GILBERT + TOBIN

LAWYERS

Submission to the Equine Influenza Inquiry

Equestrian Federation of Australia

1 April 2008

Gilbert + Tobin

2 Park Street
Sydney NSW 2000
Australia

GPO Box 3810
Sydney NSW 2001

T +61 2 9263 4000
F +61 2 9263 4111

DX 10348 SSE

www.gtlaw.com.au

Table of Contents

Overview of submission

1 The EFA has a clear interest in an effective system that ensures that exotic diseases do not enter Australia. However, lengthy post-arrival and pre-export quarantine periods (**PAQ** and **PEQ**, respectively) not only add to the expense of importing and exporting horses, they hamper Australians' ability to participate in international competitions overseas, and the ability of Australian event organisers to attract overseas entrants. The right balance needs to be struck, including through the use of new clinical tests that are available to detect the presence of disease during PEQ and PAQ. This submission is intended to mainly address the first limb of the inquiry. It presents proposed findings of fact that would establish the circumstances that have contributed to the outbreak of equine influenza in Australia.

Entry of equine influenza into Australia

2 While accepting that there are alternative possibilities, the inquiry can confidently find that equine influenza entered Australia by means of a sub-clinically infected horse entering undetected and infecting other horses within the horses quarantined during the relevant period (**the August Consignment**).

3 This submission treats the horses in the August quarantine in ECQS as one consignment. In fact, the horses that make up the August quarantine contingent were imported in 6 separate consignments of varying size. Since there are potential legal implications for the owners of the horses, it is probable that the inquiry will receive extensive submissions on the individual consignments. From the perspective of the failure of quarantine containment, however, there is little to distinguish between them.

4 Due to the clinical consequences of vaccination and the nature of equine influenza, even when Australian quarantine procedures are operating at peak efficiency the horse population in specific quarantine stations can be exposed to equine influenza. Coping with the threat of equine influenza therefore requires an effective post-arrival quarantine system.

5 The outbreak of equine influenza within the Eastern Creek Quarantine Station (**ECQS**) is consistent with the factual scenario presented above. Subsequent infection of the general Australian horse population, however, represents a failure of quarantine procedures. The relevant circumstances contributing to the outbreak are therefore the quarantine procedures and practices that were applied to the August consignment.

The failure of quarantine

6 Once equine influenza had infected the horses within the ECQS, it spread beyond the confines of quarantine into the native horse population. The failure of the post-arrival quarantine process is the primary explanation for the outbreak of equine influenza in Australia. The shortcomings in quarantine – both at the point of arrival and at the quarantine station itself – are the principal circumstances affecting the outbreak.

7 Other failings in the importation process contributed to the outbreak, but the infection of horses within the ECQS was well within the foreseeable scope of the quarantine process. The principal aim of quarantine procedures is to contain infectious diseases within one consignment of imported horses in order to protect the native horse population. The spread of the virus to horses in the general Australian horse population represents a fundamental failure of the quarantine process.

8 It is clear from the circumstances of the outbreak and the development of clinical symptoms that the disease first manifested within the ECQS. The possibility that equine influenza existed within the native horse population of Australia rather than spreading from the ECQS should be discounted. However, the evidence before the enquiry is not

sufficient to determine where the breach of quarantine occurred. AQIS practices both at the point of arrival and during subsequent quarantine should be considered circumstances that have contributed to the outbreak of equine influenza in Australia.

Point of arrival

9 There were a number of issues with the quarantine procedures in place at the point of arrival. There were no comprehensive written procedures outlining quarantine procedures for the unloading of imported horses. Although AQIS management identified some draft procedures for general quarantine, the first coherent guide to point-of-arrival quarantine was produced after the outbreak of equine influenza. In addition, there were non-essential staff and third parties at the point of arrival who were not subject to appropriate AQIS supervision. There are also significant issues with the decontamination procedures used by third parties. One of the reasons behind these failures was the low number of AQIS officers present at the point of arrival to supervise unloading and transport.

Quarantine at the ECQS

10 The basic structure of the quarantine should have been sufficient to prevent the spread of equine influenza from the ECQS horse population to the general Australian horse population. Even the 14-day quarantine period for temporary imports is sufficient to identify symptoms of equine influenza, as outlined in the expert report before the inquiry. There is no fundamental deficiency in Australian quarantine policy in this respect. The failure of quarantine at the ECQS, if there was one, was a function of the operating practices of the station.

11 Staff at the ECQS did not follow comprehensive written procedures from AQIS, instead relying on long-serving employees' knowledge of quarantine procedures. There was no comprehensive induction process for workers at the ECQS and no system in place to ensure all staff had received compliance training. Control of the ECQS was compromised by the ability of grooms to enter, exit and facilitate third-party access without AQIS supervision. There was no effective system in place for AQIS to monitor compliance with protective clothing and decontamination policies. There was no shared understanding between the grooms and AQIS officers over the ultimate responsibility for third parties introduced into the quarantine area.

Subsequent spread of the virus

12 After the infection of horses outside the ECQS, equine influenza spread rapidly through the native horse population. The outbreak was a result of the interaction between horse movement in NSW (particularly the Carroll's Ranch event) and the clinical characteristics of the virus itself (particularly its infectiousness). Although they cannot be addressed in the inquiry, these circumstances clearly contributed to the outbreak of equine influenza in Australia.

Characteristics of the equine influenza virus

13 Equine influenza is, as its name suggests, a sub-type of the influenza virus. There are two known sub-types, classified as H7N7 and H3N8. The first sub-type was predates the second, but both are associated with a series of subsequent outbreaks around the world. Viruses from the H3N8 sub-type have been the predominant viruses found in outbreaks of equine influenza since the mid-1908s. The H7N7 sub-type appears to have essentially died out, to the extent that the more modern vaccines for equine influenza do not provide H7N7 antibodies.

14 The disease is highly contagious amongst horses and other equids (such as donkeys, mules and zebras). As Dr Gilkerson notes in his report, after the emergence of the H3N8 sub-type it was estimated that one infected horse was capable of infecting an average of 10 susceptible, in-contact horses.[1] The disease is, of course, particularly contagious in a naive population such as Australia's, where virtually all horses are susceptible.

