

# **SOME PITFALLS & RISKS in the SELECTION OF INVESTIGATING ENGINEERS**

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## **ADDRESS TO THE ENGINEERS DISCUSSION GROUP**

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### **SUMMARY**

This paper describes some of the pitfalls and risks that a loss adjuster or insurance person can encounter when engaging an engineer to assist them in the investigation of a claim and the technical background behind the insurance incident. The paper also explores some of the issues associated with locating and engaging an engineering consultant, and provides a number of case studies illustrating the various pitfalls and risks.

#### **1. INTRODUCTION**

The engagement of a suitable expert engineer to assist in the investigation of an insurance incident, or claim, is usually a difficult issue for clients, loss adjusters and insurers. It is also often quite hard for an insurer to find an appropriately competent consultant, who has the relevant expertise, to act in a particular matter

Insurers can also find themselves in a position where they have an expert appointed who is simply "not up to the task", and thus are exposed to unnecessary litigation and / or the payment of a particular claim.

The situation is further complicated by the apparent conflict, between the various obligations of the insurance industry under the Insurance Act, and the laws of negligence and / or contract.

As such, it is not surprising that clients can sometimes be enmeshed in a protracted and costly legal process for which there often seems to be no end. Further, if after the matter has proceeded for some time, the client decides to change his expert, there is always the potential for the allegation to be made that the client has gone 'opinion shopping'.

And whilst it might be thought obvious that the appointment of the appropriately experienced and competent consultant should result in most appropriate outcome of a particular claim or incident, this is not always the case as the litigation process can produce a very distorted result, if the lawyer and expert consultant are not working as an integrated team.

So this paper includes some remarks on the various pitfalls and risks that might be encountered by a client in engaging an expert engineering consultant, and then presents a series of case studies to illustrate some of the pitfalls and risks.

## **2. CONSULTANT ENGAGEMENT ISSUES**

Given that an insurance incident has arisen on a particular project, the insurer, and / or loss adjuster normally needs specialist advice on the incident. But finding the right specialist / engineer is not an easy task and it is often very difficult to find the right person. Also, if you do find the right person, they may not be available because of a conflict of interest, workload, or other issues.

Another complication is that it is usually important to get your expert to site as soon as possible after you have been notified of the claim.

So the issue can really boil down to the following:

1. How do you find the right person?
2. What should the scope of work, and therefore the cost, for your expert be in the initial stages?
3. Do you want a preliminary opinion, or an expert report? Or do you want both?
4. Do you really want to know the truth?

Whilst I have no easy answers to these questions, I would like to put on record some of the points for consideration.

### **2.1 Finding the Consultant**

Although I know many engineers, and have a high professional regard for a number of them, finding the right consultant is always a very difficult issue.

And there is always the 'cost' issue!!!

Another matter of concern, is whether the proposed consultant understands what the role of the 'expert engineer' is; for some engineers like to think of themselves as judge and jury, rather than as a provider of an independent expert opinion, based on facts.

Some engineers also never get to the root cause of a problem and seem to be incapable of looking at the 'big picture'; as such, these engineers focus on minor details, and accept as fact matters which are obviously greatly in error.

It also seems to be most unwise to rely on the publicity and marketing material put out by consulting firms for the selection of a consultant; perhaps the best way is to get a recommendation from a person for whom you have a professional regard.

So it seems to me that the best way for insurers and loss adjusters to find the right expert, is to have a well-established network of engineer advisers; in this way, a phone call to one of the engineers on the network will normally lead to a recommendation as to the appropriate expert. And perhaps a client's best

professional adviser / associate, is one who will tell you that they are not the right person for the particular job, but John Smith is.

## **2.2 The Commission / Scope of Work**

At the time of commissioning your consultant, it is very important that you be specific in what you want from the consultant. Do you want a preliminary opinion, an interim report or a detailed investigation?

For another pitfall is to be 'not sufficiently specific' in the initial instructions to the consultant, and thus the client gets a report / advice which is inappropriate to the circumstances.

Another issue that is very important, is the establishment of the technical facts in a particular matter; this is because if the initial view is based on incorrect facts which later are shown to be wrong, there seems to be no end of the resultant insurance and legal problems.

