

## Impediments to the uranium industry's development

*For more than three decades, the Australian community has been assailed with false perceptions of danger or high risk emotively linked with such words as radiation, research reactor and uranium. In the absence of sound education and informed realism, some will react to this with fear and anger.<sup>1</sup>*

*For too long Australia's attitudes and policies governing uranium mining and the nuclear fuel cycle have been based on misconceptions, ignorance, and the occasional deliberate lie. The result has been unjustifiable restrictions on the development of new mines, which confers privilege on existing operations, and the perpetuation of negative attitudes towards nuclear power which, if not reversed, may see Australia fail to play its potentially major role in the supply of nuclear fuel to a successful, and expanding, world nuclear electricity industry.<sup>2</sup>*

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1 Professor Leslie Kemeny, *Exhibit no. 9, Power to the people*, p. 3.

2 Paladin Resources Ltd, *Submission no. 47*, p. 2.

## **Key messages —**

- **The key impediment to the growth of the uranium industry in Australia remains the prohibition on uranium mining in some states and the lack of alignment between federal and state policy.**
- **The restrictions on uranium mining are illogical, inconsistent and anticompetitive. Restrictions have impeded investment in the industry, and have resulted in a loss of regional employment and wealth creation opportunities, royalties and tax receipts. The only beneficiaries of restrictions are the three existing producers and foreign competitors.**
- **State policies that prevent development of new uranium mines should be lifted and legislative restrictions on uranium mining and exploration should be repealed.**
- **While widespread misconceptions about uranium mining and nuclear power persist, the industry's growth will be impeded. It is vital that the public's concerns be responded to. Information should be communicated both to the general public and opinion leaders that eases concerns and addresses areas of poor understanding.**

## **Introduction**

- 11.1 In conducting the present case study, the Committee received extensive evidence from stakeholders in the uranium industry, outlining a range of impediments to the industry's development in Australia. This chapter discusses the most substantial of these impediments and, where appropriate, outlines the Committee's recommendations for addressing them.
- 11.2 Impediments to the industry's growth in Australia can be broadly categorised as follows:
- general impediments to the industry;
  - impediments to existing producers;
  - impediments to junior exploration companies; and
  - public perceptions of the uranium industry and nuclear power.

- 11.3 General impediments to the industry have the potential to affect all uranium exploration and mining companies, irrespective of the size of the company or scope of its operations. These general impediments are of concern both to existing producers and junior exploration companies. The impediments identified in this category include:
- restrictions on uranium mining and exploration;
  - regulatory inconsistencies across jurisdictions;
  - lack of government assistance; and
  - sovereign risk.
- 11.4 Impediments to existing producers are those concerns that were cited exclusively by existing producers. In this context, existing producers or 'majors' are considered companies presently producing uranium and with a market capitalisation exceeding \$200 million.<sup>3</sup> Impediments identified by existing producers include:
- government scrutiny of sales contracts;
  - transportation;
  - labour and skills shortages; and
  - excessive reporting requirements.
- 11.5 Similarly, impediments to junior exploration companies are those cited exclusively by junior exploration companies. In this context, the phrase 'junior exploration company' refers to any small uranium exploration company not currently producing uranium, or whose market capitalisation falls below \$200 million.<sup>4</sup> Impediments within this category include:
- absence of infrastructure in some prospective mining areas;
  - labour and skills shortages;
  - geoscientific data;
  - access to capital; and
  - opposing influence of other industries.
- 11.6 Finally, negative public perceptions of the uranium industry and issues associated with communicating information were frequently cited, both

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3 House of Representatives Standing Committee on Industry and Resources (HRSCIR), *Exploring: Australia's Future*, Parliament of Australia, Canberra, 2003, p. 21. Available online: <<http://www.aph.gov.au/house/committee/isr/resexp/chapter3.pdf>>.

4 *ibid.*

by existing producers and by junior exploration companies, as key impediments to the industry's growth in Australia. Notwithstanding that this matter falls within the 'general impediments' category, its importance dictates more extensive treatment in a separate section of this chapter.

## General impediments to the industry

### Restrictions on uranium mining and exploration

*Over the past 30 years or so, Australia has been viewed as largely politically unstable in terms of supporting a sustainable uranium industry and this needs to change.<sup>5</sup>*

*The lack of alignment between State and Federal policies is the greatest impediment to the industry's development.<sup>6</sup>*

- 11.7 The Committee received extensive evidence that the prohibition on uranium mining, and in some cases also uranium exploration, by some state governments has been the single greatest impediment to the industry's growth in Australia. It is argued that this has resulted in an underdeveloped uranium industry, missed opportunities, and undesirable inconsistencies between jurisdictions. This section provides a brief background to the present restrictions on uranium mining and exploration, summarises the criticisms of these restrictions and their negative impacts, and suggests a way forward.

### Background

- 11.8 In 1984, the newly elected Australian Labor Party (ALP) Federal Government introduced the so-called 'three mines policy'. This policy nominated Ranger, Nabarlek and Olympic Dam as the only projects from which uranium exports would be permitted. These three mines (Nabarlek ceased processing stockpiled ore in 1988) are located in the Northern Territory (NT) and in South Australia (SA).
- 11.9 The 'three mines policy' was discontinued by the Commonwealth with the change of Government in 1996. However, the policy persists at the state government level, with uranium mining permitted only at the existing facilities in SA (from Olympic Dam, Beverley and Honeymoon) and the

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5 Heathgate Resources Pty Ltd, *Submission no. 49*, p. 2.

6 Nova Energy Ltd, *Submission no. 50*, p. 25.

NT (from Ranger).<sup>7</sup> Hence, uranium resources in Western Australia (WA) and Queensland cannot currently be developed because these governments will not grant mining leases for the purpose of mining uranium. Uncertainty as to whether new uranium mines could be opened in the NT was resolved by an announcement of the Australian Government in August 2005 that it would assume responsibility for approving new mines. This reflects the Australian Government's powers over uranium mining in the Territory contained in the *Atomic Energy Act 1953*. However, during the period that the 'three mines policy' prevailed market conditions (i.e. low uranium prices) were also not conducive to the opening of new mines.

- 11.10 The basis and extent of restrictions varies across the states. In Queensland and WA the state governments have announced that, as a matter of policy, they will not permit uranium to be mined. However, in these states it is possible for companies to explore for uranium. In contrast, during the 1980s Victorian and New South Wales (NSW) governments legislated to explicitly prohibit both uranium mining and exploration for uranium.<sup>8</sup> The WA Government has also foreshadowed legislative restrictions.<sup>9</sup>

### The cost of restrictions on uranium mining and exploration

- 11.11 Throughout the Committee's inquiry, prohibitions on uranium mining were consistently cited as one of the greatest impediments to the industry's development. For example, the Uranium Information Centre (UIC), claimed that:

... the current anti-uranium stance of several states clearly hinders the exploration for and development of uranium resources, as does a lack of bipartisan support at federal level.<sup>10</sup>

- 11.12 Summit Resources submitted that the state government restrictions result in:

... the lack of investment in uranium exploration, limited competition, loss of employment and wealth creation opportunities in other areas and States of Australia and a loss of a

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7 ALP, *National Platform and Constitution 2004*, section 68, viewed 27 April 2006, <[http://www.alp.org.au/download/now/platform\\_2004.pdf](http://www.alp.org.au/download/now/platform_2004.pdf)>.

8 See, for example: Minerals Council of Australia (MCA), *Submission no. 36*, pp. 2-3; Geoscience Australia (GA), *Submission no. 42*, pp. 17-18. In Victoria the prohibitions on exploring for and mining uranium and thorium are contained in section five of the *Nuclear Activities (Prohibitions) Act 1983*. In NSW, the prohibitions on prospecting for or mining uranium are contained in section three of the *Uranium Mining and Nuclear Facilities (Prohibitions) Act 1986*.

9 Association of Mining and Exploration Companies, *Submission no. 20*, p. 2.

10 UIC, *Submission no. 12*, p. 17.

major contribution to Australia's economic well being without delivering any benefits.<sup>11</sup>

- 11.13 Not only are restrictions on uranium exploration and mining an incidental hindrance to the industry's development, but it has been claimed that these prohibitions are deliberately constructed to ensure the stagnation of the industry. As Compass Resources observed:

The current structure of the uranium industry has been formulated in an environment where there has been a deliberate restriction placed on development.<sup>12</sup>

### Missed opportunities

- 11.14 It was submitted that the cost of uranium mine restrictions includes missed opportunities for Australia, and for certain states and territories in particular. These missed opportunities take the form of benefits of uranium mining, which are not able to be realised to their full extent, and they include:

- economic benefits for the nation and individual states and territories, through:
  - ⇒ direct and indirect employment;
  - ⇒ investment in exploration, equipment and new technologies;
  - ⇒ foreign investment in Australian operations;
  - ⇒ contributions to Australia's balance of payment figures;
  - ⇒ export earnings, also potentially off-setting negative impacts on Australia's coal exports of any international move to reduce global carbon emissions;
  - ⇒ long-term revenue sources, via royalty payments to state governments;
  - ⇒ payroll, consumption, company and personal taxes paid to state and federal governments;
  - ⇒ enhanced general economic activity and flow-on benefits;
- significant contributions to regional economies, through:
  - ⇒ improved infrastructure, including infrastructure related to communications, transport (access roads and railways), water supply and sport and recreational facilities;
  - ⇒ community and social infrastructure, particularly due to population increases in surrounding areas;

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11 Summit Resources Ltd, *Submission no. 15*, p. 4.