15 The clinical signs of equine influenza are a harsh, non-productive cough, pyrexia (fever) and a watery nasal discharge. Infected horses can spread the disease very effectively to in-contact horses through the cough. Airborne transmission is a very effective mechanism for the spread of the virus via the respiratory system. Although the disease has a high morbidity, it has a very low mortality and fatalities are rare.

16 Significantly for this outbreak, the symptoms of the equine influenza virus are significantly suppressed in vaccinated animals. The broad aim of vaccination is to prevent disease. The most effective way to achieve this is to prevent infection in otherwise susceptible animals. In the case of equine influenza, however, the available vaccines do not provide long-term immunity to infection but rather stimulate the host animal's immune response. As a result, the effect of vaccination is to reduce the intensity and duration of clinical symptoms. This is helpful for individual infected animals but makes it far more difficult to recognise the clinical signs associated with equine influenza.

17 The incubation period for equine influenza in affected animals can range from 1 to 5 days.[2] This period depends on the infective dose of the virus received by the animal. The infective period of an affected horse can be as high as 14 days, but in usual circumstances will not exceed 7 days. There is no evidence of a long-term carrier state.

18 The equine influenza virus is not particularly durable when outside a host animal.[3] It is inactivated by a 30 minute exposure to ultraviolet light or being heating at 50°C for the same period. Relatively short (15 minute) exposure to sunlight at temperatures as low as 15°C also inactivates the virus. In specific circumstances, the virus can survive for significant lengths of time outside a host animal. From Dr Gilkerson's report, it has been demonstrated to persist in:

- *canal water (pH 6.9) for up to 18 days at 22°C and 14 days at 37°C;*
- *tap water (pH 7.0) for 14 days at 4°C and up to 2 days at 37°C;*
- *horse blood for 18 hours at 37°C;*
- *horse urine (pH 8.0) for 5–6 days at 4°C, 15°C and 37°C;*
- *soil under dark storage at 18°C for 24 hours; and*
- *soil under sunlight at 15°C for 8 hours.*[4]

[1] WIT.INQ.001.0029.
[2] WIT.INQ.001.0031.
[3] WIT.INQ.001.0030.
[4] WIT.INQ.001.0030.

Clinical testing

19 Beyond the clinical signs of equine influenza, the disease can be diagnosed through clinical testing. There are two methods for achieving this – directly testing for the virus in clinical samples, or by establishing seroconversion (an increase in antibodies against the virus).

20 There are three established tests to detect the presence of antibodies to equine influenza: Haemagglutination Inhibition (HI), Single Radial Haemolysis (SRH) and Competitive Enzyme-Linked Immunosorbent Assay (C-ELISA) testing. These methods of diagnosis involve taking blood samples and sending them to a laboratory for testing.

21 HI compares two samples from the same horse, taken two weeks apart, to establish an increase in seroconversion. It is thus able to establish the presence of equine influenza even in vaccinated horses. SRH is more versatile, able to compare two samples or diagnose on the basis of a single sample.[5] However, it is prohibitively labour intensive. C-ELISA uses one sample but only indicates the presence of antibodies to any influenza A nucleo protein.[6]

22 None of these tests are particularly effective in the quarantine process, because of the length of time required to achieve results and the difficulties posed by vaccinated horses. Since equine influenza in endemic in most countries that export horses to Australia, the imported horses must be vaccinated against it. The C-ELISA test will therefore report a positive result despite the absence of the active virus.

23 The second method for detecting equine influenza involves directly testing for the presence of the viral antigen. In this case, the sample taken can be a nasal swab rather than blood. The two accepted laboratory tests are the Real Time Polymerase Chain Reaction (RT-PCR) test and the antigen-capture ELISA test. They have the advantage of testing only for the active disease. Using RT-PCR, horses that were previously infected but have stopped shedding the virus can be successfully tested.

24 Both tests are relatively similar in effectiveness and can provide a relatively fast turn-around once the sample arrives in the laboratory. The RT-PCR test takes much longer, taking up to a day where the antigen-capture ELISA test can return a result within 45 minutes.

25 There are also a range of more generalised immunoassay tests, which have not been fully evaluated with regards to equine influenza but are effective in detection of the influenza A virus more generally. They have the advantage of portability and have been used extensively in other jurisdictions (notably Hong Kong, which has tested for equine influenza with the commercial Directigen Flu A test as part of its quarantine procedures).

Infection of the ECQS horse population

26 There are several possible explanations for the infection of the ECQS horse population. These are identified and evaluated in the expert report prepared by Dr Gilkerson, but because the method of infection informs the remainder of the facts at issue it is worth briefly examining.

[5] T3266.

[6] WIT.INQ.001.0015.

27 There are four possible scenarios that explain the infection of the August consignment quarantined at the ECQS:

(i) A sub-clinically infected horse could have escaped detection during its pre-export quarantine and entered the ECQS to undergo post-arrival quarantine.

(ii) Equipment contaminated with the virus could have been imported with the consignment and infected them either on the plane or at some point after arrival.

(iii) A person could have carried the virus into the ECQS after exposure to infected horses prior to embarking onto their flight to Australia.

(iv) A person could have carried the virus into the ECQS after exposure to infected horses within Australia.[7]

28 Based on the duration of the flight and the clinical characteristics of the virus, the three other scenarios should be dismissed. In laboratory trials, the virus has been preserved for extended periods of time in various conditions (notably warm canal water and soil). However, it is highly unlikely that the virus could have survived outside of these optimal conditions away from a host animal.

29 As Dr Gilkerson stated:

> *For the timelines that were looked into as to when horses first started showing signs of influenza at Eastern Creek, I think this is the scenario that fits best with the timelines. This virus has been shown repeatedly to travel best inside the host, being the horse, and if you are thinking about, when you look at the data on how long it survives on equipment, on material, you're looking at, at best, around 12 hours, that sort of time frame, whereas inside a horse, the horse can be infectious for a number of days.*[8]

30 While accepting that the other options outlined above remain theoretically possible, we suggest that the most likely scenario should be preferred. The inquiry should find that equine influenza arrived in Australia via a sub-clinically infected import horse in the August consignment. The relevant circumstances contributing to the outbreak are therefore the quarantine procedures and practices that affected the August consignment.