As such, it is very important that:

1. The initial investigation / site inspection include as much investigation & documentation as is possible.
2. The facts are reasonably established **before** the expert commits their opinions to writing.

Thus, another pitfall is for a client to unnecessarily limit the initial investigation and documentation work by the consultant. In this regard, I note that the usual initial inspection by Shirley Consulting Engineers Pty Ltd [SCE] takes at least 3 to 4 hours, during which several hundred digital photographs are taken, together with the measurement of sections and the various structure locations.

## **2.3 Cost & Teamwork Issues**

An issue that always seems to raise difficulties with clients is the cost of the engineering advice in relation to any particular insurance claim or incident. It also always seems to me that whilst clients are often prepared to enter into relatively 'open-ended' contracts with legal persons, they usually seek to heavily limit the fees charged by an engineering consultant.

My experience has also indicated that:

- a) As many lawyers do not understand technical & engineering issues, it is very important for the engineer and lawyer to work as a team, with the engineer educating and assisting the lawyer and the lawyer explaining the relevance of the legal issues to the engineer.
- b) When the relative costs of litigation are compared to the cost of adequately investigating a matter technically, it is usually the case that the 'overall cost' of the matter can be greatly reduced by expending an appropriate sum on the technical investigation.

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- c) Some lawyers are more interested in promoting the litigation, and thus their fees, rather than finalising / settling the matter.
- d) Unless the engineer and lawyer work as a team, the costs can spiral and the litigation goes on and on to nobody's benefit.

So it seems to me that the cost and teamwork pitfalls can include:

- i) Not considering the 'potential overall cost' issue, when deciding on how much to spend on the expert investigation of a matter / incident.
- ii) Not making sure your lawyer properly understands the building, construction & mining industry.
- iii) Not including the consultant as a team member.

### **3. COMMON PITFALLS & RISKS**

In light of what I have already said, perhaps some of the pitfalls & risks in engaging an expert consultant can be summarised as follows:

1. Not getting the right / appropriate advice; selecting the wrong legal / technical team.
2. Not ensuring that the consultant is on-site early enough.
3. Not knowing the true situation surrounding the claim, and the cause of damage.
4. Imposing inappropriate limitations on the scope / costs of the technical investigations, particularly the initial investigation.
5. Not properly considering the potential 'total cost' of an incident / claim.

And I thought that the best way to explain these various pitfalls & risks is to present you with a number of cases that illustrate some aspects of these pitfalls & risks.

### **4. CASE STUDIES**

Although most of the case studies I intend to present have been resolved, at least one of the studies is still in the process of resolution; as such, only the general location and nature of the particular case study is identified.

I also hope that by providing some examples of how insurers & claimants can fall into the soup by engaging the wrong consultant, or adopting the wrong course of action, we will all become better at resolving claims in an appropriate manner.

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#### **4.1 Office Warehouse Complex at Homebush**

*Pitfalls:*

*Not getting the right / appropriate advice.*

*Limiting the scope of the initial study.*

*Milking of Fees by the expert.*

The first study comprises a warehouse and two-storey office building near Homebush in the Sydney region. This study was not an insurance claim, but rather, litigation by the owner of the building against the design / construct builder. In essence, the matter involved cracking and movement of a concrete and brick building due to shrink / swell of the reactive clay soils, combined with the weak structural design of the suspended, first floor concrete slab.



At the end of the day, the problem in resolving this claim came down to the to initial reports written by the geotechnical engineer that inspected the building as an 'independent expert' engaged by the design / construct builder to advise on the causes of the damage to the building.

The supposedly 'independent expert' wrote two very short reports that in essence said that the cracking and damage was not serious, and could be fixed by watering the gardens around the building with an irrigation system. The independent expert also ignored the serious structural deformations within the first floor suspended slab, as well as the leaky roof and serious damage to the various internal office partitions on the ground floor.

Not unexpectedly, the building owner did not accept the reports, which he perceived as biased; as a result, extensive litigation ensued following a detailed report by SCE.

When the matter was finally resolved, the design / construct builder had to pay substantial damages to the building owner [approaching \$1 million], as well as being saddled with his own lawyers and expert engineers costs of several hundred thousand dollars.

