

**VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL**

**CIVIL DIVISION**

**BUILDING AND PROPERTY LIST**

VCAT REFERENCE NO. D783/2013

**CATCHWORDS**

Inadequate home air conditioning. Breach of statutory warranties under domestic building contract; assessment of damages

<b>APPLICANTS</b>	Mr Samuel Chong, Mrs Barbara Chong
<b>RESPONDENT</b>	C&J Designer Homes Pty Ltd
<b>JOINED PARTY</b>	Maroondah Heating and Cooling Pty Ltd
<b>WHERE HELD</b>	Melbourne
<b>BEFORE</b>	Senior Member M. Farrelly
<b>HEARING TYPE</b>	Hearing
<b>DATE OF HEARING</b>	11, 12, 13 and 15 August 2014, 16 September 2014.
<b>DATE OF ORDER</b>	21 October 2014
<b>CITATION</b>	Chong v C and J Designer Homes Pty Ltd (Building and Property) [2014] VCAT 1323

**ORDERS**

- 1 The Respondent must pay the Applicants \$110,802.
- 2 The Joined Party must wholly indemnify the Respondent for the sum to be paid by the Respondent to the Applicant pursuant to order 1 above.
- 3 Costs reserved with liberty to apply. **I direct the Principal Registrar to list any costs application before Senior Member Farrelly, allowing half a day.**

**SENIOR MEMBER M. FARRELLY**

**APPEARANCES:**

For the Applicants

Mr B. Reid of Counsel

For the Respondent and the  
Joined Party

Ms S. Kirton of Counsel

## REASONS

- 1 The Applicants, Mr and Mrs Chong (“the Owners”) have unsatisfactory air conditioning to the ground floor area of their recently constructed new home in Kew, Victoria (“the home”).
- 2 The home was constructed by the Respondent, C&J Designer Homes Pty Ltd (“the Builder”) pursuant to a contract between the Owners and the Builder dated 1 July 2010 (“the building contract”). The air conditioning system to the home was designed, supplied and installed by the Joined Party, Maroondah Heating and Cooling Pty Ltd (“MHC”) pursuant to a contract between it and the Builder (“the MHC subcontract”).
- 3 The home is generally of high quality construction, with feature high ceilings. The upper level of the home, which contains four bedrooms and ensuites, has 3 metre high ceilings. The downstairs, which includes spacious living areas, kitchen, laundry and study, has 3.3 metre high ceilings.
- 4 The owners and their three children moved into the home shortly after the completion of its construction in October 2011. In about March 2012, the Owners first noticed that the air conditioning system took what they considered to be an unreasonably long time, many hours, to heat the ground floor areas to the desired temperature. They raised the issue with the Builder, who in turn referred it to MHC. Despite a number of inspections, and some relatively minor rectification works by MHC, the problem persisted.
- 5 By June 2013, the Owners lost faith in the ability and/or the commitment of the Builder or MHC to rectify the problem. The Owners engaged lawyers who in turn engaged an expert consultant, Mr Harris, to investigate and report on the problem. Mr Harris made a number of recommendations including the replacement of the air conditioner unit and all the associated ductwork which services the ground floor areas of the home, as well as replacement of ductwork servicing the first floor of the home. The Owners subsequently obtained a quotation from “Complete Systems Pty Ltd” in the sum of \$139,612 to carry out the works recommended by Mr Harris (“the Complete Systems Quote”).
- 6 The Owners commenced this proceeding against the Builder on 5 July 2013. They say that the air conditioning system does not meet the warranties as to the quality of the works (“the Builder’s warranties”) as set out in their building contract with the Builder and as mandated by section 8 in the *Domestic Building Contracts Act 1995* (“the Act”). They seek damages measured as the cost to rectify the inadequacies and defects in the air conditioning system, \$139,612 as per the Complete Systems Quote, together with the further sum of \$5,180 which the Owners say is the reasonable cost of two weeks alternative accommodation for them and their children that will be necessary while the rectification works are undertaken.

