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THE LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

Building Legislation Amendment Regulation 2010 (No 1) Subordinate Law 2010–15

EXPLANATORY STATEMENT

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Minister for Planning
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Building Legislation Amendment Regulation 2010 (No 1)
Explanatory Statement

This explanatory statement explains the *Building Legislation Amendment Regulation 2010 (No 1)* (the "proposed law"). The proposed law amends the *Building (General) Regulation 2008* (the "building regulation") and the *Water and Sewerage Regulation 2001* (the "water regulation"). Some of the amendments are substantive, some are consequential, others are for clarification or for drafting consistency, format or structure purposes.

Substantive changes to the building regulation

Substantive changes that the proposed law makes to the building regulation are largely a consequence of, or in response to, the Building Code of Australia 2010 ("BCA 2010") prescribing requirements for energy efficiency and environment sustainability, at a level substantially above and wider than its 2009 predecessor edition. Existing regulatory stricture has increased and the scope of matters regulated by the BCA has increased in BCA 2010. The *Building Act 2004*, s 49 (Compliance with the building code) establishes an offence for non-compliance with the BCA. BCA 2010's relevant increased levels of stricture were the subject of a comprehensive regulatory impact statement prepared for the Australian Building Codes Board (the "ABCB"). The ABCB regulatory impact statement is available from www.abcb.gov.au. The main increased levels of regulation that BCA 2010 provides for include—

1. for class 1 buildings including a single dwelling, row house, terrace house, town house, villa unit, small boarding house, small guest house, small hostel—required energy efficiency of the building increases from a minimum 5 star energy efficiency rating equivalence, to a minimum of 6 star equivalence. Further, building services such as artificial lighting, hot water heaters, space heating and cooling will be regulated in certain cases to place limits on maximum energy use and on energy source ('renewable' energy source verses 'non-renewable', greenhouse gas intensity etc).

2. for class 2 buildings including blocks of—flats, apartments or 'units'—required average energy efficiency of all the units in a building increases from a minimum 4 star energy efficiency rating equivalence, to a minimum average of 6 star equivalence, with the minimum for each individual unit increasing from 3 to 5 star equivalence. Building services such as artificial lighting, hot water heaters, space heating and cooling will be regulated, in certain cases to place limits on maximum energy use and on energy source ('renewable' energy source verses 'non-renewable', greenhouse gas intensity etc).

3. For other classes of building, [except class 10 non-habitable buildings and structures], including backpackers accommodation, hotels, motels, schools, accommodation for the aged, health-care buildings, detention centres, office buildings, shops, cafes, restaurants, bars, hairdresser's or barber's shops, showrooms, service stations, carpark buildings, warehouses, laboratories, factories, workshops, churches, public buildings, assembly

buildings—increased energy efficiency structure generally targeted at achieving a 2:1 benefit to cost ratio.

The three main consequences of the BCA 2010 that the proposed law responds to are—

1. BCA 2010 does not provide transitional arrangements, and it provides that it will be adopted in the ACT from 1 May 2010, whereas the statutory planning approval processes for construction cannot easily adjust to an instantaneous increase in regulatory structure. For example, it can take up to 1 year for plans for a proposed building progress from application for development approval through to receiving building approval. The increased stricture of BCA 2010 could in many cases therefore require redesign of such buildings already in that statutory planning approval system. Such redesign could see the time already spent in the system wasted, and the approval process restarted for the new design. Hence, the proposed law provides a transitional arrangement for proposals already in the approval system by 1 July 2010.

2. BCA 2010 and its predecessors historically only prescribe the technical standards for construction of new buildings. They do not intentionally cater for alterations, additions or extensions to pre-existing buildings, nor for bringing a pre-existing building into compliance with the current BCA. Whereas, the *Building Act 2004*, s 49 requires all ACT building work to be done in a way that is likely to produce a building that compliance with the BCA, unless exempted from that requirement. Only minor non-habitable buildings are exempted. That Act also requires certain pre-existing buildings to be brought into compliance with the current BCA, in certain circumstances. It is not practical or cost-effective to bring old houses into current BCA full compliance, so the building regulation prescribes alternatives to, and concessions to, full BCA compliance when the BCA is applied to pre-existing buildings. The proposed law adjusts and enhances those alternatives and concessions to take account of BCA 2010's increased stringency.

3. The BCA is given legal force in the ACT by the *Building Act 2004*. The building regulation exempts the parts of that Act that deal with BCA compliance from applying to certain matters that are in BCA 2010's widened regulatory scope, including domestic artificial lighting and domestic space heating and cooling. So in order to give that widen BCA scope legal force, the proposed law disapplies those kinds of exemptions in the circumstances where the statutory approval system would otherwise not capture those matters.

<u>Substantive changes to the water regulation</u>

Substantive changes that the proposed law makes to the water regulation relate to resolving ambiguities and anomalies in the prescription of water heater performance requirements appropriate to the ACT's climate, and to remove a requirement for the Minister to determine a list of all compliant water heaters.

