McDonald and Comcare [2013] AATA 105 (28 February 2013)

Last Updated: 28 February 2013

[2013] AATA 105

Division	**GENERAL ADMINISTRATIVE DIVISION**
File Numbers	**2011/0031, 2011/5355 & 2012/2826**
Re	**Alexander McDonald**
	APPLICANT
And	**Comcare**
	RESPONDENT

DECISION

Tribunal	**Deputy President J W Constance**
Date	**28 February 2013**
Place	**Melbourne**

Application 2011/0031

1. The reviewable decision made by Comcare on 9 November 2010 (being reconsideration 23114453) is set aside.
2. In substitution for the decision set aside it is decided that:

   (1) Comcare is liable to pay to Dr McDonald compensation in accordance with the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of an injury, being an aggravation of a condition of nausea, disorientation and headaches;

   (2) the injury was suffered by him between April 2006 and May 2007.

Application 2011/5355

1. The reviewable decision made by Comcare on 22 November 2011 (being reconsideration 25525982) is set aside.
2. In substitution for the decision set aside it is decided that:

   (1) Comcare is liable to pay to Dr McDonald compensation in accordance with the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of an injury, being a chronic adjustment disorder with depressed moods;

   (2) the injury was suffered by him between 1 July 2010 and 31 December 2010.
3. The reviewable decision made by Comcare on 22 November 2011 (being reconsideration 25673997) is set aside.
4. In substitution for the decision set aside it is decided that as at the date of this decision Dr McDonald is not entitled to compensation in accordance with sections 24 and 27 of the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of the injury being chronic adjustment disorder with depressed moods.

Application 2012/2826

1. The reviewable decision made by Comcare on 22 June 2012 (being reconsideration 27176306) is set aside.
2. The matter is remitted to Comcare for reconsideration in accordance with these reasons for decision.

Applications 2011/0031, 2011/5355 and 2012/2826

1. Within 14 days of the date of this decision each party may apply to the Tribunal for directions in relation to costs. Should such an application not be made the respondent shall pay the costs of the proceedings incurred by the applicant.

.....[sgd].....**Deputy President J W Constance**

CATCHWORDS

COMPENSATION – *Safety, Rehabilitation and Compensation Act 1988 (Cth) - Electromagnetic hypersensitivity syndrome – chronic adjustment disorder with depressed moods – migraine - permanent impairment – whether applicant suffered an injury - whether ailment contributed to, to a significant degree by employment - whether aggravation of ailment contributed to, to a significant degree by employment – perception - immaterial whether symptoms have determinable pathological cause or purely psychogenic - decisions under review set aside.*

LEGISLATION

Safety, Rehabilitation and Compensation Act 1988 (Cth) ss 4(1), 5A, 5B, 7(4), 14(1), 24(1), 24(2).

CASES

Canute v Comcare [2006] HCA 47; (2006) 226 CLR 535.

Commonwealth v Beattie [1981] FCA 88; (1981) 53 FLR 191.

Federal Broom Company Pty. Limited and Semlitch [1964] HCA 34; (1964) 110 CLR 626.

Wiegand v Comcare Australia [2002] FCA 1464.

SECONDARY MATERIALS

Csermely, Péter and Yahara, Ichiro, 'Heat Shock Proteins'.

Genuis, Stephen J, 'Fielding a Current Idea: Exploring the Public Health Impact of Electromagnetic Radiation'.

Levy, Finn and Wannag, Axel (eds), 'Nordic Adaptation of Classification of Occupationally Related Disorders (Diseases and Symptoms) to ICD-10'.

McCarty, David E et al, 'Electromagnetic Hypersensitivity: Evidence for a Novel Neurological Syndrome'.

Silberstein, Stephen D, 'Neurology, Practice Parameter: Evidence-based Guidelines for Migraine Headache: Report of the Quality Standards Sub-committee of the American Academy of Neurology'.

Simkó M and Mattsson MO, 'Extremely Low Frequency Electromagnetic Fields as Effectors of Cellular Responses In Vitro: Possible Immune Cell Activation'.

Smith, Cyril W, PhD, 'Electrical Sensitivities in the Electrical Environment'.

REASONS FOR DECISION

Tribunal **Deputy President J W Constance**

INTRODUCTION

1. Dr McDonald has been employed by the *Commonwealth Scientific and Industrial Research Organisation* since 1994. He claims to have been injured in the course of his employment.
2. Dr McDonald has made four claims for compensation under the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of conditions he says have been contributed to, to a significant degree by his employment. These claims are for:
   (1) aggravation of an electromagnetic hypersensitivity syndrome[1];
   (2) chronic adjustment disorder with depressed moods[2];
   (3) permanent impairment which has resulted from the adjustment disorder[3];
   (4) migraines[4].
3. Comcare refused each of these claims. Dr McDonald has applied to the Tribunal to review these decisions.
4. For the reasons which follow the decisions under review will be set aside. Decisions accepting the claims will be substituted except in the case of the claim for permanent impairment.

EVIDENCE AND FINDINGS OF FACT

1. Unless otherwise stated the following findings of fact are based on the evidence of Dr McDonald. I am satisfied that he was an honest witness who gave his evidence to the best of his recollection. I am satisfied of the facts found on the balance of probabilities.
2. Dr McDonald was born in 1954. He commenced working for CSIRO in 1994 as a Senior Research Scientist. At his interview for the position he informed the Selection Panel that he suffered from sensitivity to electromagnetic frequencies, known as EMF.
3. Although Dr McDonald had experienced symptoms of EMF sensitivity for many years his condition was not diagnosed until 1993. The diagnosis was made by Dr Cooper, his General Practitioner at the time. Dr McDonald was told that he was sensitive to EMF which is emitted by equipment such as computers, televisions, mobile telephones, microwave ovens, amplifiers, power lines and transformers. For some years prior to 1993 Dr McDonald had worked with a computer with an LCD screen and with a thermal printer without difficulty.
4. Upon being diagnosed with the condition Dr McDonald followed the medical advice he was given and took steps to reduce his exposure to EMF, including moving to live in the country and limiting his exposure to television and other electronic devices. Dr McDonald noticed that his health improved when he made this move.
5. When Dr McDonald commenced working for CSIRO it agreed to provide him with additional administrative support so that he was not required to do computer work. When he was promoted to a science-management position in 2003 he was provided with full-time administrative support. He retained the technical support already provided to him for his research. These measures enabled him to limit his EMF exposure at work.
6. In 2005 Dr McDonald transferred from Hobart to Melbourne. In early September 2005 the Division in which Dr McDonald was working was re-structured and he returned to his previous position of Principal Research Scientist. His administrative support was withdrawn making it necessary that he make greater use of computers. For two weeks he experienced nausea, fatigue and very poor concentration.
7. Dr McDonald again consulted Dr Cooper. On 30 September 2005 Dr Cooper wrote to the CSIRO recommending that Dr

McDonald continue to receive administrative support to reduce his exposure to EMF.[5] Dr McDonald was then provided with part-time administrative support. He was provided with a Blackberry device which, in his belief, *"evoked mild but tolerable symptoms."*[6] With this support in place he was able to work effectively.