- 7 The Builder says that if it is found liable on the claim brought against it, it ought be indemnified by MHC in respect of such liability. The Builder says that the MHC sub-contract includes implied terms that MHC would carry out the works under the sub-contract in a proper and workmanlike manner, with due care and skill and in accordance with all laws and legal requirements, and using suitable materials good and fit for their designated purpose (the MHC warranties”). The Builder says that if it is has breached the Builder’s warranties, MHC has breached the MHC warranties. In closing submissions on 16 September 2014, Counsel representing the Builder and MHC confirmed that MHC concedes liability to indemnify the Builder in respect of the Builder’s liability, if any, to the Owners.
- 8 Initially, MHC and the Builder pleaded that in the event the air conditioning system was found to be inadequate, the Owners should bear some contributory responsibility by reason of their input into the selection of the system installed. At the hearing, however, Counsel representing both the Builder and MHC confirmed that the Builder and MHC no longer pursued any contribution claim as against the Owners.
- 9 For the reasons set out below, I find that the air-conditioning system does not meet the Builder’s warranties and the Owners are entitled to damages, to be paid by the Builder, assessed as the reasonable cost they will incur in engaging a new builder to carry out necessary rectification works. The required rectification works are substantial, but do not include the replacement of an air conditioner unit or the replacement of ductwork servicing the first floor as recommended by Mr Harris. I assess the damages at \$110,802, such sum including an allowance for two weeks alternative accommodation for the Owners and their children while the rectification works are being carried out. MHC must wholly indemnify the Builder.

## **THE HEARING**

- 10 Evidence was heard over 4 days on 11, 12, 13 and 15 August 2014. A view of the home was conducted on the first day of the hearing. Closing written submissions were received on 1 September 2014 and further closing oral submissions were presented on the fifth and final day of the hearing on 16 September 2014.
- 11 Mr Reid of Counsel represented the Owners. Ms Kirton of Counsel represented both the Builder and MHC. The circumstance of Counsel representing both the Builder and MHC came about following an order, made by consent as between the Builder and MHC on 7 August 2014, whereby, for the purpose of the hearing, the solicitors representing the Builder were permitted to withdraw and the solicitors for MHC were permitted to assume the conduct of the Builder’s defence.
- 12 Mr Chong gave evidence on behalf of the Owners. The Owners also called evidence from Mr R. Smith, the director of Complete Systems Pty Ltd.

- 13 Mr J. Noce, Director of the Builder, gave evidence for the Builder. Mr G. Carmody, Director of MHC, gave evidence for MHC.
- 14 Concurrent expert evidence as to the performance of the air conditioning system was given by consultants Mr G. Harris (called by the Owners), and Mr J. Fricker and Mr A. Pang (both called by the Builder and MHC). Each of the experts also produced written reports.
- 15 Further concurrent expert evidence was given by quantity surveyor Mr J. Rosier, called by the Owners, and quantity surveyor Mr W. Cox, called by the Builder and MHC. Mr Cox also produced a written report.

