COMPARISON OF ELECTRICAL INSTALLATION STANDARDS IN NORTHERN IRELAND AND SCOTLAND

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BACKGROUND

The following paper was commissioned by the Committee for Enterprise, Trade and Investment following discussions with the Northern Ireland Electricity Standards Lobbying Group (NIESLG) regarding the lack of electricity installation standards in Northern Ireland (NI).

The paper provides a comparison of installation standards in NI, Scotland, England and Wales.

KEY POINTS

- Northern Ireland does not currently have any statutory building regulations governing the installation of electricity;
- Prior to 2004 in Scotland an electrical compliance certificate was required for work to be carried out under a building warrant but there was no control over the competence of the person signing the certificate;
- The Building (Scotland) Act 2003 rectified this with the introduction of new building regulations and standards, with the Scottish government responsible for its monitoring;
- Scottish Ministers approved a Scheme for the *Certification of Construction (Electrical Installations to BS 7671)* which allows Approved Certifiers of Construction to certify the compliance of all aspects of electrical installation construction and commissioning work with the Building (Scotland) Regulations 2004;
- In order to ensure compliance with the regulation standards, a code of conduct was developed in order to ensure specific standards of work could be implemented and monitored;
- In order to qualify as an approved certifier of construction, an individual must meet certain criteria including qualifications in their area of expertise;

- England and Wales has a similar system in operation as Scotland. Electrical installations are covered under Part P of Schedule 1 to the Building Regulations (England and Wales)[1];

- Under Part P it is a legal requirement for all work on fixed electrical installations in dwellings and associated buildings to comply with relevant standards (as with Scotland this is to BS 7671); and

- Individuals who are suitably qualified are able to self-certify compliance with building regulations whenever they carry out notifiable work.

NORTHERN IRELAND

Review of the existing Building Regulations for Northern Ireland found that they cover the following areas:

- Materials of workmanship;
- Preparation of site and resistance to moisture;
- Structure;
- Fire safety;
- Conservation of fuel and power;
- Sound insulation in dwellings;
- Stairs, ramps, guarding and protection from impact;
- Solid waste in buildings;
- Ventilation;
- Heat – producing appliances and liquefied petroleum gas;
- Drainage;
- Sanitary appliances and unvented hot water storage;
- Access and facilities for disabled people; and
- Glazing.

Closer examination of the guidelines find that there is no concession made for the standardised installation of electricity, other than in Part F which states that sufficient controls need to be in place for occupants to be able to control the use of electricity and limit consumption[2].

In a recent presentation to the Committee for Enterprise, Trade and Investment, the Northern Ireland Electricity Standards Lobbying Group (NIESLG) highlighted that there is no regulatory model or clear standards for installers in the electricity industry[3].

This assertion is supported by the Electrical Safety Council which stated[4]:

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[1] The Institute of Engineering and Technology *Part P to Building Regulations* www.theiet.org/publishing/wiring-regulations/part-p/ (first accessed 21st April 2010)
[2] Building Control NI *Principle Regulations* http://www.buildingcontrol-ni.com/sections/default.asp?cms=Building+Regulations_Principle+Regulations&cmsid=61_64&id=64&secid=5 (first accessed 26/04/2010)
[3] Northern Ireland Electrical Standards Lobbying Group 24th March 2010 *Briefing Document for the Enterprise, Trade and Investment Committee*
[4] Electrical Safety Council *Electricity Safety Laws* http://www.esc.org.uk/safety-in-the-home/electrical-safety-laws.html#northern_ireland (first accessed 26/04/2010)

"There are currently no statutory requirements for domestic electrical installation work in Northern Ireland."

Businesses and lone traders may opt to join a number of accredited schemes that mirror the system currently in practice in Great Britain. However, this is not a mandatory factor within NI legislation.

According to the NIESLG there are 550 electrical contractors working in Northern Ireland, with approximately 100 not registered with a recognised certification body. This gap in regulation has led to a number of difficulties as identified by NIESLG:

- Lack of equality of opportunity and sustainable development in public sector procurement;
- Potential for contractors who provide an inadequate service, putting health and safety of business and domestic clients at risk;
- No accredited public consumer central register to establish competency and qualifications on contractors;
- The lack of regulation renders millions of pounds of public money going unchecked into the sector; and
- Increased potential for fraud.

It must be noted that a number of the organisations that provide certification to GB regulations operate and provide certification courses within NI for installers.

Scotland

As with the current situation in Northern Ireland, prior to 2003 in Scotland an electrical compliance certificate was required for work to be carried out under a building warrant (legal permission to carry out building work and granted by local councils[5]) but there was no control over the competence of the person signing the certificate.

