



Determination 2009/6

Determination regarding the issuing of a code compliance certificate for a house constructed of precast concrete panels at 309 Newell Road, RD3, Hamilton



1. The matters to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of the Department. The applicant is the Waikato District Council (“the authority”) carrying out its duties and functions as a territorial authority or a building consent authority. The other party is the owner of the building, Mr K Hodgson (“the owner”). The builder, R and M Builders Ltd, has been included as a person with an interest in the determination.
- 1.2 This determination arises from the decision of the authority to issue a code compliance certificate, which it now wishes to withdraw, in respect of a new house.

¹ The Building Act 2004 and the Building Code are available from the Department’s website at www.dbh.govt.nz.

- 1.3 I take the view that the matter for determination in terms of sections 177(a) and 177(b)(i)² of the Act is whether the authority was correct in issuing a code compliance certificate for the house. In order to determine this matter I have considered whether the building is code-compliant, and whether it was constructed in accordance with the building consent.
- 1.4 In making my decision, I have considered the submissions of the parties, the reports provided by the consultants employed by the owner, and by an officer of the Department, together with the other evidence in this matter.

2. The building

- 2.1 The building is a two-storey house situated on a level site in a high wind zone for the purposes of NZS 3604³. The house has concrete footings and a concrete ground floor slab thickened at the perimeter and at some internal locations. The intermediate slab consists of a “Unispan” precast system supported on wall panels or individual beams and columns. The external walls consist of 200mm thick concrete panels and the internal walls on the lower level are of 150mm thick precast concrete construction. The house has a concrete tiled roof with 600mm wide eaves and 300mm wide verge projections.
- 2.2 The aluminium exterior joinery units are set into the openings in the precast panels. A full-height chimney, formed from three 150 mm thick precast concrete panels, is situated at one end of the building and timber-framed lean-to roofs supported on concrete beams are located at the opposite end and over the main entrance. Timber-framed pergolas supported on concrete columns are constructed at the rear of the building.
- 2.3 The original building consent detailed a precast concrete wall-panel system with separate panels for each of the two levels. An alternative panel system was used after the manufacturer of the original panel system ceased operating. Drawings of the amended panels, using the alternative system, were approved by the authority as an amendment to the building consent.
- 2.4 The amended drawings use details taken from the alternative system but there is no reference on the drawings to the system used, or the manufacturer’s construction and installation details. I note the mesh reinforcing to the panels is shown in the drawings as being galvanised. I have not been made aware of any specification, accompanying the drawings, that specified such matters as the required concrete strength.
- 2.5 The plans and details for the original panel system were accompanied by a ‘Producer Statement – PS1 – Design’ dated 23 August 2006 and signed by a chartered professional engineer. I have not been provided with a corresponding document for the alternative panel system.

² In this determination unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.6 The owner's consulting engineers (refer paragraph 3.9) have noted that the mid floor was constructed using a "Unispan" system. In this respect, I note that the consented plans show this floor to be a "Formstress" system and the construction drawings produced after the consent was issued describe the floor as a "Stahlton" system. I note these changes appear not to have had an impact on the code compliance of the building.

3. Background

- 3.1 The authority issued a building consent (No BLD1291/07) for the house on 21 March 2007. The conditions attached to the consent included:

24 hours notice shall be required for all mandatory inspections including: Siting, foundation, x 2 (prior to pouring concrete) bond beam, and tilt slabs x 3 (prior to pouring concrete)...

Registered engineer to provide a Producer Statement Construction Review on completion.

- 3.2 A firm of consulting engineers engaged by the owner ("the owner's structural consultants"), who had previously carried out an initial limited soil inspection, wrote to the authority on 9 November 2006. The structural consultants reported that they had observed the excavation for the house and had tested the sand pad. The consultants were of the opinion that the tests showed that the site was capable of an allowable bearing of at least 100kPa.

- 3.3 The authority carried out a series of site inspections during the construction of the building, and based on the authority's check lists I note that all the relevant elements of the house were inspected. On a "Notice of Inspection" dated 17 September 2007, the authority noted:

- (1) Pre concrete mid floor inspection
- (2) Concrete panels go full height and therefore not as per detail M2/7 on page 8, starters are in place at 600 [centres] all around mid floor Engineer has approved, amendment required for this area showing detail change
- (3) All other steel and precast beams as per plan detail.