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In my view, the whole litigation process and expensive legal proceedings were the result of a limited and inadequate initial report, that was designed to 'fob-off' a legitimate claim by a client. However at the end of the day, the attempt was thwarted, and the engineer who wrote the report had his reputation irreparably damaged.

### **4.2 Collapsed Retaining Wall & Pool at Valentine**

*Pitfalls:*

*Using a local engineer / professional friend and not getting the right advice*

*Not knowing the truth and circumstances of the claim*

This claim was an example of the insurer using a local engineer, with whom the insurer had experience, to carry out a quick investigation and write a report denying the claim. However, after SCE prepared a detailed report, the insurer realised its error and paid the claim.



In summary, the claim concerned the failure of a timber retaining wall and associated swimming pool during the heavy rainfall that occurred in the Newcastle area in June 2007.

Following the failure, the insurer requested a local civil engineer to investigate the damage; the report by the engineer stated that the cause of the damage was a landslide as a result of heavy rain.

The insurer accepted the engineer's advice and denied the claim because both 'landslide' and 'landslip' was specifically excluded from the insurance policy.

During the detailed investigation of the failure by SCE, it was discovered that the true cause of the retaining wall failure was the overflow of stormwater from the street system during the heavy rainfall because of:

a) Faulty construction of the footpath crossing.

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- b) The severe storm event, during which a very large volume of water overflowed the road gutter / footpath crossing, down the driveway and across / under the retaining wall.
- c) The severe erosion caused by the water flow destroyed / undermined the retaining wall.



Thus, the true cause of the failure / collapse was stormwater overflow, which was covered by the policy.

As a result of the SCE advice, and political pressures generally surrounding the June 2007 damage, the insurer decided to pay out the full 'insured value' of the policy [viz: about \$380,000] in final settlement of the claim. Subsequently, the insured engaged a specialist remedial works builder who fully rectified all the damage for less than \$200,000.

Thus, the consequence to the insurer of employing an inappropriate engineer and getting a 'fob-off' report, was that the insurer paid at least \$180,000 more than they needed to.

#### **4.3 Reinforced Soil Wall Collapse at an Open Cut Coal Mine**

##### *Pitfalls*

*Not getting the right / appropriate advice.*

*Use of a local 'mate', rather than obtaining an expert*

This claim revolved around the collapse of a major reinforced soil wall retaining structure at a large open cut coal mine in Queensland. The reinforced soil wall was a two tier retaining wall with an overall height of approximately 26 m.

The background to the collapse is as follows:

1. After a number of years in service, the wall began to experience problems which included the precast concrete panels falling from the face of the wall.

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2. A local engineer was engaged by the mining company who advised on a range of the remedial works, none of which addressed the fundamental problem which was corrosion of the metal straps within the retaining wall backfill.
3. The metal straps had become severely weakened by corrosion due to the acidic and corrosive nature of the backfill materials to the wall.

As a consequence, the wall ultimately failed with the failure being a very rapid [viz: it occurred within 20 minutes], and nearly killed three workmen who were working within the conveyor tunnel in front of the wall.



Subsequent to the wall collapse, the mining company sought recompense for the money it had lost [viz: about \$ 3,000,000] due to the collapse event using a large corporate consulting group. The report in essence alleged that the collapse was due to water saturation by rainfall and build up of water pressures within the backfill.

However, after a detailed investigation & stability calculations by SCE, the claim was denied on the basis that:

1. The alleged build up of water pressures was extremely unlikely due to the porosity of the coal waste backfill.
2. The wall had been in a state of progressive failure for several years before the event, which if it had been recognised [viz: by the local engineer], suitable remedial action would have avoided the collapse.
3. The corrosion of the metal straps was known to the insured well prior to the collapse incident and had not taken any remedial action to repair the straps.
4. The wall had reached the end of its service life at the time of its collapse.

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#### **4.4 Damaged / Destroyed Large House near Newcastle**

*Pitfalls:*

*Not getting the right / appropriate advice.*

*Not knowing the true situation.*

This incident involves the substantial damage to a house [viz: about 1,200 square metres] on a sloping site near Newcastle. The site is also in an area of known landsliding and mine subsidence.

The circumstances of the claim are chiefly that a large brick & concrete house, built in the early 1970s and later extended in the 1980s, suffered serious damage in late 2000 after having been damaged in a minor way in the early 1990s.