Outline of Provisions

Part 1 Preliminary

Clause 1 – Name of Regulation – states the name of the regulation, which is the *Building Legislation Amendment Regulation 2010 (No 1).*

Clause 2 – Commencement – states that the regulation commences on the 1 May 2010. This commencement date is intended to coincide with the 1 May 2010 adoption in the ACT of the 2010 edition of the Building Code of Australia.

Part 2 Building (General) Regulation 2008

Clause 3 – Legislation amended—pt 2 – provides that part 2 of the amending regulation amends the *Building (General) Regulation 2008*.

Clause 4 – New section 6 (3A) – inserts section 3A into section 6. Its intent is to clarify that work required to be done under the 50% rule, which is explained below in appendix 1, to bring an otherwise unaltered part of a building into compliance with the *Building Act 2004* and the building code, is not exempt work nor an exempt building. That is necessary to clarify the intent that the 50% rule is not subject to the exemptions mention in section 6. Historically the legislation has been administered that way and industry have applied the legislation that way.

The clarified effect is to ensure that when buildings are being built or altered under the Act's statutory approval, inspection and certification provisions, items like space heating and artificial lighting are inspected and ultimately certified as BCA complaint. But when the statutory processes are completed, certain changes can be made without triggering the process again.

For example, under the Building Act part 3, it is intended that artificial lighting installed during non-exempted construction and alteration is to be done in accordance with a building approval given by a building certifier, and only by or under the supervision of an appropriately licensed builder, and inspected and certified by the certifier. Those requirements generally apply to such construction in any case, the amendments merely ensure new matters like artificial lighting are also covered by those requirements. However, once the lighting is installed, approved and certified, an intention is to not require them to be caught by the statutory approval system when light bulbs need changing etc. An intention in that case is that changing the bulbs is deregulated, but only if doing so does not bring the building's lighting out of BCA-compliance.

For example, BCA 2010 prescribes a maximum limit of 5 W/m^2 for lighting in houses. Changing a light bulb would be deregulated after the statutory approval process had been complied with during construction, in that after that the bulb could be changed outside of the regulatory system provided the new bulb does not cause the house's lighting limit to exceed 5 W/m^2.

This measure is important to help ensure that a recent trend in new up-markey housing of installing more than 100 recessed down lights of the comparatively inefficient ≥50W dichroic halogen type is kerbed in favour of more efficient substitutes such as compact fluorescent inserts for downlights, and that homeowners don't subsequently replace the efficient inserts with the inefficient units beyond what BCA 2010 permits.

Clause 5— Section 6 (5), new definition of *substantial alteration* – inserts into section 6 (5) a definition of the term ***substantial alteration***, which is used in new section 6 (3A). The definition is a signpost to section 23, which prescribes the circumstances that must exist for an alteration of a building to be taken as being a substantial alteration fro the purposes of the Act, section 29 (2) (a). See appendix 1 below for explanations about the operation of substantial alteration provisions, which are also know as the 50% rule.

Clause 6—Division 3.3 heading– omits the heading of div 3.3. This is necessary to move certain division boundaries in the building regulation, and has the effect of removing the division boundary numbered 'Division 3'. This and other provisions reassign and relocate division boundaries to make a more logical grouping of provisions that more closely correlates with the Act's structure.

Clause 7—Section 24 (1) (e) (ii)—omits from section (ii) the term "balustrade construction requirements" and substitutes in its place "balustrade compliance requirements". That is necessary to correct inconsistent terminology and makes no substantive change.

Clause 8—New section 24 (1) (fa)—inserts new section (fa) for the following purpose. Where the Act's 50% rule (see appendix 1 below) requires a pre-existing class 1 or class 10 building to be brought into compliance with the current code, the building regulation prescribes the inclusive list of the parts of the BCA that must be complied with. The list does not include the BCA's part about draft-sealing of roof lights (otherwise known as skylights or roof windows). BCA 2010 has new provisions about required natural light, which are expected to encourage greater use of roof lights instead of large windows in walls. That is because wall windows provide a much lower degree of natural light than roof lights, and contribute significantly to the building's energy inefficiency as they provide minimal thermal insulation and excessive summer solar heat gain. An intended outcome of new section 24 (1) (fa) is to require the relevant roof lights to be draft-sealed in accordance with the BCA's energy efficiency part that requires such draft sealing.

Clause 9—New section 24 (1) (j)— inserts new section (j) for the following purpose. Where the Act's 50% rule (see appendix 1 below) requires a pre-existing class 1 or class 10 building to be brought into compliance with the current code, the building regulation prescribes the inclusive list of the parts of the BCA that must be complied with. The list does not include new parts of the BCA covering services of a building, such as hot water services, electrical services, air-conditioning services. That is because those matters were not previously covered by the BCA. BCA 2010 has new provisions about those

services, aimed at increasing their energy efficiency and reducing their greenhouse gas emissions. Therefore, an intended outcome of new section 24 (1) (j) is to require the relevant services to be brought into compliance with the BCA's energy efficiency part. An intended outcome is to reduce energy consumption and green house gas emissions.