- 3.4 The owner's structural consultants wrote to the authority on 19 November 2007, noting that they had checked the footing and slab reinforcing. An attached memorandum set out other items that were also resolved.

- 3.5 The builder issued an undated "Producer Statement – Construction (PS3)". The statement was in respect of:

The construction of the precast concrete wall panels for a project and grouting of Concrete Panels.

The construction of the concrete mid floor and ground floor.

The statement also noted that it was believed, on reasonable grounds, that the precast concrete panels and the mid-floor had been constructed in accordance with the building consent and Clauses B1, B2, and H1 of the Building Code.

- 3.6 The authority issued a code compliance certificate for the house on 3 April 2008.

- 3.7 The owner wrote to the authority on 28 July 2008, noting that the house had wide-spread major problems: these included:
- the bathroom walls
 - plumbing matters
 - misshapen and leaking window and doors
 - problems relating to the precast wall panels.
- 3.8 In a report to the applicant dated 20 July 2008, a building consultant engaged by the owner (“the owner’s building consultant”) stated that he had visited the site and noted the following:
- The poor detailing of the front entrance and laundry entrance columns.
 - The major problems with the concrete tilt-up panels including poor finish and alignment, severe cracking, the presence of efflorescence, and protruding reinforcing steel.
 - The panels were constructed as full-height panels and were poured in two stages.
 - The precast concrete chimney panels are poorly finished.
 - The ground floor slab lacks construction control joints and some of the required slab thicknessings have not been constructed.
 - The lack of sealant to the tops of the exterior joinery units and the precast panels adjoining the units are honeycombed and contain hairline cracks. Moisture is leaking in around the north elevation aluminium doors and the front door frame is poorly fitted.
 - The concrete around the end plates of the 410 UB beam in the lounge area is spalling and the concrete thicknessing above the beam that is shown on the consented plans is missing.
 - The gas line cast into the concrete floor is leaking.
 - The construction of the bathroom walls differs from that shown on the consented plans.
- 3.9 A firm of consulting engineers engaged by the owner (“the owner’s consulting engineers”) wrote to the owner on 21 July 2008, stating that it they had visited the property on 17 July 2008. The consulting engineers described the structural construction of the house and some of the background matters. As a result of the inspection, the engineers noted:
- there was no evidence that the design engineer or his representative had supervised the construction of the precast panels
 - the external concrete panels had numerous cracks, were delaminating in places, had some exposed mesh reinforcing, and some panels were stained with efflorescence

- there was no evidence provided to establish the strength of the concrete used to construct the panels, and the reinforcing mesh in the outer skins was not galvanised
 - there was some cracking evident in the internal concrete panels
 - the small first floor cantilevered landing is inadequately reinforced
 - the ground floor slab lacked control joints and was cracking
 - the end support connections to the steel beam in the vicinity of the lounge were questionable and the concrete was spalling at these locations
 - the bathroom walls were bowing due to the weight of the concrete tiles applied to them.
- 3.10 A provincial Master Plumbers, Gasfitters, and Drainlayers Association produced a document stating that two of its members had carried out a site visit at the house on 8 July 2008. It was noted that the investigation had identified certain problems pertaining to the sanitary drainage and gas installation in the house.
- 3.11 The aluminium joinery supplier visited the site on 14 July 2008, and wrote to the owner on 18 July 2008. The supplier noted that there were problems relating to the bi-fold doors and some misshapen windows. These could only be completely remedied if the units in question were removed and re-installed.
- 3.12 The manufacturer of the substrate linings fixed to the bathroom walls inspected the house on 31 March 2008, and wrote to the owner on 7 April 2008. The manufacturer was of the opinion that a specific design was required in respect of the suitability of the adhesive used and the method used to transfer the weight of the honed-concrete slips to the timber framing. The manufacturer recommended that other aspects relating to the framing and the tile installation should also be considered.
- 3.13 In response to a request by the builder, the owner's structural consultants provided a letter to the builder, dated 2 May 2008, confirming the adequacy of the fixing of the substrate linings to the framing.
- 3.14 The authority wrote to the owner on 22 August 2008, stating that due to the issues that had arisen, the authority intended to apply to the Department for a determination as to whether the authority could withdraw the code compliance certificate issued for the house.
- 3.15 The application for a determination was received by the Department on 10 September 2008 and on receipt of the appropriate fee on 6 October 2008, the determination process was commenced.