12 Compass Resources NL, *Submission no. 6*, p. 3.

- ⇒ increased housing;
- ⇒ large-scale construction projects;
- ⇒ health monitoring of local employees;
- ⇒ training and education opportunities;
- ⇒ local employment and business opportunities;
- environmental benefits:
  - ⇒ Australia could, through supplying uranium, contribute to reduced greenhouse gas emissions worldwide, as discussed in chapter four;
- benefits for Aboriginal groups and traditional owners, through:
  - ⇒ royalty and other payments;
  - ⇒ direct and indirect employment;
  - ⇒ business opportunities supporting the uranium industry;
  - ⇒ enhancing the capacity of Indigenous Australians to more effectively engage in the broader economy;
  - ⇒ cross-cultural training and awareness provided to non-Indigenous mineral company employees; and
- increased opportunities for Australian resource companies.<sup>13</sup>

11.15 The Australian Nuclear Science and Technology Organisation (ANSTO) noted that mining restrictions prevented Australia from realising the benefits of developing uranium resources summarised above:

... current policy in some states precludes the development of new mines from known resources, and other states have legislation that prohibits the prospecting for, or the mining of, uranium. It is therefore possible that Australia will not be able to maximise the benefits that could be obtained from its uranium resources.<sup>14</sup>

### Lost market share

11.16 Southern Gold noted that, as a result of restrictions on uranium mining and exploration, Australia has lost its advantage over competing uranium-producing countries:

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13 Jindalee Resources Ltd, *Submission no. 31*, pp. 2, 4; Arafura Resources NL, *Submission no. 22*, p. 8; Mr Michael Fewster (Eaglefield Holdings Pty Ltd), *Transcript of Evidence*, 23 September 2005, p. 24; Eaglefield Holdings Pty Ltd, *Submission no. 18*, pp. 2, 5; Compass Resources NL, *op. cit.*, pp. 2, 4; UIC, *op. cit.*, pp. 6, 8, 12, 13; Summit Resources Ltd, *op. cit.*, 15, pp. 3, 33; AMEC, *Submission no. 20*, p. 4; MCA, *op. cit.*, p. 14; Areva Group, *Submission no. 39*, pp. 14–15; ERA, *Submission no. 46*, pp. 1–2; Heathgate Resources Pty Ltd, *op. cit.*, p. 3; Nova Energy Ltd, *op. cit.*, pp. 11–13, 20; Southern Gold Ltd, *Submission no. 54*, pp. 6–9, 11.

14 ANSTO, *Submission no. 29*, p. 5. See also: UIC, *op. cit.*, p. 8.

With the effective moratorium on uranium exploration over the past 30 years, Australia has lost an economic and strategic opportunity to use its dominant resource position to become the leading supplier, researcher and manager of uranium resources.<sup>15</sup>

- 11.17 The Association of Mining and Exploration Companies (AMEC) argued that overseas uranium producers are the chief beneficiaries of Australia's uranium restrictions, with current restrictions on uranium mining and exploration essentially constraining:

... the readiness of people to invest in Australia's uranium exploration and mining and thereby effectively consolidates Canada's current advantage as the leading world producer of uranium.<sup>16</sup>

- 11.18 Mining restrictions have also meant that Australia's uranium exports are lower than they potentially could be and that the nation has lost market share to Canada. The Minerals Council of Australia (MCA) noted that:

Canada exports more uranium than Australia to world markets even though it has only 17 per cent of the world's Economic Demonstrated Resource (EDR) compared to 39 per cent for Australia. The reason is simply explained. It is due to the fact that Canada does not have a restriction on the number of uranium mines that are permitted to operate.<sup>17</sup>

- 11.19 Similarly, the Northern Territory Minerals Council (NTMC) observed that Australia had so far failed to realise its full potential as an exporter of uranium:

In the 1970s, Australia had a large competitive edge over Canada, which has now been surrendered. Canada ... currently has a position of dominance. Development of new uranium deposits ... would help Australia rapidly retrieve the lost ground ...<sup>18</sup>

- 11.20 Illustrating the importance of government support for a well-functioning uranium industry, AMEC compared the situation in Australia with that in Canada:

Australia's major competitor is Canada, which produces significantly more uranium than Australia and is strongly

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15 Southern Gold Ltd, *op. cit.*, p. 2.

16 AMEC, *op. cit.*, p. 3.

17 MCA, *op. cit.*, p. 9.

18 NTMC, *Submission no. 51*, p. 2.



expanding its capacity, facilitated by favourable government policy and operating conditions.<sup>19</sup>

11.21 Geoscience Australia advised that restrictions on uranium mining in Australia had resulted in some international unease, including within the Uranium Group, about the security of medium- to long-term supplies of uranium.<sup>20</sup>

11.22 Compass Resources further warned that the continued restriction of the uranium industry's development in Australia could result in Australian companies pursuing uranium projects offshore.<sup>21</sup>

11.23 The UIC also argued that the volatility of uranium mining policy in Australia had deterred substantial foreign investment in the industry.

... foreign investment for new mines ... particularly from North American and European financial markets, has been deterred by concern that public policy may restrict production.<sup>22</sup>

#### Exploration investment

11.24 The Committee received substantial evidence that restrictions on uranium mining had adversely affected exploration expenditure in Australia. It was suggested that the federal anti-uranium policies of the past had resulted in dwindling exploration investment, which had only recently started to recover. Submitters argued that a politically stable environment and bipartisan support for uranium mining would be necessary in order to boost the industry's activity in Australia.<sup>23</sup>

11.25 Missed opportunities for uranium exploration, as a result of mining restrictions, were raised by a number of witnesses. For example, the UIC noted that:

... virtually no new uranium exploration has been undertaken in Australia since 1983, due in part to confused government policies on uranium mining and export.<sup>24</sup>

11.26 GA confirmed that, in addition to other factors, restrictions on uranium production also contributed to the dwindling exploration expenditure.<sup>25</sup>

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19 AMEC, *op. cit.*, p. 2.

20 GA, *op. cit.*, p. 18.

21 Compass Resources NL, *op. cit.*, p. 4.

22 *ibid.*, pp. 12, 13. See also: Cameco Corporation, *Submission no. 43*, pp. 3–4.

23 See for example: Cameco Corporation, *ibid.*, p. 3; Mr Cedric Horn (Southern Gold Ltd), *Transcript of Evidence*, 19 August 2005, p. 96; CSIRO, *Submission no. 37*, p. 8.

24 UIC, *op. cit.*, p. 10.

25 GA, *op. cit.*, p. 23.

11.27 More broadly, Eaglefield Holdings asserted that:

... the ambivalent or negative policies of Governments in Australia to uranium projects generates a major disincentive for Australians to invest, at the predevelopment stage, in any resource project containing uranium.<sup>26</sup>

11.28 Compass Resources raised concerns about Australian exploration relative to its international competitors, observing that 'Australia lags behind Canada in exploration investment supporting the resource industry.'<sup>27</sup> It attributed this, in part, to the fact that equity markets in Canada have the benefit of predictable government policies on uranium exploration and mining. The Committee also notes the important role of the flow-through share scheme in Canada and points again to its recommendation in chapter three that such a scheme be introduced in Australia.

#### Polymetallic deposits

11.29 A further cost associated with uranium restrictions is that companies can effectively be obstructed from mining polymetallic deposits, which contain a number of different minerals. In the case of polymetallic deposits containing uranium, the extraction of other minerals necessarily precipitates uranium through a series of chemical processes. Eaglefield Holdings, owners of the Mulga Rock deposits (MRD) in WA, explained the conflicts involved in this predicament:

We could not produce nickel from our resource without first removing the uranium ... so we would have uranium in a solid form on the surface, in a drum, and the question is: what would we do with it? To suggest that we then tip it back in the hole is just ludicrous.<sup>28</sup>

#### Impact on states

11.30 Prohibition of uranium mining impacts directly on those states and territories that impose such restrictions. Not only do these states suffer from the missed opportunities identified above, they are particularly less attractive to some minerals companies because any uranium exploration in these areas would involve excessive risk. For example, Areva stated that:

... there is significant potential for uranium discoveries in other states of Australia, but at the moment it prefers to explore in those

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26 Eaglefield Holdings Pty Ltd, *op. cit.*, p. 4.

27 Compass Resources NL, *op. cit.*, p. 4.

28 Mr Michael Fewster, *op. cit.*, p. 29.

states that are not opposed to the concept of uranium exploration or mining.<sup>29</sup>

- 11.31 Deep Yellow explained that exploration in the NT became more appealing following Federal Government clarification that new uranium mines could be developed in the Territory:

That has changed our outlook a bit. Now we will proceed more confidently and undertake more work in the Northern Territory. Previously we had been looking outside the Territory for other opportunities.<sup>30</sup>

- 11.32 Southern Gold prefers to limit its operations to SA, whose government is more supportive of the uranium industry.<sup>31</sup> Likewise, Arafura Resources explained that, due to WA restrictions on uranium mining, the company would continue to concentrate its efforts in the NT:

From a commercial perspective, there is too much risk for me, with a junior company with a small bank balance, to undertake exploration in WA without knowing that I may be able to take commercial advantage of that discovery.<sup>32</sup>

#### Costs to exploration and mining companies

- 11.33 Not only did state and federal economies miss out on opportunities as a result of uranium mining restrictions, exploration companies were also significantly disadvantaged or delayed. For example, Eaglefield Holdings argued that its projects in WA could be much further advanced:

If it were not for the ban, we would effectively be two years into the project development phase and two years ahead of where we are now.<sup>33</sup>

- 11.34 Similarly, Cameco advised that its uranium exploration activities in WA were effectively on hold because of that state's uranium mining restrictions.<sup>34</sup>

#### Criticisms of restrictions on uranium exploration and mining

- 11.35 The Committee received extensive evidence outlining arguments against the present restrictions on uranium exploration and mining. For instance,

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29 Mr Stephen Mann (Areva Group), *Transcript of Evidence*, 23 September 2005, p. 3.

