The NIEMR/EMF controversy: the social construction of scientific knowledge and science policy in the 'Gibbs' powerline inquiry 1990/91

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Recommended Citation
The NIEMR/EMF controversy: the social construction of scientific knowledge and science policy in the ‘Gibbs’ powerline inquiry 1990/91

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The NIEMR/EMF Controversy:

A thesis submitted in fulfilment of the requirements for the award of the degree of

DOCTOR OF PHILOSOPHY

from

THE UNIVERSITY OF WOLLONGONG

by

David W. Mercer, B.A. (Hons)

Department of Science and Technology Studies
1993
DECLARATION

This work has not been submitted for a degree to any other university or institution.

David W. Mercer
Acknowledgements:

I would like to thank first, June for her love, energy, nous, endless patience and word processing skills, and second, Andrew for his loyalty in waiting for the 'boat to come in', and being an all round good grommet. Without their emotional support this thesis could not have been written.

Thanks also go to my parents, Alex & Shirley Mercer, and to Robert and Sharon for their endless support and camaraderie.

Numerous participants in the EMF debate graciously gave me their time and shared various insights with me into the politics of EMF. In particular I would like to thank Des Evans, William Gilmore, Mary Jones and Ian MacMillan.

The writing of this thesis was supported by a Commonwealth Scholarship and casual lecturing/tutoring at the University of Wollongong and the University of Technology Sydney. I would like to thank Gustavo Guzman, Simon Wilson, Colin Griffith, Mary Cawte, Dave Selden and Ian Hampson for being supportive colleagues in these workplaces. Also thanks to Jim Falk for comments on a draft of the thesis.

Last, but not least, I would like to thank John Schuster for his inspirational “iron law of composition”, intellectual insight, constructive criticisms of a number of drafts of the thesis and his ability to grasp ideas in their infancy and help promote them into academic argument.

D. W. Mercer
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and Science Policy in the

SUMMARY

This thesis examines the scientific controversy concerning the health hazards of non-ionizing electromagnetic radiation (NIEMR) and electric and magnetic fields (EMF). It focuses on the social construction of scientific knowledge and political shaping of science policy which took place during the NSW State Government’s Inquiry into Community Needs and High Voltage Transmission Line Development 1990/91 chaired by Sir Harry Gibbs - the ‘Gibbs’ Inquiry’.

The thesis begins by providing an historical overview of the NIEMR/EMF debate. Next it reviews the literature on scientific/technical controversy leading to the development of an eclectic model for evaluating scientific/technical controversy. This model is then used to guide analysis of the Gibbs’ Inquiry. The social interests behind scientific argument appearing in two of the main submissions put before the Inquiry are analysed and similar patterns of argument and rhetoric are observed. Next, the micro-politics accounting for the Inquiry’s outcome of the recommendation of ‘prudent avoidance’ are detailed.

This work seeks to document an important emerging scientific controversy, provide a detailed history of an important piece of science policy decision-making, and apply insights from the sociology of scientific knowledge to improve understanding of the dynamics of the construction of controversial scientific knowledge in public settings.
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