Determination 2005/77

Refusal of a code compliance certificate for a building with a "monolithic" cladding system: House 67

1 THE DISPUTE TO BE DETERMINED

1.1 This is a determination of a dispute referred to the Chief Executive of the Department of Building and Housing ("the Chief Executive") under section 17 of the Building Act 1991 ("the Act") as amended by section 424 of the Building Act 2004. The applicant is one of the joint owners of the property, Mr W Culverwell (referred to throughout this determination as "the owner") and the other party is the territorial authority. The application arises from the refusal by the territorial authority to issue a code compliance certificate for a 3-year old house unless changes are made to its monolithic cladding system.

1.2 The question to be determined is whether on reasonable grounds the monolithic wall cladding as installed to the timber-framed external walls and columns of the house ("the cladding"), complies with the building code (see sections 18 and 20 of the Act). By "the monolithic wall cladding as installed" I mean the components of the system (such as the backing sheets, the flashings, the joints and the plaster and/or the coatings) as well as the way the components have been installed and work together.

1.3 This determination is made under the Building Act 1991, subject to section 424 of the Building Act 2004. That section came into force ("commenced") on 30 November 2004, and its relevant provisions are:

> ". . .on and after the commencement of this section,—
>
> > "(a) a reference to the Authority in the Building Act 1991 must be read as a reference to the chief executive; and
> >
> > "(b) the Building Act 1991 must be read with all necessary modifications to enable the chief executive to perform the functions and duties, and exercise the powers, of the Authority . . "

It should be noted that the new legislation does not amend the determination process set out under the 1991 Act, other than to transfer the power to make a determination from the Building Industry Authority ("the Authority") to the Chief Executive.

1.4 This determination refers to the former Authority:

a) When quoting from documents received in the course of the determination, and

b) When referring to determinations made by the Authority before section 424 came into force.

1.5 In making my decision, I have not considered any other aspects of the Act or the building code.

1.6 The house itself is described in paragraphs 2.1 to 2.3, and paragraph 8 sets out my decision.

2 PROCEDURE

The building

2.1 The building is a large detached house situated on an excavated and stepped sloping site in a moderate wind zone in terms of NZS 3604: 1999. The house is on two levels, with the front of the house being two storeys high while the rear is one storey high. The lower level basement contains rumpus, bathroom, office, main entry and garage/workshop areas, and the larger upper level contains kitchen, dining, and living areas, three bedrooms and two bathrooms. Construction of the house is conventional light timber frame, with concrete block retaining walls, foundations and a concrete slab to the lower level. The rear section of the upper level timber framed floor is over a subfloor area with concrete piles and concrete block perimeter foundation walls. Windows and doors are aluminium, the roof is of concrete tiles and the walls are sheathed in monolithic cladding. The house shape is reasonably simple in plan, and the 30^{o} hipped roof has limited number of complex wall to roof intersections. All eave projections are more than 400 mm overall, except for a 1.4 metre length where a monolithic-clad chimney structure passes through the eaves.

There are two enclosed decks, with tiled floors over liquid applied fibreglass-reinforced membrane on plywood. Most balustrades are stainless steel except for a short length of framed and clad balustrade. The main deck is supported on monolithic clad columns, most of which continue up to the level of the metal balustrade with flat tops finished with decorative stone over monolithic cladding. The bedroom deck is above the garage area below and is set back beneath the main roof.

2.2 The owner has confirmed that the external wall framing is untreated. The owner has supplied invoices confirming that the timber used in deck beams, stringers, column framing, and plywood substrate is H3 treated, while other deck framing is H1 treated.