30 Mr James Pratt (Deep Yellow Ltd), *Transcript of Evidence*, 23 September 2005, p. 82.

31 Mr Cedric Horn, *op. cit.*, p. 18.

32 Mr Alistair Stephens (Arafura Resources NL), *Transcript of Evidence*, 23 September 2005, p. 54.

33 Mr Michael Fewster, *op. cit.*, p. 29.

34 Cameco Corporation, *op. cit.*, p. 5.

Summit Resources insisted that policies hampering the development of new uranium mines in Australia:

... cannot be justified on rational, factual, political, environmental, economic, commercial, scientific, hazard, health or safety grounds.<sup>35</sup>

11.36 AMEC also argued that uranium mining restrictions are futile, its view being that these policies:

... serve no useful purpose. All these constraints do is to favour our global competitors, notably Canada, and deprive Australia of billions of dollars of export revenue and employment opportunities.<sup>36</sup>

11.37 The MCA argued that the existing restrictions on new mines are flawed for five reasons:

- the lack of production restrictions on existing operations is inconsistent with the intent of restricting new mines. MCA claimed that: 'It is quite absurd to be placing artificial limits on the number of mines but no such artificial limits on the size of current mines';
- the restrictions have 'no discernable effect on nuclear power generation elsewhere';
- Australia's safeguard arrangements are effective in restricting nuclear weapons proliferation, which is one of the reasons given for imposing restrictions on new uranium mines;
- the industry's environmental and social stewardship standards are very high and have improved to such an extent that they go beyond the regulatory requirements of the industry; and
- the risks associated with nuclear energy generation and waste management have reduced as a result of improving technology.<sup>37</sup>

11.38 Compass Resources noted the contradictory nature of the state policies in relation to uranium mining:

Within Australia many in our industry are somewhat mystified as to why some states have selected uranium as a metal to black-list

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35 Summit Resources Ltd, *op. cit.*, p. 2.

36 Mr Alan Layton (AMEC), *Transcript of Evidence*, 23 September 2005, p. 13.

37 Mr Mitchell Hooke (MCA), *Transcript of Evidence*, 5 September 2005, pp. 21–22.

but at the same time are content that other states should continue with uranium mining and processing.<sup>38</sup>

11.39 Summit Resources argued that the exploration and mining prohibitions of the state governments are 'globally irrelevant' as other global suppliers, such as Canada, are prepared to make up any shortfall in Australian uranium supplies. Mining restrictions therefore do not have the desired effect of 'controlling the global supply and only reduces competition and serves to boost the uranium price.'<sup>39</sup>

11.40 Deep Yellow felt the mining restrictions were illogical on the grounds that they withhold uranium from countries that need nuclear energy to facilitate growth in an environmentally responsible manner:

... there are countries ... that need nuclear power as part of their energy mix if they are going to increase electricity supply and keep control of greenhouse gas emissions. I do not quite understand why Australia would deny assisting those countries by simply mining uranium, which is a safe, simple thing to do.<sup>40</sup>

11.41 Areva suggested that state governments reconsider their opposition to mining uranium:

Ultimately it is a resource, it is a value to the population, it is a value to the Australian economy and it is a value to the world as far as reducing greenhouse gases, so it should be considered with an open mind rather than a closed mind.<sup>41</sup>

11.42 Although it was argued that restrictions adversely affect all industry participants, evidence suggested that prohibitions against uranium exploration and mining have a more severe impact on junior exploration companies and those companies not currently producing. Summit Resources contended that:

Australia's current regulatory environment ... favours the entrenched position of three existing producers and leaves limited opportunity for the development of other mines by new entrants ... The two beneficiaries of this system are the three established Australian producers and the [rival] Canadian uranium industry.<sup>42</sup>

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38 Dr Malcolm Humphreys (Compass Resources NL), *Transcript of Evidence*, 16 September 2005, p. 61. See also: Mr Alan Layton, *op. cit.*, p. 16; Mr Richard Pearce (Nova Energy Ltd), *Transcript of Evidence*, 23 September 2005, p. 79.

39 Summit Resources Ltd, *op. cit.*, p. 37.

40 Mr James Pratt, *op. cit.*, p. 83.

41 Mr Stephen Mann, *op. cit.*, p. 8.

42 Summit Resources Ltd, *op. cit.*, pp. 2, 4, 5, 35.

- 11.43 Jindalee Resources also argued that the current limitations on uranium exploration and mining were illogical, as these activities may be permitted in one state or territory, while at the same time being prohibited across the border in a neighbouring jurisdiction. It was claimed this system was ‘anti-competitive’ and perpetuated:

... the entrenched position of [the] three existing producers and leaves limited opportunity for the development of other mines by new entrants.<sup>43</sup>

- 11.44 Among the companies that submitted to the inquiry, there was a consensus that it would be beneficial for the industry and to state and national economies if the states’ mining and exploration restrictions were removed. The UIC stated that:

It is important that state constraints on uranium mining and on proper consideration of nuclear power for Australia be removed.<sup>44</sup>

- 11.45 The MCA contended that, ‘based on demonstrated safety and environmental performance of existing mines, the MCA sees no justification for restricting the establishment of further uranium mines in Australia.’<sup>45</sup>

- 11.46 Arafura, Jindalee and Nova agreed, supporting the lifting of mining restrictions in WA and other states. Cameco concurred and called for:

... the support of both Federal parties and a change in position and attitude with respect to uranium in a number of States, in particular in Queensland and Western Australia ... A change in political will and direction is required to give the clear message to companies that it is worthwhile exploring for uranium.<sup>46</sup>

- 11.47 Similarly, AMEC recommended that, ‘there should be no undue restraint or discrimination against the development of uranium deposits’ and, other than safeguards arrangements to ensure the peaceful use of Australian uranium, ‘there should be no other constraints or restraints on the export of uranium.’<sup>47</sup>

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43 Jindalee Resources Ltd, *op. cit.*, p. 2.

44 UIC, *op. cit.*, p. 6.

45 MCA, , p. 9.

46 Cameco Corporation, *op. cit.*, pp. 3 and 6; Mr Alistair Stephens, *op. cit.*, p. 54; Arafura Resources NL, *op. cit.*, p. 10; Mr Donald Kennedy (Jindalee Resources Ltd), *Transcript of Evidence*, 23 September 2005, p. 59; Mr Richard Pearce, *op. cit.*, p. 71.

47 Mr Alan Layton, *op. cit.*, p. 13.

- 11.48 Arafura also encouraged the WA government to examine the data and facts associated with uranium mining rather than to be directed by a discussion based on 'emotion'.<sup>48</sup>
- 11.49 Although it was unclear how WA restrictions might be circumvented, Summit Resources recommended new 'Commonwealth powers to override the States and grant all necessary approvals for new uranium mines'.<sup>49</sup>
- 11.50 Eaglefield Holdings argued that WA State Government mining restrictions could not prohibit the mining of uranium on an existing mining lease (those without a 'no uranium mining' condition attached). If the State Government were to attempt this, 'they would have to resume ownership of the uranium, and that would obviously bring about issues of compensation and also sovereign risks.'<sup>50</sup> Eaglefield Holdings argued that 'theoretically, both Yeelirrie and Kintyre could be mined, or at least they could start a mine there, start mining uranium, process it ... and put it in a drum.'<sup>51</sup> However, the State Government could prohibit the movement of the uranium oxide concentrate (UOC) off the lease by preventing movement of radioactive materials on public roads.
- 11.51 Eaglefield Holdings speculated that the provisions of the Commonwealth Constitution relating to trade between the states could perhaps be 'tested to see whether it would be allowable to move yellowcake, particularly, for example, if it was transported on a private road' from WA to SA.<sup>52</sup> The private road specifically cited was the access road on the trans-Australian railway line. However, Eaglefield observed that companies with mining leases had no appetite to bring court action against the Western Australian Government.
- 11.52 Nova Energy, owners of the Lake Way and Centipede uranium deposits in WA, noted that although the mining lease at its Centipede deposit was issued *prior* to the current WA Government policy prohibiting uranium mining, the industry can only progress with the support of the State Government:

The company ... does believe that the industry can only progress in a sustainable way through a supportive government policy and

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48 Mr Alistair Stephens, *op. cit.*, p. 56.

49 Summit Resources Ltd, *op. cit.*, pp. 5, 35.

50 Mr Michael Fewster, *op. cit.*, p. 31.

51 *ibid.*

52 *ibid.*, p. 32.

legislation at *all* levels which recognise uranium as an important commodity in the context of global energy needs world wide.<sup>53</sup>

## Conclusions

- 11.53 The Committee agrees that restrictions on uranium mining and exploration have clearly impeded the growth of the uranium industry in Australia. Restrictions have resulted in numerous costs, including economic benefits foregone – not only for the companies concerned, but also to the states and the nation as a whole. Prohibitions on mining and exploration have impeded investment in the industry, resulted in a loss of employment and wealth creation opportunities, royalties and tax receipts. Australia has clearly failed to realise its potential as an exporter of uranium, despite possessing the largest share of the world's uranium resources.
- 11.54 Moreover, the Committee agrees that restrictions are inconsistent and illogical in so far as they restrict new mines from being developed, but do not prevent greater production from the three existing mines. That is, if the purpose of prohibitions is to restrict the amount of Australian uranium entering the fuel cycle worldwide then they manifestly fail. In this way, restrictions only benefit the three existing producers (and overseas producers, notably the Canadian mining industry), and are anticompetitive.
- 11.55 The Committee is convinced that existing restrictions on uranium mining and exploration should be lifted. The Committee's preference is for state and territory governments to work in a spirit of bipartisanship with the Federal Government in order to bring about a change to the present restrictions. The Committee hopes that in due course a bipartisan and nationally consistent position on the benefits and regulation of uranium mining might emerge.

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53 Mr Richard Pearce, *op. cit.*, p. 70. Emphasis added.



