

“Cogeneration” means simultaneous generation in one process of thermal energy and one or both of the following—

- (a) electrical energy;
- (b) mechanical energy;

“District or block heating or cooling” means the distribution of thermal energy in the form of steam, hot water or chilled liquids, from a central source of production through a network to multiple buildings or sites, for the use of space or process heating or cooling;

“Energy efficiency requirements” means the requirements of regulations 39, 40, 41, 43, 43A, 43B and 47;

“Energy from renewable sources” means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases;

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“Heat pump” means a machine, a device or installation that transfers heat from natural surroundings such as air, water or ground to buildings or industrial applications by reversing the natural flow of heat such that it flows from a lower to a higher temperature. (For reversible heat pumps, it may also move heat from the building to the natural surroundings.);

“High-efficiency alternative systems” include—

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources; and
- (d) heat pumps;

“Major renovation” means the renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation;

“National calculation methodology” means—

- (a) in relation to a dwelling, the Government's Standard Assessment Procedure (SAP) for Energy Rating of Dwellings; and
- (b) in relation to a building other than dwelling—
  - (i) the Simplified Building Energy Model (SBEM); or
  - (ii) a Dynamic Simulation Model (DSM),

that is implemented with Government approved software;

“Nearly zero-energy building” means a building that has a very high energy performance, as determined in accordance with the National calculation methodology, where the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;

“Pipes, ducts and vessels” means any pipe, any duct and any vessel in a space heating or space cooling system that is intended to carry a heated or chilled liquid or gas and includes any associated fittings;

“Protected building” has the same meaning as in Article 3A(2) of the Building Regulations (Northern Ireland) Order 1979;

“Renovation of a thermal element” means the provision of a new layer to a thermal element or the replacement of an existing layer (other than where a partial replacement layer is provided solely as a means of patch repair to a flat roof) but does not include thin decorative surface finishes;

“Space cooling system” does not include a system or that part of a system which cools or stores water solely for a commercial or industrial process;

“Space heating system” does not include a system or that part of a system which heats or stores water solely for a commercial or industrial process;

“Target carbon dioxide emission rate” means the rate of carbon dioxide emission measured in kilograms of carbon dioxide per square metre of total useful floor area per year;

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“Thermal element” means a wall, floor or roof (but does not include windows, doors, roof windows or rooflights) which separates a thermally conditioned space from—

- (a) the external environment including the ground; or
- (b) in the case of floors and walls, another part of the building which is—
  - (i) thermally unconditioned;
  - (ii) an extension falling within Class 8 of Schedule 2; or
  - (iii) in the case of a building other than a dwelling, conditioned to a different temperature,

and includes all parts of the element between the surface bounding the conditioned space and the external environment or other part of the building as the case may be; and

“Total useful floor area” means the total area of all enclosed spaces measured to the inside face of the external walls, that is, the gross floor area, and in the case of sloping surfaces such as staircases, galleries, raked auditoria and tiered terraces shall be taken as their area on plan but shall exclude areas that are not enclosed such as open floors, covered ways and balconies.”.

**(5) Page 7**

Within the extract from the Building Regulations, in regulation 40(1) and (2), for “38(2)(b)” substitute “38(3)(b)”.

**(6) Page 8**

Within the extract from the Building Regulations, delete regulation 43 and substitute –

**“Renovation of thermal elements**

**43.—(1)** Where the renovation of an individual thermal element—

- (a) constitutes a major renovation; or
- (b) amounts to the renovation of more than 50% of the surface area of the thermal element,

the renovation shall be carried out so as to ensure that the whole of the thermal element complies with the requirement of regulation 39(a)(i) in so far that it is technically, functionally and economically feasible.

(2) Where the whole or any part of an individual thermal element is to be replaced and such work—

- (a) constitutes a major renovation; or
- (b) in the case of part replacement, amounts to the renovation of more than 50% of the surface area of the thermal element,

the whole of the thermal element shall be replaced to comply with the requirement of regulation 39(a)(i) in so far that it is technically, functionally and economically feasible.

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### **Consideration of high-efficiency alternative systems**

**43A.**—(1) Where a building is to be erected, the person carrying out the work shall, before construction begins, undertake an analysis of and give consideration to the use of available high-efficiency alternative systems in the work. Such systems include—

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources; and
- (d) heat pumps.