8. Between April and July 2006 Dr McDonald was required by his employer to trial working with various pieces of electronic equipment including the Blackberry, a PDA device, a desktop computer enclosed within a Faraday cage[7] and an electronic projector. The computer was only operated for short periods on several occasions in the presence of Mr Wilson, the Site Rehabilitation Claims and Case Manager who was supervising the trials. Dr McDonald became ill within minutes each time the computer was switched on. He experienced nausea and headaches and suffered severe migraine 2-12 hours later. He felt unwell for several days after each attack. His symptoms were worse than they had been before the trial commenced.
9. On 11 August 2006 Mr Wilson recommended that the trials cease and that Dr McDonald's administrative support resume.[8] This was done. Included in Mr Wilson's recommendations was that the administrative support continue until the release of any further technological advancement of equipment that could be assessed by the Information Technology staff and trialled with Dr McDonald.
10. Contrary to Mr Wilson's advice, in March 2007 CSIRO ceased to provide Dr McDonald with any form of administrative support. In an effort to continue working, Dr McDonald arranged for his wife, Ms Lynne McDonald, to do his computer work for him on an unpaid basis for a period of three months. During this period his employer required him to again trial the use of various electronic devices. Each trial period was for less than 30 minutes. His symptoms again became severe – he felt nauseous and dizzy, he felt eye-strain and he again suffered severe migraines. He believes that these symptoms were caused by his ongoing exposure to EMF and that he became increasingly sensitive to EMF exposure.
11. On 25 May 2007 Mr Wilson reported, in part:

It is my recommendation that myself as the recognised Site Rehabilitation Claims and Case Manager and our IM&T staff be left to manage this case without interference and providing regular update reports to the CMAR HSE Manager and P&C Manager.[9]

1. The symptoms suffered by Dr McDonald after the second series of trials were more severe than those suffered after the first. He suffered increased dizziness, disorientation and nausea which lasted longer than previously. He suffered also from eczema, from tinnitus and from pain in the left side of his skull prior to the onset of the migraines. These more severe symptoms have recurred from time to time since.
2. Following the last trial Dr McDonald was permitted to work from home for a period of six months. This was not successful. He tried returning to his workplace but became too ill to continue. He took sick leave. He last attended his work in 2009. In May 2011 CSIRO informed Dr McDonald that it was not medically possible for him to perform the requirements of his position.
3. At the time of the trials Dr McDonald was living in inner-city Melbourne. He added special paint and materials to the house in an effort to reduce EMF. When this was done Dr McDonald's condition improved but later worsened. Dr McDonald attributes this worsening to the increasing use of Wi-Fi in the vicinity of his home. In late 2009 Dr McDonald and Ms McDonald moved to a rural property on which they have lived ever since. Dr McDonald has restricted his exposure to EMF and wears protective clothing when away from home. His health has improved and he does not experience the severity of symptoms previously experienced so long as he limits his exposure to EMF.
4. For recreation, Dr McDonald flies a light aircraft from his rural property. He does not use GPS navigation or radar and rarely needs to make a radio transmission. Dr McDonald has taken EMF readings within the cockpit and believes that the level of emissions is extremely low. He does not suffer symptoms of EMF exposure while flying.
5. Dr McDonald is restricted in the activities in which he is able to engage and still continue to feel well. He describes his living on the property as *"an isolated existence".*[10] His social life has been severely curtailed as a result. Social gatherings with family and friends are less frequent than prior to the trials. On rare occasions he attends football matches, theatre and concerts. He leaves these events quickly to avoid exposure. He limits his visits to Melbourne to see his children to one day every fortnight. He continues to travel on international flights but does so less frequently as he becomes ill, particularly in airport terminals. He wears protective clothing and uses a protective blanket when flying in commercial aircraft. Despite these precautions he continues to feel unwell when exposed to equipment such as mobile telephones and computers.
6. Dr McDonald describes his present condition as follows:

Because of my heightened sensitivity, exposure to EMF now causes an uncomfortable and distressing range of symptoms including nausea, fatigue, ringing in my ears, persistent headache, more frequent migraine, dizziness, numbness, imbalance, eczema, tingling sensation, a rise in blood pressure and rapid heartbeat.[11]

1. Dr McDonald has suffered from migraine headaches since he was 13 years old. When he suffered a migraine he experienced an aura in his vision, blurred vision, severe headache, intense sensitivity to light and sound and vomiting. These attacks occurred at 3-6 month intervals. In the late 1980's the nature of the attacks changed in that they became less severe but

more frequent and recovery time was longer. The frequency of the attacks declined between 1994 and 2004.

2. Dr McDonald describes his feeling of depression as *"a deep sadness, almost guilt"* by reason of the effect of his condition on his family and colleagues and *"an incredible regret of losing my career."*[12] Without institutional collaboration it is difficult for Dr McDonald to retain contact with his colleagues and he regrets leaving his professional life. His feeling of depression is deepened by the limitation of his contact with family and friends. His sleep is interrupted and he finds it difficult to go back to sleep once he wakens.
3. Dr McDonald has had several sessions with his psychologist but has been advised to delay further treatment until after these proceedings are concluded.