## Recommendation 8

**The Committee recommends that the Australian Government Minister for Industry, Tourism and Resources, through the Council of Australian Governments and other means, encourage state governments to reconsider their opposition to uranium mining and abolish legislative restrictions on uranium (and thorium) mining and exploration, where these exist.**

### Regulatory inconsistency

*Australia's regulatory system must be structured to ensure strict standards of health, safety and environmental protection, while at the same time allowing predictability and avoiding unnecessary duplication.*<sup>54</sup>

11.56 Whilst companies were generally supportive of the regulations that govern the industry, some submitters expressed frustration with inconsistencies and duplication of processes between jurisdictions, as well as the regime's alleged complexity. Flaws in the regulatory system were identified by a number of witnesses as being significant impediments to the uranium mining industry. For instance, Nova Energy argued that:

... the lack of alignment between State and Federal policies is the greatest impediment to the industry's development. [The current regulatory framework] does not provide a positive framework to develop the uranium industry.<sup>55</sup>

11.57 Compass Resources observed that whilst state governments regulate the minerals industry competently, the inconsistency across states in relation to uranium was perplexing. It suggested that the complex regulatory framework 'presents a danger of duplication and unreasonable delays in the approval process for new projects'.<sup>56</sup>

11.58 The MCA also criticised the lack of regulatory uniformity, particularly between SA and WA. It identified 'the Commonwealth's retention of ownership of uranium in the NT following self-government' as a key difference between the two jurisdictions. It further stated that:

There is no uniform regulatory approach to the current operation of uranium mining in Australia, with the industry subject to

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54 Areva Group, *op. cit.*, p. 2.

55 Nova Energy Ltd, *op. cit.*, p. 25.

56 Compass Resources, *op. cit.*, p. 3. See also: Dr Malcolm Humphreys, *op. cit.*, p. 62; Mr Mark Chalmers (Heathgate Resources Pty Ltd), *Transcript of Evidence*, 19 August 2005, p. 96.

Australian Government/State/Northern Territory laws and regulations regarding mining and exploration permits and rights, safety and health, environmental issues and Native Title land rights. It is also subject to export controls and Australia's safeguards policies, which are administered by the Australian Government.<sup>57</sup>

- 11.59 Summit Resources noted that the application process for a uranium development proposal is lengthy and involves a great deal of duplication. It explained that, following lengthy data collection processes and various studies, applications need to be made to local government authorities, a number of state and territory government authorities, as well as several Federal Government agencies. Summit added that:

... the proposal is then subject to an extensive period of public scrutiny and comment from any interested parties, whether or not they are directly impacted by any part or phase of the proposal.<sup>58</sup>

- 11.60 Summit Resources suggested that the regulatory regime is unbalanced, noting that:

... no other mine or energy development is subject to such stringent, complex, detailed and lengthy approval processes whilst also being subjected to 'a large degree of political risk.'<sup>59</sup>

- 11.61 The UIC argued that:

The current regulatory regime is onerous for the industry, particularly in comparison with industries such as agriculture, forestry, tourism and manufacturing.<sup>60</sup>

- 11.62 Nevertheless, inefficiencies of the regulatory framework were claimed to result in unnecessary delays for no benefit; there were claims that the regulatory environment is 'anti-competitive', and even a suggestion that the overly stringent regulatory framework has not taken into account the shift in public opinion on uranium mining.<sup>61</sup>

## Environmental regulation

- 11.63 Environmental regulation was thought to be an area that could potentially involve duplication between jurisdictions. The UIC argued that:

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57 MCA, *op. cit.*, pp. 2, 11.

58 Summit Resources Ltd, *op. cit.*, pp 35-36.

59 Summit Resources Ltd, *ibid.*, p. 36.

60 UIC, *op. cit.*, p. 16.

61 Mr Stephen Mann, *op. cit.*, p. 5; Jindalee Resources Ltd, *op. cit.*, p. 2.

... legislative and regulatory requirements should ensure the highest possible standards of occupational and public safety and environmental protection, while avoiding duplication and unnecessary administrative burdens and costs.<sup>62</sup>

11.64 Moreover, Compass Resources warned that, in such a complex regulatory environment, federal legislation, such as the *Environment Protection and Biodiversity Conservation Act 1999*, could be 'misused to delay or even destroy projects, if guidelines are not clearly established'.<sup>63</sup>

11.65 Duplication in the area of environmental regulations was a concern to some submitters. The Committee sought an opinion on WA's recent decision to augment the environmental approval process, and Mr Stephen Mann, of Areva, responded that:

... the approval processes that we seem to be getting in many parts of Australia seem to duplicate previous processes. I think there have always been adequate processes in place ... and all that is happening is that it is being dragged out for longer periods of time.<sup>64</sup>

11.66 The UIC urged:

... the Commonwealth, states and territories to continue to work together to ensure a transparent and efficient method of environmental assessment of major projects.<sup>65</sup>

## Reporting requirements

11.67 Whilst acknowledging the importance of ensuring public access to information about incidents that pose environmental or safety risks, the industry felt that this needed to be balanced against protecting the industry's reputation from misleading or exaggerated public comment.

11.68 It was suggested that reporting requirements imposed on uranium mining companies may mitigate against public understanding by potentially providing material for those who wish to misrepresent the industry's operational impacts. For example, the UIC noted that:

... some operations are required to publicly report spills that have no environmental or safety significance. Such reporting can lead to unnecessary public concern or misrepresentation of operational impacts ... The right of the public to be informed about matters

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62 UIC, *op. cit.*, p. 16.

63 Compass Resources NL, *op. cit.*, p. 3.

64 Mr Stephen Mann, *op. cit.*, p. 5.

65 UIC, *op. cit.*, p. 16.

that can affect safety or the environment is acknowledged but this needs to be balanced with the right of the industry to have its reputation protected from exaggerated or misleading public comment ...<sup>66</sup>

11.69 While expressing the company's willingness to adhere to all reporting requirements, ERA noted that the industry operates under a very low reporting threshold. Even very minor accidents, such as 'a spill of a litre of oil in the pit'<sup>67</sup>, are reported.

11.70 Additionally, the industry expressed a view that the reporting requirements for the uranium industry were much more stringent than those of other industries handling hazardous materials, the UIC suggesting that:

If corresponding [reporting] requirements were placed on other industries handling hazardous materials there would be an outcry.<sup>68</sup>

### Access to land

11.71 Native Title was seen to have a particularly adverse effect on operations in the NT, WA and Queensland.<sup>69</sup>

11.72 More broadly, the NTMC stated that regulations governing access to land were complex and varied according to the type of land being accessed – that is, Aboriginal freehold or 'land vested in the Northern Territory'.<sup>70</sup>

11.73 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) referred to the difficulties associated with access to land, noting that:

Many prospective Uranium deposits are located in culturally or environmentally sensitive regions of Australia, making access challenging.<sup>71</sup>

11.74 A number of mining companies argued that challenges associated with accessing land are major impediments to the uranium industry. In particular, the NTMC claimed that the *Aboriginal Land Rights (NT) Act 1976*

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66 UIC, *ibid.*, pp. 16–17. See also: Nova Energy Ltd, *op. cit.*, p. 26.

67 Mr Harry Kenyon-Slaney (ERA), *Transcript of Evidence*, 24 October 2005, p. 51.

68 UIC, *op. cit.*, pp. 16–17. See also: Nova Energy Ltd, *op. cit.*, p. 29.

69 Mr Donald Kennedy, *op. cit.*, p. 67; Mr Cedric Horn, *op. cit.*, p. 14.

70 NTMC, *Submission no. 51*, pp. 7–8.

71 CSIRO, *op. cit.*, p. 4.

(ALRA) and *Native Title Act 1994* are complex pieces of legislation that should be amended to allow better workability.<sup>72</sup>

- 11.75 The Committee notes the intention of the Australian Government to introduce changes to the ALRA so as to improve the workability of the legislation for the benefits of mining companies and traditional land owners.<sup>73</sup>

### The need for changes to the regulatory framework

- 11.76 Most uranium exploration and mining companies saw a need to ensure the regulatory environment does not become worse, and, in some cases, called for the system to be actively minimised. A number of suggestions were made by witnesses.

- 11.77 Compass Resources understood the need for Federal Government oversight to ensure industry compliance with national and international obligations. It asserted, however, that any review processes should be 'kept simple, efficient and timely so as not to become a significant cost burden for Australian operators'.<sup>74</sup> Regulations relating to the uranium industry 'should not be overly complex and bureaucratic'.<sup>75</sup> Compass Resources claimed that ensuring a balanced approach to regulation will allow the Australian uranium industry to 'maintain a comparative advantage' over international rivals.

- 11.78 There was broad agreement that the regulatory environment needs to be changed. Compass Resources argued that:

If Australia is to respond to the growing opportunities presented by the nuclear industry a positive regulatory approach and an efficient and effective review and approval structure will be needed.<sup>76</sup>

- 11.79 Heathgate Resources felt that the need to improve the regulatory framework would become more urgent as the industry continues to grow:

As the industry continues to develop in the country, there will need to be an additional focus remaining on these regulations to ensure they are consistent and to avoid duplication across Australia.<sup>77</sup>

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72 NTMC, *op. cit.*, p. 4.