4. The submissions

- 4.1 In a submission to the Department dated 4 September 2008, the authority noted that an on-site meeting had taken place between the authority and the owner. The major issue arising from that meeting related to the precast panels. The authority wished to apply for a determination that required the code compliance certificate issued by the authority to be withdrawn. The grounds for this request related to the acceptance by

the authority of representations and a producer statement from the builder (refer paragraph 3.5). The authority noted that it was not called upon to inspect the panels.

4.2 While the authority had originally accepted that the panels were code-compliant, the authority now believed that, based on further investigation, the panels did not meet the requirements of Clauses B1 and B2 and that the producer statement could no longer be relied on. The authority also noted that there were leaks in the sealed panels and window surrounds and water was consequently entering the building.

4.3 The authority forwarded copies of the:

- consent and subsequent construction plans and specifications
- building consent and the consent documentation
- code compliance certificate
- authority's inspection documentation
- consulting engineer's site reports
- builder's producer statement
- owner's consulting engineers' report dated 21 July 2008
- correspondence with the owner.

4.4 The owner supplied copies of:

- the building consultant's report dated 20 July 2008
- the provincial Master Plumbers, Gasfitters, and Drainlayers Association document
- the aluminium joinery manufacturer's report dated 18 July 2008
- a set of photographs showing various aspects of the building work.

5. The draft determination, the subsequent site visit and report

5.1 The draft determination was sent to the parties, and the builder, for comment on 22 October 2008. Both the parties accepted the draft determination.

5.2 The builder did not accept the draft determination. The builder's comments, which were forwarded to the Department under a covering letter dated 18 November 2008, are summarised as follows:

- The floor slab had been saw cut, the cracking in the floor was due to the under floor heating, and the owner's structural consultants had inspected the ground floor slab and its thicknessings.
- The gas pipe cast into the concrete floor had been replaced.
- The bathroom walls were not bowing as a result of the weight of the lining.
- The effluent pump had been replaced and the plumber was satisfied with the operation of the shower wastes.

- The sash had dropped in a few windows due to the weight of the double-glazing and this could be fixed without removing the windows.
- There are no cracks in the bathroom walls, grout, architraves and ceilings.
- The panels were constructed by professional concrete and steel placers and 45Mpa concrete was used as shown on attached invoices. The use of galvanised reinforcing mesh was recommended by the manufacturer.
- The cracks in the panels were not a structural matter.

5.3 Among the supporting documentation provided by the builder was an email from the agent for the alternative panel system, dated 18 November 2008. In the agent's opinion, the cracks in the outer layer would not damage the structural integrity of the inner layer. However, some of the cracks were of a size that could allow water to permeate through them and into the insulated cavity.

5.4 Following the issue of the first draft determination, I arranged for an officer of the Department, who is a Chartered Professional Engineer, to visit the site and report on the condition of the building. The officer visited the site on 4 December 2008 and prepared a report dated 18 December 2008. I summarise the main areas of concern that were described in this report as being the:

- instances of poor workmanship and finishing defects
- content of reinforcing used in the precast panel construction and the cover to the reinforcing in the outer panels
- large cracks in the precast panels at the window sill edges
- lack of chamfers at the edges of the precast panels and the lack of drainage facilities provided at the panel bases.
- structural capacity of the inner concrete panels under their design loads
- the lack of reinforcing in the cantilevered stair landing
- inadequacy of the anchorage support of the steel beam within the precast panels

5.5 The officer of the Department noted that most of the cracks in the wall panels were small (less than 0.4 mm wide) and were likely to be dormant and could be left unrepaired without any loss of structural performance. However, the officer noted that the small cracks may still allow the ingress of water into the panels and they may need to be treated accordingly.

5.6 The officer of the Department was verbally advised during the site visit of the name of the alternative panel system that had been used to produce the panels as installed. The officer was also given a copy of the manufacturer's construction details.