31 In a practical sense, it is not possible to eliminate the possibility of equine influenza entering Australia by the means described above. The vaccination of imported horses reduces both the duration and infectiousness of the virus, but also makes it more difficult to diagnose by suppressing the clinical symptoms.[9] The importation of a horse with a sub-clinical infection cannot be discounted unless absolute reliance is placed upon the pre-export quarantine in the country of origin.

32 Accepting this, post-arrival quarantine must be of sufficient duration to detect equine influenza in imported horses. In theory, the quarantine period of 14 days is sufficient to detect the development of equine influenza in a consignment of horses.[10] Based on the clinical course of the virus, 14 days is sufficient even where a sub-clinical horse arrives in quarantine and the illness is misdiagnosed as travel sickness. The development of the virus in other horses will be detected before the quarantine period ends.

---

[7] WIT.INQ.001.0052 at [79].

[8] T66.

[9] WIT.INQ.001.0050 at [77].

[10] WIT.INQ.001.0050 at [35].

33 It should be accepted that there was no fundamental defect or flaw in the overarching quarantine policy, if enforced correctly. However, it is self-evident that effective containment was not achieved during the quarantine period for the August consignment.

34 It is worth noting at this point that previous epidemics in other countries have entered the native horse population in the way outlined above – the importation of sub-clinically infected horses by air, followed by a failure of post-arrival quarantine. Epidemics of equine influenza in Dubai, Hong Kong, India, the Philippines and South Africa all fall within this category.[11]

Pre-export quarantine

35 The introduction of a sub-clinically infected horse points to a failure of pre-export quarantine in the country of origin. Australia's quarantine requirements call for a period of 21 days quarantine in an approved country of import, after an extensive period of residency in that country.[12] Horses imported temporarily for racing or competition (ie. those that will be exported within 2 months after arrival) have a reduced quarantine period of 14 days.

36 The presence of sub-clinical equine influenza should be detected during the required period of pre-export quarantine, even for temporary imports. An initial misdiagnosis as travel sickness upon arrival in pre-export quarantine is entirely consistent with the course of the illness in vaccinated horses, but the length of the quarantine should ensure that it is detected prior to exporting the horse consignment. This is confirmed by the clinical evidence before the inquiry.[13]

37 In any event, the existing requirements for the importation of horses do not assume the success of pre-export quarantine. Although AQIS documentation notes that Australia has confidence in the certifying procedures in the countries that it accepts horse imports from, post-arrival quarantine procedures are necessarily predicated on the failure of pre-export quarantine.[14] In any event, the inquiry heard evidence of quarantine procedures in approved import countries which fell short of that confidence.

38 The quarantine system set up in Ireland was criticised by several parties during the inquiry. From the evidence led, pre-export quarantine was carried out on private farms with periodic visits from government veterinarians. Clearly, this level of unsecured quarantine combined with ad hoc supervision falls below the standards anticipated by the Australian government. Evidence before the inquiry also suggested a potential failure to reach expected standards of quarantine procedure in Japan with regard to failure to shower in.[15]

39 It is clear that there are questions surrounding the pre-export quarantine of the horses of the August consignment. This is consistent with the outbreak of equine influenza amongst the horses in the ECQS, since an effective pre-export quarantine for the period required by AQIS would have enabled the pre-export diagnosis of the quarantined horses.

40 There are alternative explanations to a failure of pre-export quarantine. Although the virus is not very durable once detached from a host animal, it could theoretically transmit to the consignment horses from the equipment used during the flight. If the equipment was used with infected animals in a pre-export country immediately prior to use with the

[11] WIT.INQ.001.0050 at [14].
[12] AQIS.0001.001.0344.
[13] WIT.INQ.001.0050 at [35].
[14] DAFF.0001.069.2323.
[15] T815.

consignment horses on the flight, it would fit within the reasonable window of survival outside a host animal.

41 Nor is the source of the sub-clinical infection particularly relevant to the recent outbreak of equine influenza. Pre-export quarantine cannot be relied upon to protect Australia from infectious disease, which explains the existence of post-arrival quarantine procedures. In any event, the standard of foreign pre-export quarantine lies outside the control of the Australian government. In that respect, the origin of the sub-clinical infection is ultimately not a contributing factor. Post-arrival quarantine must be predicated on the failure of pre-export quarantine.

Documentation

42 The inquiry should find that AQIS has routinely accepted altered horse health certificates, but that this practice did not make a significant contribution to the outbreak of equine influenza in Australia.

43 Evidence placed before the inquiry identified a number of occasions on which compromised import documentation (particularly horse health certificates) was accepted by AQIS staff as valid. Some of this documentation was of a type that should clearly not have been accepted without raising significant questions over its validity. The particular examples identified in evidence were certificates in which sections had been whited out and written over, particularly the authorising veterinarian's signature.[16]

44 The most egregious example of this process involved the veterinary health certificate for the horse Elusive Quality.[17] The authorising veterinarian's signature had been whited out and written over, but dated one day prior to the vaccination it intended to certify.[18] It was also noted in evidence that in some circumstances part-time workers evaluated the validity of such certificates. It was admitted that there were no standing AQIS guidelines or procedures governing the acceptance or rejection of such altered certificates.[19]

45 In the context of the present outbreak, the failure to ensure that import documentation was accurate and valid is best seen as symptomatic of the flaws in AQIS administration. Although the inquiry has heard evidence of problematic documentation being accepted, it seems unlikely that the particular breaches identified contributed to the spread of equine influenza. The altered certificates do, however, indicate systematic problems with a lack of written guidelines regarding quarantine procedures and a reliance on assumed staff experience.

Vaccination of imported horses

46 Although the evidence suggests that the horses in the August consignment were all vaccinated as required, the lack of strict adherence to best practice regarding incoming horse health certificates leaves open the possibility that one or more may have been unvaccinated. In addition, Australian quarantine policy did not specify the kind of equine influenza vaccine that was to be used in imported horses.[20] Many commercially available

[16] T2701.
[17] AQIS.2002.027.0022.
[18] AQIS.2002.027.0022.
[19] T2702.
[20] T2903.

vaccines contain outdated strains and provide inadequate coverage against modern strains of equine influenza.[21]

47 As stated above, the most probable explanation for the entry of equine influenza virus into Australia is a sub-clinically infected horse. Vaccination of the entire consignment of horses imported into Australia does not eliminate this possibility. In fact, the presence of a sub-clinically infected horse is entirely consistent with comprehensive vaccination of import horses.