(2) The analysis referred to in paragraph (1)—

- (a) shall be documented and take into account the technical, environmental and economic feasibility of using high-efficiency alternative systems;
- (b) may be carried out for individual buildings or for groups of similar buildings or for common typologies of buildings in the same area; and
- (c) in so far as it relates to collective heating and cooling systems, may be carried out for all buildings connected to the system in the same area.

### **Nearly zero-energy requirements for new buildings**

**43B.**—(1) Where a building is erected, it must be a nearly zero-energy building.

(2) For the purposes of paragraph (1)—

- (a) in respect of new buildings occupied by public authorities, this regulation shall apply from 1st January 2019; and
- (b) in respect of all new buildings, this regulation shall apply from 31st December 2020.”.

#### **(7) Page 10**

In the paragraph 0.2 delete the second paragraph and substitute –

“Regulation 40 implements Articles 3 and 4 of Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.”.

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**(8) Page 11**

Delete paragraph 0.5 and substitute –

“0.5 It is the view of the Department that when renovation and/or replacement work to an individual thermal element constitutes a major renovation or the renovation amounts to more than 50% of the surface of the element, the requirements of regulation 43 will be met when work is undertaken to limit heat gains and losses as required by regulation 39(a)(i).

Renovation of a thermal element does not include a partial replacement layer provided solely as a means of patch repair to a flat roof and does not include thin decorative surface finishes.

**Performance – Regulation 43A Consideration of high-efficiency alternative systems**

0.5A It is the view of the Department that the requirements of regulation 43A will be met when the person carrying out the work undertakes analysis of and gives consideration to incorporating high-efficiency alternative systems in the building.

Note – Part A of the Building Regulations requires a notice to be given to the district council stating that such consideration has been given and that the analysis is available for verification.”.

**(9) Page 12**

Under the heading “Definitions” –

After the definition for “Building work” insert –

“**Building envelope** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Change of energy status” insert –

“**Cogeneration** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “District council” insert –

“**District or block heating or cooling** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Dwelling type” insert –

“**Energy efficiency requirements** – is defined in regulation 38 in Part F of the Building Regulations.

**Energy from renewable sources** – is defined in regulation 38 in Part F of the Building Regulations.”.

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**(10) Page 13**

After the definition for “Floor area” insert –

“**Heat pump** – is defined in regulation 38 in Part F of the Building Regulations.

“**High-efficiency alternative systems** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Material change of use” insert –

“**Major renovation** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Porch” insert –

“**Protected building** – is defined in Article 3A(2) of the Building Regulations (Northern Ireland) Order 1979.”.

**(11) Page 23**

After paragraph 2.30 insert –

**“Consideration of high-efficiency alternative systems**

2.30A The installation of high-efficiency alternative systems or other low or zero carbon systems is not a requirement of building regulations.

The person carrying out the work should, before construction starts, analyse and take into account the technical, environmental and economic feasibility of using high-efficiency alternative systems (such as the following systems) in the construction, if available –

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources;
- (d) heat pumps.

The analysis should state whether high-efficiency alternative systems have or have not been included in the building design. The requirement relates to considering using high-efficiency alternative systems, taking into account their technical, environmental and economic feasibility and documenting the analysis.

2.30B The analysis may be carried out for individual dwellings, groups of similar dwellings or for common types of dwellings in the same area. Where a number of dwellings are connected to a community energy system, a single analysis may be carried out for all of the dwellings connected to the system in the same area as the building to be constructed.

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- 2.30C Procedural regulations require the person carrying out the work to give the district council, at the time of deposit of plans, a notice which states that the analysis has been undertaken, is documented and is available to the district council for verification purposes. The district council may require the deposit of the above analysis to verify compliance with regulation 43A.
- 2.30D The documentation of the analysis may contain the following information –
- (a) identity of Applicant/Agent;
  - (b) location of site;
  - (c) use of building;
  - (d) if high-efficiency alternative systems are specified;
  - (e) the proposed systems;
  - (f) the rationale influencing the decision to incorporate, or not incorporate, high-efficiency alternative systems.”.

**(12) Page 32**

After paragraph 3.2 insert –

**“Dwellings which are protected buildings and those that have historic or architectural merit**

**Protected buildings**

- 3.2A Building work to an existing dwelling is exempt from the energy efficiency requirements (i.e. regulations 39, 40, 41, 43, 43A, 43B and 47 of the Building Regulations) if the dwelling is a protected building and where compliance with the energy efficiency requirements would unacceptably alter its character or appearance.