## **THE AIR CONDITIONING SYSTEM**

- 16 Two separate air conditioning units are installed at the home, one a brand Brivis unit (“the Brivis unit”) and the other a brand Daikin unit (“the Daikin unit”). The two units are, save for their respective condensing units which are located outside the home near the garage, installed in the roof space above the first floor ceiling (“the roof space”). The Brivis unit is “hybrid” in the sense that it is supplied to the marketplace as a heating unit to which a cooling unit may be, and in this case has been, added. The Daikin unit, on the other hand, is a dedicated heating and cooling unit in one package.
- 17 The Brivis unit provides the air conditioning to the ground floor area via ducts that drop down from the roof space to the space between the upper storey floors and the ground floor ceilings (“the sandwich area”) and further ducts which then feed through the sandwich area to various outlets, called *diffuser boxes*, in the ground floor ceilings.
- 18 The Daikin unit provides the air conditioning to the upper storey of the home via ducts in the roof space which feed to diffuser boxes in the upper storey ceilings.
- 19 The functioning and adequacy of the Brivis unit and associated ductwork is the primary issue in this proceeding. The Owners say that the Brivis unit is inadequate and should be replaced with a Daikin unit, similar to the existing Daikin unit that services the upper floor, together with the replacement of all the ductwork. Such rectification works would be very expensive because, in addition to the significant cost of purchasing a new Daikin unit and installing it in the roof space, it would also be necessarily to remove sections of the ground floor ceiling and the first floor flooring to enable new duct work to be installed in the sandwich area. The Owners say that this is the only way to ensure that they will get what was provided for in the building contract, namely adequate, properly functioning air conditioning.
- 20 As confirmed in final submissions, the Builder and MHC concede that the Brivis unit and its associated ductwork is not currently delivering satisfactory air flow to the ground floor. They say, however, that the Brivis unit has sufficient capacity and that the air-flow can be improved to a satisfactory level by various improvement works as recommended by Mr Fricker and Mr Pang.

- 21 The air conditioning to the upper floor of the home, which is powered by the Daikin unit, is functioning satisfactorily.
- 22 There are a number of other miscellaneous rectification works which all three air conditioning experts, Mr Harris, Mr Fricker and Mr Pang, agree should be attended to:
- the Daikin unit in the roof space should be rotated approximately 180 degrees to allow suitable maintenance access ;
  - the duct work in the roof space should be re-configured so that it has less bends, is securely mounted and is less vulnerable to being partly crushed.;
  - some minor electrical works including rectification of a poorly installed power point in the roof space;
  - the outdoor condensing units are located too close to the exterior home wall and should be remounted to create a larger clearance to the wall. (If the Brivis unit is replaced, as recommended by Mr Harris, the new condensing unit for the new unit should be mounted with sufficient clearance space from the exterior home wall); and
  - the two units' drain outlet pipes should be repositioned so that, instead of discharging to the gutter as they now do, they discharge directly into a downpipe.

#### **LEGAL REQUIREMENTS FOR THE AIR CONDITIONING SYSTEM**

- 23 The Builder's warranties, as mandated by section 8 of the Act, include the following:
- (a) the builder warrants that the work will be carried out in a proper and workmanlike manner and in accordance with the plans and specifications set out in the contract;
  - (b) the builder warrants that all materials to be supplied by the builder for use in the work will be good and suitable for the purpose for which they are used and that, unless otherwise stated in the contract, those materials will be new;
  - (c) the builder warrants that the work will be carried out in accordance with, and will comply with, all laws and legal requirements including, without limiting the generality of this warranty, the Building Act 1993 and the regulations made under that Act;
  - (d) the builder warrants that the work will be carried out with reasonable care and skill and will be completed by the date (or within the period) specified by the contract;
- 24 The Owners say that to comply with all laws and legal requirements, as required by the warranty (c) above, the air conditioning system should comply with the design and performance parameters set out in the "*Guide to Good Practice for Energy Efficient Installation of Residential Heating, Cooling and Air Conditioning Plant and Equipment, HB 276-2004*" published jointly by the Plumbing Industry Commission and Standards

Australia (“the Guide”). They say that the Brivis unit and the associated ductwork does not meet those parameters.