73 Northern Land Council, *Transcript of Evidence*, 24 October 2005, pp. 20-29.

74 Compass Resources NL, *op. cit.*, pp. 2-3.

75 *ibid.*

76 *ibid.*

77 Mr Mark Chalmers, *op. cit.*, p. 96.

- 11.80 Compass Resources also suggested that a 'priority agency' be established to manage the 'layers of review in different agencies'<sup>78</sup> at both state and federal levels.
- 11.81 Jindalee Resources called for the regulatory environment in Australia to be simplified and streamlined in order to 'encourage investment in exploration, associated technology and the development of new mines.'<sup>79</sup>
- 11.82 Heathgate Resources argued that a more streamlined and less confusing regulatory system 'would be helpful to both speed up approval process[es] and ensure inadvertent mistakes do not occur.'<sup>80</sup>
- 11.83 Paladin Resources called for the removal of regulatory duplication between state and federal jurisdictions.<sup>81</sup>
- 11.84 While most uranium mining companies were concerned that there should be a consistent regulatory regime across Australia, Cameco went further and advocated a regime that:
- ... really is a federally chartered regulatory oversight so that the standards, wherever you are doing business and exploring and trying to develop a uranium mine, would be the same ...making it a federally managed and regulated material, [taking] it out of the jurisdiction-by-jurisdiction issue.<sup>82</sup>
- 11.85 Mr Cedric Horn, Chairman of Southern Gold, accepted the need for the current regulatory framework in ensuring that uranium is only supplied to signatories of the Nuclear Non-Proliferation Treaty. He agreed that the current restrictions are appropriate and adequate, but stressed the importance of keeping uranium exports as competitive as possible. To this end, he warned against the introduction of any other restrictions that might have an adverse impact on trade.<sup>83</sup>

### Suggestions for change

- 11.86 A number of potential solutions were offered by submitters, and several of them are outlined below. Broadly speaking, however, the industry advocated the simplification and streamlining of regulatory processes.

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78 Compass Resources NL, *op. cit.*, p. 3.

79 Jindalee Resources Ltd, *op. cit.*, p. 5.

80 Heathgate Resources Pty Ltd, *op. cit.*, p. 4.

81 Paladin Resources Ltd, *Submission no. 47*, p. 7.

82 Mr Jerry Grandey (Cameco Corporation), *Transcript of Evidence*, 11 August 2005, p. 13.

83 Mr Cedric Horn, *op. cit.*, pp. 17–18.

- 11.87 Southern Gold advocated an urgent review of the regulatory structure, to ensure a framework exists to promote exploration and uranium mining, particularly for the benefit of junior exploration companies.<sup>84</sup>
- 11.88 The MCA argued for a regulatory regime that involves:
- open and competitive markets;
  - 'minimum effective regulation';
  - incentives for exploration; and
  - incentives that help address market failure.<sup>85</sup>
- 11.89 The Committee addresses the issue of support for exploration by flow-through share schemes and provision of regional precompetitive geoscience data in chapter three.
- 11.90 In order to encourage a consistent regulatory environment and minimal duplication between jurisdictions, the MCA recommended the following avenues be pursued:
- involvement of the Council of Australian Governments (COAG) in the ongoing review of legislation pertaining to uranium mining, with a view to minimising the regulatory impact of existing and proposed legislation;
  - adoption of a 'minimum effective regulation' approach to structuring the regulatory environment;
  - minimisation of regulatory costs to the industry; and
  - consideration of self-regulation or de-regulation of the minerals sector in certain situations.<sup>86</sup>

## Sovereign risk and political uncertainty

- 11.91 Sovereign risk, an issue closely related both to state uranium policies and the regulatory regime governing uranium exploration and mining, was a concern of several submitters. Sovereign risk may be defined as:

The risk for mineral companies from governments making adverse changes to operating conditions from those pertaining when a decision is made to invest in exploration or mine development; commonly relates to adverse changes in legislation, terms of

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84 Southern Gold Ltd, *op. cit.*, p. 10.

85 MCA, *op. cit.*, p. 12.

86 *ibid.*

consent to mine, taxation, repatriation of profits or funds and is assessed from a country's track record for making such changes.<sup>87</sup>

11.92 In the context of the inquiry, 'sovereign risk' was used by uranium mining companies to indicate the risk a company faces of having commenced development activities on the understanding that it has permission to mine any uranium identified, and then having that permission withdrawn.

11.93 Compass Resources stated that if a state government issues a uranium exploration licence to a company, that company should, upon satisfying all relevant regulations, be entitled to commence mining. Compass argued that if the state government does not intend to allow mining rights to uranium, uranium should be expressly excluded from the exploration licence. It was suggested that this would prevent companies diverting scarce resources into searching for a commodity that could not be mined. To do otherwise would raise the issue of sovereign risk:

We know Australia has a great reputation as a low sovereign risk country; however, if states issue exploration rights to companies without the intention of approving developments, that national reputation will be called into question.<sup>88</sup>

11.94 A further complication in the context of uranium mining is the requirement for support from both state and federal legislatures. While the Federal Government may support uranium mining, opposing policies by a state or territory government could prevent such activity in that particular state or territory. The converse is also true: state government support for uranium mining would require complementary federal government policies before such mining could take place.

11.95 This requirement for congruent policy positions at both state/territory and federal levels of government, combined with the long lead times involved in developing a uranium mine, increases the risks that mining companies must face. That is, mining development could commence in a supportive political climate, only to see a change in government at state or federal level, with development subsequently halted.

11.96 This scenario was encountered by Summit Resources in its efforts to develop the company's uranium resources at its Mt Isa deposits in Queensland. In 1996 the company was assured by the then state government that it would support Summit's exploration program and, if

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87 P Hancock, *Sustainable Development and the Australian Minerals Sector*, Parliamentary Library, Research Paper 24, 2000-01, Parliament of Australia, viewed 21 June 2006, <<http://www.aph.gov.au/LIBRARY/pubs/rp/2000-01/01RP24.htm>>.

88 Dr Malcolm Humphreys, *op. cit.*, p. 62.



successful, grant Summit a mining license to mine uranium. With this support, from 1996 to 1998 Summit expended some \$5 million on drilling, metallurgical test work and pre-feasibility studies. However, in mid 1998, the newly elected Beattie Government indicated that it would not approve new uranium mines and Summit suffered a \$60 million plunge in its market capitalisation.<sup>89</sup>

- 11.97 This experience has led Summit Resources to conclude that the current system 'is inherently flawed and gives rise to serious issues of sovereign risk.'<sup>90</sup> Summit noted that there have been several other (non uranium) operations that have suffered serious commercial losses as a result of similar political risk and changes of policy. It was argued that the legislation currently in place in Queensland is not problematic; the difficulty lies in the differing policies between the current government and those of the government in office when the company's tenements were initially granted.
- 11.98 Sovereign risk, combined with the inherently expensive feasibility studies that are necessary prior to having a mining licence granted, were identified by Summit Resources as mitigating 'against proceeding without State and Federal guarantees that, should the studies prove positive and all guidelines be met, the mine will be granted [a mining licence]'.<sup>91</sup> However, Summit Resources acknowledged that it would be difficult for such guarantees to be given in a Westminster parliamentary system such as Australia's, wherein governments cannot legally bind succeeding governments. Nonetheless, Summit Resources:
- ... would like to see that we are not facing this uncertainty of either a federal change in government or a state change in government during our feasibility studies ... it would cost us in the order of \$20-odd million to achieve those. That is a significant expenditure, with the doubt left there that we might get to the end of that and not be granted approval.<sup>92</sup>
- 11.99 Summit Resources stated that the regulatory environment in Australia must 'deliver certainty to the approval process where large investments are required over several years for new mines to be brought on stream.'<sup>93</sup>
- 11.100 The MCA endorsed the creation of a regulatory framework to assign and charge for mining rights, with minimal government intervention once this

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89 Summit Resources Ltd, *op. cit.*, p. 31.

90 *ibid.*, p. 33.

91 *ibid.*, pp. 4-5, 34.

92 *ibid.*, p. 12.

93 *ibid.*, p. 5.

framework has been established. This course of action would result in greater certainty in relation to mining rights, and would mitigate against sovereign risk.<sup>94</sup>

- 11.101 The MCA emphasised the fundamental importance of mining rights to the mineral sector:

Before exploration and any subsequent development of any mineral deposits can take place, the nature and certainty of the right to explore, develop and mine resources needs to be established and clear to all parties.<sup>95</sup>

## Government assistance and support

- 11.102 Existing producers and junior exploration companies contended that no substantial government assistance is given to the uranium industry in Australia. Indeed, it was suggested that any support the industry did receive from the Federal Government was either recouped through various charges levied against producers, or was negated by more substantial assistance offered to competing industries. For example, the UIC noted:

There are no subsidies, rebates or other financial mechanisms provided specifically for the uranium industry. In fact state and federal geological surveys and scientific organisations have directed virtually no resources to uranium over the last 20 years, constituting a negative subsidy when compared with other mineral commodities.<sup>96</sup>

- 11.103 The Minister for Foreign Affairs, the Honourable Alexander Downer MP, stated that the Australian Safeguards and Non-Proliferation Office (ASNO) provides services of benefit to Australian uranium exporters. He acknowledged, however, that:

... the Government recoups about 40% of ASNO's annual costs for safeguards activities through the Uranium Producers Charge. This corresponds to full cost recovery for the proportion of ASNO's costs considered to be of direct benefit to the uranium industry.<sup>97</sup>

- 11.104 It was explained to the Committee that the Uranium Producers Charge (UPC) contains a component for future costs associated with Australian-Obligated Nuclear Material, and is levied on each kilogram of uranium
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94 MCA, *op. cit.*, p. 2.

95 *ibid.*, p. 12.

96 UIC, *op. cit.*, p. 26.

97 The Hon Alexander Downer MP, *Submission no. 33*, p. 12.

produced. In October 2004, the UPC was set at 5.8192 cents per kilogram. This yielded \$470 026 in 2004–05.<sup>98</sup>

- 11.105 Australia's taxation regime was seen by some explorers as being a hindrance to the uranium industry. Indeed, it was suggested that the taxation regime made it more difficult for locally operating companies to compete with minerals companies based in countries that provide financial incentives for economic development.<sup>99</sup>
- 11.106 Notwithstanding the Committee's appreciation of the need to provide government support to the renewable energy sector, the Committee noted frustrations expressed by the uranium industry at the paucity of government assistance and support.
- 11.107 The MCA referred to assistance given to competing, non-minerals industries, such as the Mandatory Renewable Energy Target arrangements, and argued that:
- Overall, the Australian minerals sector in fact receives negative assistance from government. In other words, it receives no net subsidies but in fact is penalised through assistance given to non-minerals industries.<sup>100</sup>
- 11.108 The UIC concurred, stating that:
- ... if subsidies are available for wind in Australia, on the basis of carbon reduction, they should be equally available to nuclear.<sup>101</sup>
- 11.109 Southern Gold saw the Australian Government's role broadly as maintaining a stable economy and, specifically, competitive and predictably low interest and inflation rates and a consistently strong capital market.<sup>102</sup>
- 11.110 Southern Gold also, however, advocated more direct intervention by government. It stressed the need for the introduction of government incentives for new exploration, particularly as the world demand for uranium increases. It called for the Government to 'provide urgent incentives for uranium exploration by junior companies with the aim of ensuring the future prosperity of Australia.'<sup>103</sup>
- 11.111 The South Australian government's Plan for Accelerating Exploration (PACE) particularly attracted praise for accelerating the industry's
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98 *ibid.*; ASNO Annual Report 2004-05, p. 78.