Evidence of Ms Lynne McDonald

1. Ms McDonald has known Dr McDonald since 1998 and has been married to him since 2001. She provided a statement dated 18 May 2012[13] and gave evidence.
2. Ms McDonald and Dr McDonald worked in the same office from 1998 onwards. She observed that during meetings he would usually stand at the back of the room or in a doorway. During the trials of electronic equipment in 2006 and 2007 Dr McDonald suffered migraines more frequently than before the trials commenced. During and after the 2006 trial he suffered migraines which lasted between one and three days.
3. During the 2007 trials Dr McDonald appeared unwell. For the first time he complained to Ms McDonald that he felt tense in the left side of his face, that he felt slightly uncoordinated and tired. He suffered migraines which appeared to be more severe and more frequent than previously.
4. After steps were taken to shield their home in Melbourne in 2008 Ms McDonald observed that Dr McDonald was able to live in the house without appearing to suffer the symptoms of which he had previously complained.
5. When Ms McDonald first met Dr McDonald he appeared to be embarrassed by the condition he suffered but was a very positive and confident person. He now appears to be a person who is lacking in motivation compared to when they first met and who lacks the *"good healthy self-esteem"*[14] which he previously exhibited. He has expressed sadness and feelings of guilt as a result of the impact his condition has had on his children and Ms McDonald.
6. During cross-examination Ms McDonald agreed that until Dr McDonald's administrative support was initially withdrawn in 2006 Dr McDonald was generally coping with his work and family life.
7. I am satisfied that Ms McDonald was a reliable witness who gave her evidence to the best of her recollection. I accept her evidence.

Statement of Mr Smith, Senior Principal Research Scientist[15]

1. Mr Smith was Dr McDonald's supervisor from approximately 1994 to 2003. He stated that Dr McDonald's *"condition was understood and accepted by CSIRO from the outset, and for many years it was dealt with in an effective and appropriate way that allowed David to be a productive scientist and science leader."*[16]
2. Counsel for Comcare did not require that Mr Smith be available for cross-examination. I am satisfied that his statement is true and I find accordingly.

MEDICAL EVIDENCE

Dr Cooper, General Practitioner

1. Dr Cooper has over 30 years of experience in general practice. He provided reports dated 14 April 2008[17] and 16 March 2010.[18]
2. Dr McDonald first consulted Dr Cooper in January 1993. He noted that Dr McDonald complained of frequent severe migraine headaches and occasional periods of mild dizziness, nausea and fuzziness in vision. Dr Cooper was of the opinion that Dr McDonald was suffering sensitivity to electromagnetic frequencies.
3. Dr McDonald consulted Dr Cooper again in 2005 when he was employed by CSIRO. Dr Cooper wrote to CSIRO recommending that Dr McDonald continue to receive administrative support.
4. The next consultation was in March 2008 after Dr McDonald's administrative support had been withdrawn and after the second trial of electronic equipment. Dr Cooper reported:

Dr McDonald's use of these devices led to severe immediate health effects and, in my professional judgement, have caused him to have a lasting and dramatically increased sensitivity to EMF. The trial of each device caused the following immediate symptoms:

1. *A band of pain and tension extending over the left side of the head, from (and including) the left eye and left ear to the neck.*
2. *A high-pitched buzz in both ears.*
3. *A feeling of weakness, imbalance, disorientation and dizziness, with increased tendency for the right foot to "trip" on small bumps in floors and footpaths.*
4. *Nausea.*
5. *Lethargy.*
6. *Poor concentration and irritability.*

These symptoms worsened with each electronic trial event and were followed by severe migraine within 2-24 hours. Since the end of

the trial period Dr McDonald has experienced heightened sensitivity to EMF, with the above immediate symptoms returning when he is in close proximity to functioning computers (especially laptops), new-generation mobile phones, WIFI networks and high-voltage power lines. He now also experiences this heightened sensitivity to his Blackberry device.[19]

1. Dr Cooper gave evidence that the condition of EMF sensitivity is now widely documented in medical literature and has been so for several years. He referred to the World Health Organization's recognition of the condition as comprising "*nervous system symptoms like headache, fatigue, stress, sleep disturbances, skin symptoms, prickling burning sensations and rashes, pain and ache in muscles and many other health problems."[20]* Also he provided articles on the condition which have appeared in medical literature.[21]
2. When cross-examined Dr Cooper agreed that there are no accepted medical standards for the diagnosis of sensitivity to EMF and that research into the condition was at the initial stage.

Dr Khoo, General Practitioner

1. Dr Khoo has practised in general practice since 1991. Dr McDonald has been her patient since July 2006; he consults her on an average of 4-6 times per year. She has provided several reports[22] and gave evidence.
2. In the opinion of Dr Khoo, Dr McDonald has Electromagnetic Hypersensitivity Syndrome. On consultation Dr McDonald has complained of headache, numbness in his face and arm, dizziness, nausea, vomiting, balance problems and eczema.

Dr Stevenson, Consultant Physician

1. Dr Stevenson has been a Consultant Physician since 1967. He assessed Dr McDonald at the request of his employer in January 2006. This was before the first trial commenced.
2. Dr Stevenson provided a report dated 12 January 2006[23] and gave evidence.
3. In the opinion of Dr Stevenson, when he assessed Dr McDonald in 2006 he was suffering from classic migraine with aura which would not be caused by exposure to computers.[24] He reported, in part:

I have some difficulty understanding the apparent precipitation of migraine by laptops in the room. I have not heard of the association before and I could not find anything in the medical literature. Mr McDonald is a very credible witness and he said it is a phenomenon he has noticed over many years. However, the problem has never really been studied in any controlled manner. It may be a chance or conditioned response.[25]

1. In the opinion of Dr Stevenson, Dr McDonald was trying hard to stay at work at the time he assessed him; he was not playing a *"sick role"*. However there was no robust evidence to support Dr McDonald's reaction to computers.

Dr Hocking, Specialist in Occupational Medicine

1. Dr Hocking has over 30 years' experience in Occupational Medicine with particular expertise in the health effects of EMF. He has published papers on the subject and has been a member of Australian standard setting committees. He provided a report dated 20 January 2009[26] and gave evidence.
2. In April 2008 Dr Hocking assessed Dr McDonald and his workplace. This was done at the request of CSIRO in view of Dr McDonald's absences from work since 2006. Dr McDonald had been away from work continuously since July 2007.
3. At the time of the assessment Dr McDonald had a flat screen on his desk and a desktop computer on the floor under his desk. Dr Hocking took measurements of the electric and magnetic fields from the computer. He reported in part:

For the frequency range 30Hz – 400kHz the maximum exposure at 1m and 2m was 0.04 uT (microTesla). This is 1.7% of the ICNIRP standard for these frequencies of 2.3uT. For the frequency range 10kHz – 18GHz the maximum exposure at 1m was 0.001479 V/m. This is 0.003% of the ARPANSA standard for these frequencies of 49.3 V/m. Therefore the desk-top is compliant with Australian and international safety standards regarding field emissions.[27]