Clause 10—Section 24 (2) (a) (ii)—substitutes section (ii) to clarify intent. See appendix 1 below for the context of this provision in relation to the Act's 50% rule. Without the substitution it is not clear what the criteria are for determining when the section requires full compliance with the relevant part of the building code or when alternative requirements at section 28 (1) (a) had to be met. The substitute provision provides that full code compliance is required for the building's **walls** unless doing so requires damage to the building. Such damage could include destroying part of a wall to provide access to install thermal insulation. In that case either full code compliance or the section 28 (1) (a) requirements satisfies section 24 (ii) (a). In both cases the building might require damage, but the alternative could in some circumstances require less damage that full code compliance. Other provisions, such as s 24 (3) place limitations on the total amount of damage required to help limit costs of restoring damage etc so as they will be likely to produce net benefits.

Clause 11—Section 24 (2) (b) (ii)—substitutes section (ii) to clarify intent. See appendix 1 below for the context of this provision in relation to the Act's 50% rule. Without the substitution it is not clear what the criteria are for determining when the section requires full compliance with the relevant part of the building code or when alternative requirements at section 28 (1) (b) had to be met. The substitute provision provides that full code compliance is required for the building's **roof** unless doing so requires damage to the building. Such damage could include destroying part of a wall to provide access to install thermal insulation. In that case either full code compliance or the section 28 (1) (b) requirements satisfies section 24 (ii) (b). In both cases the building might require damage, but the alternative could in some circumstances require less damage that full code compliance. Other provisions, such as s 24 (3) place limitations on the total amount of damage required to help limit costs of restoring damage etc so as they will be likely to produce net benefits.

Clause 12—Section 24 (2) (c) (ii)—substitutes section (ii) to clarify intent. See appendix 1 below for the context of this provision in relation to the Act's 50% rule. Without the substitution it is not clear what the criteria are for determining when the section requires full compliance with the relevant part of the building code or when alternative requirements at section 28 (1) (c) had to be met. The substitute provision provides that full code compliance is required for the building's **floor** unless doing so requires damage to the building. Such damage could include destroying part of a wall to provide access to install thermal insulation. In that case either full code compliance or the section 28 (1) (c) requirements satisfies section 24 (ii) (c). In both cases the building might require damage, but the alternative could in some circumstances require less damage that full code compliance. Other

provisions, such as s 24 (3) place limitations on the total amount of damage required to help limit costs of restoring damage etc so as they will be likely to produce net benefits.

The amendment also makes a consequential change to the cross referenced alternative energy efficiency requirement. Instead of only cross referencing the alternative energy efficiency requirement of section 28 (1) (c), the substitute Section 24 (2) (c) (ii) also cross references the alternative energy efficiency requirement of section 28 (1) (d), which the proposed law inserts. That is necessary as the 2010 edition of the building code introduces a new requirement for floors, in addition to its historic provision about floor thermal insulation—the new requirement for a barrier at floor level to prevent convection of subfloor air into the wall cavity and vice versa. The barrier is intended to increase thermal efficiency by stopping cool air displacing warm air in winter and vice versa in summer.

Clause 13— Section 24 (3) (c)—omits from section (c) the term "for a suspended floor" and substitutes with the term "for thermal insulation of a suspended floor". That is necessary as the 2010 edition of the building code introduces a new requirement for floors, in addition to its historic provision about floor thermal insulation—the new requirement for a barrier at floor level to prevent convection of subfloor air into the wall cavity and vice versa. The barrier is intended to increase thermal efficiency by stopping cool air displacing warm air in winter and vice versa in summer. See appendix 1 below for the context of this provision in relation to the Act's 50% rule.

Clause 14— Sections 24 (3) (d) to (f)—inserts into (3) new sections (d) to (f). That is necessary as the 2010 edition of the building code introduces new requirements, as follows—

- barriers to prevent convection between wall cavities and areas enclosed underneath a suspended floor. The proposed law's new section 24 (3) (d) relates, and prescribes the circumstances that must exist to disapply the requirement to retrofit the convection barrier to a pre-existing building, under the Act's 50% rule (see appendix 1 below for explanation of the 50% rule). An intention is that if retrofitting the barrier in accordance with the building code would require the removal of more than $1m^2$ of wall or flooring to gain access to the subfloor area, or if there is ***insufficient work space*** for a person to install the barrier; then there is no need to retro fit the barrier. That is to say that up to $1m^2$ of wall or flooring is required to be removed to gain access to the subfloor area if necessary to retrofit the convection barrier. New section 24 (4) prescribes what constitutes there being ***insufficient work space.*** An intention is that if the only reason there is ***insufficient work space*** is that part of a floor, wall or roof makes the works space insufficient, but there would not be ***insufficient work space*** if the respective part of the floor wall or roof was removed, and it will be removed in order to comply with the Act, s 29, up to the removal limits prescribed in the building regulation section 24 (3), then there is not ***insufficient work space*** to retro fit the barrier.