- 25 The requirement for compliance with the Guide is found in the *Plumbing Regulations* 2008 (Vic.). Regulation 29 provides:
- “29. Requirements for refrigerated air-conditioning work
- In addition to any other requirements of these regulations, refrigerated air conditioning work must comply with Part 4 of Schedule 2”.
- 26 Part 4 of Schedule 2 requires, amongst other things, that refrigerated air conditioning work must comply with the Guide.
- 27 Regulation 26 defines *mechanical services work* as *the construction, installation, replacement, repair, alteration, maintenance, testing or commissioning of a mechanical heating, cooling or ventilation system in a building, which is associated with the heating, cooling or ventilation of that building ....”*
- 28 Regulation 27 provides that *mechanical services work* must comply with Part 3 of Schedule 2. Part 3 of Schedule 2 provides, amongst other things, that *residential heating, cooling and air-conditioning equipment must be installed in accordance with [the Guide]*.
- 29 The Builder and MHC accept that the supply and installation of the air conditioning system to the home must comply with the Guide, but they say that designing an air conditioning system that meets the Guide’s parameters is, necessarily, a subjective exercise.
- 30 Section 4 of the Guide, entitled *Design Considerations*, makes general introductory comments:
- “The size and type of heating and/or cooling equipment required to maintain satisfactory comfort conditions within a building is dependent upon many factors ...
- If heating or cooling was not applied to a space, energy (i.e. heat) flow will be such that both the inside and outside temperatures will tend to try to equalise. This is achieved by energy flow through the building fabric (i.e. windows, walls, roof and floor). Therefore, in order to maintain indoor temperatures at certain levels, energy needs to flow out of or into the space to offset these gains/losses.
- The following paragraphs describe some of the factors that need to be considered in order to determine the amount, method and form that the energy flow might take”.
- 31 The section then goes on to discuss in some detail the various matters to consider including the effect of the sun, heat transfer principles, insulation values and the heat conducting properties of various building products. At section 4.4, the Guide prescribes the minimum general industry standard design conditions measured as the difference between indoor and outdoor temperatures *to satisfy comfort conditions within a space*. The standard

minimum temperature difference indoors appears to be 20°C for winter and 12°C for summer where a refrigerated cooling system is used.

- 32 Section 4.5 of the Guide, headed *Comfort Conditions*, provides at section 4.5.1:

Comfort Conditions within an air conditioned space are dependent on a number of factors e.g.:

- temperature
- humidity
- air movement
- air quality
- noise

In addition to the energy gains/losses caused by the sun, there are internal loads to be considered. Lighting, people, equipment and ventilation all contribute to extra effect on the capacity of air conditioning equipment.

- 33 Section 4.5.4. under the heading *Air Movement*, states, amongst other things:

Note: Practical experience has shown that the minimum air movement required for good air distribution is approximately 4.0 to 4.5 air changes of air per hour. On the other hand, an air supply into the space at a rate greater than 10-12 air changes per hour can easily create air movements that will be felt as unpleasant draughts by the occupants...

- 34 Section 6 of the Guide is headed *Systems Selection*. Under the sub-heading *Supply Air Outlets* at section 6.3.1.2, a table is produced which sets out the number of air changes per hour (“ACH”) recommended for alternative ceiling heights. The table is expressed to be a “*guide*” to minimum satisfactory air change rates. Where the hot air is delivered via ceiling diffusers outlets, as is the case in the home, the recommended ACH is 7-8 for 3 metre high ceilings and 8-10 for 3.6 metre high ceilings.

- 35 As set out in his expert report filed in this proceeding, Mr Pang, using an instrument called a *vane anemometer*, took measurements of the ACH in the ground floor areas of the home. The ceilings in the ground floor areas are 3.3 metres in height. Both Mr Harris and Mr Fricker accept the accuracy of Mr Pang’s measurements. Mr Pang’s measurements record an ACH of 6.81 for the bathroom and 4.92 for the dining room. The rest of the ground floor areas, which includes the sitting room, the kitchen/meals/living area, library, the entry area, the stair hall and the guest room measured less than less than 3.4 ACH.

- 36 It is apparent from Mr Pang’s ACH measurements that the Brivis unit and its associated duct work is currently failing to deliver the general minimum air distribution of 4.0 to 4.5 ACH as recommended under s4.5.4. of the



Guide, and well under the recommended ACH in section 6.1.3.2 in the Guide for rooms with ceilings higher than 3 metres.