48 From the expert evidence before the inquiry, vaccination does not prevent infection but rather partially suppresses both the symptoms and viral shedding.[22] Although there is a period of immunity from equine influenza granted by exposure (whether through vaccination or infection with the live virus), it is short-lived. The primary aim of vaccination against equine influenza is to reduce the severity of its clinical symptoms.[23]

49 One necessary consequence of vaccination is therefore to make equine influenza more difficult to recognise clinically. This possibility is recognised in analysis of the advantages and disadvantages of vaccination of horses imported into Australia.[24] The vaccination of imported horses reduces both the length of the infection and its clinical morbidity, but it also suppresses the symptoms of the virus without eliminating its ability to infect other horses.

50 To some extent, therefore, the failure to ensure that horses in the import window were vaccinated as required was not relevant to the entry of equine influenza into the ECQS. However, unvaccinated horses shed the virus to a much greater extent than vaccinated horses and are correspondingly more likely to facilitate its spread. The extent of the outbreak within the ECQS horse population would therefore be exacerbated by the presence of susceptible horses.

51 Although the issue of vaccination could therefore be said to have contributed to the outbreak of equine influenza, it is in itself only an accelerant. If the post-arrival quarantine was carried out effectively, the virus would have been properly contained within the ECQS.

Point of arrival

52 The evidence presented to the inquiry raises a number of issues with the quarantine practices at the point of arrival. Any consignment of horses imported into the ECQS is susceptible to quarantine failures at the point of arrival. However, although it is clear that the procedures and practices throughout the importation process are not perfect it is not possible to protect the ECQS (or indeed any quarantine station) from an outbreak of infectious disease.

53 In the specific circumstances of this outbreak, it is likely that the spread of the disease within the ECQS was not related to the procedures at the point of arrival. These procedures have more significance in terms of the spread of equine influenza within the general Australian horse population and will therefore be assessed later in the submission.

---

[21] T2903 – T2910.

[22] WIT.INQ.001.0050 at [77].

[23] WIT.INQ.001.0050 at [74].

[24] WIT.INQ.001.0050 at [77].

Infection of quarantined horse consignments

54 At a basic level, the purpose of quarantine at the ECQS is to prevent the spread of equine influenza amongst the general horse population of Australia. The role of the quarantine process is to protect the native horse population at the expense of the quarantined horse population. It is foreseeable that even where quarantine procedures are operating at peak efficiency, the horse population in specific quarantine stations would from time to time become infected with equine influenza.

55 Given the similarity of symptoms between sub-clinical equine influenza and travel sickness, there are no reasonable measures that would absolutely guarantee the health of the horses within a given quarantined consignment.[25]

56 In light of the nature of the illness and the probability of its entry via a sub-clinically infected imported horse, it is probable that the outbreak of equine influenza *within* the ECQS was unrelated to the circumstances outlined above. The subsequent spread of equine influenza to the native horse population, however, represents a clear failure to maintain effective quarantine.

Failure of containment

57 The outbreak spread from the horses under quarantine in the ECQS to the native horse population. Any suggestion that the virus was present in Australia before the August 2007 consignment arrived at the ECQS should be rejected based on the negative test results of all Australian horse exports in the period prior to August 2007.[26] Furthermore, it is highly improbable that a horse from outside quarantine infected the horses within the ECQS before the disease was diagnosed in any native horse.

58 This failure of containment is the principal reason behind the introduction of equine influenza. The circumstances that have contributed to this failure are, in a very real sense, the circumstances that have contributed to the outbreak of equine influenza in Australia.

59 The precise point at which it spread beyond the August consignment is difficult to determine. Given the variation in incubation periods (which are inversely proportional to the severity of the virus exposure) and the impracticality of determining when individual horses were infected, it is not reasonable to identify the exact moment or method by which the outbreak spread beyond quarantine.[27] There are several scenarios that explain the failure of quarantine.

Method of outbreak into general horse population

60 There are several possible explanations for the outbreak of equine influenza amongst the general horse population:

(i) An infected horse in the August consignment spread the virus to the general horse population via people, equipment or materials associated with the air journey or point of arrival.

[25] T52.
[26] WIT.INQ.001.0050 at [85].
[27] WIT.INQ.001.0050 at [35].

(ii) An infected horse in the August consignment spread the virus to the general horse population via people, equipment or materials associated with the quarantine period at the ECQS.

(iii) An infected horse within the ECQS could have transmitted the disease to nearby properties via airborne spread.

(iv) The virus could have been carried by a person who contacted infected horses before boarding their flight to Australia, subsequently spreading it to the general horse population and the quarantined horses within the ECQS.

(v) The virus could have been present in the ECQS already, reactivating to infect the August consignment and simultaneously spreading into the general horse population.

(vi) A native version of equine influenza may already have present in Australia and spread to the ECQS from the general horse population.[28]

61 Airborne spread, transmission via airline passenger, extant virus at the ECQS and native Australian equine influenza should all be rejected based on the expert evidence.[29] The evidence of Dr Gilkerson and Dr Britton, respectively a virologist and an epidemiologist, should be preferred on this issue.

62 From Dr Gilkerson's report on the virus, transmission via airline passenger is highly unlikely. The extant live virus within the ECQS is similarly discounted by his report, while the native disease theory is contradicted by the clean tests of exported Australian horses.

63 The possibility of airborne spread is discounted on the basis of prevailing weather conditions and the pattern of subsequent spread within NSW. The evidence of Dr Britton, an epidemiologist, supports this conclusion. She noted that the prevailing weather conditions and the detected infections were not consistent with airborne spread from the ECQS.[30] It should be noted, however, that the pattern of infection cannot be definitively outlined. The available data on the symptom development of infected horses is not sufficiently detailed for an accurate chronological map. Consequently, Dr Britton consistently deferred to virological evidence on the likelihood of the potential vectors.[31]

64 We suggest that the evidence supports the contention that quarantine was breached at either the point of arrival into Australia or during the quarantine period at the ECQS. Both stages have several factors that may have contributed to the transmission of equine influenza to native horses. Although it is unlikely that all the factors described contributed to the actual outbreak, none can be discounted in the circumstances since the exact point of quarantine breach is impossible to determine.