- insulation of a heating water piping service, or a heating or cooling ductwork service. The proposed law's new section 24 (3) (e) relates; and prescribes the circumstances that must exist to disapply the requirement to retrofit the insulation to a pre-existing building, under the Act's 50% rule (see appendix 1 below for explanation of the 50% rule). An intention is that if retrofitting the insulation in accordance with the building code would require the removal of more than $1m^2$ of wall or flooring to gain access to the subfloor area, or if there is ***insufficient work space*** for a person to install the insulation; then the insulation is only required to be fitted in accordance with the code to the parts of the piping or ducts that have sufficient work space to do so once up to $1m^2$ of wall or flooring has been removed to gain access to the subfloor area if necessary. New section 24 (4) prescribes what constitutes there being ***insufficient work space.*** An intention is that if the only reason there is ***insufficient work space*** is that part of a floor, wall or roof makes the works space insufficient, but there would not be ***insufficient work space*** if the respective part of the floor wall or roof was removed, and it will be removed in order to comply with the Act, s 29, up to the removal limits prescribed in the building regulation section 24 (3), then there is not ***insufficient work space*** to retro fit the insulation.

- electric resistance space heating elements cast into concrete or set under tiles. The proposed law's new section 24 (3) (f) relates, and prescribes the circumstances that must exist to disapply the requirement to make pre-existing electric resistance space heating elements cast into concrete or set under tiles comply with the building code, under the Act's 50% rule (see appendix 1 below for explanation of the 50% rule). An intention is that if code compliance would require the element to be exposed by cutting into the slab or tiles to gain access to the elements in order to replace them with compliant elements, or to adjust them or to remove them, then there is no need to comply wit the code's relevant provisions. See appendix 1 below for the context of this provision in relation to the Act's 50% rule.

  In-slab heating usually encompasses attaching electrical cabling (the heating elements) to reinforcing mesh for a house's concrete slab floor, and encasing the mesh and heating elements in concrete. The elements heat the slab and mesh, the steel mesh helping to conduct the heat throughout the slab. Once heated, the slab acts as a massive thermal storage unit slowly dissipating heat for long periods after the heating elements are turned off, and subsequently not using significant energy to maintain heat. They are an efficient method of heating spaces as the heat starts at the lowest point (the floor) and convects up, rather than starting higher leaving the floor level colder.

  The 2010 edition of the building code prescribes new energy limits to residential electric resistance space heating of 110 W/m^2 for living areas and $150W/m^2$ for bathrooms. If a pre-existing house that is

required by the Act to be brought into BCA 2010 compliance has old in-slab heating capable more than 110W/m^2 throughout, it would be an inappropriately proportioned regulatory intervention to require the slab to be destroyed to remove the non-compliant heating elements, particularly considering that floor slabs often provide support to internal walls of houses and have floor coverings or finishes attached.

So section 24 (3) (f) provides in effect a concession so that in such cases the elements do not need to be removed. That does not necessarily mean that the slab heating can continue to be able to operate at in excess of the 110 W/m^2 limit if its control equipment can be modified so as the heater can not draw more than 110 W/m^2, but still operate efficiently and effectively.

Clause 15— New section 24 (4)—inserts new section (4) to prescribe when part of a building has ***insufficient work space***, as that term is used in new sections 24 (3) (d) and (e). One of the prescribed parameters of when there is not ***insufficient work space*** is that the space is at least 600mm wide and 600mm high, apart from any obstacles intruding into the space. The 600mm dimension is based on common subfloor heights from the underside of timber flooring to the ground beneath. Historically, that has been the codified mandated minimum height needed to gain access to inspect such a subfloor space, and is based on a superseded imperial measure of 2 feet or 24 inches. Another parameter is that any obstacles intruding into the space do not reduce the dimensions of the space below 450mm wide and 450mm high and are reasonably negotiable by a person used to working in confined spaces. The 450mm dimension is based on the smallest common size of ceiling access hatches (also known as “manholes”). It is expected that most traditional ACT brick-veneer houses with timber floors, and truss roofs will not have insufficient work space to prevent compliance with the relevant provisions of new sections 24 (3) (d) and (e). Those kinds of houses make up the bulk of the ACT’s pre-1990 housing stock.