1. Dr Hocking gave evidence that electromagnetic fields are part of the electromagnetic spectrum and range from 0-300GHz. In his opinion concerns about sensitivity may occur with exposure to any part of the spectrum.
2. In 2004 Dr Hocking was invited to present a paper at the World Health Organization seminar on Electromagnetic Hypersensitivity held in Prague. A copy of the paper is annexed to his report.
3. In the paper Dr Hocking said that what was referred to as *EMF Hypersensitivity* is a poorly defined condition, said to include various symptoms such as fatigue, headaches, skin rashes and insomnia with exposure to low levels of electromagnetic fields. In his opinion there is *"a spectrum of illness ranging from localised sensitivity to fields through more generalised symptoms, to phobic states and psychiatric disorder. The concept of a spectrum of EMF sensitivity has implications not only in the clinic but also for research and epidemiology since case definition is also critical in these areas.[28]*

Dr Hocking continued:

After exposure to low level EMF some patients, such as Cases 1&2,[29] have symptoms which are distressing, disrupt daily living and work, have a consistent history and findings on provocation testing. These patients need to managed [sic] *appropriately regarding attenuation of their exposures to EMF, for example by use of a "hands-free" mobile phone kit or even major life-style changes in* carefully selected cases*. Reassurance regarding fears of cancer or mental illness are important benefits to the patient from accurate diagnosis. The usefulness of 'support' groups for these patients is unclear.*

Some patients, such as Cases 3&4, have distressing symptoms associated with low level EMF exposures or proximity to electrical/electronic equipment, but on clinical and/or laboratory grounds, the symptoms cannot be attributed to EMF. These patients need to be diagnosed, their fears of EMF managed, and other diagnoses considered and treated. Some cases perceive a strong association between their symptoms and using or being near equipment (such as computers) that may emit fields. Their symptoms are analogous to a Pavlovian conditioned reflex or an acquired phobia to the equipment (Berg etal 1992).[30]

1. In his paper Dr Hocking also expressed the opinion that the taking of a history is the key to diagnosis as it is necessary to ascertain the pattern of symptoms and their relationship to EMF exposure. He said also that *"a good general knowledge of medicine is required since symptoms may occur in diverse parts of the body depending on the exposure and raise a range of differential diagnoses."[31]* Provocation tests are potentially important to help diagnosis in certain patients.
2. In relation to Dr McDonald, Dr Hocking expressed the following opinions:

1. Dr McDonald has migraine; this is shown by the aura of visual disturbance, thumping headache, vomiting and the family history;
2. he also has a different type of headache consistent with a tension type headache.

3. Dr Hocking is doubtful that Dr McDonald's symptoms are due to sensitivity to electromagnetic fields although a provocation test would be helpful to confirm or deny such a diagnosis. His reasons for taking this view are summarised in the following two paragraphs.[32]
4. Dr McDonald has migraines which have a genetic/familial basis. The flicker of monitors may have interacted with his disposition to cause migraines. Dr McDonald's mild dyslexia may have made his visual pathways more vulnerable to the effects of flicker. This effect is also the likely explanation for his developing migraines while watching poor quality television when he was living in America. On the basis of information Dr McDonald provided he was probably at a distance from the television that would have made his exposure to electromagnetic fields negligible. Further it is probable that he did not experience problems with the Zenith computer as its LCD screen did not flicker.
5. Dr McDonald's experiences with electronic equipment may have caused him to believe that it was the electromagnetic fields that affected him whereas it was more likely that originally it was the flicker. This belief may now have generalized to other electronic equipment (akin to Pavlovian conditioning) with resultant symptoms of tension headaches.

Associate Professor Chambers, Consultant Neurologist

1. Associate Professor Chambers assessed Dr McDonald in July 2010 at the request of Comcare. He provided a report dated 16 July 2010[33] and gave evidence.
2. At the time of the assessment Dr McDonald was symptom free. Associate Professor Chambers has no experience in the diagnosis of EMF sensitivity. His comment in response to a request for a diagnosis was, in part:

I remain uncertain about whether this is a genuine organic disorder or a psychiatric complaint. I think we need expert scientific opinion about the level of electromagnetic radiation exposure when he is flying, and about whether or not there is a valid means of diagnostic testing.[34]

Reports of Dr Pastor, Occupational Physician

1. Dr Pastor assessed Dr McDonald in February 2011 at the request of CSIRO. He provided reports dated 7 March 2011[35] and 6 April 2011.[36] He did not give evidence.
2. On 7 March 2011 Dr Pastor reported his diagnoses as migraines and *"reported non-specific symptoms attributed to low levels of electromagnetic radiation."[37]*
3. Having reviewed literature on the subject Dr Pastor went on to report:

..... I would find it difficult to clinically diagnose Dr McDonald's medical condition as electromagnetic hypersensitivity syndrome as per his treating doctors Dr Cooper and Dr Khoo.

However, over a number of years, Dr McDonald's social and occupational function has been significantly affected by this situation. He has made significant alterations in habits which make it very difficult for him to participate in the inherent requirements of his roles as described in the duty statement. Specifically, there would be difficulty with working with any electrical equipment including computers, mobile devices or attending areas/meetings within a WiFi network.[38]

Dr Weissman, Consultant Psychiatrist

1. Dr McDonald was assessed by Dr Weissman in August 2011 at the request of Dr McDonald's solicitors. He provided a report dated 31 August 2011[39] and gave evidence.
2. Dr Weissman diagnosed Dr McDonald as suffering from "*a chronic Adjustment Disorder with Depressed and Anxious Mood of mild to moderate intensity or severity related to his employment in a secondary, reactive or consequential manner.'[40]*
3. In addition Dr Weissman made the following observations:

- Dr McDonald *"came across as a very open, honest, reliable, genuine and credible person, historian and witness";*
- *"he has developed significant symptoms and features of frustration and exasperation, sadness and depression, as a consequence of his symptoms, as a consequence of his resultant losses, and the alleged lack of support from his*

employer, as well as the alleged way in which he has been treated by his employer." [41]

Reports of Dr Parkes, General Physician

1. Dr Parkes assessed Dr McDonald in March 2012 at the request of Dr McDonald's solicitors. He provided reports dated 17 April 2012[42] and 16 November 2012[43] respectively.
2. In the opinion of Dr Parkes, Dr McDonald suffers from basilar type migraine. The diagnostic criteria for this type of migraine is that the patient suffers from at least two of a list of reversible symptoms. Dr Parkes reported that at the time of assessment Dr McDonald suffered from four of the symptoms, namely vertigo, visual symptoms, ataxia and simultaneous paraesthesiae.[44]
3. Dr Parkes reported also:

The prognosis depends on his response to a specific treatment plan. A number of medications may be successful, particularly when combined with cognitive behavioural therapy.[45]

EVIDENCE OF NON-MEDICAL EXPERT

Dr Anderson, Engineer and Biophysicist

1. Dr Anderson reviewed various documents relating to this application at the request of the solicitor for Comcare. He provided an undated report under cover of a letter dated 10 April 2012[46] and gave evidence.
2. In the Executive Summary to the report Dr Anderson stated in part:

> *1.1 Having reviewed the documentation provided to me by the Australian Government Solicitor (AGS), and with regard to the published literature on electromagnetic hypersensitivity (EHS), I firmly believe that Dr McDonald does not exhibit an actual sensitivity to electromagnetic fields (EMF), but rather that his claimed EHS symptoms are associated with a much more plausible nocebo response, i.e. a conditioned response of adverse symptoms to the expectation of exposure to EMF.*
>
> *1.2 I make this conclusion based on the following:*
>
> > *1.2.1 Low level EMF bioeffects are biophysically implausible.*
> >
> > *1.2.2 Dr McDonald's EHS symptoms are claimed to occur at levels that are generally far below the safe limits prescribed by credible and authoritative national and international standards and guidelines for EMF safety.*
> >
> > *1.2.3 The mainstream view of reputable international health authorities such as the WHO and SCENHIR is that EHS is not caused by exposures to EMF, and that a nocebo effect is a plausible and likely alternative explanation.*
> >
> > *1.2.4 Peer reviewed reviews and meta-analyses of EMF provocation studies support the view that EHS is not caused by EHS exposure, but rather are likely due to nocebo effect.*
> >
> > *1.2.5 Inconsistencies, contradictions and lack of specificity in Dr McDonald's descriptions of EMF exposure scenarios associated with his EHS condition indicate that his symptoms are more aligned with his* expectation *of EMF exposure, rather than* actual *EMF exposure, which is consistent with a psychological nocebo response.*[47]

3. Dr Anderson provided a detailed analysis of the various frequencies emitted by the different sources which Dr McDonald says cause his symptoms. He states that these sources fall within the extremely low frequency and radio frequency bands of the electromagnetic spectrum. In his opinion non-ionising radiation such as extremely low frequency and radio frequency electromagnetic fields do not exhibit the adverse and stochastic (*i.e.* cumulative with exposure events) characteristics of ionising radiation (*e.g.* nuclear radiation and certain radiation from the sun), although this is a common misconception of the general public.[48]
4. Dr Anderson also expressed the opinion that EMF in commercial and light aircraft would be expected to be considerably higher than would be experienced in an office environment. In his opinion Dr McDonald's claim to be able to tolerate conditions in aircraft is inconsistent with his claimed difficulties experienced in the workplace and in urban areas. Further he says that attempts by Dr McDonald to shield himself by the use of protective clothing will only be effective if he is completely enveloped by the material.

LEGISLATIVE BACKGROUND

1. Subsection 14(1) of the *Safety, Rehabilitation and Compensation Act 1988* (Cth) provides:

> *(1) Subject to this Part, Comcare is liable to pay compensation in accordance with this Act in respect of an injury suffered by an employee if the injury results in death, incapacity for work, or impairment.*

2. *Injury* is defined in subsection 5A(1) of the Act. The relevant part of the definition reads:

***injury** means:*

(a) a disease suffered by an employee ...

1. *Disease* is defined in section 5B. The section reads:

(a) an ailment suffered by an employee; or

(b) an aggravation of such an ailment;

that was contributed to, to a significant degree, by the employee's employment by the Commonwealth or a licensee.

1. In subsection 4(1) *ailment* is defined:

***ailment** means any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development).*

ISSUES FOR DETERMINATION

1. The following issues arise for determination.

(1) Has Dr McDonald suffered an *injury* being an aggravation of an electromagnetic hypersensitivity syndrome, in accordance with subsection 14(1) of the Act?

(2) If so, when did he suffer the *injury*?

(3) Has Dr McDonald suffered an *injury* being chronic adjustment disorder with depressed moods, in accordance with subsection 14(1) of the Act?

(4) If so, when did he suffer the *injury*?

(5) If Dr McDonald has suffered an *injury,* being chronic adjustment disorder, with depressed moods, has the injury resulted in a permanent impairment in accordance with subsection 24(1) of the Act?

(6) Has Dr McDonald suffered an *injury* or injuries being migraines, in accordance with subsection 14(1) of the Act?

(7) If so, when did he suffer the *injury* or injuries?

REASONING

As to the claim for aggravation of electromagnetic hypersensitivity syndrome

Issue 1: Has Dr McDonald suffered an injury within the meaning of subsection 14(1) of the Act?

1. In deciding this issue it is necessary to determine the following:

(1) Has Dr McDonald suffered an *ailment* within the meaning of subsection 4(1) of the Act?

(2) If so, has he suffered an *aggravation* of that ailment?

(3) If so, was the aggravation of the ailment *contributed to, to a significant degree,* by Dr McDonald's employment by CSIRO?

2. I have found Dr McDonald to be an honest witness. I am satisfied that he has accurately described the symptoms from which he suffers and that he has not exaggerated his symptoms. I am satisfied also that, by reason of the medical advice he has received over many years, he believes that he suffers from electromagnetic hypersensitivity syndrome. I am supported in this conclusion by the opinions of Dr Weissman and Dr Stevenson. Both reported that in assessing Dr McDonald they found him to be a credible historian.

3. Comcare argued that electromagnetic hypersensitivity syndrome is not an ailment as the unchallenged evidence of Dr Cooper is that there are no diagnostic criteria for such a condition. I do not accept this argument. The definition of *ailment* does not require that it be a condition which fits within a particular diagnostic criteria. The definition is very broad, although in part circular in that it includes the word *ailment* as part of the definition.

4. The *Macquarie Dictionary* includes the following definitions:

Disorder: a derangement of physical or mental health or function;

Defect: a fault or imperfection.

1. I am satisfied that from about 1993 Dr McDonald has suffered from an ailment, albeit one which may not be the subject of a recognized diagnostic label. The condition he has described is that of suffering nausea, disorientation and headaches.[49] It is a condition which he believes was caused by exposure to electromagnetic fields. This condition is properly described as *a derangement of physical or mental health or function* and therefore is a *physical or mental ... disorder* or *defect* within the definition of *ailment* in subsection 4(1) of the Act.