Potential adverse findings relating to individuals involved in the failure of quarantine

65 Counsel assisting has provided a summary of potential adverse findings against both AQIS personnel and private veterinarians. The proposed findings in relation to AQIS personnel represent a failure to establish an effective functional structure with regards to the management of horse quarantine. It also reflects an apparent inability or unwillingness of some AQIS staff to acknowledge these failures or actively seek solutions.

[28] WIT.INQ.001.0050 at [82].
[29] WIT.INQ.001.0050 at [83].
[30] T4031 and T4033.
[31] T4274 and T4275.

66 The proposed findings in relation to the private veterinarians appear similarly accurate. In some respects, however, it is unfortunate that these individuals have had their professional conduct so closely scrutinised.As trained veterinarians working with quarantined animals, they can be expected to be held to a high standard of biosecurity awareness. In the end, however, it was and is the responsibility of AQIS to ensure that biosecurity measures are enforced and adhered to.

Quarantine at the point of arrival

67 The evidence suggests that given the variable incubation period and the scattered diagnoses in the early days of the outbreak, it is impossible to definitively state the point at which biosecurity was compromised. Both the point of arrival and the later quarantine at the ECQS should be jointly considered the most likely scenario in the transmission of equine influenza to the general Australian horse population.

68 The potential for compromised biosecurity at the point of arrival is clear from the evidence submitted to the inquiry. In his written statement, Dr Phillip Widders recognised one possibility for the transmission of disease:

> *Of particular concern over the years has been the potential for import agents to attend the LTF* [livestock transport facility] *to clear imports of northern hemisphere horses, and then to attend New Zealand horse arrivals on the other side of the airport. Since New Zealand horses are released without PAQ* [post-arrival quarantine]*, this procedure has represented a risk for dissemination of infection from northern hemisphere horses.*[32]

AQIS procedures

69 The inquiry should accept that there were no comprehensive written procedures outlining quarantine procedures for the point of arrival. A number of AQIS personnel reported the absence of any detailed procedures for point of arrival and the ad hoc nature of the training and induction received.[33]

70 The lack of written procedures for the initial clearance of arriving horse consignments had a serious impact on the ability of AQIS employees to adequately control the point of arrival and implement appropriate procedures. The inadequate staffing of horse transfer at the point of arrival, noted below, is likely to have been identified were written procedures produced. Indeed, it was explicitly identified as a problem in the audit that followed the outbreak of equine influenza.[34]

71 Furthermore, there was an excessive reliance on common knowledge amongst industry operators. Although this reliance reflected a relatively high level of third party staff experience, it is clearly no replacement for written procedures. Quarantine procedures were carried out by people who lacked formal training and could not be expected to comprehend the rationale behind them.

[32] WIT.AQIS.006.0008 at [28].
[33] T175.
[34] AQIS.0002.015.0088.

Third-party access

72 Several witnesses noted the routine presence of unnecessary persons at the point of arrival while horses were being unloaded. AQIS staff acknowledged the presence of third parties as an ongoing problem with the arrival of imported horses.

73 It was suggested that this problem had been at least partially addressed by the time of the August consignment.[35] Although this evidence can be accepted for the majority of consignments during the year, it was acknowledged that shuttle stallions were a special case and that there continued to be a significant presence of non-essential personnel at the point of arrival for unloading these consignments.[36]

74 An internal AQIS email from Dr Widders to Dr Ainslie Brown reinforced the issues faced by veterinarians at the point of arrival.

> *Yan has found four to six additional visitors at the facility while he has been clearing horses, requires continual instruction to get them to keep clear of the horses, much less to refrain from handling them.*[37]

75 Evidence from AQIS officers noted that site access was not adequately controlled and that third parties observed and to some extent participated in the unloading of horses, particularly where they had an ownership interest in the horses being unloaded. These third parties were under no real supervision and there was no opportunity for AQIS staff to induct or train these parties in quarantine procedures.

76 Under examination, Dr Widders acknowledged the difficulty in preventing third party access at the point of arrival – particularly for third parties who seek direct access rather than going through the importer (in this case, Mr Cornter):

> *Q. You are aware as well, Dr Widders, that a number of people who attend the corral gain access through talking to security on the gates without any involvement of Mr Cornter?*
> *A. That's my understanding, yes.*
>
> *Q. Did you ever have discussions with people on security to say, "Don't let people in"?*
> *A. We've spoken to SACL, the Sydney Airport Corporation, about that issue since August and prior to that, and we have not been able to come up with a satisfactory response in terms of their ability to prevent people accessing the airport.*[38]

77 From the evidence presented, the inquiry should find that there were at relevant times unnecessary persons present at the point of arrival and that their presence was not under proper AQIS supervision or control. This was particularly true of consignments of shuttle stallions. Access to the point of arrival was not under sufficient control for effective quarantine measures.

---

[35] T1381.
[36] T1381.
[37] AQIS.2005.085.0005.
[38] T1125.

Protective clothing and decontamination

78 Following on from the failure to control third-party access to the point of arrival, the inquiry should find that visitors and workers at the point of arrival failed to properly decontaminate after contact or proximity with horses from the import consignment.

79 The AQIS veterinary officer in charge at the point of arrival, Yan Heesong, gave evidence that third parties other than the airstall grooms and incoming drivers were not subject to decontamination procedures:

> *Q. The people who were leaving the aircraft, other than via the airstalls, were obviously people who had been in contact with the horses for the whole of the flight?*
> *A. Yes.*
>
> *Q. And you were not requiring those people to wear protective clothing, nor were you requiring them to change or wash, were you?*
> *A. No.*[39]

80 Typical evidence from the grooms dealing with the shuttle stallions was that they assisted with the unloading of the horses and then travelled in the trucks or private transport to the ECQS. They reported limited AQIS supervision and a lack of instruction regarding quarantine.

