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Another Man's Poison: Risk Management and Nuclear Power Generation

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The issue of whether to include nuclear power as a source of energy in the UK has been a bitterly fought debate, resurrected to prominence by a combination of government commitments to climate change and a projected shortfall in electricity supply as existing generating stations approach closure. The government has announced its intention to permit nuclear power stations as part of the mix of electricity sources it views as necessary to ensure a secure supply. However, arguments concerning the desirability and necessity of constructing a new fleet of civil power nuclear reactors are certain to continue and opponents may yet thwart investment in new equipment. In addition, despite a government intention to hasten the planning process, significant decisions involving the public remain to be made, particularly regarding the location of nuclear facilities.

The findings of this research indicate that the broader decision process concerning electricity production is conditioned largely by risk, and that it is enacted by a network of actors. The network consists essentially of a number of individuals with various responsibilities and interests, including members of the energy industry, government servants, scientists and academics, members of non-government organisations (NGOs) and other interested persons. These individuals all contribute towards or make judgements that when summed, affect the risk to which members of society are exposed. Of course, the network does not exist in a formal or recognised structure, although many of its members have jobs that require them to make technical, moral, legal, economic or administrative judgements that significantly affect the choices made by the network as a whole. Moreover, many of the network actors may contribute on a voluntary, unpaid or temporary basis only.

This study has identified that a fundamental reason for the intractability of the nuclear element of the energy decision process is

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largely the result of the risk some network members associate with risk mitigating measures preferred by other members. In particular, many of those who favour permitting new nuclear power stations to be built, have an overriding concern that the supply of electricity should be uninterrupted. These people view nuclear power as a means of mitigating the risk of supply interruption by increasing and diversifying the number of electricity sources, by using a fuel that is obtained from politically stable regions of the world, and which are different to those areas that are the sources of oil and gas. Those favouring new nuclear power stations also point to their lack of dependence on wind or wave conditions. By contrast, those who oppose the construction of new nuclear power stations have a particular concern with addressing climate change. Their preferred mitigation of the climate change risk is reduction in demand, energy efficiency, distributed power generation and renewable energy sources. Opponents to nuclear power see it as a distraction with unreliable safety. Those preferring nuclear power see renewable sources as unreliable. Both sides of the debate are unable to agree on a way forward precisely because they prioritise risk differently and their preferred risk mitigation is in itself an unacceptable risk to their opponents.

Because it is disagreement regarding risk mitigation measures that is the stumbling block, this study concludes that the risk perceptions of various stakeholders could best be incorporated into choices regarding bulk electrical power sources by adopting an approach that addresses the broader spectrum of stakeholder risk concerns – the reasons for certain electricity sources being preferred as mitigation, rather than merely contrasting the sources themselves. By so doing, the principal concerns of the key actors may be addressed, and attachment to specific mitigation measures – electricity sources - is unlikely to be immutable.

Although views regarding energy supply hazards are extremely varied and bound up in considerations of the natural environment and ethics, individuals can develop relationships of trust with opponents in the risk decision network. This research considered the approach taken by the Committee on Radioactive Waste Management (CORWM) as a prospective basis for addressing key decisions yet to be taken in other aspects of energy risk management, including choices for the locations of new nuclear power stations. CORWM adopted a deliberative approach to its task. That is, it formed policy on the basis of the articulation of factual claims and revealed preferences in a rational process with rules agreed in advance. The deliberative approach adopted by CORWM represents a robust model for future nuclear risk management decision-making that incorporates ethical issues. The

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transparency, thoroughness and inclusiveness such an approach brings to decision-making could foster the necessary stakeholder trust, enabling the broader spectrum of stakeholder risk concerns to be addressed. However, no decision making system is without fault and amongst the shortfalls of such a method is the potential for the legitimacy of the results to be retrospectively harmed by subsequent government action.

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