2.3 The cladding system is what is described as monolithic cladding. Except for the chimney structure, all exterior walls are clad in EIFS. As specified in the manufacturer's data sheets ("the manufacturer's instructions"), the cladding system incorporates 60 mm thick polystyrene backing sheets fixed through the building wrap directly to the wall framing and finished with a mesh reinforced plaster system. The cladding system, used over a cavity, was tested for weathertightness ("the weathertightness test") by an independent organisation in December 2003, using the verification method included in E2/VM1 at that time. No water penetration through the outer cladding into the cavity was recorded in the weathertightness test. The plaster system was also tested for strength and flexibility ("the plaster test") by another independent organisation in October 2003. The system used in this house appears to be similar to that covered in the manufacturer's instructions of March 2002, which include details for flashings at various junctions and require purpose-made uPVC flashings to the heads, jambs and sills of exterior joinery units. The jointing and plaster system used in this instance is the system referred to in the weathertightness test and the plaster test.

The chimney structure and the exterior columns are clad in another type of monolithic cladding, described in this determination as flush-finished fibre cement, which incorporates fibre cement backing sheets fixed through the building wrap directly to framing, and finished with a proprietary textured coating system.

2.4 The manufacturer issued a Producer Statement dated 25 April 2002, which included a 15-year warranty on products and 5-year warranty on workmanship. This noted that the cladding system was installed to the manufacturer's specifications dated 1 January 2001, and included 60 mm uPVC jamb and sill trims.

Sequence of events

2.5 The territorial authority issued a building consent on 4 December 2001. No conditions relating to the cladding were attached to this consent.

2.6 The territorial authority made various inspections during the course of construction, including prior to lining installation and following lining installation, with a final inspection on 23 May 2003 which noted that a number of outstanding items were to be completed. A further inspection was made on 19 December, which noted:

> Items 1, 2, & 5 complete. Gave owner copy of CCC/weathertightness letter.

In the standard form letter given to the owner, the territorial authority noted that:

> Existing properties in [the territorial authority's city] using any type of monolithic cladding without a cavity, that have not had specific inspections to deal with weathertightness issues, will be reviewed on a case-by-case basis before determining if a code compliance certificate can be issued. These properties may already have had a 'final inspection'.
>
> The above property falls within this category and is now being assessed by our code compliance certificate (CCC) resolution team comprising senior building officers and managers to determine compliance.

2.7 The territorial authority carried out a site cladding inspection on 20 April 2004, and noted a number of factors specific to the house, and commented that:

> House is in good condition with no signs of movement. There is some concrete to be lowered to below cladding by the garage and entry…

2.8 The territorial authority wrote to the owner on 23 April 2004 describing its concerns in regard to weathertightness and durability and noting that:

> As your building is face fixed (monolithic) construction with no cavities we are unable to verify that it fully complies with the Building Code requirements, manufacturer's details application [sic] at the time and that it will remain durable for the required period. Visual inspection has also highlighted the following:
>
> 1) Ground clearances not complying around garage
> 2) Timber framing treatment unknown
> 3) Deck area above garage
>
> There has been recent information and knowledge that face sealed cladding systems without an adequate drainage and ventilation cavity will cause irrevocable damage to structural elements in the event of leakage and/or the effect of residual moisture.
>
> Council cannot be satisfied on reasonable grounds that the cladding system installed on the above building will meet the functional requirements of Clause E2 External Moisture of the New Zealand Building Code and is therefore unable to issue a code compliance certificate.
>
> If you still wish to seek a code compliance certificate, you may request a determination from the Building Industry Authority as per section 17 of the Building Act 1991.

2.9 The owner replied to the territorial authority on 26 November 2004 noting that he intended to seek a determination and required answers to a number of questions. The owner noted that:

> Essentially, we have complied 100% with the requirements of [the territorial authority] and have made absolutely certain that all building materials, processes and work has been carried out in accordance with NZS 3604: 1999 under which our building consent was issued (BB/3575/01 issued on 4 December 2001).
>
> Furthermore, [the territorial authority] inspected our property on numerous occasions through the building process and at no point has the issue of monolithic cladding been identified as an issue or problem for our property. At our Final Inspection on 23 May 2003, the cladding weathertightness and quality was checked and approved (the only item outstanding was a Producer Statement from the Cladding Installer and this was duly provided to the council).