The case for a protected building to be exempt from the energy efficiency requirements of the building regulations must be supported by evidence e.g. by restrictions imposed by the Planning Service, advice from the NIEA, advice from a qualified conservation specialist, etc.

A protected building is defined in the Building Regulations (NI) Order to mean –

- (a) a listed building within the meaning of the Planning (Northern Ireland) Order 1991; and
- (b) buildings situated in conservation areas within the meaning of that Order.

In the case where a protected building is not exempt from the energy efficiency requirements of Part F guidance is given in paragraphs 3.4 and 3.5.”.

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**(13) Page 32**

Delete paragraph 3.3 and substitute –

- “3.3 Special considerations may apply where the building to which the work is to be carried out is not a protected building but has historic or architectural merit and compliance with the energy efficiency requirements of part F would unacceptably alter the character or appearance of the building.”.

**(14) Page 42**

In paragraph 3.55 on the fifth line of the first paragraph delete –  
“only”.

**(15) Page 42**

In paragraph 3.55 before the first paragraph insert –

“Major Renovation means the renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation. When assessing whether the area proportion constitutes a major renovation of a building, the surface area of the whole of the external building envelope should be taken into account i.e. external walls, floor, roof, windows, doors, roof windows and rooflights.”.

**(16) Page 42**

Delete paragraph 3.56 and substitute –

- “3.56 When undertaking the renovation of thermal elements, special considerations apply to protected buildings, buildings of historic or architectural merit and to buildings of traditional construction that need to “breathe”. See paragraphs 3.2A to 3.5.”.

**(17) Page 42**

Delete paragraph 3.57 and substitute –

- “3.57 Where an individual thermal element is being renovated through undertaking an activity listed in paragraph 3.55, and the renovation –
- (a) constitutes a major renovation; or
  - (b) is greater than 50% of the surface of the individual thermal element;
- the whole of that thermal element should be upgraded to the improved U-value given in column (b) of Table 3.3.

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When assessing this area proportion, the area of the element should be taken as that of the individual element, not the area of all the elements of that type in the building. The area of each individual thermal element should be taken in the context of whether the element is being renovated from inside or outside. For example, if the renovation involves stripping plaster from the inside of a solid brick wall, the area of the element is the area of the external wall in that room; however, if the renovation is stripping external render the area is the area of the elevation of which that wall is part.

This means that if all the roofing on the pitched roof of an annex to a dwelling is being stripped down, the area of the element is the roof area of the annex, not the total roof area of the dwelling. Similarly, if the rear wall of a single storey extension was being re-rendered, it should be upgraded to the standards of Table 3.3 column (b), even if it was less than 50% of the total area of the building elevation when viewed from the rear.

If plaster is being removed from a bedroom wall, the relevant area is the area of the external wall in the room, not the area of the external elevation which contains that wall section. This is because the marginal cost of dry lining with insulated plasterboard rather than plain plasterboard is small.

When a building undergoes a major renovation this may represent an opportunity to consider and take into account the technical, environmental and economic feasibility of installing high-efficiency alternative systems.”.

**(18) Page 49**

In paragraph C1 delete the first sentence of the first paragraph and substitute –

“Where the renovation of an individual thermal element constitutes a major renovation; or amounts to the renovation of more than 50% of the element's surface, an opportunity exists for cost-effective insulation improvements to be undertaken at marginal additional cost.”.

**(19) Page 53**

Before “Energy Saving Trust (EST)” insert –

**“Department of the Environment (DOE)**

Planning (Northern Ireland) Order 1991.”.

**(1) Page 3**

Under the heading “Requirements” in the first paragraph and after “43” on the second line insert –

“, 43A”.

**(2) Page 3**

Under the heading “Requirements” and after the first paragraph insert –

“Regulation 43B “Nearly zero energy requirements for new buildings” will not come into operation until 1st January 2019. It is the intention of the Department that guidance on this matter will be provided nearer to the time that this regulation comes into operation.”.

**(3) Page 5**

Under the heading “The Energy Performance of Buildings Directive” delete the complete paragraph and substitute –

“Part F implements Articles 2 to 9 of Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.”.