5.7 The officer of the Department recommended further investigation to confirm the extent of the matters he has indentified.

5.8 The owner responded to the report in an undated memo to the Department received on 11 December 2008. The owner was of the opinion that the cracks to the panels had become worse since they had originally appeared. The owner was also of the

opinion that the cracks could not be satisfactorily repaired. It was noted that the type of precast panel had been changed without reference to the owner, and it was uncertain whether the placement of the reinforcing had been properly checked. The owner believed that the cantilevered stair landing was in a dangerous condition.

- 5.9 In a letter to the Department dated 12 December 2008, the authority noted that it had attended the site meeting. The authority wished the determination to address matters relating to Clauses B1, B2 and E2.
- 5.10 The second draft determination was sent to the parties and the builder for comment on 14 January 2009. The parties accepted the draft. The owner noted some minor errors of fact and grammar and I have amended the determination accordingly.
- 5.11 The builder, and the builder's legal adviser, responded to the draft in submissions to the Department dated 28 January 2009. In summary the submissions stated:
- Concern was expressed that the determination had not sufficiently acknowledged the builder's previous submissions.
 - The strength of the concrete used in the panels had been previously confirmed.
 - Saw cuts had been installed in the ground floor slab.
 - The Department should have sent '*an expert to check*' compliance for disputed matters other than the concrete panels (Clauses G11, and G13).
 - The builder disputed that the panel system had changed from that shown in the amended consent.
 - The determination's findings with respect to the plumbing defects were disputed and that no problems existed.
 - The subfloor excavation and reinforcing was verified by the owner's structural consultants.
 - Grammatical errors and errors of fact were noted.
- 5.12 I acknowledge the above submissions and have amended the determination accordingly. The use of galvanised reinforcing mesh was not required by the manufacturer of the alternative panel system, but I note that the use of galvanised mesh was shown on the drawings for the alternative panel system.
- 5.13 In response to the builder's request that I use an expert to assess disputed matters other than the concrete panels, I take the view that, in order to determine code compliance, I am entitled to rely on the expert and photographic evidence, and other statements made in the application, the submissions made by the parties and the builder, and by the officer of the Department.
- 5.14 I acknowledge the varying statements made in the submissions with respect to the provision, or otherwise, of saw cuts to the ground floor slab. I note the consent documents give no clear indication of what saw cuts are required.
- 5.15 In an email to the Department, dated 30 January 2009, the owner advised that he had engaged his structural consultants in respect of the installation of the foundations only.

- 5.16 The builder made a further submission to the Department, dated 2 February 2009, which disputed statements made by the owner.
- 5.17 I acknowledge there are unresolved contractual matters that exist between the owner and the builder in relation to the work. However, these are not matters that I can determine under section 177 of the Building Act.
- 5.18 A further draft determination was sent to the parties and the builder for comment on 3 February 2009. The owner accepted the draft.
- 5.19 The authority accepted the draft in an email to the Department dated 3 February 2009. However, the authority submitted that:
- The panels had been erected before it carried out the mid-floor inspection in September 2007, and before it had received the drawings for the full height panels. The drawings were sent to the authority at the request of the authority inspector.
 - The authority believed it had reasonable grounds on which to accept the drawings as
 - An engineer was overseeing the construction of the panels.
 - There was a suitably qualified contractor . . . involved in their construction.
 - The authority also said that:
 - the CCC was issued on . . . reasonable grounds . . . the fact remains that there now appear to be serious issues with the panels and other aspects of the building that were not evident at the time of the final inspection.
- 5.20 The builder responded in a submission to the Department dated 9 February 2009. In summary the submission said:
- The concrete strength for the alternative panel system had been given in an email, dated June 2007, sent to the builder from the contract draftsman⁴ who produced the drawings of the alternative panel system. The email said '*I have left off the concrete strength which should be specified as 40 to 45 MPa*'.
 - The builder restated his previous position regarding the galvanised reinforcing mesh.
 - The builder disputed various comments made by the owner that appeared to have been accepted by the Department without assessment by an '*independent expert*'.
 - The builder did not agree with the draft determination's contention that there were plumbing defects that were not disputed. In an earlier submission by the builder's plumber, dated 30 May 2008, the plumber said that he was called back to the house by the owner and that '*[o]n inspection there was a defiant (sic) smell of gas*'. The plumber also said the '*only explanation [for the smell] is that the pipe was damaged when the shower floor was cut for the waste*'. The plumber said that the traps to the shower wastes were missing but that the traps

⁴ The builder describes this person as an engineer. In a statement dated 4 December 2008, the same person describes himself as a '*self-employed contract draughtsman*'.

had been installed. The plumber said he was not allowed an opportunity to fix the defects.