- 37 Mr Harris says that the Brivis unit is incapable of achieving 7-8 ACH in accordance with the recommendation in section 6.3.1.2 of the Guide, and for this reason, the Owners say that the air conditioning system which services the ground floor of the home does not comply with the law.
- 38 Having read the Guide as a whole, in my view the ACH levels referred to in the Guide are not prescribed mandatory minimum performance measures. They are indicative measures provided to assist in the design of an air conditioning system that will meet the minimum industry standards, prescribed in the Guide, as to the temperature differential between indoors and outdoors in winter and summer seasons.
- 39 There are many variable factors to consider when designing an air conditioning system. The variable factors include, but are not limited to, the orientation of the home relative to the sun, the number, size and glazing to windows, the cladding and roofing products used, the extent and quality of insulation, the type of floor coverings and the size of rooms and hallways. When designing an air conditioning system for a home, expert technicians such as Mr Fricker, Mr Pang and Mr Harris typically use one of a range of dedicated computer programs which correlate the variable factors and produce “load estimations”. Air conditioning units are then selected based on their capacity to meet the load estimations. Mr Fricker, in fact, is the creator of one such computer program known as *CoolEst*, the very program Mr Harris used when preparing his expert reports filed in this proceeding.
- 40 Having heard evidence from Mr Fricker, Mr Pang and Mr Harris, it is evident in my view that “load estimations” are dependant, not only on the particular computer program used, but also on the range of variable factors fed into the program and the measurements attributed to those variable factors. Two technicians using the same program may come up with different load estimations because, for example, their measurements of windows in a home differ. In this sense, prescribing load estimations, and by extension prescribing the required load capacity of an air conditioning unit to meet the Guide parameters, is necessarily a subjective exercise.
- 41 For the above reasons, I do not accept the Owners’ submission that the Guide sets an objective standard for minimum required ACH. Nor do I accept that the required load capacity of an air conditioning system is a matter of objective assessment. What I do find, however, is that the air conditioning to the ground floor of the home is inadequate and requires rectification. I reach this finding on the evidence of Mr Harris, Mr Fricker and Mr Pang, who agree that the air flow rate to the ground floor, as indicated in Mr Pang’s ACH measurements, is inadequate to heat the ground floor area within a reasonable time and to maintain that heat. For this reason, I find that the air conditioning to the ground floor of the home

does not meet the Builder's warranties that the works be carried out in a proper and workmanlike manner and with reasonable care and skill.

## RECTIFICATION WORKS

- 42 Mr Harris says that the problem with the airconditioning to the ground floor starts with the Brivis unit, which he says has inadequate capacity. He says the unit should be replaced with a Daikin unit, similar to the Daikin unit which currently provides airconditioning to the upper storey of the home. Mr Harris' opinion is founded on the load estimations he produced using the *CoolEst* computer program. Noting my comments above as to the subjectivity of load estimations, and having regard to the evidence of Mr Fricker and Mr Pang, who both say that the Brivis unit has sufficient capacity, I do not accept that it is necessary to replace the Brivis unit.
- 43 Mr Fricker and Mr Pang say that the following rectification works will improve the air flow rate:
- (a) Increase the size of the return air grille and, behind that grille, install a *plenum box*. These measures will increase the volume of the air returned, and therefore circulated, throughout the ground floor;
  - (b) Replace the inserts/chords in the ground floor ceiling diffuser boxes with inserts/chords that deliver a better downward thrust of air from the diffuser boxes; and
  - (c) Improve the configuration of the duct work in the roof space and check the duct work for any leaks. All three experts agree that the duct work in the roof space has been poorly installed in that there are unnecessary twists and bends and some of the duct work has partially collapsed because it has been mounted poorly. When reconfiguring the duct work, all seals should be checked for leaks.
- 44 While it is not disputed that the above works would improve the air flow through the Brivis unit to the ground floor areas, Mr Fricker and Mr Pang cannot say with certainty that such works would improve the air flow to a satisfactory level. Mr Fricker and Mr Pang say that when the above works are done, a static pressure test (a reading of the air flow emanating from diffuser boxes) will reveal whether sufficient air flow rate has been achieved. If the air flow rate remains insufficient, further investigations would then be required.
- 45 An area that Mr Fricker and Mr Pang say may require further investigation is the duct work in the sandwich area. Mr Pang took measurements, using his vane anemometer, of the air flow rate from each of the diffuser boxes in the ground floor ceilings. The air flow rate is measured as litres of air per second ("L/S"). The measurements taken at each of the 15 diffuser boxes varied from a very low 15 L/S to a high of 58 L/S. The sum total for all the diffuser boxes was 553 L/S which is considerably lower than the maximum air flow rate capacity of the Brivis unit which, according to Mr Pang and Mr Fricker, is around 800 to 900 L/S after allowance is made for the add on