The Building (Scotland) Act 2003, however, rectified this, with the introduction of new building regulations and standards. These regulations and standards are enforced by the Scottish government. The key functions of the Building Standards system are to[6]:

- prepare the building regulations and write guidance on how to meet the regulations;
- provide views on compliance to help verifiers (currently local authorities) make decisions;

[5] The Scottish Executive Building Control – Your Questions Answered http://www.scotland.gov.uk/deleted/library/documents1/bldgcont.htm (first accessed 27/04/2010)
[6] The Scottish Government *Building Standards Division* http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/about (first accessed 26/04/2010)

- grant relaxations of the regulations in exceptional cases;
- maintain a register of Approved Certifiers;
- monitor and audit the certification system;
- monitor and audit the performance of verifiers; and
- to verify Crown building work.

The new scheme allows for appropriately qualified individuals to sign off on electrical installation. This had the effect of speeding up the system for ensuring building compliance with regulations and ensured all installations were up to BS 7671.

The scheme was called the *Certification Scheme for Certification of Construction (Electrical Installations to BS 7671*[7]) and allowed Approved Certifiers of Construction (otherwise known as a registered installer) to certify the compliance of all aspects of electrical installation construction and commissioning work with the Building (Scotland) Regulations 2004. Each scheme provider is responsible for operating the scheme and is subject to regular audit by the Building Standards Division (BSD)[8].

In order to establish the competence of those certifying the construction of electrical installations, qualified individuals are assessed by the scheme provider and if approved for registration with the Scheme, placed on the Certification Register which is maintained by the Scottish government.

An individual registered with the Scheme who is permanently employed by an Approved Body, or sub-contracted by another Approved Body for the duration of a project may perform the functions of an Approved Certifier of Construction (Electrical Installations to BS 7671), whereby they can certify that the electrical installation within a property is up to the appropriate standard.

To fulfill their role properly Approved Certifiers of Construction must have adequate support from their employers, or the enterprises to whom they are contracted to certify a project. In order to provide certification services, an enterprise must meet the conditions to be registered with the Scheme as an Approved Body. Enterprises will also be assessed by a Scheme Provider and if approved for registration with the Scheme, placed on the Certification Register.

The Scheme Provider will regularly re-assess Approved Certifiers of Construction and Approved Bodies to ensure that they are continuing to meet the criteria for appointment.

It must be noted that any enterprise that chooses not to be registered is still able to carry out electrical installations related to a building warrant. Whilst the earlier system of self-certification has been discontinued, it is still possible for a building warrant applicant to submit a Completion Certificate that is not supported by a Certificate of Construction. It is, however, up to the Verifier to decide how it will fulfill the requirement for 'reasonable enquiry' with regard to any electrical installation work. This is a time-consuming requirement and it takes longer for the Verifier to accept a Completion Certificate that is not supported by a Certificate of Construction

[7] BS 7671 is the UK national standard for low voltage electrical installations
[8] Scottish Building Services *Certification of Construction (Electrical Installations to BS 7671) Scheme Guide* http://www.sbsc.uk.net/docs/SchemeGuide.pdf (first accessed 20/04/2010)

In order to qualify as an Approved Certifier of Construction, an individual must meet certain criteria including qualifications in their area of expertise. These criteria include:

- having a minimum of two years supervisory experience in the electrical installation industry;
- having evidence of having passed an assessed course in all relevant requirements in the Scottish Building Standards Technical Handbooks and Building (Scotland) Regulations (within the previous three years);
- having evidence of having passed an assessed course in BS 7671 (IEE Wiring Regulations) within the previous five years; and
- demonstrating current knowledge of the Scottish building standards system and a sufficient understanding of the role of Approved Certifier of Construction (Electrical Installations to BS 7671) to act as a Certifier of Construction.

In order to ensure compliance with the regulation standards, a code of conduct was developed in order to ensure specific standards of work could be implemented and monitored. As a result, Approved Certifiers of Construction and Approved Bodies registered with the Scheme and members of any board or panel intended to further the purposes of the Scheme are required to[9]:

- act with integrity and fairness;
- have regard to the public interest and to the interests of all those affected by their activities;
- not maliciously or recklessly injure or attempt to injure the reputation of another person;
- declare conflicts of interest; and
- uphold the reputation of the Scheme.

In addition Approved Certifiers of Construction are also required to:

- exercise appropriate skill, care, diligence and judgment in undertaking the certification of construction with respect to the Building Regulations; and
- not misrepresent themselves as having expertise and experience that they do not possess;
- maintain and broaden their expertise;
- undertake only those tasks for which they have the appropriate expertise and experience;

[9] Ibid

- not certify work carried out by others without carrying out necessary checks to satisfy themselves of the adequacy of the work and compatibility within the whole structure; and

- acknowledge that for some projects they may lack appropriate experience to enable them to act as the approved Certifier of Construction.

In a 2005 press release regarding the development of the Certification Scheme, Voltimum, an internet portal site which provides information and products to the electrical installation industry, stated that:

"The adoption of this Scheme should therefore help alleviate past problems of poor electrical installation practice and is a considerable improvement on the previous certification system."

ENGLAND AND WALES

England and Wales have a similar system in operation as Scotland.

Electrical installations are covered under Part P of Schedule 1 to the Building Regulations (England and Wales)[10].