- The builder said the authority's file showed that all the '*plumbing inspections were carried out and approved*'.

5.21 I have amended the determination accordingly. In response to the builder's submission I note the following:

- I acknowledge the advice supplied by the contract draftsman to the builder regarding the concrete strength of the alternative panel system. However, this information does not appear to have formed part of the amended consent (refer paragraph 2.4). I do not know whether it was formally submitted to the authority as part of the amendment to the consent.
- The galvanising of the reinforcing mesh was noted on the amended drawings for the panels (refer paragraph 2.4). I note Section 94(1) of the Act requires a building consent authority to issue a code compliance certificate if, amongst other things, it is satisfied that the requirements of the building consent have been met.
- The plumber's submission did not dispute that the defects existed (the gas leak and the shower wastes), but that he had now been allowed the opportunity to fix them.
- I have not been provided with a copy of the final plumbing and drainage inspection.

6. Discussion

6.1 The code-compliance of the building

6.1.1 As described, I have been provided with reports regarding the current condition of the building. I am prepared to accept the validity of these reports and the comments contained therein to assist me in reaching a decision in this determination. In addition, I also note that there is no dispute between the parties that there are elements of the building that are not code-compliant.

The precast wall panels

6.1.2 The reports provided by the owner's building consultant (refer paragraph 3.8), the owner's consulting engineers (refer paragraph 3.9), and the Department's officer (refer paragraph 5.4) raise serious concerns about the precast wall panels.

6.1.3 In particular, the exterior panels were apparently poured and erected without engineering supervision. Questions also arise as to the pouring and curing sequences, and the materials used to construct the panels, including the higher than specified concrete strength, and the type and the placing of the mesh reinforcing.

6.1.4 The inadequacy of the wall panels is indicated by the cracking of the panels, the lack of cover to the reinforcing mesh, the delamination, spalling, and efflorescence visible at some locations, and the panel jointing. There is evidence that moisture is also

penetrating the exterior walls. It has also been noted that there are cracks in the internal wall panels.

- 6.1.5 Based on these observations, I am of the opinion that the precast wall panels do not comply with Clauses B1 Structure, B2 Durability, and E2 External Moisture.

Other construction considerations

- 6.1.6 The reports also noted other construction defects relating to the building. These include the following concerns:

- The construction of the concrete columns at the entrance and the laundry.
- The reinforcing of the first floor cantilevered balcony (refer 3.9).
- The end fixings of the steel beam in the lounge area (refer 3.9).
- The installation of the honed-concrete slips to the bathroom walls, (refer paragraph 3.12).
- Matters relating to the metal windows, which I note is verified to some extent by the aluminium joinery supplier (refer paragraph 3.11).

- 6.1.7 The plumbing and drainage report (refer paragraph 3.10), which I accept, listed problems with the gas supply system, foul water drainage, and the on-site effluent disposal system (respectively Building Code Clauses G11, and G13). I note the building consultant also referred to a leak in the gas main cast into the ground floor, which the builder's plumber has also acknowledged (refer 4th bullet point, paragraph 5.20). The problem associated with the effluent disposal system appears to have been rectified.

Conclusion

- 6.1.8 Taking into account the evidence submitted by the parties, the evidence gathered by the Department's officer, and the responses to the draft determination, I conclude that the house does not comply with Building Code Clauses B1 Structure, B2 Durability, E2 External Moisture, G11 Gas as an energy source, and G13 Foul Water, as discussed in paragraphs 6.1.2 to 6.1.7.

- 6.1.9 It is apparent that the authority issued the code compliance certificate for work that was neither code compliant, nor built in accordance with the approved building consent. I therefore conclude that the authority should not have issued a code compliance certificate for the house.