Clause 16— section 28 (1)—substitutes section 28 (1) to change sections 28 (1) (b) and (d) while preserving the wording of sections 28 (1) (a) and (c). That is necessary as the 2010 edition of the building code introduces requirements for—

- adjusting the amount of thermal insulation required to be added to ceilings/roofs to take account of losses of areas because of gaps in the insulation for downlights, exhaust fan flues etc. (Substituted section 28 (1) (b) has the effect of requiring the adjustment to be applied to the insulation amount required by that section prior to the substitution, and is intended to compensate for thermal losses attributable to gaps in ceiling/roof insulation). See appendix 1 below for the context of this provision in relation to the Act’s 50% rule.

- a barrier at floor level to prevent convection of subfloor air into the wall cavity and vice versa. The barrier is intended to increase thermal efficiency by stopping cool air displacing warm air in winter and vice

versa in summer. Section 28 (1) (d) prescribes an alternative to the baffle kind of convection barrier typically expected in new construction in order to comply with the building code, as it will generally be difficult to retro-fit a baffle barrier to pre-existing houses. The prescribed alternative is to fill the wall cavity with prescribed thermal insulation, which is likely to be required in any case to meet the thermal performance requirements of the code. See appendix 1 below for the context of this provision in relation to the Act's 50% rule.

Clause 17— section 29 (1) and (2)— substitutes sections 29 (1) and (2) for the following purposes.

In effect, the substitute section (1) is identical to the section it substitutes for except it omits the phrase "if the glazing is coated" and substitutes with the phrase "if the transparent or translucent glazing is coated". That is necessary to clarify that the thermal control film covered by section 29 (1) is only required to be applied to the transparent or translucent glazing parts of windows and not to their frames. The building code takes account of the thermal performance of both the frames and the transparent or translucent glazing or windows, including both of those parts in the term "glazing". See appendix 1 below for the context of this provision in relation to the Act's 50% rule.

Substitute section 29 (2) further responds to the construction industry's concerns that arose in 2006 when the 2006 edition of the building code raised regulatory stricture for energy efficiency. The concern was that in applying the code to windows in new extensions to houses, the code requires the energy performance of other windows in the storey to be taken account of when assessing the performance of the new windows. That is practical for new construction as all new windows can be readily designed to suit, but it is impractical for many extensions to old houses, particularly where the location of the old windows is too remote from the new windows to impact on them.

The building regulation has dispensation provisions to cater, but industry has shown that in some cases further dispensation is needed, particularly considering that the code's 2010 edition increases energy efficiency provisions, exacerbating the problem. The problem is most acute where a small extension is proposed, say enlarging (extending) a kitchen by moving an outer wall out under the roof eave. Under the Act, s 49, that extension must fully comply with the code. However, that requires the new windows in the extension to compensate for poor performing old windows in the unaltered part of house, if those windows are in the same storey as the new windows. Even using the most thermally efficient glazing system in the new widows often will not make all the new windows comply because of the effect on the extension of old windows and old window frames in the unaltered part of the house.

The alternative, without any concession, is to replace the windows and their frames in the unaltered part of the house with better performing window units. However, industry had demonstrated that that can almost double the cost of such a small kitchen extension, and that has caused many homeowners to

cancel their house extension plans. Such cancellations encourage some home owners to instead build a new house in a new suburb, adding to new-housing demand and avoiding the opportunity to enhance existing building stock.

The section 29 (2) changes enhance the current concessions for old windows by providing that they do not need to be taken account of in assessing new windows if the old windows are thermally isolated from the new windows. In the case of the kitchen example mentioned above, the new window's performance would need to take account of old windows in the unaltered part of the house if they are not isolated from the new windows by a wall and door. An intent is to encourage the creation of thermal zones, so that the new extension can be efficiently heated and cooled without having to heat and cool all of the rest of the less thermally efficient house.

For example—a house is to have a family room added, opening onto the existing kitchen, to form an integral kitchen-family room. External windows in the new family room must comply with the building code. There is to be no barrier between the kitchen and the new family room so the existing kitchen window is not an isolated window. Its impact on the new family room must be considered when considering how the new family room complies with the building code, volume 2, part 3.12.2. All other windows in the unaltered part of the house are in fully enclosed rooms, with close-fitting doors so they are isolated windows. In applying the building code to the new family room's windows, the isolated windows do not need to be considered.

Clause 18— Section 29 (3), definitions of *incidental glazing* and *glazing—* substitutes the definition of ***incidental glazing*** with a new term and its definition—***isolated glazing***; and moves the definition of the term ***glazing*** into section 29 (3) for more convenient reading. The change to the definition of ***incidental glazing*** is consequential to the proposed substitution of section 29 (2). The term ***isolated glazing*** is intended to cater for pre-existing glazing that is thermally isolated from proposed new windows. Such thermal isolation is intended to occur when the pre-existing glazing is in a different thermal zone to the new windows. Such zones are created by unperforated barriers such as certain walls and doors, as prescribed in the definition of ***isolated glazing***, and as illustrated in the example accompanying the definition.