2. Further I am satisfied that during the trials in 2006 and 2007, when Dr McDonald was exposed to increased EMF at work, the symptoms from which he suffered became worse and have continued to be worse than they were before the trials commenced. On the basis of his evidence I have found that he suffered increased dizziness, disorientation and nausea which lasted longer than previously. He also suffered from eczema, tinnitus and from pain in the left side of his skull prior to the onset of migraine headache.

3. On the basis of Dr McDonald's evidence I find that the trials which were carried out on him by CSIRO caused an aggravation of his pre-existing ailment and that the effects of this aggravation are continuing. Dr McDonald's evidence in this regard is supported by the evidence of Ms McDonald and the report of Mr Wilson, the Case Manager who supervised the trials.[50] It is also consistent with the symptoms recorded by Dr Khoo, Dr McDonald's general practitioner.[51]

4. There was considerable evidence called as to the effects, if any, of Dr McDonald's exposure to EMF as a result of his employment.

Various views were put ranging from those which supported the existence of a condition known as electromagnetic hypersensitivity syndrome to those supporting the contention that Dr McDonald's symptoms were a result of learned behaviour causing his expectation that he would suffer symptoms if he was exposed.

5. Having considered all of the expert opinion available I prefer the evidence of Dr Hocking to that of the other experts. He is highly qualified to express opinions on issues relating to EMF and gave considered and balanced responses to the questions put to him.
6. On the basis of Dr Hocking's evidence I am satisfied on the balance of probabilities that Dr McDonald has suffered either:

- an aggravation of his sensitivity to EMF; or,
- an aggravation of his symptoms by reason of his honest belief that he suffers from the condition of EMF sensitivity and that his exposure to EMF associated with the trials has worsened his sensitivity.

I accept Dr Hocking's evidence that provocation testing would assist in making a more specific diagnosis but I make no finding adverse to Dr McDonald by reason of the fact that such testing has not occurred.

1. I have considered the evidence of the well-qualified experts that Dr McDonald suffers from migraine, and in the opinion of Dr Parkes from basilar type migraine. However it is not in dispute that Dr McDonald has suffered migraine of varying intensity since he was a teenager. The argument put on his behalf is that the EMF to which he has been exposed has aggravated his condition of susceptibility to migraine. Those practitioners of the view that Dr McDonald suffers from migraine and not EMF sensitivity have not advanced a convincing argument to exclude EMF sensitivity. Although Dr Stevenson has diagnosed Dr McDonald as suffering classic migraine, he acknowledged that Dr McDonald's symptoms may be a result of a conditioned response.
2. I am not persuaded by the views of Dr Anderson as he is not medically qualified and is not qualified to express the opinions he has. As Dr Hocking pointed out, a "*good general knowledge of medicine*" is required to make a diagnosis.
3. For the purposes of this application it does not matter which of the alternatives is in fact the correct diagnosis. Both conditions are aggravations of an ailment and the evidence establishes that whichever is the correct diagnosis, it was contributed to, to a significant degree by Dr McDonald's employment by CSIRO.
4. The real issue between the experts was the diagnosis of the cause of Dr McDonald's symptoms. Having found that the symptoms are in fact being experienced by Dr McDonald and that those symptoms have been made worse by his employment, it is immaterial as to whether those symptoms have a determinable pathological cause or whether the cause is purely psychogenic.
5. I have reached my conclusion having taken into account what was said by the High Court in *Federal Broom Company Pty. Limited and Semlitch.*[52] In that matter the High Court was considering the provisions of State workers' compensation legislation, but the principles are applicable.

Kitto J (with whom Taylor and Owen JJ agreed) said:

Where it is possible to identify as a contributing factor to the aggravation, acceleration, exacerbation or deterioration of a disease some incident or state of affairs to which the worker was exposed in the performance of his duties and to which he would not otherwise have been exposed, I see no misuse of English in condensing the statement of the fact by saying simply that the employment was a contributing factor to the aggravation etc. It is in that sense that I should understand the language of the definition.[53]

Windeyer J said:

But I can see no need for the Court to put a label upon the applicant's illness, or to be concerned because witnesses labelled it differently.[54]

...

I pass then to the next, and I think more difficult, question, was this aggravation or deterioration contributed to by her employment? This requirement of the Act is not satisfied by showing only that a worker suffering from some disease would or might have suffered less severely if he had not been employed at all. When the Act speaks of "the employment" as a contributing factor it refers not to the fact of being employed, but to what the worker in fact does in his employment. The contributing factor must in my opinion be either some event or occurrence in the course of the employment or some characteristic of the work performed or the conditions in which it was performed. In this case it was said that the employment was a contributing factor in the worsening of the disease, because the applicant focussed her delusions of pain and discomfort upon her right side which she believed she had hurt when lifting a tea chest in the course of her work.

...

The question involved is difficult. Can the event to which a disordered mind irrationally attributes physical suffering, that is real to the patient but delusional, be properly called a contributing factor? Ordinary concepts of cause and consequence are perhaps not applicable. Yet it seems to me that the incident which precipitated or stimulated, however irrationally, the worsening of her condition could be regarded as a factor contributing to it.[55]

1. In *Commonwealth v Beattie* the Full Court of the Federal Court said:

Thus each case must depend upon its own facts. For present purposes it is enough to say that pain brought on by work activity may constitute an aggravation of a pre-existing injury even though no pathological change takes place.[56]

1. In *Wiegand v Comcare Australia[57]* the Federal Court stated:

23 In terms of the definition of disease, the question which the Tribunal was required to consider was whether Mr Wiegand's ailment or an aggravation of the ailment "was contributed to in a material degree by the employee's employment". In relation to the concept of employment as a contributing factor, the respondent concedes that the following passage from the judgment of Kitto J (with whom Taylor and Owen JJ agreed) in Federal Broom Co Pty Ltd v Semlitch [1964] HCA 34; (1964) 110 CLR 626 at 632 is directly applicable:

"Where it is possible to identify a contributing factor to the aggravation, acceleration, exacerbation or deterioration of the disease some incident or state of affairs to which the worker was exposed in the performance of his duties and to which he would not otherwise have been exposed, I can see no misuse of English in condensing the statement of the fact by saying simply that the employment was a contributing factor to the aggravation etc. It is in that sense that I should understand the language of the definition."

...

31... For that to be the case there is no requirement at law that the interpretation placed on the incident or state of affairs by the employee, or the employee's perception of it, is one which passes some qualitative test based on an objective measure of reasonableness. ***If the incident or state of affairs actually occurred, and created a perception in the mind of the employee (whether reasonable or unreasonable in the thinking of others) and the perception contributed in a material degree to an aggravation of the employee's ailment, the requirements of the definition of disease are fulfilled.*** (Emphasis added).