6.2 The withdrawal of the code compliance certificate

- 6.2.1 The authority has queried whether it has the power to withdraw the code compliance certificate, or whether that power can only be exercised by way of a determination in terms of section 188.

- 6.2.2 A recent High Court case considered the issue of rescinding a code compliance certificate in relation to a Construction Contracts Act dispute⁵. In that case, where an authority purported to withdraw the code compliance certificate, the judge said:

I have noted above that the [authority] purported to rescind the Code Compliance Certificate. The legal basis on which it did so is unclear. There is no provision in the Building Act 2004 permitting the rescission of a Code Compliance Certificate. Normally, once an administrative decision in the exercise of a statutory power has been made, and communicated to the persons to whom it relates in a way that makes it clear that the decision is not of a preliminary or provisional kind, it is final and irrevocable – see *Goulding v Chief Executive, Ministry of Fisheries* [2004] 3 NZLR 173 . . . It may be that the Council was acting in reliance on s 13 of the Interpretation Act 1999. That section is similar but not identical to s 25(j) of the now repealed Acts Interpretation Act 1924. It was generally held that the power conferred by s 25(j) was of limited scope, and that it could not be exercised simply because the decision maker had changed his or her mind. Various commentaries on the Building Act raise the possibility that s 13 may permit a territorial authority to “correct” an erroneous Code Compliance Certificate. I am not convinced that that is necessarily the case.

- 6.2.3 In noting that this is not a binding statement, being obiter dicta, I consider that I am required to give it full consideration in terms of this determination. Accordingly, I consider that the only way an authority can seek to withdraw a code compliance certificate is through the determinations procedure. In accordance with section 188(1)(a), the Chief Executive clearly has within her remit the power to “confirm, reverse or modify the decision or exercise of a power to which [the determination] relates”. Under this power, a decision to issue a code compliance certificate can be reversed by the Chief Executive, which effectively means the code compliance certificate will be withdrawn.
- 6.2.4 Section 94(1)(a) states that “a building consent authority must issue a code compliance certificate if it is satisfied, on reasonable grounds, that the building work complies with the building consent”. As there have been extensive changes to the building as constructed when compared with the consented drawings, the authority will have to amend the consent to reflect the construction on which any code compliance certificate is based. This could include requiring a set of as-built drawings.
- 6.2.5 The authority has confirmed that it is now of the opinion that the producer statement provided by the builder was defective. I am also of that opinion, and note that an authority is not under any obligation to accept such a document. The building consent clearly stated that a registered engineer was to produce a “Producer Statement Construction Review” on completion. This condition was not met when the authority accepted one produced by the builder who is not a registered engineer.
- 6.2.6 While producer statements can assist authorities to assess code-compliance, such documents have little value unless they are provided by a suitably qualified person with expertise in the field to which the particular producer statement relates.
- 6.2.7 I also note that, as described in paragraphs 2 and 3, there are various differences between the sets of plans and what was eventually built. This is especially so as regards the precast concrete panels, the mid-floor construction and the bathroom

⁵ (*Suanui v Hi-Qual Builders Ltd* 26/6/08, Wylie J, HC Auckland CIV-2008-404-1576).

walls. I would suggest that the authority puts into place systems that would prevent such inconsistencies going undetected until a building is completed.

7. What is to be done now?

7.1 Once the authority has withdrawn the code compliance certificate in compliance with this determination, it should issue a notice to fix that requires the owner to bring the house into compliance with the Building Code. The notice to fix should not specify how the defects are to be fixed. That is a matter for the owner to propose and for the authority to accept or reject.

7.2 I suggest that the parties adopt the following process to meet the requirements of paragraph 7.1. Initially, the authority should issue the notice to fix. The owner should then produce a response to this in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified defects. In this respect I note the recommendation made by the officer of the Department that further investigation be carried out to confirm the extent of the matters identified and to assist in the remediation of the defects. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

8. The decision

8.1 In accordance with section 188 of the Act I hereby determine that:

- the authority's decision to issue a code compliance certificate for the building is reversed
- the house does not comply with the building consent, nor with the Building Code.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 13 February 2009.

John Gardiner
Manager Determinations