**(4) Page 6**

Within the extract from the Building Regulations, delete regulation 38 (Application and interpretation) and substitute –

**“Application and interpretation**

**38.—**(1) Subject to paragraphs (2), (3) and (4) this Part shall apply to any building and where a building contains one or more dwellings to each dwelling separately.

(2) The energy efficiency requirements shall not apply to—

- (a) protected buildings, where compliance with the energy efficiency requirements would unacceptably alter their character or appearance;
- (b) buildings used as places of worship and for religious activities;
- (c) temporary buildings with a planned time of use of 2 years or less, industrial sites, workshops and non-residential agricultural buildings with a low energy demand; and
- (d) stand-alone buildings other than dwellings, with a total useful floor area of less than 50 m<sup>2</sup>.

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(3) Regulation 40 shall not apply to—

- (a) the extension of a dwelling; and
- (b) the extension of a building other than a dwelling, unless the extension has a total useful floor area that is both—
  - (i) greater than 100 m<sup>2</sup>; and
  - (ii) greater than 25% of the total useful floor area of the existing building.

(4) Regulation 45 shall not apply to the provision or extension of any fixed building service where commissioning is not possible.

(5) In this Part, the following terms have the same meaning as in European Parliament and the Council Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings (recast)—

- (i) “industrial sites”;
- (ii) “low energy demand”;
- (iii) “non-residential agricultural buildings”;
- (iv) “places of worship”;
- (v) “religious activities”;
- (vi) “stand-alone”; and
- (vii) “workshops”.

(6) In this Part—

“Building envelope” in relation to a building, means the walls, floor, roof, windows, doors, roof windows and rooflights;

“Change of energy status” means any change which results in a building becoming a building to which the energy efficiency requirements of these Regulations apply, where previously it was not;

“Cogeneration” means simultaneous generation in one process of thermal energy and one or both of the following—

- (a) electrical energy;
- (b) mechanical energy;

“District or block heating or cooling” means the distribution of thermal energy in the form of steam, hot water or chilled liquids, from a central source of production through a network to multiple buildings or sites, for the use of space or process heating or cooling;

“Energy efficiency requirements” means the requirements of regulations 39, 40, 41, 43, 43A, 43B and 47;

“Energy from renewable sources” means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases;

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“Heat pump” means a machine, a device or installation that transfers heat from natural surroundings such as air, water or ground to buildings or industrial applications by reversing the natural flow of heat such that it flows from a lower to a higher temperature. (For reversible heat pumps, it may also move heat from the building to the natural surroundings.);

“High-efficiency alternative systems” include—

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources; and
- (d) heat pumps;

“Major renovation” means the renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation;

“National calculation methodology” means—

- (a) in relation to a dwelling, the Government's Standard Assessment Procedure (SAP) for Energy Rating of Dwellings; and
- (b) in relation to a building other than dwelling—
  - (i) the Simplified Building Energy Model (SBEM); or
  - (ii) a Dynamic Simulation Model (DSM),

that is implemented with Government approved software;

“Nearly zero-energy building” means a building that has a very high energy performance, as determined in accordance with the National calculation methodology, where the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;

“Pipes, ducts and vessels” means any pipe, any duct and any vessel in a space heating or space cooling system that is intended to carry a heated or chilled liquid or gas and includes any associated fittings;

“Protected building” has the same meaning as in Article 3A(2) of the Building Regulations (Northern Ireland) Order 1979;

“Renovation of a thermal element” means the provision of a new layer to a thermal element or the replacement of an existing layer (other than where a partial replacement layer is provided solely as a means of patch repair to a flat roof) but does not include thin decorative surface finishes;

“Space cooling system” does not include a system or that part of a system which cools or stores water solely for a commercial or industrial process;

“Space heating system” does not include a system or that part of a system which heats or stores water solely for a commercial or industrial process;

“Target carbon dioxide emission rate” means the rate of carbon dioxide emission measured in kilograms of carbon dioxide per square metre of total useful floor area per year;

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“Thermal element” means a wall, floor or roof (but does not include windows, doors, roof windows or rooflights) which separates a thermally conditioned space from—

- (a) the external environment including the ground; or
- (b) in the case of floors and walls, another part of the building which is—
  - (i) thermally unconditioned;
  - (ii) an extension falling within Class 8 of Schedule 2; or
  - (iii) in the case of a building other than a dwelling, conditioned to a different temperature,

and includes all parts of the element between the surface bounding the conditioned space and the external environment or other part of the building as the case may be; and

“Total useful floor area” means the total area of all enclosed spaces measured to the inside face of the external walls, that is, the gross floor area, and in the case of sloping surfaces such as staircases, galleries, raked auditoria and tiered terraces shall be taken as their area on plan but shall exclude areas that are not enclosed such as open floors, covered ways and balconies.”.