99 Southern Gold Ltd, *Submission no. 54.1*, p. 3; Mr Cedric Horn, *op. cit.*, p. 14.

100 MCA, *op. cit.*, p. 22.

101 Mr Ian Hore-Lacy (UIC), *Transcript of Evidence*, 19 August 2005, p. 96.

102 Southern Gold Ltd, *Submission no. 54.1*, p. 3.

103 Mr Cedric Horn, *op. cit.*, p. 14; Southern Gold Ltd, *op. cit.*, pp. 2, 6, 10.

growth. Under the PACE program, the state government subsidises drilling programs, dollar for dollar.<sup>104</sup>

## Labour and skills shortages

- 11.112 The shortage of appropriately skilled labour for the uranium industry is an issue that was cited primarily by junior exploration companies in evidence to the Committee. It has been reported, however, that the shortage of skilled workers is a concern for the entire resources sector, with BHP Billiton noting that between 2005–2010 there will be a 30 000 shortfall in qualified tradespeople Australia-wide<sup>105</sup>
- 11.113 The Committee received evidence that the rapidly increasing demands of the resource industry have contributed to the shortage of skilled labour available specifically to the uranium industry. Southern Gold contended that:
- Boom times in the mining industry have led to a shortage of geoscientists, mining engineers, drilling contractors, miners and tradesmen.<sup>106</sup>
- 11.114 The Committee also heard that there was a shortage of contractors willing to work in the isolated regions in which uranium exploration and mining takes place, and that this also contributed to the general labour shortage.<sup>107</sup>
- 11.115 The labour and skills shortages have been attributed, in part, to a lack of educational institutions running courses in relevant disciplines. For instance, GA argued that ‘there are no universities actually training in some of the key areas’ of interest.<sup>108</sup>
- 11.116 Southern Gold suggested that, as a way forward, new federal subsidies, or other similar government funding, be provided to universities specifically training prospective members of the uranium industry workforce.<sup>109</sup>
- 11.117 Southern Gold nevertheless recognised the industry’s responsibility to contribute to the provision of training for new workers, but suggested that this was a role that could be best fulfilled by the larger mining companies.

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104 Mr Cedric Horn, *ibid.*, pp. 14–15.

105 A Trounson, ‘Bottlenecks a stopper for BHP’, *The Australian*, 27 April 2006, p. 24; BHP Billiton Ltd, *Exhibit no. 56, Olympic Dam Pre-feasibility Study*, p. 41.

106 Southern Gold Ltd, *Submission no. 54.1*, p. 3. See also: Mr Cedric Horn, *op. cit.*, pp. 14–15.

107 Mr Cedric Horn, *ibid.*, p. 17.

108 Dr Ian Lambert (GA), *Transcript of Evidence*, 5 September 2005, p. 5.

109 Mr Cedric Horn, *op. cit.*, p. 14.

## Impediments to existing producers

11.118 This section concerns the impediments identified exclusively by existing uranium producers who submitted evidence to the Committee.

11.119 Existing producers, as defined in this report (see paragraph 9.4), who provided evidence to the Committee, include:

- Areva;
- BHP Billiton;
- Cameco;
- ERA;
- Heathgate Resources; and
- Paladin Resources.

## Government scrutiny of sales contracts

11.120 The Australian Government's uranium exports policy, first adopted in 1977 and described in chapter eight, introduced strict controls intended to safeguard Australia's uranium from diversion into military programs. Paladin Resources suggested that elements of this framework, such as strict oversight of marketing arrangements and sales contracts prior to their becoming effective, 'impeded the commercial development of Australia's resources (to the primary advantage of Canada).'<sup>110</sup>

## Transportation

11.121 The Committee was informed that producers have had difficulty in shipping uranium. Uranium is classified as a 'Class 7' dangerous good, which has implications for its transportation, handling and storage. Heathgate Resources informed the Committee that, due to political sensitivities, UOC can be shipped only through ports in Adelaide and Darwin.<sup>111</sup>

11.122 Of particular concern to uranium producers is the availability of shipping companies willing to transport the mined uranium product:

The nuclear industry and some other industries have been experiencing difficulties transporting uranium oxide concentrates

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110 Paladin Resources Ltd, *op. cit.*, p. 2

111 Heathgate Resources Pty Ltd, *op. cit.*, p. 4.

and other raw materials in bulk quantities that contain very low concentrations of naturally occurring radioactive material.<sup>112</sup>

- 11.123 It was noted that the availability of shipping companies willing to transport Class 7 goods has declined over recent years. This has impacted on the flexibility with which uranium miners can export their uranium, being forced to instead rely on more costly charter vessels.<sup>113</sup>
- 11.124 The UIC provided a summarised history of difficulties in shipping from Port Adelaide since 2000. This includes the cancellation of shipping services, introduction of new vessels unwilling to carry UOC, abundance of other commodities competing for shipping services, rail embargoes in North America, and increased charges. This led to a three-month trial in 2005, shipping UOC from Port Darwin via the Adelaide–Darwin railway.<sup>114</sup>
- 11.125 The reasons for denial of shipping services include the following:
- vessel owners and shipping companies have, since the events of 11 September 2001, become increasingly reluctant to transport Class 7 goods, as ‘security and liability issues have become of increasing concern to shipping companies, port authorities and governments’<sup>115</sup>;
  - charter operators have refused to carry nuclear materials, citing high insurance costs and onerous requirements as the reason for this change; and
  - many intermediate ports will not permit the transit of radioactive cargoes, which creates difficulties for ships operating between Australia and Europe or North America.<sup>116</sup>
- 11.126 Heathgate Resources stated that the denial of shipping services appeared to be increasing over time, adding a significant cost burden to producers. It attributed this trend to service providers and port authorities lacking adequate and accurate education about uranium products. It advocated the need to better inform the public (which is discussed further in the latter half of this chapter), suggesting:

Greater acceptance of the uranium industry by local, State and Federal Governments, political parties, community groups and the public at large is likely to lead to improved acceptance of the

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112 UIC, *op. cit.*, p. 13.

113 Mr Mark Chalmers, *op. cit.*, p. 101. See also: GA, *op. cit.*, pp. 2–3.

114 UIC, *op. cit.*, pp. 48–49.

115 GA, *op. cit.*, p. 13. See also: *ibid.*, p. 13.

116 GA, *op. cit.*, p. 13. See also: UIC, *ibid.*

industry and possibly reduce concerns about shipping denial and restrictions.<sup>117</sup>

11.127 Eaglefield Holdings noted that, even if mining restrictions in WA were to be lifted, 'it is unlikely that any of the deposits will be developed until a process is developed for the transport of uranium out of the State.'<sup>118</sup> It was explained that difficulties in shipping yellowcake from WA could be expected, and proposed that it would instead be shipped from Port Adelaide via Kalgoorlie.

## Concerns of junior exploration companies

11.128 This section of the report concerns impediments identified exclusively by junior exploration companies that have submitted evidence to the Committee's inquiry.

11.129 Junior exploration companies, as defined in this report (see paragraph 9.5), who provided evidence to the Committee, include:

- Arafura Resources;
- Compass Resources;
- Deep Yellow;
- Eaglefield Holdings;
- Jindalee Resources;
- Nova Energy;
- Southern Gold; and
- Summit Resources.

## Infrastructure

11.130 A number of junior exploration companies referred to difficulties encountered by the absence of infrastructure in areas where uranium deposits are located. Whilst major companies also encounter this challenge, the relative cost burden of establishing infrastructure is much higher for smaller non-producers.<sup>119</sup>

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117 Heathgate Resources Pty Ltd, *op. cit.*, p. 4.

118 Mr Michael Fewster, *op. cit.*, p. 31.

119 See, for example: *ibid.*, p. 24; Mr Cedric Horn, *op. cit.*, pp. 19-20.

- 11.131 Southern Gold cited the lack of existing infrastructure as a significant impediment to the company's capacity to engage in uranium exploration. Mineral deposits generally occur in very remote parts of the country and are therefore difficult to access. This is particularly true given that there are often no existing roads, power, water and other essential services, accommodation or communication infrastructure.<sup>120</sup>
- 11.132 It was suggested that states and territories have a role to play in improving the accessibility of isolated regional areas in which mining companies wish to develop deposits, and also that government subsidies for the development of infrastructure in regional Australia would be helpful to the uranium industry. In particular, Southern Gold advocated the provision of subsidies to junior exploration companies for infrastructure development in regional Australia.<sup>121</sup>
- 11.133 When the Committee suggested any such subsidies may need to be funded through an increase in royalty payments to governments by uranium producers, Southern Gold argued that this would not be necessary. It maintained that the present royalty regimes were adequate to finance these infrastructure subsidies.<sup>122</sup>

## Geoscientific data

- 11.134 Whilst junior mining companies were generally happy with the level of access state governments afforded to their geoscience data, there was a suggestion that there was scope to enhance the services provided by GA.
- 11.135 A number of junior mining companies commended state governments for their willingness to work with the industry, particularly in relation to allowing companies access to their geoscience data. Provision of this data obviated the need for companies to conduct some of their own surveys and increased the efficiency with which explorers could identify prospective areas.<sup>123</sup>
- 11.136 Jindalee Resources spoke highly of state and GA survey data:

It is great stuff. The state governments will now give you all of their geophysical surveys on disk. You can get them for just about nothing. The Northern Territory government is sensational with

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120 Southern Gold Ltd, *Submission no. 54.1*, p. 3.