cooling unit. Mr Fricker and Mr Pang say that the Brivis unit, if operating to its capacity, would produce adequate air flow for the ground floor areas. Mr Pang and Mr Fricker agree that the conspicuously low flow rate measurements from several of the ceiling diffuser boxes indicates that some of the duct work in the sandwich area may be leaking, partly collapsed, crushed or blocked. They say also that they cannot be certain of the state of the duct work without physically inspecting it, and that would require destructive works to access the ducts in the sandwich area.

- 46 In my view the Owners, having already provided to the Builder and MHC ample opportunity to rectify the air conditioning, are entitled to more than a remedy that *might* solve the problem. They are entitled to a remedy that is reasonable and that *will* give them what they were entitled to receive under the building contract, namely an adequately functioning air conditioning system. As there is uncertainty as to the integrity of the duct work in the sandwich area, the rectification works should include checking, and replacing where necessary, the sandwich area ductwork.
- 47 Accepting, as I do, that the Brivis unit has adequate capacity and need not be replaced, I consider that rectification works will necessitate checking, and replacing where necessary, all of the duct work connected to and feeding from the Brivis unit. I accept the evidence of Mr Smith, who has considerable experience in installing air conditioning systems, and whom I found to be an impressive witness who gave honest and straightforward evidence, that the cost of checking all the ductwork will be similar to the cost of simply removing and replacing the duct work. This is because the major cost involved is in accessing the duct work, whereas the supply cost of ducts is relatively inexpensive. Once access to the ducts is achieved, it is likely to be no more expensive to replace the ducts than it will be to check the existing ducts and replace them where necessary.
- 48 I accept also that the rectification works should include the previously mentioned (paragraph 21 above) miscellaneous works which Mr Fricker, Mr Pang and Mr Harris agree should be carried out, but making no allowance for the replacement or upgrading of the ductwork and return air grille/shaft associated with the upper floor air conditioning which is functioning adequately. For the avoidance of doubt, although I am satisfied that the upper floor air conditioning is functioning adequately, I accept that the Daikin unit should be rotated 180 degrees as recommended by the three experts, and in so doing, the duct work feeding off the Daikin unit can be reconfigured in a less convoluted pattern.
- 49 Having regard to the past failure of the Builder and MHC to rectify the malfunctioning air conditioning system, and noting that the Builder and MHC have not, in this proceeding, sought further opportunity to carry out rectification works found to be necessary, I am satisfied that the Owners should be compensated by an award of damages that reflects the reasonable cost that they will incur in engaging a new builder to carry out the rectification works.