1. Based on what the Federal Court said Comcare argues that *"*[a] *perception of an event or state of affairs relates to the triggering aggravation, exacerbation or acceleration of the disease, not the belief of the disease itself." [58]* I do not accept that the Court intended that what it said was to be read as excluding the possibility that a *disease*, as distinct from an *aggravation of a disease*, could be suffered as a result of a perception by a worker. In the first sentence of paragraph 23 quoted above the Court refers to "*Mr Wiegand's ailment or an aggravation of the ailment*". However I do not need to decide this question as I am satisfied that the *ailment* from which Dr McDonald suffers is not itself a perception. In this case the perceptions, if any, of Dr McDonald are that the *disorder* (and therefore the *ailment*) from which he suffers is caused by exposure to EMF and that the *aggravation* of the *disorder* was caused by his exposure to EMF during the trials carried out by his employer.
2. For these reasons I determine that Dr McDonald has suffered an aggravation of an ailment that was contributed to, to a significant degree, by his employment by CSIRO. In so doing I have taken into account the matters contained in subsection 5B(2) of the Act. There is no evidence pointing to any factor other than his employment which has contributed to the aggravation. It follows that Dr McDonald has suffered an injury in accordance with subsection 14(1) of the Act.

Issue 2: When did Dr McDonald suffer the injury?

1. For the reasons already given I am satisfied that Dr McDonald suffered the injury between April 2006 and May 2007, being the period during which the trials were conducted by his employer.

As to the claim for chronic adjustment disorder with depressed moods

Issue 3: Has Dr McDonald suffered an injury (being chronic adjustment disorder with depressed moods) in accordance with subsection 14(1) of the Act?

1. On the basis of the evidence of Dr Weissman I am satisfied that Dr McDonald suffers from chronic adjustment disorder with depressed moods. I am satisfied that this condition is an *ailment* within the meaning of subsection 4(1) as it is properly described as a *mental disorder*.
2. Also on the basis of Dr Weissman's evidence I am satisfied that this ailment was contributed to, to a significant degree by Dr McDonald's employment with CSIRO. I accept the evidence of Dr Weissman that Dr McDonald has developed the disorder as a result of a number of factors:
   - his experience of significant stress, loss and uncertainty as a consequence of the symptoms and his employer's alleged management of them;
   - his sadness, grief and guilt resulting from the effect of his condition upon his wife and children;
   - a feeling of isolation from his family, his friends and his work colleagues;
   - his loss of his career.

Issue 4: When did Dr McDonald suffer the chronic adjustment disorder with depressed moods?

1. The evidence as to when Dr McDonald began to suffer this condition is unclear. Dr McDonald gave evidence that he first consulted Mr Needham, Psychologist, in the latter half of 2010. He had several consultations with Mr Needham.
2. Subsection 7(4) of the Act provides:

For the purposes of this Act, an employee shall be taken to have sustained an injury, being a disease, or an aggravation of a disease, on the day when:

(a) the employee first sought medical treatment for the disease, or aggravation; or

(b) the disease or aggravation resulted in the death of the employee or first resulted in the incapacity for work, or impairment of the employee;

whichever happens first.

1. In accordance with subsection 7(4) and on the evidence available I am satisfied that Dr McDonald suffered the injury being chronic adjustment disorder with depressed moods in the latter half of 2010. Had the evidence been available I would have determined that the date of the injury was the date of the first consultation with Mr Needham or the date Dr McDonald first consulted his general practitioner concerning this condition, whichever was the sooner.

Issue 5: Has the injury being chronic adjustment disorder with depressed moods, resulted in a permanent impairment of Dr McDonald in accordance with subsection 24(1) of the Act?

1. Subsection 24(1) of the Act provides:

Where an injury to an employee results in a permanent impairment, Comcare is liable to pay compensation to the employee in respect of the injury.

1. Subsection 24(2) provides:

For the purpose of determining whether an impairment is permanent, Comcare shall have regard to:

(a) the duration of the impairment;

(b) the likelihood of improvement in the employee's condition;

(c) whether the employee has undertaken all reasonable rehabilitative treatment for the impairment; and

(d) any other relevant matters.

1. I have accepted the evidence of Dr McDonald that he consulted Mr Needham, Psychologist, concerning his condition on several occasions in late 2010. Dr McDonald said that he was advised by Mr Needham to delay further consultation until after this application was determined. I accept this evidence.
2. Dr Weissman gave evidence that in his opinion it would be appropriate for Dr McDonald to seek treatment by a psychologist for a period of 12-24 months at three weekly intervals. I accept this evidence.
3. Dr Hocking gave evidence of the need to manage cases where symptoms are consistent with EMF sensitivity, whether or not those symptoms can be attributed to EMF with certainty.
4. On the basis of the evidence of Dr McDonald, Dr Weissman and Dr Hocking I am satisfied that Dr McDonald has not undertaken all reasonable treatment for the condition from which he suffers. I am satisfied also that there is a likelihood of improvement of his condition if such treatment is undertaken. For these reasons I am not satisfied that this impairment from which Dr McDonald suffers is permanent.

Issue 6: Has Dr McDonald suffered an injury or injuries, being migraines, in accordance with the provisions of subsection 14(1)?

1. On the basis of the evidence of Dr McDonald, Dr Cooper and Dr Khoo I am satisfied that as a result of the trials undertaken in 2007 and 2008 and within 2-3 days of the trials, Dr McDonald suffered migraine on a number of occasions. I am unable to determine how often this happened.
2. In *Canute v Comcare*[59] the High Court said:

... The primary concept in the definition of "disease" is "ailment", meaning "any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development".

...