Under Part P it is a legal requirement for all work on fixed electrical installations in dwellings and associated buildings to comply with relevant standards (as with Scotland this is to BS 7671). By law, all homeowners and landlords must be able to prove that all electrical installation work meets Part P, or they will be committing a criminal offence. Local authorities can make homeowners or landlords remove or alter any work that does not meet the Building Regulations[11].

In a similar manner to the system in Scotland, individuals who are suitable qualified are able to self-certify compliance with building regulations whenever they carry out notifiable work. Part P states that anyone carrying out electrical installation work in a home must make sure that the work is designed and installed to protect people from fire and electric shocks[12].

The criteria used by a body offering a Part P self-certification scheme in assessing technical competence and the capability of an electrical contractor (known as an Electrical Installation Enterprise under Part P) are contained in the *'Minimum Technical Competence of Enterprises that Undertake Electrical Installation Work in Dwellings'*. This document defines the requirements for technical competence in relation to two levels of activity[13]:

[10] The Institute of Engineering and Technology *Part P to Building Regulations* www.theiet.org/publishing/wiring-regulations/part-p/ (first accessed 21st April 2010)
[11] Electrical Safety Council *Electricity Safety Laws* http://www.esc.org.uk/safety-in-the-home/electrical-safety-laws.html#northern_ireland (first accessed 26/04/2010)
[12] Ibid
[13] Department of Communities and Local Government May 2008 *Monitoring of Electrical Safety Competent Person Self-Certification Schemes* http://www.communities.gov.uk/documents/planningandbuilding/pdf/734995.pdf (first accessed 21/04/2010)

- **Level A:** The requirements for an enterprise the scope of whose work includes the design, installation, inspection and testing of electrical installation work that is associated with dwellings and is intended to operate at low or extra-low voltage – also known as full scope; and

- **Level B:** The requirements for an enterprise the scope of whose work is limited to the design, installation, inspection and testing of defined electrical installation work that is associated with dwellings, is intended to operate at low or extra-low voltage, and is undertaken in connection with, or ancillary to some other work – also known as defined scope.

For a full scope scheme the following requirements must be met by the electrical contractor/enterprise[14]:

- The enterprise shall be directly engaged in carrying out electrical installation work in dwellings;

- The electrical installation work in dwellings shall be carried out in compliance with the relevant technical reference documents;

- An assessed enterprise shall not sub-let electrical installation work in dwellings unless the work is undertaken by an enterprise that is registered with a Competent Person Scheme Operator;

- Competence of the enterprise will not be assessed on electrical installation work sub-let to others. However, the assessed enterprise will retain responsibility for this work;

- The enterprise shall have current editions, including all amendments, of the relevant technical reference documents.

- The enterprise shall have an adequate number of serviceable test instruments and test leads appropriate to the range, scale and geographical spread of its electrical installation work in dwellings;

- The enterprise shall have a suitable system in place to ensure that all test instruments used for the certification of electrical installation work in dwellings, whether owned or hired by the enterprise, are accurate and consistent;

- The assessed enterprise shall hold records demonstrating the accuracy and consistency of test instruments used for certification of electrical installation work in dwellings for a minimum of three years;

- The enterprise shall issue the appropriate electrical installation certificates in accordance with the relevant standards for all the electrical installation work in dwellings that it carries out;

- The assessed enterprise shall issue the appropriate Building Regulations compliance certificates in accordance with the relevant standards and regulations for all the electrical installation work in dwellings that it carries out;

[14] Ibid

- The assessed enterprise shall hold copies of all the certificates that it has issued for electrical installation work in dwellings for at least three years;

- The enterprise shall employ persons to carry out electrical installation work in dwellings who are competent and/or adequately supervised to ensure safety during and on completion of the work; and

- The enterprise shall appoint an individual to be the Principal Duty Holder. In addition, the enterprise shall appoint as Qualified Supervisors as many individuals as necessary to ensure all electrical installation work in dwellings is under the supervision of a Qualified Supervisor.

In terms of benefits, the Institute of Engineering and Technology (IET) stated:

"It is expected that bringing electrical work in dwellings under building regulations control will reduce the number of deaths, injuries and fires caused by faults in electrical installations. It is expected that nationally Part P will lead to an improvement in the competence of electrical contractors and to an improvement in the overall quality of electrical work.[15]"

SUMMARY

As can be seen above, Scotland, England and Wales have introduced a series of regulations to ensure that electrical installation work carried out on dwellings is done by qualified and competent installers, ensuring that occupants are protected from fires and electric shocks.

Northern Ireland has yet to introduce similar regulations but a number of the organisations that provide certification for electrical installers in GB do provide certification schemes in Northern Ireland (such as the National Inspection Council for Electrical Installation Contracting (NICEIC) Approved Contractor Scheme).

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[15] The Institute of Engineering and Technology *Part P to Building Regulations* www.theiet.org/publishing/wiring-regulations/part-p/ (first accessed 21st April 2010)