**(5) Page 7**

Within the extract from the Building Regulations, in regulation 40(1) and (2), for “38(2)(b)” substitute “38(3)(b)”.

**(6) Page 8**

Within the extract from the Building Regulations, delete regulation 43 and substitute –

**“Renovation of thermal elements**

**43.—(1)** Where the renovation of an individual thermal element—

- (a) constitutes a major renovation; or
- (b) amounts to the renovation of more than 50% of the surface area of the thermal element,

the renovation shall be carried out so as to ensure that the whole of the thermal element complies with the requirement of regulation 39(a)(i) in so far that it is technically, functionally and economically feasible.

(2) Where the whole or any part of an individual thermal element is to be replaced and such work—

- (a) constitutes a major renovation; or
- (b) in the case of part replacement, amounts to the renovation of more than 50% of the surface area of the thermal element,

the whole of the thermal element shall be replaced to comply with the requirement of regulation 39(a)(i) in so far that it is technically, functionally and economically feasible.

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### **Consideration of high-efficiency alternative systems**

**43A.**—(1) Where a building is to be erected, the person carrying out the work shall, before construction begins, undertake an analysis of and give consideration to the use of available high-efficiency alternative systems in the work. Such systems include—

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources; and
- (d) heat pumps.

(2) The analysis referred to in paragraph (1)—

- (a) shall be documented and take into account the technical, environmental and economic feasibility of using high-efficiency alternative systems;
- (b) may be carried out for individual buildings or for groups of similar buildings or for common typologies of buildings in the same area; and
- (c) in so far as it relates to collective heating and cooling systems, may be carried out for all buildings connected to the system in the same area.

### **Nearly zero-energy requirements for new buildings**

**43B.**—(1) Where a building is erected, it must be a nearly zero-energy building.

(2) For the purposes of paragraph (1)—

- (a) in respect of new buildings occupied by public authorities, this regulation shall apply from 1st January 2019; and
- (b) in respect of all new buildings, this regulation shall apply from 31st December 2020.”.

## **(7) Page 10**

In the paragraph 0.2 delete the second paragraph and substitute –

“Regulation 40 implements Articles 3 and 4 of Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.”.

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**(8) Page 11**

Delete paragraph 0.5 and substitute –

“0.5 It is the view of the Department that when renovation and/or replacement work to an individual thermal element constitutes a major renovation or the renovation amounts to more than 50% of the surface of the element, the requirements of regulation 43 will be met when work is undertaken to limit heat gains and losses as required by regulation 39(a)(i).

Renovation of a thermal element does not include a partial replacement layer provided solely as a means of patch repair to a flat roof and does not include thin decorative surface finishes.

**Performance – Regulation 43A Consideration of high-efficiency alternative systems**

0.5A It is the view of the Department that the requirements of regulation 43A will be met when the person carrying out the work undertakes analysis of and gives consideration to incorporating high-efficiency alternative systems in the building.

Note – Part A of the Building Regulations requires a notice to be given to the district council stating that such consideration has been given and that the analysis is available for verification.”.

**(9) Page 12**

Under the heading “Definitions” –

After the definition for “Building work” insert –

“**Building envelope** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Change of energy status” insert –

“**Cogeneration** – is defined in regulation 38 in Part F of the Building Regulations.”.

**(10) Page 13**

After the definition for “District council” insert –

“**District or block heating or cooling** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Emergency escape lighting” insert –

“**Energy efficiency requirements** – is defined in regulation 38 in Part F of the Building Regulations.

“**Energy from renewable sources** – is defined in regulation 38 in Part F of the Building Regulations.”.

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After the definition for “Floor area” insert –

“**Heat pump** – is defined in regulation 38 in Part F of the Building Regulations.

“**High-efficiency alternative systems** – is defined in regulation 38 in Part F of the Building Regulations.”.