A further illustrative example, is that generally bedroom windows are isolated from living room windows as usually bedrooms have doors and walls that form a thermal zone. The living areas can be heated or cooled without heating or cooling the bedrooms and vice versa. Windows in such a bedroom do not significantly affect the thermal performance of windows in a living room and so the intent is that they be regarded as isolated glazing when considering the living room glazing.

Clause 19 – Divisions 3.4 and 3.5–renumbers division 3.4 as 3.3, and renumbers division 3.5 as division 3.4. That is necessary as other provisions reassign and relocate division boundaries to make a more logical grouping of

provisions that more closely correlates with the Act's structure. They make no substantive change otherwise.

Clause 20—New division 3.5 heading– inserts after section 35 a new division boundary numbered and entitled—Division 3.5 Fundamentally noncompliant building work. This and other provisions reassign and relocate division boundaries to make a more logical grouping of provisions that more closely correlates with the Act's structure. They make no substantive change otherwise.

Clause 21— New part 21—inserts new part 21 (Transitional—Building Amendment Regulation 2010 (No 1)), which provides at new section 110 for a transitional arrangement to inter alia prevent projects that are in the planning approval system from having to be redesigned and resubmitted for approval if they were in the system by 1 July 2010. A national awareness campaign has alerted industry to the BCA 2010 changes, so it is expected that industry ought not need to rely the transition other than for a small number of projects. The transitions in effect delay the application of BCA 2010's energy efficiency parts to the eligible projects for a period of 7 months for houses etc and certain apartments, and 12 months for other buildings and for apartments that would need a development approval change in order to comply with BCA 2010.

New part 21 also provides a new section 111 that is intended to ensure that the transitional arrangement provided for in new part 21 expires on 1 May 2011. That is necessary as the transitional arrangements provisions indicate that they have application until immediately before that date, but they will cease there functionality on that date.

Clause 22— Schedule 1, part 1.3, item 14, column 4—inserts into column 4 a condition on the "internal alteration" exemption covered by item 14, thus—the internal alteration must not cause an aspect of building that complies with building code to not comply.

That is necessary to ensure, for example, that internal lamps (ie light bulbs inside a house) can be changed without the Act's statutory approval processes applying, but only if a bulb of insufficient wattage to make the houses exceed the building code limit on lighting wattage is substituted.

See the explanation above for new section 6 (3A) for further explanation of this concept, and ho wit disapplies the exemption if the change to the bulb is done under the 50% rule, which is explained below at appendix 1.

Clause 23— Schedule 1, part 1.3, item 15, column 4—makes the same kind of change to item 15 as explained above for schedule 1, part 1.3, item 14, column 4, but by omission and substitution rather than by insertion.

Clause 24— Schedule 1, part 1.3, item 17, column 1—omits from column 1 the phrase "or a heating appliance". That has the effect of no longer making a heating appliance exempt work or an exempt building. That is necessary

because the building code 2010 edition will provide for requirements for energy efficiency and environmental sustainability for water heaters, space heaters, pool heaters etc, and if such heaters remained exempted under schedule 1, part 1.3, item 17, they would be beyond the regulatory reach of the code. Other provisions provide exemptions for changes to certain heaters as part of internal or external alteration of certified buildings, subject to code compliance (see schedule 1, part 1.3**,** items 14 and 15 as amended). See the explanation above for new section 6 (3A) for further explanation of this concept.

Part 3 Water and Sewerage Regulation 2001

Clause 25— Legislation amended—pt 3— provides that part 3 of the amending regulation amends the *Water and Sewerage Regulation 2001*.

Clause 26— Schedule 2, section 2.2—omits section 2.2 (Compliant hot-water systems) as a consequence of the provisions of section 2.2 being dealt with in other provisions as amended by the regulation.

Clause 27— Schedule 2, section 2.3 heading—substitutes a new heading name for section 2.3, in effect changing its name from "Hot-water system—installation" to "Water heater—installation". That is necessary to better reflect the content of the section, in that it only deals with water heaters and not with other aspects of hot-water systems, such as piping, outlets, etc captured by the term "system".

Clause 28—Schedule 2, section 2.3 (1) and (2)—substitutes sections (1) and (2) to adapt into those sections the "compliant hot-water systems" provisions of unamended section 2.2, thus making interpretation easier without having to cross-reference across two separate provisions and allowing for any future expansion of the regulation to other installation requirements for other than new homes.

Clause 29— Schedule 2, section 2.3 (3), definition of *AS 4013*— substitutes the definition of ***AS 4013*** with a new definition, includes new definitions for climate zones used in the regulation and removes reference to the first publication year in standards to be enforced from time to time.

Some of the definitions in effect substitute for the same definitions provided for the in the current Water regulation, but so as the edition date of standards are not mentioned. That is necessary to ensure the definition applies to the latest edition of the standard as in force from time to time, rather than the edition of a particular prescribed year.

Other definitions are in effect inserted to support new provisions that rely on the defined terms.