The owner went on to list a series of questions, summarised as asking why the territorial authority:

- Approved construction, then later retracted on the flat principle that monolithic cladding no longer complies;
- Did not communicate its concerns on monolithic claddings during construction or at any inspections;
- Did not identify the cladding as an issue at the weathertightness inspection;
- Was not proactive in communicating concerns once the scale of the 'leaky house problem' became known during 2002 and 2003;

- Made a unilateral decision to refuse CCC's for monolithic clad houses, with no reference to analysis of impact on affected parties; and

- Has not revoked previously issued CCC's for monolithic clad houses.

2.10 The territorial authority responded, in a letter to the owner on 2 February 2005, with the following answers:

1. [The territorial authority] approved your building consent plans to construct a new dwelling using a monolithic type exterior cladding. At the time of approval, Council had no information to suggest that the exterior cladding type used on your dwelling would not comply with the Building Code sections B2 Durability and E2 External Moisture. It has been in more recent times that Council have become aware that monolithic claddings used on some building designs, do not perform as per Building Code requirements.
2. In 2003, Council became aware that some monolithic type exterior claddings on buildings were failing. Unfortunately, when your dwelling was being constructed, our Building Inspections Officers were not aware that there would be a major problem with this type of cladding.
3. As mentioned, it was not until after May 2003 that Council became aware of the full extent of the problem with monolithic claddings on some buildings not performing as they should. It was 12 months later that the Department of Building and Housing (formerly known as the Building Industry Authority) provided information to help ensure monolithic exterior wall claddings would perform by ensuring the exterior cladding had ventilation for moisture if moisture was to penetrate the cladding.
4. If Council becomes aware there may be a problem with a building material or system after approving it at the consent stage, we do not have the technology to identify the thousands of buildings that have been approved to use the materials, therefore we could not notify the owners of the potential problem.
5. Council is not saying that it will not issue a Code Compliance Certificate for a building that has untreated timber with a monolithic cladding. What is being advised, is that Council now know there are some major problems with the cladding and exterior wall system to areas of buildings where there is a high risk of a failure. Our advice is for the owner to seek a determination from the Department of Building and Housing (formerly known as the Building Industry Authority), who will advise Council whether a Code Compliance Certificate should be issued.
6. Council is not revoking previously issued Code Compliance Certificates on buildings where monolithic cladding has been used, as at the time of issuing the CCC, Council were unaware that the cladding would not perform as per the manufacturers specification in compliance with the Building Code. However, there have been cases where a building consent has been finalised and it has then become known to Council that there is a structural problem to the building, due to the monolithic cladding not preventing moisture from entering the exterior wall. Council has then issued a notice to rectify the problem.

2.11 The territorial authority did not issue a Notice to Rectify as required under section 43(6) of the Act.

2.12 The owner applied for this determination on 27 November 2004.

3 THE SUBMISSIONS

3.1 The owner forwarded copies of;

- The building plans;
- The cladding manufacturer's technical information;
- Copies of test reports on the cladding and coating system;
- The correspondence with the territorial authority; and
- Various producer statements, invoices and other statements.