After the definition for “Low or zero carbon energy sources (LZC)” insert –

“**Low energy demand** – is defined in regulation 38 in Part F of the Building Regulations.

After the definition for “Material change of use” insert –

“**Major renovation** – is defined in regulation 38 in Part F of the Building Regulations.”.

**(11) Page 14**

After the definition for “Principal works” insert –

“**Protected building** – is defined in Article 3A(2) of the Building Regulations (NI) Order 1979.”.

**(12) Page 18**

After paragraph 2.8 insert –

**“Buildings exempt from the energy efficiency requirements in Part F**

2.8A New buildings other than dwellings that use energy to condition the indoor climate must comply with the energy efficiency requirements (i.e. regulations 39, 40, 41, 43, 43A, 43B and 47) of the Building Regulations unless they are exempt from complying with those requirements.

The following classes of new buildings or parts of new buildings are exempt from complying with the energy efficiency requirements in Part F of the building regulations –

- (a) buildings used as places of worship, and for religious activities;
- (b) temporary buildings with a planned time of use of 2 years or less, industrial sites, workshops and non-residential agricultural buildings with a low energy demand; and
- (c) stand-alone buildings other than dwellings, with a total useful floor area of less than 50 m<sup>2</sup>.

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2.8B The following paragraphs give guidance on classes (a) and (b) that relates to new buildings –

- (a) **Places of worship:** For the purposes of the energy efficiency requirements, places of worship are taken to mean those buildings or parts of a building that are used for formal public worship, including adjoining spaces whose function is directly linked to that use (for example, a vestry in a church). Such parts of buildings of this type often have traditional, religious or cultural constraints that mean that compliance with the energy efficiency requirements would not be possible. Other parts of the building that are designed to be used separately, such as offices, catering facilities, day centres, meeting halls and accommodation, are not exempt.
- (b) **Temporary buildings:** A temporary building with a planned time of use of two years or less does not include a portable or modular building which has a planned service life greater than 2 years, whether on one or more sites.
- (c) **Industrial sites, workshops and non-residential agricultural buildings with a low energy demand:** In relation to this class of building, the low energy demand only relates to the energy used by fixed heating or cooling systems, not to energy required for or created by process needs.

The following are examples of buildings in class (b) that are low energy demand –

- (i) buildings or parts of buildings where the space is not generally heated or cooled other than by process heat;
- (ii) buildings or parts of buildings that only require heating or cooling for a short period each year, such as during a critical period in the production cycle (e.g. plant germination, egg hatching) or in very severe weather conditions.

Industrial sites, workshops and non-residential agricultural buildings are exempt only if they meet the low energy demand criterion above. In other cases, such buildings must comply with energy efficiency requirements.

Similarly, other buildings (e.g. some types of warehouse) may have low energy demand but are not exempt because they do not fall into one of the above examples.”.

After paragraph 2.39 insert –

**“Consideration of high-efficiency alternative systems**

2.39A The installation of high-efficiency alternative systems or other low or zero carbon systems is not a requirement of building regulations.

The person carrying out the work should, before construction starts, analyse and take into account the technical, environmental and economic feasibility of using high-efficiency alternative systems (such as the following systems) in the construction, if available –

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources;
- (d) heat pumps.

The analysis should state whether high-efficiency alternative systems have or have not been included in the building design. The requirement relates to considering using high-efficiency alternative systems, taking into account their technical, environmental and economic feasibility and documenting the analysis.

2.39B The analysis may be carried out for individual buildings, groups of similar buildings or for common types of buildings in the same area. Where a number of buildings are connected to a community energy system, a single analysis may be carried out for all of the buildings connected to the system in the same area as the building to be constructed.

2.39C Procedural regulations require the person carrying out the work to give the district council, at the time of deposit of plans, a notice which states that the analysis has been undertaken, is documented and is available to the district council for verification purposes. The district council may, at any time prior to approval/rejection of plans, require the deposit of the above analysis.

2.39D The documentation of the analysis may contain the following information –

- (a) identity of Applicant/Agent;
- (b) location of site;
- (c) use of building;
- (d) if high-efficiency alternative systems are specified;
- (e) the proposed systems;
- (f) the rationale influencing the decision to incorporate, or not incorporate, high-efficiency alternative systems.”.