121 *ibid.*, p. 5.

122 Mr Cedric Horn, *op. cit.*, pp. 19-20.

123 See, for example: Mr Donald Kennedy, *op. cit.*, p. 67.



that. Instead of repeating the work that somebody else did five years ago you can get all of this on file now.<sup>124</sup>

- 11.137 There were, however, calls for the provision of additional free or very inexpensive, high quality geoscience data and new exploration technologies through GA. It was suggested that improvements in this area could remove some impediments to the industry's growth.<sup>125</sup>
- 11.138 The mining industry, through the MCA, noted the Australian Government's important role in providing 'pre-competitive geoscience information.' It expressed support for the Mineral Exploration Action Agenda proposal for GA to lead a 'new, national innovative geoscience program to underpin the discovery of the next generation of ore deposits.'<sup>126</sup>
- 11.139 The Committee addresses this issue and recommends along the lines proposed by submitters in chapter three.

## Access to capital

- 11.140 An impediment unique to the junior uranium exploration companies seems to be the ability to access capital, a problem not encountered to as great an extent by major companies.
- 11.141 Eaglefield Holdings suggested that its difficulty in obtaining capital and in attracting investors is partly due to the lack of political stability surrounding the uranium issue in Australia, particularly in WA.<sup>127</sup> The company observed that the best investment offers it is receiving to raise large amounts of capital to develop its resource are coming from offshore. Eaglefield observed that there is a disparity between what Australian and foreign investors, particularly Canadian investors, are prepared to pay for uranium resources. It warned that this trend could result in more and more of Australia's uranium resourced becoming foreign-owned.<sup>128</sup>

## Influence of other industries

- 11.142 A number of junior exploration companies alleged that other industries play a role in limiting the development of the uranium industry. Jindalee Resources claimed that the sway of the Australian power, coal mining and coal export industries, as well as the revenue these industries generate for

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124 *ibid.*

125 Mr Cedric Horn, *op. cit.*, pp. 18, 21.

126 MCA, *op. cit.*, pp. 3, 23.

127 Mr Michael Fewster, *op. cit.*, p. 30.

128 *ibid.*

state and federal governments, has stifled the debate on alternative energy sources, including uranium.<sup>129</sup>

11.143 Summit Resources suggested that the dominance of the Australian power and coal industries limits the informed consideration of uranium as an alternative fuel source.<sup>130</sup>

11.144 Southern Gold advocated the imposition of a carbon tax on fossil fuels used for power generation. It was argued that the internalisation of the greenhouse costs of fossil fuels would make low emission nuclear energy relatively more affordable.<sup>131</sup>

## Conclusions

11.145 The Committee notes the wide range of impediments to the industry's development identified by existing uranium producers and juniors. Among these impediments, companies identified regulatory inconsistencies across states and territories, unnecessary regulatory complexity, and the potential for duplication between levels of government. A lack of uniformity exists in relation to laws and regulations governing mining permits and rights, safety and health, environmental issues, Native Title and land access. These inconsistencies cause confusion, delays in approvals processes and generate unnecessary complexity.

11.146 It was noted that regulation governing uranium mining is onerous and exceeds that imposed on any other mining sector. It was stressed that excessive regulation can undermine the industry's international competitiveness. Companies called for regulatory requirements and approvals processes to be simplified and streamlined. It was suggested that a 'priority agency' be established in each jurisdiction that companies can seek approvals from.

11.147 The Committee notes calls by Cameco for federally chartered regulatory oversight of uranium mining. However, most companies believe that state governments regulate mining effectively and that they have long experience and competence in this area.

11.148 While the Committee believes that stringent regulation of the uranium industry is justified, regulation should be the minimum necessary in order to: ensure the safety and health of workers and the public; minimise environmental impacts; uphold the interests of Traditional Owners; and ensure consistency with Australia's international obligations.

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129 Jindalee Resources Ltd, *op. cit.*, p. 3.

130 Summit Resources Ltd, *op. cit.*, p. 21.

131 *ibid.*, p. 11.

- 11.149 The Committee is concerned that companies wishing to develop uranium mines face major uncertainties. Given the long lead times required to develop deposits, there is at present a very real possibility that federal and state government policies towards uranium will not be aligned over the period of years required to take uranium deposits through the stages of development, leading to projects having to be abandoned. Projects may be abandoned despite substantial investments having already been made in delineating and developing a resource, or in undertaking feasibility studies. The Committee is sympathetic to the predicament of companies that have found themselves in this uncertain and frustrating position. This situation points again to the urgent need for a bipartisan and consistent policy approach towards uranium across tiers of government.
- 11.150 The Committee agrees that the industry receives no net subsidies from government and is effectively penalised through assistance given to non-minerals industries.
- 11.151 The Committee was concerned to hear of difficulties encountered by existing producers in shipping uranium. Companies attributed denial of shipping services to service providers and port authorities lacking adequate and accurate education about uranium products, an issue the Committee addresses in the second half of this chapter.
- 11.152 Junior uranium exploration companies, which the Committee acknowledges in chapter three are performing a vital role in the industry, commented on the absence of infrastructure in remote regions, the need for regional pre-competitive geoscience data, and financial incentives for exploration.
- 11.153 The Committee believes that the impediments identified in this report should be examined by governments in partnership with industry, so that the industry's growth might be encouraged. The Committee notes that a start has been made towards this objective through the Uranium Industry Framework project sponsored by the Australian Government.

## **Recommendation 9**

The Committee recommends that the Australian Government, through the Council of Australian Governments, seek to remedy the impediments to the development of the uranium industry identified in this report and, specifically:

- develop uniform and minimum effective regulation for uranium exploration and mining across all states and territories;
- ensure that processes associated with issues including land access, Native Title, assessment and approvals, and reporting are streamlined;
- where possible, minimise duplication of regulation across levels of government;
- address labour shortages, training and skills deficits relevant to the industry; and
- address transportation impediments, and particularly issues associated with denial of shipping services.

## **Perceptions and misconceptions of the industry**

11.154 The Committee received extensive evidence concerning public perceptions of the uranium industry and of nuclear power. Indeed, submissions to the inquiry and witnesses who appeared before the Committee identified this as such a significant barrier to the industry's growth that the issue is given extended treatment in the following section.

11.155 This section discusses the following aspects of the perceptions and misconceptions of the uranium industry:

- public perceptions of uranium mining and nuclear power;
- factors that have influenced public opinion;
- impacts of misinformation;
- recent shifts in perceptions; and
- strategies to correct misconceptions and better inform the public.

## Public perceptions of uranium mining and nuclear power

11.156 Witnesses appearing before the Committee acknowledged that the uranium industry had traditionally struggled with its public image. ERA, for example, observed:

Winning public support for uranium mining is a difficult challenge in Australia, even as other countries see nuclear power as part of a solution to global warming.<sup>132</sup>

11.157 The issue of uranium mining arouses moral outrage on the part of some members of the public, typified by individuals who expressed the following views to the Committee:

- 'I write to express my disgust at the continuing policy of allowing uranium to be mined in and exported from this country.'<sup>133</sup>
- 'To continue to mine uranium ... shows callous disregard for justice and intergenerational equity, contempt for the human race'.<sup>134</sup>
- 'I am not only strongly opposed to the development of nuclear energy in Australia (or anywhere) but morally outraged that it is even being considered given the abundance of evidence we have that proves there is NO working solution to nuclear waste ... Those who allow the development of a nuclear energy industry condemn our species to certain death.'<sup>135</sup>
- 'I am convinced beyond question that uranium mining and nuclear power are not only physically unsafe, dangerous and deadly, but that they have already killed. A decision to maintain or expand uranium mining and nuclear power will kill human beings.'<sup>136</sup>

11.158 However, it is unclear how widely held these views are among the general public. For instance, in a March 2005 Morgan Poll 60 per cent of respondents were in favour of mining Australia's uranium, while only 30 per cent opposed it. Indeed, the Morgan Poll has consistently found majority support for uranium mining in Australia since the question was

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132 ERA, *op. cit.*, p. 4. See also: Mr Jerry Grandey, *op. cit.*, p. 7.

133 Ms Rita Warleigh, *Submission no. 83*, p. 1.

134 *ibid.*, p. 2.

135 Ms Stephanie Riddell, *Submission no. 80*, pp. 1-2. Emphasis in original.

136 Mr Daniel Taylor, *Submission no. 85*, p. 1.

first asked in 1977.<sup>137</sup> Moreover, a majority of Australians (58 per cent) agree with Australia exporting uranium to China.<sup>138</sup>

11.159 Nova Energy identified a number of commonly-held misconceptions about the uranium industry, which it suggested were 'emotive rather than rational and may, deliberately or otherwise, engender community fear and distrust of uranium mining ...'<sup>139</sup> Nova's list of 'typical assertions by anti-nuclear groups', accompanied in its submission by factual responses, includes:

- Uranium mining is 'dirty and unsafe';
- Nuclear energy is unsafe;
- Nuclear power is expensive compared to other power sources;
- There are considerable CO<sub>2</sub> emissions in the total nuclear cycle;
- Nuclear waste cannot be safely transported or stored and poses a long-term threat to the environment;
- Energy conservation reduces the need for nuclear power;
- Renewable energy is a viable alternative to nuclear energy; and
- More reactors will increase the risk of nuclear weapon proliferation.<sup>140</sup>

11.160 A number of witnesses expressed their frustration at the public's perceptions of the dangers of radiation from uranium. Jindalee Resources pointed out that all fossil fuels are radioactive to an extent, and that, 'in its concentrated form, with all the residue, coal is fiercely radioactive, yet we use it as a filler in cement.'<sup>141</sup>

11.161 Southern Gold made the point that:

Radiation occurs naturally and inevitably in our environment and radiation levels can vary considerably. All living things have evolved in an environment where there are significant levels of background radiation.<sup>142</sup>

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137 Roy Morgan Research, *Finding No. 3845*, 22 March 2005, viewed 8 May 2006, <<http://www.roymorgan.com/news/polls/2005/3845>>. See also: Summit Resources Ltd, *Exhibit No. 77, Presentation by Mr Alan Eggers*, p. 16.