3.2 In a covering letter to the Authority dated 7 February 2005, the territorial authority noted:

> After assessment of the above consent for a "Code Compliance Certificate" (CCC) Council are unable to ascertain within reasonable grounds that some building work including cladding comply with relevant clauses of the building code.
>
> A short summary of events is as follows.
>
> - [The territorial authority] issued building consent BB/3575/01 (BC/13401) for a new dwelling at the above address in December 2001.
> - Standard council inspections such as footings, preline, postline (except final) were undertaken from December 2001 to March 2002. The final was undertaken on 23 May 2003.
> - Cladding system has been changed from the approved system without an amendment.
> - No specific inspections were recorded for external cladding.
> - Face fixed cladding systems without cavities were under scrutiny by council at the time when the CCC was requested.
> - A specific weathertightness visual inspection was undertaken on 20 April 2004 and a copy is included under "Inspection Records".
> - As per the council requirement at the time, the owner was informed by a letter dated 23 April 2004 that council is unable to issue CCC. The risk factors and issues in connection with cladding identified for this construction are listed below.
>
> 1) Ground clearances not complying around garage
> 2) Timber framing treatment unknown
> 3) Deck area above garage
>
> Council would like to make the following comments on the submission by the applicant.
>
> - Producer statement is not in acceptable format and not given by the system supplier.
> - [The weathertightness tests] relate to cavity construction.
> - Submission documents No 6 relate to specifications of the new [named system] cavity system.
> - Documents on quality control by the system supplier are not available.

It is noted that monolithic cladding systems are being continuously tested, improved and detailing revised. New knowledge indicates that monolithic systems should have a drainage cavity to perform its function meeting durability requirements of the Building Code. The issues such as high risk design, installation by licensed installers, selection of approved coating system, coating application by licensed applicators, quality control systems of suppliers, installers and applicators, specific independent inspections during installation have further complicated compliance verification process. New E2 document confirms the importance of the above issues.

In regard to this application for a determination, specifically in this case the matters of doubt are:

- Whether the installed cladding system complies with clauses B2.3.1 and E2.3.2 of the Building Code.

3.3 The territorial authority also forwarded copies of:

- The building consent documentation;
- The building inspection records; and
- The correspondence with the owner.

3.4 Copies of the submissions and other evidence were provided to each of the parties. The owner made no further submissions, while the territorial authority's response to the owner's submission is included in paragraph 3.2.

4 THE RELEVANT PROVISIONS OF THE BUILDING CODE

4.1 The dispute for determination is whether the territorial authority's decision to refuse to issue a code compliance certificate because it was not satisfied that the cladding complied with clauses B2.3.1 and E2.3.2 of the building code (First Schedule, Building Regulations 1992) is correct. The relevant provisions of the building code say:

Clause B2—DURABILITY

B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:

(a) The life of the building, being not less than 50 years, if:

(i) Those building elements (including floors, walls, and fixings) provide structural stability to the building, or

(ii) Those building elements are difficult to access or replace, or

(iii) Failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building.

(b) 15 years if:

(i) Those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or

(ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building, but would be easily detected during normal maintenance.

Clause E2—EXTERNAL MOISTURE

E2.1 The objective of this provision is to safeguard people from illness or injury, which could result from external moisture entering the building.

E2.2 Buildings shall be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.

E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.

4.2 There are no Acceptable Solutions that have been approved under section 49 of the Act that cover this cladding. The cladding is not accredited under section 59 of the Act. I am therefore of the opinion that the cladding system as installed can be considered to be an alternative solution.

4.3 In several previous determinations, the Authority has made the following general observations, which in my view remain valid in this case, about acceptable solutions and alternative solutions:

- Some acceptable solutions cover the worst case, so that in less extreme cases they may be modified and the resulting alternative solution will still comply with the building code.

- Usually, when there is non-compliance with one provision of an acceptable solution, it will be necessary to add some other provision to compensate for that in order to comply with the building code.

5 THE EXPERT'S REPORT

5.1 The Department commissioned an independent expert ("the expert") to inspect and report on the cladding. The expert inspected the building and furnished a report that was completed in April 2005. The expert noted that the house was "finished with considerable care", with the cladding installed generally in accordance with the manufacturer's instructions at the time of construction to "a consistently high standard". Upstands to deck membranes, clapping overlaps over concrete foundation walls and clearances to ground, paving and deck floors generally appeared adequate.