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**(14) Page 39**

After paragraph 3.3 (d) insert –

**“Buildings exempt from the energy efficiency requirements**

3.3A Work to existing buildings and extensions to buildings other than dwellings that use energy to condition the indoor climate, must comply with the energy efficiency requirements (regulations 39, 40, 41, 43, 43A, 43B and 47) of the Building Regulations unless they are exempt from those requirements.

The following classes of existing buildings, or parts of buildings, are exempt from compliance with the energy efficiency requirements in Part F –

- (a) protected buildings where compliance with the energy efficiency requirements would unacceptably alter the character or appearance of such buildings. Guidance is given in paragraphs 3.5 to 3.7.
- (b) buildings used as places of worship, and for religious activities;
- (c) temporary buildings with a planned time of use of 2 years or less, industrial sites, workshops and non-residential agricultural buildings with a low energy demand; and
- (d) stand-alone buildings other than dwellings with a total useful floor area of less than 50 m<sup>2</sup>.

3.3B Guidance on classes (b) and (c) is given in paragraph 2.8B.”.

**(15) Page 39**

After paragraph 3.4 (c) delete the heading “Buildings of historic or architectural merit” and delete paragraph 3.5 and substitute –

**“Protected buildings and buildings of historic or architectural merit**

3.5 Building work to an existing building is exempt from the energy efficiency requirements if the building is a protected building and where compliance with the energy efficiency requirements would unacceptably alter the character or appearance of the building. Guidance on these buildings is given in paragraphs 3.6 to 3.7.

The case for a protected building to be exempt from the energy efficiency requirements of the building regulations must be supported by evidence e.g. by restrictions imposed by the Planning Service, advice from the NIEA, advice from a qualified conservation specialist, etc.

Protected building means –

- (a) a listed building within the meaning of the Planning (Northern Ireland) Order 1991; and
- (b) buildings situated in conservation areas within the meaning of that Order.

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Special considerations may apply where the building to which the work is to be carried out is not a protected building but has historic or architectural merit and compliance with the energy efficiency requirements of part F would unacceptably alter the character or appearance of the building.”.

**(16) Page 51**

In paragraph 3.67 on the fifth line of the first paragraph delete –  
“only”.

**(17) Page 51**

Before the first paragraph of paragraph 3.67 insert –

“Major Renovation means the renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation. When assessing whether the area proportion constitutes a major renovation of a building, the surface area of the whole of the external building envelope should be taken into account i.e. external walls, floor, roof, windows, doors, roof windows and rooflights.”.

**(18) Page 51**

Delete paragraph 3.68 and substitute –

“3.68 When undertaking the renovation of thermal elements, special considerations apply to protected buildings, buildings of historic or architectural merit and to buildings of traditional construction that need to “breathe”. See paragraphs 3.6 to 3.7.”.

**(19) Page 51**

Delete paragraph 3.69 and substitute –

“3.69 Where an individual thermal element is being renovated through undertaking an activity listed in paragraph 3.67, and the renovation –  
(a) constitutes a major renovation; or  
(b) is greater than 50% of the surface of the individual thermal element,

the whole of that thermal element should be upgraded to the improved U-value given in column (b) of Table 3.4.

When assessing this area proportion, the area of the element should be taken as that of the individual element, not the area of all the elements of that type in the building. The area of each individual thermal element should be taken in the context of whether the element is being renovated from inside or outside. For example, if the renovation involves stripping plaster from the inside of a solid brick wall, the area of the element is the area of the external wall in that room; however, if the renovation is stripping external render the area is the area of the elevation of which that wall is part.

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This means that if all the roofing on the pitched roof of an annex to a building is being stripped down, the area of the element is the roof area of the annex, not the total roof area of the building. Similarly, if the rear wall of a single storey extension was being re-rendered, it should be upgraded to the standards of Table 3.4 column (b), even if it was less than 50% of the total area of the building elevation when viewed from the rear.

If plaster is being removed from a bedroom wall, the relevant area is the area of the external wall in the room, not the area of the external elevation which contains that wall section. This is because the marginal cost of dry-lining with insulated plasterboard rather than plain plasterboard is small.

When a building undergoes a major renovation this may represent an opportunity to consider and take into account the technical, environmental and economic feasibility of installing high-efficiency alternative systems.”.

**(20) Page 62**

Before “Heating and Ventilating Contractors' Association (HVCA)” insert –

**“Department of the Environment (DOE)**

Planning (Northern Ireland) Order 1991.”.