Clause 30— Schedule 2, section 2.3 (3), definition of *new class 1 building*—substitutes into section (3) a new definition for the term ***new class***

1 building. That is necessary as the former definition related to a building that has not been previously occupied or sold as a place of residence, but determining both of those parameters is not always straightforward. Whereas, the substitute definition instead relates to a building for which a certificate of occupancy for the whole building has not been issued under the *Building Act 2004*. Determining if such a certificate has been issued is straight forward as copies of all such certificates are held by ACT Government and are publically available for inspection.

Certificates of occupancy are issued under the *Building Act 2004*, section 69 (Certificate of occupancy). The use of the term "whole building" in the substitute definition of the term ***new class 1 building*** is intended to ensure that a certificate of occupancy issued under the *Building Act 2004*, section 69 (3) for part of a building is not the kind of certificate of occupancy that the definition relates to.

Clause 31— Schedule 2, section 2.3 (3), new definition of *renewable energy certificate—*inserts into section (3) a definition of the term ***renewable energy certificate.*** The term is used in section 2.3, and its definition is as defined in the Commonwealth Government's *Renewable Energy (Electricity) Act 2000*, at section 5 (1).

Clause 32— Schedule 2, sections 2.4 and 2.5 —substitutes sections 2.4 (Water heater—determination of other water heaters) and 2.5 (Water heater—frost protection standard). Substitute section 2.4 has the effect of removing the requirement for the Minister to declare compliant water heaters. Instead, the provision retains a discretionary power for the Minister to determine compliance. It is not expected that the Minister would need to make any such determination in the ordinary course of events, but nevertheless if need arose it is intended that the Minister could make such a determination for 1 or more water heaters, within the parameters prescribed at s 2.4 (a) and (b).

The substitute section 2.5 prescribes climatic, including frost protection requirements, recognising that parts of the ACT are subject to occasional winter temperatures below -10ºC. That is necessary as the winter of 2009 saw some compressor-type water heaters fail to operate in Canberra during heavy frost conditions. This is to ensure that protection is appropriate to the expected climate conditions in the ACT. That ensures that water heaters installed in the ACT are fit for purpose and will continue to operate and maintain integrity at low and sub-zero temperatures

Clause 33— Schedule 2, section 2.6 (1)—substitutes section 26 (1). The substitute provision is identical to the former provision, except that the substitute provision mentions the phrase "hot-water heater" instead of where the former mentioned "hot-water system". That is necessary to give the provision its intended effect—applying to water heaters—rather than applying to a system including piping, outlets and the water heater. It also ensures that flow capacity standards in the provision are consistent with those in other sections of the water regulation.

Clause 34— Schedule 2, section 2.6 (2)— omits from section (2) the term "shower outlet" and substitutes the term "shower fixture outlet" to correct technical language.

Clause 35— Schedule 2, section 2.6 (3)— substitutes a new section (3). The substitute provision is identical to the former provision, except it clarifies that it if a building is not connected to a water service, rather than the hot-water system being connected to a water main, this section does not apply. That is necessary to ensure the provision has the intended scope.

Clause 36— Dictionary, definitions of *compliant gas hot-water system*, *compliant heat pump hot-water system* and *compliant solar hot-water system*—omits from the Dictionary of the water regulation the definitions of the terms—

compliant gas hot-water system;

***compliant heat pump hot-water system;* and**

compliant solar hot-water system.

That is necessary as a consequence of other amendments in the regulation taking account of those matters.

Appendix 1 Explanation of "50% rule" (*substantial alteration*) provisions under the *Building (General) Regulation 2008*.

The following explains certain provisions that relate to what is informally known as the 50% rule, some regulation-prescribed-provisions of which are modified or extended by the proposed law. An intention of the 50% rule is to require pre-existing building to be upgraded to bring them into compliance with the current building code, to avoid old building stock falling far behind contemporary technical requirements for buildings. The ACT has had 50% rule provisions for several decades, as have several other Australian jurisdictions.

Under the *Building Act 2004*, s 29 (1) the 50% rule is trigger if plans of proposed building work to alter or extend a pre-existing building meet the prescribed requirements of a ***substantial alteration***, as follows—

> **29 Approval requirements**
>
> (1) Each of the following is an ***approval requirement*** for plans:
>
> (a) if the plans are for the substantial alteration of a building—the building as altered will comply with this Act and the building code;
>
> *Note 1* ***Substantial alteration***—see s (2).
>
> *Note 2* A reference to an Act includes a reference to the statutory instruments made or in force under the Act, including regulations and the building code (see Legislation Act, s 104).
>
> …
>
> (2)A regulation may declare that—
>
> (a) an alteration of a building is or is not a substantial alteration; or
>
> (b) a part of a building (the ***unaltered part***) that has not been altered need not comply with the building code despite subsection (1) (a).

If the 50% rule is triggered, the above-recited s 29 (1) requires the plans to show all the work necessary to make the building as altered comply with the current building code, including work to bring the pre-existing part (which might otherwise be altered) up to current building codd compliance. Othr provisions of the Act require work to onlybe done in accordace with the approved plans.