At this juncture, three things may be observed about the concept of "an injury". First, the Act does not oblige Comcare to pay compensation in respect of an employee's impairment; it is liable to pay compensation in respect of "the injury". Secondly, the term "injury" is not used in the Act in the sense of "workplace accident". ***The definition of "injury" is expressed in terms of the resultant effect of an incident or ailment upon the employee's body.*** *Thirdly, the term "injury" is not used in a global sense to describe the general condition of the employee following an incident. The Act refers disjunctively to "disease" or "physical or mental" injuries and, at least to that extent, it assumes that an employee may sustain more than one "injury". The use in s 24(1) of the indefinite article in the expression "an injury" reinforces that conclusion.*[60] *(Emphasis added).*

1. As each of these episodes of migraine is properly described as a *disorder* I am satisfied that each is a separate *injury* in accordance with subsection 14(1) of the Act. The episodes of migraine are to be distinguished from the susceptibility to migraine, from which condition Dr McDonald has suffered for many years before his employment by CSIRO.
2. On the basis of the evidence of Dr McDonald and the medical practitioners to whose evidence I have referred I am satisfied that the migraines which immediately followed exposure to EMF were contributed to, *to a significant degree,* by Dr McDonald's employment by CSIRO.
3. I find that on several occasions Dr McDonald has suffered a *disease* in accordance with section 5B of the Act. As the exclusionary provisions in section 5A do not apply, it follows that Dr McDonald has suffered several injuries.

Issue 7: When did Dr McDonald suffer the injuries, being the several instances of migraine?

1. On the basis of the evidence of Dr McDonald I find that he suffered the migraines at unspecified times between April and July

2006 (inclusive) and between March and May 2007 (inclusive). On the basis of his reports to his employer[61] I am satisfied that he suffered migraine on at least the following dates:

- 24 July 2006;
- 19-27 April 2007 (periodically);
- 10 May 2007;
- 25 June 2007.

CONCLUSIONS

Application 2011/0031

1. The reviewable decision made by Comcare on 9 November 2010 (being reconsideration 23114453) will be set aside.
2. In substitution for the decision set aside it will be decided that:

   (1) Comcare is liable to pay to Dr McDonald compensation in accordance with the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of an injury, being an aggravation of a condition of nausea, disorientation and headaches;

   (2) the injury was suffered by him between April 2006 and May 2007.

Application 2011/5355

1. The reviewable decision made by Comcare on 22 November 2011 (being reconsideration 25525982) will be set aside.
2. In substitution for the decision set aside it will be decided that:

   (1) Comcare is liable to pay to Dr McDonald compensation in accordance with the *Safety, Rehabilitation and Compensation Act 1988* (Cth) in respect of an injury, being a chronic adjustment disorder with depressed moods;

   (2) the injury was suffered by him between 1 July 2010 and 31 December 2010.
3. The reviewable decision made by Comcare on 22 November 2011 (being reconsideration 25673997) will be set aside.
4. In substitution for the decision set aside it will be decided that as at the date of this decision Dr McDonald is not entitled to compensation in accordance with sections 24 and 27 of the *Safety, Rehabilitation and Compensation Act* 1988 (Cth) in respect of the injury being chronic adjustment disorder with depressed moods.

Application 2012/2826

1. The reviewable decision made by Comcare on 22 June 2012 (being reconsideration 27176306) will be set aside.
2. The matter will be remitted to Comcare for reconsideration in accordance with these reasons for decision.

Applications 2011/0031, 2011/5355 and 2012/2826

1. Within 14 days of the date of this decision each party may apply to the Tribunal for directions in relation to costs. Should such an application not be made the respondent shall pay the costs of the proceedings incurred by the applicant.

I certify that the preceding 122 (one hundred and twenty-two) paragraphs are a true
copy of the reasons for the decision herein of Deputy President J W Constance.

.....[sgd].....Associate

Dated : 28 February 2013

Dates of hearing	**26-29 November 2012; 20 December 2012**
Counsel for the Applicant	**Ms C Serpell**
Solicitors for the Applicant	**Ryan Carlisle Thomas**
Counsel for the Respondent	**Mr J Wallace**
Solicitors for the Respondent	**Australian Government Solicitor**

[1] This claim was made in Claim for Workers' Compensation dated 23 March 2010; exhibit T1. It is the subject of application 2011/0031.

[2] This claim was made by letter dated 10 October 2011 (exhibit T2) and is the subject of application 2011/5355.

[3] This claim was made in Compensation Claim for Permanent Impairment dated 18 October 2011 (exhibit T3) and is also the subject of application 2011/5355.

[4] This claim was made by letter of 10 May 2012 (exhibit T4) and is the subject of application 2012/2826.

[5] Exhibit A32.

[6] Exhibit A1, p.2.

[7] A Faraday cage is a device designed to contain electromagnetic radiation emitted by the computer.

[8] Exhibit A33.

[9] Exhibit A34.

[10] Transcript 26.11.12.
[11] Exhibit A1.
[12] Transcript 26.11.12.
[13] Exhibit A8.
[14] Transcript 27.11.12.
[15] Exhibit A7.
[16] Exhibit A7, para.10.
[17] Exhibit A16.
[18] Exhibit A17.
[19] Exhibit A16, p.2.
[20] Exhibit A16, p.3.
[21] Exhibits A18, A19 and A20.
[22] Exhibits A24 – A30 inclusive.
[23] Exhibit R1.
[24] Exhibit R1, p.5.
[25] Exhibit R1, p 5.
[26] Exhibit R4.
[27] Exhibit R4, p.6.
[28] Exhibit R4, appendix 7.2, p.22.
[29] Dr Hocking set out various case studies in his paper.
[30] Exhibit R4, appendix 7.2, p.22.
[31] Exhibit R4, appendix 7.2, p.23.
[32] See pp10-12 of the report.
[33] Exhibit R5.
[34] Exhibit R5, p.5.
[35] Exhibit A5.
[36] Exhibit A6.
[37] Exhibit A5, p.8.
[38] Exhibit A5.
[39] Exhibit A10.
[40] Exhibit A10, p.13.
[41] Exhibit A10, p.13.
[42] Exhibit A11.
[43] Exhibit A12.
[44] Exhibit A11, p.7.
[45] Exhibit A11, p.8.
[46] Exhibit R2.
[47] Exhibit R2, p 2.
[48]Exhibit R2, p.4.
[49] Exhibit A38.
[50] Exhibit A34.
[51] Exhibits A24 – A30 inclusive.
[52] [1964] HCA 34; (1964) 110 CLR 626.
[53] [1964] HCA 34; (1964) 110 CLR 626 ,632-633.
[54] [1964] HCA 34; (1964) 110 CLR 626, 639.
[55] [1964] HCA 34; (1964) 110 CLR 626, 641-642.
[56] [1981] FCA 88; (1981) 53 FLR 191, 201.
[57] [2002] FCA 1464.
[58] Respondent's Statement of Facts, Issues and Contentions filed 12 June 2012.
[59] [2006] HCA 47; (2006) 226 CLR 535.
[60] [2006] HCA 47; (2006) 226 CLR 535, 540.
[61] Exhibit A38.