Jamb flashings were visible at the bottom of doors. The expert removed a small section of the plaster at the jamb to sill junction of one window, and noted the mesh below the surface and an indication of sealant between jamb and sill flashings. As the uPVC sill flashing would have been buried below the sloping plaster level, the expert did no further plaster removal as, given the lack of evidence of any moisture penetration and the high standard of workmanship, this was considered unnecessary as the installation appeared to comply with the manufacturer's instructions.

5.2 The expert took 20 moisture readings through holes drilled through the exterior cladding at potentially vulnerable locations around the house. 14 readings from the

exterior wall framing ranged from 9% to 14%, with drill shavings showing no signs of past water penetration.

However, the 6 readings taken from the framing of the deck columns indicated moisture levels between 14% and 30%, with 3 readings over 18%. The expert then cut through the cladding of the column with the highest moisture content to inspect the interior. Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.

5.3 The expert made the following specific comments on the cladding:

- The flat tops to the column extensions were originally clad with the same flush-finished fibre cement cladding as the column sides and the decorative stone tops were later added. Inspection of the inside of one column revealed signs of moisture penetration through the top cladding into the framing below;

- Where the framed chimney structure passes through the eaves, the gutter and fascia continues in front, and is fixed through the flush-finished fibre cement cladding. The sealant to the top of the fascia board has deteriorated, leaving the junction vulnerable to water entry;

- The bottom of the apron flashing at the sides of the chimney structure leaves some timber exposed and vulnerable to water penetration;

- The capping to the top of the chimney framing does not adequately protect the framing below;

- The fascias on either side of the entry/stairwell have been buried into the cladding, with one junction unsealed. However, there is no evidence of moisture penetration to date and, if adequately sealed, framing should be protected by the remaining depth of the 60 mm polystyrene;

- The soil of the garden at the south-west corner is too high, as it finishes above the level of the membrane protection to the concrete block foundation wall;

- One fake column finishes below the internal corner of the main deck, leaving the cladding of the flat top exposed;

- A 1-metre length of monolithic clad balustrade on the bedroom deck has a flat top of decorative stone laid over plastered and painted polystyrene. However this is generally sheltered by the roof overhang, and the top plate shows a moisture content of only 13%;

- Ends of metal balustrades are fixed to column extensions, with mid-span support posts fixed through the deck membrane at deck edges. The bedroom deck extends some 400 mm past the garage wall framing below, while the main deck is open underneath. There is no evidence of moisture penetration, and the sealant is visible and readily accessible for maintenance;

- Two areas, near the main entrance and the garage doors, have no clearance between the bottom of the cladding and the paving. However there is no indication of moisture penetration, with the entrance area generally recessed and sheltered, and the garage paving well drained away from the cladding;
- There is no evidence of control joints or of significant cracking: and
- Although the joinery is flashed in accordance with the manufacturer's instructions at the time of construction, the air seals, sill trays, and flashing tape, subsequently included in more recent instructions, were not installed.

5.4 Copies of the expert's report were provided to each of the parties and both accepted the report.

6 DISCUSSION

General

6.1 I have considered the submissions of the parties, the expert's report and the other evidence in this matter. The approach in determining whether building work complies with clauses B2.3.1 and E2.3.2, is to examine the design of the building, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system, its installation, and the moisture tolerance of the external framing.

Weathertightness risk

6.2 Recent research and experience, both internationally and locally, indicates that the impact of weathertightness problems in monolithic clad houses can be minimised if good and effective design and construction practices are followed.

6.3 The installation of exterior cladding to manufacturer's specifications and to accepted good trade practice is an important but not the only requirement to ensure good weathertightness performance.