The following explains the provisions of the *Building (General) Regulation 2008* that prescribe key provisions for the Act's 50% rule.

Section 23 contains criteria to be used to determine if plans are for the ***substantial alteration*** of a building, as referred to in section 29 (2) of the Act. An intention is that if the floor area of the proposed building work on a class 2 to 9 building, when added to the floor area of building work carried out on the same building in the previous 3 years, comprises more than 50% of the floor area of the building, then under the Act the plans ought to also reflect any work required to ensure the entire building will meet current requirements of the Act (and not just the otherwise proposed work).
The same applies for a class 1 or class 10 building except that internal alterations carried out on the pre-existing building do not need to count towards the altered floor area.
The anticipated outcome is that in the long term many old buildings will be upgraded to better keep pace with changes in building code requirements.

Section 23 also gives 5 examples of the effect of those provisions to endeavour to illustrate the intent of the section.

Sections 24 to 29 set out alternatives to the requirement to comply with respective provisions of the Building Code, where it is not always practical to bring pre-existing buildings fully into compliance with that code. For example, section 23 of the regulation and section 29 (2) of the Act apply the code to pre-existing buildings in certain circumstances. For example where a pre-existing house is to be significantly extended, and that amounts to a ***substantial alteration*** under section 23 of the regulation, then under section 29 of the Act the whole house as extended must be brought into compliance with the code.

However, sections 24 to 29 of the regulation provide alternative methods of compliance, as it is often not practical to retrofit certain items to a pre-existing building to bring the building up to current code requirements. For example, it might not be cost effect to retrofit termite barriers to a pre-existing house that has no such barriers built into its brickwork.

It is intended that instead of complying with the code, the pre-existing part of the building need only comply with the alternative provisions prescribed by section 24 to 29. Those provisions deal with fundamental building and fire safety.

The alternative compliance provisions of sections 24 to 29 include coverage of—

in section 24 (1) (a) and 25—glazing where there are human impact safety requirements. This is because retrofitting windows in older houses is not always cost effective, but safety can be addressed by instead applying safety film to the glass at less cost then glass replacement. Section 25 stipulates the alternative compliance method of using safety films;

in section 24 (1) (b)—installation of smoke alarms. This provision does not provide dispensation, but requires full compliance with the relevant provisions of the code, as provision of smoke alarms is relatively inexpensive and are fundamental life safety measures;

in section 24 (1) (c)—building in bush fire areas. This provision does not provide dispensation, but requires full compliance with the relevant provisions of the code, as construction to resist bush fire attack does not substantially add to the cost of normal construction and is a fundamental life safety measure;

in section 24 (1) (d) and 26—stair construction. This is because it is often not cost effective to bring a noncompliant flight of stairs into compliance, particularly if they are too steep to comply and there is not enough room in the building for a longer, less steep, flight. Section 26 stipulates the alternative method of compliance using extra grab rails where stairs are to steep, for example;

in section 24 (1) (e) and 27—construction of balustrades. This is because it is often not cost effective to bring a noncompliant balustrade into compliance. Section 27 stipulates the alternative compliance method of which dispensates certain currently non-compliant balustrades if they complied with the relevant law when they were constructed and have not since been altered, for example;

in section 24 (1) (f)—swimming pool access. This provision does not provide dispensation, but requires full compliance with the relevant provisions of the

code, as provision of barriers to prevent young children from drowning in pools is a fundamental life safety measure;

in section 24 (1) (f) to (i)—sealing of buildings. This provision does not provide dispensation, but requires full compliance with the relevant provisions of the code, as sealing of buildings with draft excluders etc is relatively inexpensive and is fundamental to reducing a building's use of energy;

in section 24 (2) and (3), 28 and 29—energy efficiency of roofs, external walls, floors, and external glazing. That is because it is often not cost effective to bring certain noncompliant roofs, walls, floors and windows into compliance, particularly if doing so requires removal of linings to insert bulk thermal insulation or replacement of windows or window glass.

Section 28 stipulates the alternative methods of energy efficiency compliance for pre-existing roofs, external walls and floors. They are alternatives to complying with the relevant provisions of the building code, and only apply to pre-existing buildings. The alternative provided by the section is to bring the roofs, walls and floors up to a specified level of thermal performance, which approaches to the code's respective energy efficiency requirements for roofs, external walls and floors. That is necessary to reduce the building's use of energy, and to avoid the impracticalities of bringing pre-existing buildings into compliance with the code.

Section 29 stipulates the alternative method of compliance for external glazing. The provision permits energy performance films to be attached to glazing rather than having to replace windows or glazing or to provide shading, as the stated film can achieve energy efficiency performance approaching those required by the code. That is necessary to reduce the building's use of energy and to avoid the impracticalities of bringing pre-existing buildings into compliance with the code.