81 Furthermore, evidence was presented that indicated that the decontamination of transport trucks was carried out by casual drivers employed by LTG. The training these drivers received was given by LTG and focused primarily on the workplace safety issues surrounding the use of Virkon (the disinfectant recommended by AQIS for decontamination of trucks). The washing was supervised by AQIS but not directed. The strapper's cabins and the front cabin of the truck were typically not washed.[40] In addition, the evidence before the inquiry states that on occasion the drivers used their own shovels to remove solid waste and replaced them in the strapper's compartment – although usually AQIS shovels from the site were used.[41]

82 The evidence given by these drivers and their management illustrates a systematic failure to implement proper quarantine practices. Even though the standard operating procedure generally functioned well in terms of basic biosecurity, there was no effective supervision of the practices and no consistent induction or training for the people actually carrying out the quarantine procedures.

83 In addition, even at peak efficacy the AQIS work procedures contained an unnecessary risk to quarantine. Although it calls for protective clothing for those involved in the unloading process, it does not require showering out. While this is not a problem for those staff going on to the ECQS, many staff involved in handling the horses at the point of arrival do not do so. The potential for this practice to breach biosecurity was raised several times by Dr Widders during the formulation of the work instructions and in the aftermath of the outbreak has been adopted as standard practice by AQIS.

[39] T603 – T604.
[40] T2399.
[41] T2435 and T2460.

84 Prior to August 2007, the standard practice at the point of arrival did not involve AQIS enforcement of protective clothing for third parties. This was confirmed by the AQIS veterinarian who attended the point of arrival at Sydney airport, Dr Phillip Widders:

> *Q. There is no practical reason why there couldn't be a requirement that you could not go to the transfer facility, you could not even be there, unless you were wearing overalls?*
> *A. I accept that, and that's part of the procedures that have been written since August that require anyone at the corral, anyone at the transfer facility, who attends to unload horses, to wear overalls, and equally anyone that gets off the plane to attend Eastern Creek, to shower out.*[42]

85 It is appropriate for the inquiry to find that there were systematic failures of decontamination at the point of arrival during the relevant period. The absence of written point of arrival procedures relating to decontamination and the consistent practice illustrated in evidence before the inquiry are likely to have made a major contribution to the outbreak of equine influenza in Australia. Following the clinical evidence given in Dr Gilkerson's report, the inquiry should find that the failure to implement adequate decontamination procedures for persons and equipment that contacted the consignment were significant factors in the failure of quarantine.[43]

AQIS staffing levels

86 The problem areas outlined above were exacerbated by the low numbers of AQIS staff at the point of arrival. It should be accepted that only one or two AQIS staff were present at the arrival of horse consignments. The AQIS veterinarians who usually staffed the point of arrival gave evidence that standard practice at the point of arrival involved only one or two officers.[44] With this level of staffing, supervision was spread thinly and many of the tasks associated with quarantine were delegated to the line operators.

87 Furthermore, the number of AQIS staff present meant that even the oversight that was provided was necessarily ad hoc. Drivers gave evidence that the level of supervision depended on the business of the AQIS officer on site and upon occasion did not go further than a cursory inspection to ensure that disinfectant had been used.

88 The inquiry should find that at relevant times there were insufficient AQIS staff to secure the point of arrival and maintain effective control over third parties.

Quarantine at the ECQS

89 The essential elements of the quarantine should have been sufficient to prevent the spread of equine influenza from the ECQS horse population to the general Australian horse population. There are different lengths of quarantine for temporary and permanent horse imports, with the shortest post-arrival quarantine (for temporary imports) being 14 days.

90 The 14-day quarantine period for is sufficient to identify symptoms of equine influenza, as outlined in the expert report before the inquiry. There is no fundamental deficiency in Australian quarantine policy in this respect. The failure of quarantine at the ECQS, if there was one, was a function of the operating practices of the station or its staff.

[42] T52 – T53.
[43] WIT.INQ.001.0052 at [82] & [83].
[44] T604.

91 Specific quarantine practices and procedures that more directly contributed to the outbreak of equine influenza are examined below.

AQIS quarantine procedures

The inquiry should find that there were no specific instructions from AQIS on maintaining quarantine at the ECQS. Instead, relevant staff operated on the basis of continuing existing practice. In her evidence,

The consequence of a failure to move the work instructions into finalised form was that the status of the procedures outlined was unclear. Where a finalised work instruction would become compulsory practice for AQIS officers, a draft instruction in the absence of any competing written procedures seems to be persuasive rather than binding.

92 However, the procedural failure to finalise work instructions is ultimately irrelevant to the first limb of the inquiry. AQIS management considered the work instructions a codification of existing practice, and in any event believed that staff would follow the draft instructions before they were finalised. The relevant findings of fact that the inquiry should make on this point are twofold.

93 Firstly, the inquiry should find that the responsible AQIS staff at the ECQS did not consider the existing instructions to be applicable to their station. Gregory Hankins, the ECQS station manager, gave evidence of the failure to adopt the promulgated work instructions:

> *Q. Were you satisfied about that as at August, that there were work instructions and that they were being complied with?*
> *A. No, I wasn't satisfied with that.*
>
> *Q. Well, was the position in relation to horses as at August that you were aware that there were national work instructions and you were aware that they were not being complied with?*
> *A. I was aware that there was a document that was headed "Horse Manual", "Operational Manual for Horses", but I do not believe that that was a national work instruction that had been implemented.*[45]

94 Secondly, the inquiry should find that there was no audit program in place to check whether or not relevant staff were in fact adopting the existing instructions. The post-entry animal quarantine program manager, David Ironside, gave evidence of the failure to audit work practices:

> *Q. Wasn't it, therefore, your responsibility to see whether what the region was supposed to be doing was in fact being done?*
> *A. Yes.*
>
> *Q. Did you do that?*
> *A. No.*[46]

95 The evidence concerning the drafting process behind the work instructions is therefore beyond the scope of the first limb of the inquiry. The force of draft work instructions as compared to finalised work instructions is a moot point, because staff at the ECQS never

[45] T1909.

[46] T280 – T281.

adopted the practices in the instructions and there was no process implemented to audit their compliance. These two factors combined should be considered a significant contributing factor to the outbreak of equine influenza in Australia.

