

IN THE PLANNING AND ENVIRONMENT COURT  
AT BRISBANE

No. BD 4658 of 2004

BETWEEN: **CAROL JEANETTE BOOTH**

Applicant

AND: **FRIPPERY PTY LTD (ACN 010 890 007)**

First Respondent

**MERVYN MEYER THOMAS**

Second Respondent

**PAMELA ANN THOMAS**

Third Respondent

**AFFIDAVIT**

Filed on: ... February 2007

Filed by: Environmental Defenders Office (Qld) Inc  
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I, Dr Jonathan James Hanger, Director of Veterinary Services, Australian Wildlife Hospital at Beerwah, in the State of Queensland affirm:

1. I have been asked by the applicant to give veterinary opinions on matters related to the potential of electric grid systems to cause injury or harm to flying foxes.

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Deponent

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Justice of the Peace / Solicitor

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AFFIDAVIT OF JONATHAN  
JAMES HANGER  
Filed on behalf of the Applicant  
PEC-4

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2. I have been instructed and I understand that:

(a) I have a duty to assist the Court; and

(b) My duty to the Court overrides any obligation I may have to any party to the proceeding or to any person who is liable for my fees or expenses.

**Qualifications and experience**

3. My formal qualifications are Bachelor of Veterinary Biology (UQ 1991), Bachelor of Veterinary Science (Honours) (UQ 1992) Doctor of Philosophy (Veterinary Pathology and Virology) (UQ 2000). **Exhibit JJH-1** to this report is a true and correct copy of my resume.

4. I have been involved in the rescue, rehabilitation and captive care of wildlife since 1987. I have been involved in the veterinary care and diagnosis of wildlife since 1992. I am currently employed as the senior veterinarian and Director of Veterinary Services at the Australian Wildlife Hospital based at Australia Zoo. That hospital provides veterinary services for the animal collection at Australia Zoo and also approximately 3500-4000 sick, injured and orphaned wild animals each year.

5. I have significant experience in the examination, treatment and diagnosis of disease and injury in a wide variety of Australian and exotic fauna species including flying foxes.

6. For the purposes of illustration, approximately 140 flying foxes have been admitted for treatment to the Australian Wildlife Hospital in the past year. The hospital has been operational since late 2003.

**Flying fox death, injury and harm from electrocution**

7. Electrocution is a common cause of death or injury of flying foxes accounting for approximately 8% of flying fox admissions to our hospital of which 50% are euthanased, based on data collected over the past year.

8. It is not uncommon for electrocuted female flying foxes to be presented dead or injured with dependent young still clinging to them. Such young may or may not have also suffered electrocution injuries. My experience with electrocuted flying foxes is limited to those injured by contact with the domestic power grid. These animals are generally severely injured or burned, and are mostly found on the ground in close proximity to the site of injury.

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Deponent

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Justice of the Peace / Solicitor

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9. In my experience, flying foxes suffering from electrocution injuries, (mainly burns), show signs of severe pain, for which potent pharmacological pain relieving medicines (including strong narcotic analgesics) are often required. I believe that it is a proper assumption that flying foxes affected by electrocution injury and burns suffer pain of a similar magnitude to that suffered by humans with similar injuries. The distribution of burns in electrocuted flying foxes is variable, but commonly includes severe burns and tissue damage to the wings and legs consistent with entry/exit wounds where the electrical current has been concentrated by the anatomy of the area on its pathway through the body.
10. In my experience, flying foxes that have survived severe electrocution events generally have two or more severe burns adjacent to which there are usually areas of severe acute inflammation and tissue swelling. **Exhibit JH-2** to this affidavit is a series of photographs of a dead flying fox showing a typical distribution of burns caused by electrocution. Flying foxes injured in this way have a poor prognosis and are generally euthanased.
11. I have read and agree with the report of Dr Hugh John Spencer, affirmed 31 August 2005 (to the extent that my limited knowledge of electrical physics allows), particularly paragraphs 14-18 that deal with the pathophysiology and mechanisms of tissue damage and death associated with electrocution. I am unable to comment on what current would represent a risk of harm to a flying fox. However, I agree with Dr Spencer, in that currents that are insufficient to cause overt burns or tissue damage may cause other physiological effects that result in harm or death, such as internal burns and tissue damage, cardiac arrhythmia, loss of consciousness, convulsions, tetanic muscle contraction and the like. Mechanical injury or trauma caused by falls or violent muscle spasms are common in electrocuted humans, and in my experience also occur in electrocuted flying foxes. Furthermore, sublethal electrocution events on pregnant flying foxes may cause abortion, and on females with dependent young may cause young to be dropped, or creched young to be neglected.
12. I am unable to comment on the likelihood of the most recent variation of the respondents' electric grid (the "Mark VII") to cause burns or other physical or physiological lesions in flying foxes coming in contact with it. There are many variables that determine the degree and type of injury that occurs when a living organism is exposed to an electric current. However, it is my opinion that any level of current that is sufficient to cause significant muscle contraction (whether single or sustained) in a flying fox on contact, has the potential to cause harm or death to the flying fox, and or a dependent young. Furthermore, sublethal injuries that do not prevent the flying fox from escaping the immediate surrounds of the grid may cause death or significant morbidity later. Failure to account for this possibility may give a false impression of the safety of the so-called "sub-lethal" grid.

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Deponent

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- 13. I am unable to comment on the likelihood of an individual flying fox repeatedly visiting a farm site at which they have had an unpleasant experience. In other words, I cannot comment on the deterrent potential of sublethal electrocution of flying foxes by the electric grids. However, my limited knowledge of flying fox behaviour and ecology would lead me to believe that foraging site selection by the colony may not be significantly affected by the adverse experiences of a few individuals, which may lead to repeated visits to a particular site that has grids present, in spite of a level of adverse experience of individuals within the colony.
- 14. It is my opinion that collision of flying foxes in flight with the wires of an electric grid may be of sufficient impact to cause wing membrane injury and possibly fracture of bones. I cannot comment on the likelihood of such injuries occurring per collision event, except that it is likely that injuries would be more likely, and more severe as the speed at which the collision occurred increased.

**Costs of rehabilitation**

- 15. In respect of the estimated costs of rehabilitating flying foxes by the Tolga Bat Hospital, provided in the affidavit of Dr Carol Booth, I consider the amounts to be quite conservative. In our hospital, (which has both paid staff and volunteers) the daily cost of hospitalization would be in the order of \$20-\$40 per day, excluding the costs of veterinary procedures.

**Declaration**

- 16. The factual matters stated in this affidavit are true, to the best of my knowledge. I have made all enquiries considered appropriate in review of this matter. The opinions stated in the affidavit are genuinely held by me, and I have referenced all matters I consider to be significant. I understand my duty to the Court and believe I have complied with this duty to the best of my ability. To the best of my knowledge there are no readily ascertainable additional facts that would assist me in reaching more reliable conclusions.

Affirmed by Jonathon James Hanger )  
 at ..... this )  
 .... day of February 2007 )  
 Before me: )

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 Deponent

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 Justice of the Peace / Solicitor