The insurer arranged for an engineer, who does a significant amount of insurance work, to investigate and advise on the cause of damage, and the extent of repairs. The engineer then:

1. Chose not to seek geotechnical advice on the site stability & other matters despite the site being located in a landslip & mine subsidence area.
2. Attributed the late 2000 damage to the breakage of drainage / water pipes.
3. Advised that the building should be underpinned.

Later, in early 2001, underpinning & other repair works were instituted under the guidance of the engineer.

In 2007, further and more serious damage occurred to the house. Subsequently, the extensive investigations by SCE revealed that:

1. The damage, both in 2000 and 2007 was related to deep-seated landslide movements and longer term 'mine subsidence' in the area.
2. The damage in the early 1990s could also have been related to landslip and mine subsidence.
3. The underpinning works undertaken in early 2001, following the damage incident in 2000, could never have coped with the fundamental causes of the damage / deep seated movement.
4. The underpinning works undertaken in early 2001 had seriously aggravated the building damage in 2007 caused by the further 'deep seated' land movements.

Later and because the insured was reluctant to accept the 'deep seated' movement, further inappropriate underpinning & house jacking works were undertaken, with the consequence that it has now become necessary to demolish the house.

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Whilst the site saga is continuing, it is an example of how inappropriate technical advice, and limited engineering investigations can lead to calamity, and an ongoing financial burden for insurers.

### **4.5 Destroyed / Collapsed House at Terrigal**

#### *Potential Pitfalls*

*Not getting the right / appropriate advice.*

*Not knowing the true situation.*

Although this is a very sad story, from an insurer's perspective, this house collapse is a reasonably positive matter; for in this incident, the insurer was able to minimise its exposure, extend indemnity and discuss the financial compensation rather than arguing the claim.

The circumstances of the claim were as follows:

1. An owner builder sought engineering and geotechnical advice in relation to the construction of his house at Terrigal; the site was located in an area of known land stability problems.
2. The geotechnical consultant recommended landslip stabilisation works, and then supervised the construction of the works and house footings.
3. The house was built with regular inspections by both the geotechnical consultant and the structural engineer.



4. When the house was approaching completion, a landslip occurred in the vicinity of, and underneath the house causing the pole footings to crack / break, which then destabilised the house structure and rendered it unsafe.
5. The Council issued a demolition order on the owner builder, and the owner builder lodged a claim under his contract works policy, and the geotechnical consultant for negligence.

The insurers then sought advice from SCE in relation to the geotechnical & engineering aspects of the matter, and SCE undertook its usual detailed investigation of the facts.

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In short, the SCE advice was that the geotechnical engineer had not provided correct advice on the stabilisation works, with further land movement being inevitable at the site. In addition, the recommended 'design concept' for the footing system was structurally inadequate for the site.

As a result, the insurer decided that they should indemnify the owner builder, met with the owner builder and discussed / agreed on the quantum. The owner builder then, although emotionally upset, was adequately recompensed for his losses.

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## **CONCLUSION**

In conclusion, the following is apparent from the various comments and case studies:

- C1. Firstly, it is very important to ensure that the correct individual is appointed as an expert at the outset. The expert must also be someone trained in the forensic collection of facts and data and someone that you trust; the expert should also be a consulting group who will not 'milk the matter' for professional fees.
- C2. Secondly, and as in all professional matters, teamwork is very important, so beware of lawyers who are not up to the mark on building construction and technical issues, and who do not promote the 'team approach' to claim resolution.
- C3. Thirdly, the most expensive thing you can do is to commission a cheap, limited report to rebut a claim. You really must ensure that your experts investigate the matter correctly right from the start, for if you know the technical truth upfront, you can deal with the issue. The one thing you don't want to happen in a hearing, or mediation session, is to hear your expert engineer say:  
  

*"You know, it is all a bit of a mystery why the damage happened"*
- C4. Fourthly, whilst a thorough investigation may appear expensive to begin with, if it is decided to deny the claim later and the matter proceeds to litigation, you will be in a position of strength, rather than of weakness.
- C5. Finally, as engineers usually work for lower rates than lawyers, let them do their job thoroughly before the lawyers become too heavily involved.

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