6.4 The next priority is to reduce the ability of moisture to get through the cladding by using design measures that minimise the effects of the rain impacting on the walls:

6.5 I consider that the important matters for consideration are:

- Data show a strong relationship between the width of the eaves and the incidence of wall leaks. An effective deflection mechanism, such as eaves greater than 600 mm wide, has been shown by Canadian data to manage more than 90% of rain incidence;
- While most reported leaks are substantially caused by defects in the cladding that require little or no wind pressure differential, it is believed that buildings in high and very high wind zones (as defined by NZS 3604) are likely to experience wind pressure differentials and thus a higher risk of water ingress;

- Taller buildings result in an effective increase in the catchment area of the wall. Available data suggest a clear correlation between higher number of storeys and an increased incidence of leaking;

- Complex roofs and overall envelope shapes where the roofs frequently intersect with the walls on upper floors create opportunities for leaks into the wall; and

- Recent data also shows that decks and balconies that are exposed in plan and/or cantilevered from the external walls are the most frequent location for water leaks.

6.6 Any likely penetration of moisture through the cladding can then be countered by a combination of effective drainage, ventilation of the drainage cavity and moisture tolerance in the external wall framing timber. In particular:

- The structure should allow water that has penetrated the cladding to drain out as quickly as possible. It is believed that generally a drainage cavity should be provided behind the outer cladding barrier in monolithic construction;

- The design of the outer walls should allow walls to dry to the outside once moisture penetrates the cladding and the moisture barrier. If walls do not dry, decay fungi can become established in as little as 3 months. Until scientific data on the optimum depth and configuration of the ventilation mechanism in New Zealand conditions is available, I consider that the drainage cavity should be not less than 20 mm deep; and

- The external walls should have some degree of decay resistance or moisture tolerance to allow for situations when moisture circumvents the cladding and moisture barriers and moisture levels in the timber rise to more than 18%.

6.7 In relation to these characteristics I find that the house:

- Has eave projections to all walls, except for a 1.4 metre length, that are greater than 400 mm, which provide moderate protection to the cladding beneath them;

- Is built in a moderate wind zone;

- Is a maximum of two storeys high;

- Has an overall envelope that is reasonably simple in plan;

- Has a roof incorporating a limited number of complex roof to wall junctions;

- Has two enclosed decks at the first floor level, one of which is over the garage below but is sheltered by a deep roof overhang;

- Has external windows and doors that have aluminium head flashings and purpose made uPVC jamb and sill flashings, but not the air seals, sill trays, and flashing tape that later became recommended by the manufacturer;

- Has monolithic cladding which is fixed directly to the framing with no drainage cavity; and

- Has untreated external wall framing that is unlikely to resist the onset of decay if the framing absorbs and retains moisture.

Weathertightness performance

6.8 Generally the cladding appears to have been installed according to good trade practice, but some junctions, edges, and penetrations are not well constructed. These areas are all as described in paragraph 5.3 and in the expert's report as being the:

- The inadequate weatherproofing of the flat tops to deck column extensions, allowing water penetration into the column framing;

- The unprotected junction of the fascia board against the chimney cladding;

- The poor weatherproofing to the bottom of the apron flashing on the chimney;

- The inadequate capping to the top of the chimney walls; and

- The inadequate sealing of the fascia board ends against the entry wall cladding.

- The garden soil against unprotected blockwork at the south-east corner; and

- The exposed flat top to one fake deck column.

6.9 Notwithstanding the fact that the backing sheets are fixed directly to the timber framing, thus inhibiting drainage and ventilation behind the cladding sheets, I find that there are compensating factors that assist the performance of the cladding in this particular case. These are:

- Generally, the cladding appears to have been installed according to good trade practice;

- The house is relatively simple in plan and form, with 400 mm overall eaves projections that will give some protection to the walls;

- The external windows and doors are fully flashed, albeit without some features that the manufacturer has more recently recommended; and

- There is no evidence of moisture penetration into, or accumulation within, the external wall cavities, with moisture penetration limited to the deck columns.

I consider that these factors compensate for the lack of a full drainage and ventilation cavity and can allow the house to comply with the weathertightness and durability provisions of the building code.