## QUANTIFICATION OF THE RECTIFICATION WORKS

- 50 The evidence before me as to the cost of rectification works is limited. It includes:
- the Complete Systems Quote, which provides a lump sum price for a scope of works broader than the rectification works which I have found are required;
  - the report of Mr Rosier which simply provides Mr Rosier's opinion that, having inspected the home, he considers the Complete Systems Quote to be reasonable;
  - the report of Mr Cox in which Mr Cox provides his itemised cost estimates for the works included in the Complete Systems Quote; and
  - the evidence given at the hearing by Mr Cox and Mr Rosier, which included the presentation of two tables prepared during the course of the hearing, one prepared by Mr Cox and one prepared by Mr Rosier, which compare their respective itemised cost estimates for the works in the Complete Systems Quote.
- 51 I think it fair to assess the reasonable cost of the rectification works by reference to the Complete Systems Quote. I accept the evidence of Mr Smith that Complete Systems Pty Ltd remains willing to carry out the works set out in the quote at the quoted price. In my view, real quotations from builders are often preferable to expert's cost estimates as a measure of the reasonable cost to have building works carried out.
- 52 The rectification works which I have found are necessary are, in essence, the works included in the Complete Systems Quote, save for the following:
- replacement of Brivis unit with a new Daikin unit;
  - replacement of the ductwork in the roof space that services the first floor of the home; and
  - upgrade works – installation of a return air grille and insulated plenum – in respect of the Daikin unit
- (“the excluded works”)
- 53 To arrive at a reasonable quantum sum for the cost of the rectification works, I think it fair to deduct from the total sum of the Complete Systems Quote a reasonable allowance for the excluded works. Unfortunately, the Complete Systems Quote provides a lump sum price only and it is not possible, from the quote itself, to identify the price that Complete Systems Pty Ltd allocates to the excluded works. To assist me in this regard, I turn to the evidence of Mr Rosier and Mr Cox.
- 54 Mr Rosier's cost estimates for items of work included in the Complete Systems Quote are generally higher than Mr Cox's estimates, chiefly because Mr Rosier makes greater allowance for labour charges. Although Mr Rosier's estimates were somewhat hastily drawn during the course of

the hearing, I prefer, for the purpose of calculating a reasonable allowance for the excluded works, Mr Rosier's estimates to those of Mr Cox.

- 55 First, Mr Rosier has inspected the home whereas Mr Cox has not. Mr Cox prepared his report on the basis of documentation sent to him by MHC's lawyers. In my view, Mr Rosier, having inspected the home, will have a better understanding of the time and resources that will be required to carry out rectification works.
- 56 Second, Mr Rosier's total cost estimate is closer to the Complete Systems Quote than Mr Cox's total cost estimate. Mr Rosier's estimate, \$144,197, is slightly higher than the Complete Systems Quote whereas Mr Cox's estimate, \$87,984, is considerably lower. As I am calculating the reasonable cost of the rectification works using the Complete Systems Quote as my starting point, I think it fair and reasonable to assess the allowance for the excluded works on the basis of the quantity surveyor's estimates which are, in total, closer to the Complete Systems Quote.
- 57 Mr Rosier's cost estimates include, in each item, a 20% allowance for builder's profit margin. I consider that to be a reasonable margin in circumstances where a new builder will be rectifying works carried out by another builder. Using Mr Rosier's estimates, I allow \$33,990 for the excluded works, made up as follows:

- removal of Brivis unit	\$1,800
- cost of new Daikin unit	\$14,700
- remove ducts that service first floor	\$3,600
- install new ducts to service first floor	\$9,000
- droppers, grilles for first floor	<u>\$1,800</u>
- sub total	\$30,900
- Add GST	<u>\$3090</u>
TOTAL	\$33,990

- 58 After deducting \$33,990 for the excluded works from the sum of the Complete Systems Quote, \$139,612, I arrive at a figure of \$105,622.
- 59 I am satisfied also that, given the intrusive nature of the rectification works, it will be necessary for the Owners and their three children to vacate the home while the rectification works are being carried out. Having regard to the extensive nature of the rectification works, I consider the period claimed by the owners, two weeks, is reasonable. The only evidence before me as to the reasonable cost of alternative accommodation is a quotation dated 6 August 2014 obtained by the Owners from Quest apartments indicating the cost of two weeks accommodation as \$5,180. I consider that sum to be reasonable and I will allow \$5180.
- 60 Accordingly, the total sum of damages to be awarded to the Owners is \$110,802. As that sum represents the reasonable cost the Owners will now

incur in engaging a new builder to carry out the rectification works, I make no additional allowance for interest.

## **CONCLUSION**

- 61 For the reasons set out above, I will order the Builder to pay the Owners \$110,802. I will also order that MHC wholly indemnify the Builder. I will reserve costs with liberty to apply.

**SENIOR MEMBER M. FARRELLY**