Security of facility

96 Related to the problems with third-party access was the security system in place at the ECQS at that time. Access the station was through an electric gate activated with an automatic pass. Access to the horse quarantine facility within the station was by means of an ordinary padlock at the entrance to the section.[47] Grooms residing at the ECQS had access to both pass and key, enabling them to grant access to veterinarians and farriers where required. Since AQIS staff were employed at the station on a 9am-5pm basis, after-hours access for third party contractors was entirely without oversight.

97 After the outbreak of equine influenza, a security guard was employed for the station and is present to manage access at all hours.[48] In addition, an AQIS officer is now stationed at the ECQS on the same terms.[49] These changes have established meaningful control over access to quarantined horses.

98 The access regime in place during the relevant period should be found to be a circumstance that contributed to the outbreak of equine influenza in Australia. It allowed privately-employed grooms to grant after-hours access to veterinarians and farriers without any AQIS oversight of their activities.

Control of third parties accessing the ECQS

99 Evidence before the inquiry suggests that AQIS officers relied too heavily on third-party staff to understand and implement quarantine procedure without supervision or instruction. The possibility of unsupervised third party access outside business hours relies on individual contractors taking responsibility for compliance with quarantine procedures.

100 The quarantine manager for International Racehorse Transport (**IRT**), Pauline Cushing, gave evidence that the veterinarians from the Randwick Equine Centre did not undertake the required quarantine measures.

> *Q. You have not seen any of these people showering out in the grooms quarters, have you?*
> *A. No, but they did - Randwick always wash their hands, and in the past, if we've had a sick horse, meaning "sick" we don't know what the sickness is, then they have showered out. But for everyday and travel sickness, no, they just wash their hands.*[50]

101 The implications of this selective showering out were highlighted in subsequent questioning:

> *Q. And the vets get underneath the horse, so that if the horse is shedding virus, as it might be with equine influenza, the vets are likely to get the virus over their hair, for example?*

---

[47] AQIS.0002.014.0961.
[48] AQIS.0002.014.0962.
[49] AQIS.0002.014.0962.
[50] T1506.

A. Yes.

Q. You never observed any of these vets washing their hair, did you?
A. Not their hair, no.[51]

102 There is evidence that even where third party staff entered during the day and sought AQIS advice, they were not showering out as required. One of the salaried farriers employed by Coolmore Stud, for example, reported working on quarantined horses without receiving any instruction from AQIS on decontamination.

103 Bradley Hinze confirmed in evidence that upon attending the ECQS for the first time, he had contacted AQIS staff upon arrival and before leaving.[52] In his statement to the inquiry, he reported:

> *I worked continuously until I finished at about lunchtime. I packed up my tools and equipment and put them back in my vehicle. I washed up at the horse wash bay. I washed my hands and face with soap from my own truck. I did not shower or change my clothes. I was not required to clean or disinfect my equipment.*[53]
>
> *I said to him words to the effect: "Am I right to go?"*
>
> *He said words to the effect: "Yes, see you."*[54]

104 The devolution of quarantine enforcement to privately employed third parties was evident in several aspects of the evidence put to the inquiry regarding practice at the ECQS. From 2005, the washing of horse floats leaving the station was performed not by AQIS staff but by the individual drivers of the vehicles concerned. This oversight was provided by a single level 4 AQIS officer irrespective of the workload, as Rhonda Christesen reported:

> *Q. What often happens when you have a number of truck drivers and you are over the other side of the stalls?*
> *A. The horses come in - well, some days, you are very pushed. You are sort of running from a float that has just finished unloading to the wash bay to make sure that the other float is clean and that they disinfect out in the correct manner, and then you're running back to do the next float.*[55]

105 With increased staff, AQIS could have ensured that the horse transports and third-party staff were properly decontaminated. Instead, they provided a very broad oversight that guaranteed the basic appearance of decontamination but was unable to assess the quality of the cleaning process – this is demonstrated by the consistent failure of truck drivers to clean the strapper's compartment, despite its potential role in the transmission of equine influenza.

106 There is no reasonable alternative to increased AQIS supervision of the decontamination process. The grooms were private contractors employed by the owners or transport company. Often, as in the case of the Irish grooms from Coolmore Stud, foreign grooms

---

[51] T1507.
[52] T1843.
[53] WIT.COOL.007.0004 at [18].
[54] WIT.COOI.007.0004 at [19].
[55] T1443.

from the horse's country of origin. The truck drivers were casual employees of the trucking company contracted by the horse importer.

107 Within this employment structure, the difficulty of properly inducting and training these third parties in quarantine processes meant proper biosecurity required direct AQIS responsibility for the decontamination process. Having AQIS staff available to properly decontaminate the trucks (particularly the strapper's compartment and equipment) would have significantly reduced the chance of incorrect or insufficient decontamination.

108 The inquiry should find that quarantine practices at the ECQS were not under sufficient AQIS control or supervision. Further, this lack of direct responsibility was a significant contributor to the outbreak of equine influenza in Australia.

Division of responsibility

109 There was a systematic confusion over the division of responsibilities between AQIS staff and third-party contractors at the ECQS. Although informal structures of notification were referenced in evidence, the grooms and AQIS staff coexisted without a shared understanding of their respective undertakings within the quarantine structure.

110 Evidence was given, for example, that AQIS staff were inspecting the temperature boards to ensure that grooms were filling them out but were not evaluating the actual temperatures written.[56] Despite the risk of equine influenza and the advantages of early diagnosis, there was no-one responsible for coordinating the notification of unusually high temperatures. This had the clear potential to delay the detection of equine influenza, particularly in vaccinated import horses where initial symptoms resemble travel sickness.

111 Under the ECQS procedures as adduced into evidence, all staff entering and leaving the station were required to sign a ledger. The grooms, however, believed that this ledger was an operational health and safety issue rather than a quarantine requirement. Grooms gave evidence that when they left the ECQS, they notified their senior groom instead of signing the ledger. The senior grooms, in turn, were responsible within their own organisation for ensuring that was always at least one groom from their company at the ECQS.