6.10 I note the expert's comments regarding:

- the top of the short length of clad balustrade, and accept that this is well sheltered by the roof above;

- the balustrade fixings through the decks, and accept that these are beyond the line of the wall framing and are readily assessable for maintaining the sealant;

- the lack of clearance near the entry and garage doors, and accept that these areas are sheltered or well-drained away from the walls; and

- the lack of control joints, but accept that these are not necessary for this type of monolithic wall cladding in walls less than 2 storeys high or 20 metres long.

6.11 I acknowledge the territorial authority's concern regarding:

- the lack of ground clearance at the garage doors, but accept that this area is well-drained and sheltered by eaves, which will protect against moisture penetration into the wall framing;

- the unknown treatment level of the timber framing, but accept that the exterior wall framing is untreated; and

- the deck over the garage, but accept that the deck appears to be generally well constructed and sheltered under a deep roof overhang.

6.12 I note that all elevations of the house demonstrate a low to moderate weathertightness risk rating using the E2/AS1 risk matrix. The matrix is an assessment tool that is intended to be used at the time of application for consent, before the building work has begun and, consequently, before any assessment of the quality of the building work can be made. Poorly executed building work introduces a risk that cannot be taken into account in the consent stage, but must be taken into account when the building as constructed is assessed for the purposes of issuing a code compliance certificate.

7 CONCLUSION

7.1 I am satisfied that the current performance of the cladding is not adequate because it is allowing water penetration into the framing of the deck column at several locations at present. Consequently, I am not satisfied that the cladding systems as installed comply with clause E2 of the building code.

7.2 In addition, the building is also required to comply with the durability requirements of clause B2. Clause B2 requires that a building continues to satisfy all the objectives of the building code throughout its effective life, and that includes the requirement for the house to remain weathertight. Because the cladding faults in this building currently allow, or are likely to allow in the future, the ingress of moisture, the house does not comply with the durability requirements of clause B2.

7.3 I consider that, because the faults that have been identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.8 is likely to result in the building being weathertight and in compliance with clauses B2 and E2, notwithstanding the lack of a ventilated cavity.

7.4 I note that effective maintenance of monolithic claddings is important to ensure ongoing compliance with clause B2 of the building code. That maintenance is the responsibility of the building owner. The code assumes that the normal maintenance necessary to ensure the durability of the cladding is carried out. For that reason clause B2.3.1 of the building code requires that the cladding be subject to "normal maintenance". That term is not defined and I take the view that it must be given its ordinary and natural meaning in context. In other words, normal maintenance of the cladding means inspections and activities such as regular cleaning, re-painting, replacing sealants, and so on.

7.5 It is emphasised that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular cladding system has been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding system will be code compliant in another situation.

7.6 I decline to incorporate any waiver or modification of the building code in this determination.

8 THE DECISION

8.1 In accordance with section 20 of the Building Act 1991, I hereby determine that the cladding systems as installed do not comply with clause E2 of the building code. There are a number of items to be remedied to ensure that the house becomes and remains weathertight and thus meets the durability requirements of the code. Consequently, I find that the house does not comply with clause B2. Accordingly, I confirm the territorial authority's decision to refuse to issue a code compliance certificate.

8.2 I also find that rectification of the items outlined in paragraph 6.8, to the approval of the territorial authority, along with any other faults that may become apparent in the course of that work, is likely to result in the house being weathertight and in compliance with clauses B2 and E2, notwithstanding the lack of a ventilated cavity.

8.3 I note that the territorial authority has not issued a Notice to Rectify. The territorial authority should do so and the owner is then obliged to bring the house up to compliance with the building code. It is not for me to decide directly how the defects are to be remedied and the cladding brought to compliance with the building code. That is a matter for the owner to propose and for the territorial authority to accept or reject, with either of the parties entitled to submit doubts or disputes to the Chief Executive for another determination.

8.4 Finally, I consider that the cladding will require on-going maintenance to ensure its continuing code compliance.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 19 May 2005.

John Gardiner
Determinations Manager