112 As a result, the grooms operated independently from AQIS supervision to a much greater extent than that envisaged in the draft written procedures that were produced in evidence. AQIS staff gave evidence that they were not made aware of any hierarchical structure within the group of grooms. The evidence of AQIS officer Rhonda Christesen demonstrates this disconnect:

> *A. I understood from Greg - later on, I started to find out that there was somebody looking after the various grooms. But at the beginning, I was not aware - no-one sort of said, "Gerry St John is in charge of the Coolmores", or, "Pauline Cushing is in charge of IRT". I wasn't provided with that information. It was only what I gleaned as I went along that I came to realise that certain people had certain functions - extra functions.*
>
> *Q. Did you have any understanding as to who might advise you if, for example, one of the Coolmore horses became sick in quarantine?*
> *A. They didn't come to me. They wouldn't come to me. I had very little dealings with the Coolmore or the Darley grooms, apart from the induction and walking around*

[56] T1415.

and seeing them on the occasions when I did go over to the horse facility. Sickness was reported more to John and Greg, and I don't know whether that came through Mr St John or who actually provided that information to them.[57]

113 This is related to the absence of detailed written procedures for the ECQS. In evidence, attention was drawn to documents signed by the grooms accepting AQIS quarantine conditions. These conditions brought third parties introduced into quarantine by the grooms under the grooms' authority and responsibility. This evidence was accepted by the grooms to whom it was put, but all claimed that they were unaware of the condition.[58]

114 Whatever impact this process might have on individual legal liability, as a quarantine procedure it created a confusion over responsibility. It should be accepted that the grooms were under the impression that the veterinarians and farriers they called out were under the control and responsibility of AQIS. They formed this impression from the general practice at the ECQS, regardless of their technical acknowledgement of responsibility.

115 This confusion, combined with the security system in place at that time, allowed the grooms to regularly bring third parties inside the quarantined area to work with horses without taking full responsibility for their compliance with quarantine procedures. AQIS staff were similarly uninvolved with the conduct of these third parties because the grooms could bring them in without any AQIS involvement.

The general spread of equine influenza

116 Once equine influenza breached the ECQS, its rapid spread within the native horse population was a function of the pattern of horse movements within NSW and the clinical characteristics of the virus. The spread of the virus through horses that competed at the Carroll's Ranch event neatly demonstrates the kind of gathering that enabled the outbreak to spread as it did. The equine influenza virus has a high morbidity rate and its ability to spread in a susceptible horse population has been demonstrated in outbreaks in several different countries around the world. These factors fall outside the scope of the second limb of the inquiry, but were certainly important contributors to the outbreak of equine influenza in Australia.

The Carroll's Ranch Event

117 The first reported cases of equine influenza in the general horse population were initially detected around 21 August. Horses at Arcadia, Cooranbong, Tamworth and Sydney all showed symptoms of equine influenza during a 48-hour period. These early cases were subsequently joined by a large number of infected horses spread over a wide region of NSW. The common link between these geographically disparate horses is their attendance at an equestrian event at Carroll's Ranch in Maitland (**the Carroll's Ranch event**).

118 From the scale and timing of infection of horses that attended the event, Dr Britton concluded that there was at least one infected horse present.[59] During the inquiry, extensive evidence was presented in an attempt to identify the source of the infection at the Carroll's Ranch event. There were several witnesses who reported seeing or hearing

[57] T1440.
[58] T1784 – T1785.
[59] DPI.0001.002.0019.

horses coughing during the event. However, the eyewitness evidence was so inconsistent that it is not open to the inquiry to positively identify the infected horse or horses.

119 Even if the evidence from riders had been accurate enough to identify the horse that was exhibiting symptoms, there is no guarantee that the inquiry's findings would be more useful. At best, it would enable the inquiry to identify the precise method in which biosecurity at ECQS was compromised. The evidence on quarantine practices, however, has identified so many serious flaws in procedure that the identification of the particular method by which equine influenza entered the general horse population is not very meaningful.

120 It is open to the inquiry to make a finding that there was an infected horse at the Carroll's Ranch event and that this horse was the source of a great many infections in subsequent days. The first limb of the terms of reference for the inquiry, however, does not encompass how the virus spread once within the general horse population. There is consequently no need to make a finding of fact concerning the spread of the virus within the general horse population.

Summary

The relevant findings of fact for the first limb of the inquiry should be:

(i) Equine influenza entered into Australia through the importation of a sub-clinically infected horse in the August consignment.

(ii) The Australian government's post-arrival quarantine period satisfies clinical requirements for the containment of equine influenza within the quarantine station.

(iii) The failure of AQIS to implement clinical testing within the importation process hampered its ability to diagnose subclinical equine influenza.

(iv) The outbreak of equine influenza within the ECQS was a foreseeable consequence of the presence of a sub-clinically infected horse, rather than a failure of Australian quarantine procedures.

(v) The outbreak of equine influenza within the general Australian horse population had its origin in an infected horse in the August consignment.

(vi) The point of arrival of the horses of the August consignment is a possible point of transmission of equine influenza to the general Australian horse population.

(vii) There were insufficient written AQIS procedures dealing with the quarantine control of the point of arrival.

(viii) AQIS control at the point of arrival was not sufficient during the relevant period and non-essential third parties were present at the unloading of horses.

(ix) Third parties present at the point of arrival and involved in the unloading of horses were not wearing protective clothing and did not decontaminate properly.

(x) There were only 1 or 2 AQIS officers at the point of arrival, a number insufficient to ensure proper quarantine controls in the absence of third parties trained in quarantine procedures.

(xi) The ECQS is a possible point of transmission of equine influenza from the August contingent to the general Australian horse population.

(xii) Staff at the ECQS did not follow comprehensive written procedures from AQIS, instead relying on long-serving employees' knowledge of quarantine procedures.

(xiii) There was no comprehensive induction process for persons working at the ECQS and no system in place to ensure staff had received compliance training.

(xiv) Basic quarantine procedures were neither followed by staff nor enforced by AQIS. There was no audit procedure to identify these failings.

(xv) Control of access to the ECQS was compromised by the ability of grooms to enter, exit and facilitate third-party access without AQIS supervision.

(xvi) There was no system in place for AQIS to monitor other parties' compliance with decontamination and quarantine policies.

(xvii) There was no shared understanding between the grooms and AQIS officers over who had responsibility for third parties introduced into the quarantine area.

Solicitor for Equestrian Federation of Australia Limited