138 Roy Morgan Research, *Finding No. 4009*, 13 April 2006, viewed 22 May 2006, <<http://www.roymorgan.com/news/polls/2006/4009/>>.

139 Nova Energy Ltd, *op. cit.*, pp. 26–28.

140 *ibid.*

141 Mr Donald Kennedy, *op. cit.*, p. 58. See also: Mr Alistair Stephens, *op. cit.*, p. 51

142 Southern Gold Ltd, *op. cit.*, p. 5.

- 11.162 Evidence presented to the Committee suggests that issues associated with radioactive wastes are poorly understood by the general public. As discussed in chapter five, and noted by Arafura Resources, the disposal of radioactive waste is technically resolved, yet the public is still 'overshadowed by fearful misconceptions.'<sup>143</sup>
- 11.163 Heathgate Resources emphasised the need to compare the waste management for nuclear power with those of alternative fuel sources, arguing that:
- When you look at the small quantities that are generated from nuclear power plants relative to the quantities of waste that come out of these other sources, like coal ... it stacks up very well.<sup>144</sup>
- 11.164 Cameco agreed there is a need to compare the volume of wastes produced by competing sources of energy. It argued that the waste resulting from 40 years of nuclear power generation is minimal. Whilst acknowledging that spent fuel is highly radioactive, Cameco stated that it decays rapidly and returns to its natural level of radioactivity within 200 years, during which time it is stored safely.<sup>145</sup>
- 11.165 Mr John Reynolds noted that concerns over the handling, storage and reprocessing of radioactive material had featured prominently in the uranium debate that took place in the late 1970s. He suggested there was a 'residual perception that this is the ultimate reason why nuclear power'<sup>146</sup> was not pursued in Australia, which may explain the current misconceptions regarding the safe handling of radioactive wastes.
- 11.166 Witnesses felt that public perceptions of supposedly inadequate uranium industry regulations were unfounded. To highlight this issue, one witness suggested it was easier to produce explosives than it was to access uranium.<sup>147</sup>
- 11.167 Eaglefield Holdings argued that the general public hold wildly inaccurate views about the risks associated with transporting UOC:
- Yellowcake is actually about the least hazardous of all commodities that you can put on the back of a truck. By way of analogy, countless truck loads of sodium cyanide are shipped to the goldfields each year. Each one of those truck loads of sodium cyanide would be 1,000 times more dangerous than a truck load of

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143 Arafura Resources NL, *op. cit.*, p. 6.

144 Mr Mark Chalmers, *op. cit.*, p. 103.

145 Mr Jerry Grandey, *op. cit.*, p. 9.

146 Mr John Reynolds, *Submission no. 5*, p. 6.

147 Mr Alistair Stephens, *op. cit.*, p. 57.

yellowcake ... All it goes to show is that those who would oppose uranium mining in Western Australia have succeeded in the public relations war up until now. Yellowcake is almost entirely benign.<sup>148</sup>

## Factors that have influenced public opinion

*It is easier to sell fear than it is reason.*<sup>149</sup>

11.168 Factors that have influenced public opinion and generated negative perceptions towards the uranium and nuclear power industry were identified as including:

- the education system and mass media;
- misrepresentations by interest groups;
- previous nuclear-related incidents;
- historical opposition to uranium and nuclear power; and
- uranium industry reporting requirements.

## The education system and mass media

11.169 It was suggested that some of the negative perceptions have resulted from the Australian education system, at primary, secondary and tertiary levels. This reflected limitations in the syllabus and lack of teacher education about uranium and nuclear power.

11.170 Professor Kemeny identified poor education as one of the most significant contributors to the perpetuation of anti-nuclear sentiments in Australia, noting that important issues concerning uranium mining and nuclear power 'are still largely being debated at radio talkback program levels.'<sup>150</sup>

11.171 The ANF argued that the teaching profession, school and tertiary curricula, and media in Australia have failed to present a balanced view of nuclear power and uranium mining:

I have had quite some international experience and I would say that, of people from all the countries I know, Australians are the most antinuclear in their sentiment. It comes, first of all, from the schools and, second of all, from the news media. A recent survey showed that the most antinuclear people in our community are

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148 Mr Michael Fewster, *op. cit.*, p. 32.

149 Mr Mitchell Hooke, *op. cit.*, p. 30.

150 L Kemeny, 'A power too good to refuse', *The Australian*, 30 March 2005, p. 34.



television and news journalists, and this is where the public get their information.<sup>151</sup>

11.172 Areva cited anecdotal evidence of children being taught very anti-nuclear and anti-uranium views in school, as a result of their teachers' lack of education about particular aspects of nuclear power. These misconceptions were then transferred to parents through their children.<sup>152</sup>

11.173 Mr Keith Alder was also critical of the way nuclear power has been discussed and taught at school level:

One of the worst things has been the teachers. One of the organisations that I could have mentioned among the 37 that were prolifically antinuclear ... was the Teachers Federation. At Lucas Heights we had the experience of sending literature to high schools and it coming back, sometimes torn in half. I went to a couple of high schools and, on one occasion, I met the then President of the Teachers Federation. We went into the library and it was covered in antinuclear literature. They would not have what we sent them, which originated from Vienna from the International Atomic Energy Agency, because it was 'loaded'. The librarian would not have it and the teachers would not have it.<sup>153</sup>

### Misrepresentations by interest groups

11.174 Mr Alder suggested that antinuclear feeling has been deliberately stimulated by 'green groups' determined to target Australia:

I do believe that some of the big organisation such as Greenpeace deliberately stimulated antinuclear feeling in Australia ... this was told to me by two prominent members of Greenpeace who changed their minds. They said that it was quite deliberate because if you want to stop something you cut off the fuel. Therefore, Australia was made a target ... the Australian population became the most antinuclear population on earth because of the constant antinuclear propaganda which was put to them.<sup>154</sup>

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151 Dr Philip Moore (ANF), *Transcript of Evidence*, 16 September 2005, p. 44. See also: Mr Stephen Mann, *op. cit.*, p. 4.

152 Mr Stephen Mann, *ibid.*

153 Mr Keith Alder, *Transcript of Evidence*, 16 September 2005, p. 83.

154 *ibid.*, pp. 83-84.

- 11.175 Evidence also suggested that, historically, the opposition of anti-nuclear groups has not been 'motivated, or otherwise supported, by the evidence.'<sup>155</sup>
- 11.176 Professor Kemeny suggested that 'the false assessment of nuclear risk is a favoured strategy of Australia's radical anti-nuclear activists'.<sup>156</sup>
- 11.177 Cameco suggested that opponents of nuclear energy also perpetuate misinformation about nuclear waste, in order to maintain a final 'unresolved' challenge to wider use of nuclear power.<sup>157</sup>
- 11.178 Dr Patrick Moore, co-founder of Greenpeace and former opponent of nuclear energy, acknowledged the one-sided nature of nuclear debates of the past and stated that:
- ... it certainly is about time that we had an intelligent conversation about this subject, and got away from the scare tactics, and talked science, and economics and environment.<sup>158</sup>

### Previous nuclear-related incidents

- 11.179 Jindalee Resources noted that one of the major difficulties of addressing public misconceptions associated with nuclear power and uranium is the tendency people have of associating all things nuclear-related with atomic bombs and the devastation of Hiroshima.<sup>159</sup>
- 11.180 ERA suggested public perceptions of uranium mining in Australia were due to its perceived connection with 'British and French nuclear testing at Maralinga and in the South Pacific'.<sup>160</sup> This association has 'tended to reinforce negative attitudes to uranium mining and the nuclear fuel cycle.'<sup>161</sup>
- 11.181 Public perceptions have also been shaped by accidents, such as Chernobyl and Three Mile Island. In particular, Areva commented that public perceptions of reactor safety are still shaped by Chernobyl and fail to appreciate the technical developments that have occurred since that accident:

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155 M Nahan, 'The nuclear power debate', *IPA Review*, Institute of Public Affairs, June 2005, viewed 8 May 2006, <<http://ipa.org.au/files/57-2-politicsofnuclearpower.pdf>>.

156 L Kemeny, 'Pseudo-science and lost opportunities', *Quadrant*, July-August 2005, p. 55.

157 Mr Jerry Grandey, *op. cit.*, p. 10.

158 Dr Patrick Moore, 'Greenpeace co-founder welcomes nuclear debate', *AM*, ABC Radio, 8 June 2006, 08:16:00, transcript of interview with David Weber.

159 Mr Donald Kennedy, *op. cit.*, p. 61.

160 ERA, *op. cit.*, p. 4.

161 *ibid.*

Most of the public see reactor designs as being similar to the Chernobyl design and having the same problems ... the designs are dramatically different now. Even the Chernobyl design, as has been commonly stated, would never have been built in the Western world. The technology was far greater in the Western world than what it was in Chernobyl at the time that it was built. We have moved on. Last year we [Areva] spent €402 million on research and development. The company spends a lot of money continuously, year after year. Many other companies are also doing that and trying to improve the technology and to improve the safeguards. I do not think the general population understand or realise the safeguards that exist now following the September 11 incidents. People were talking about aeroplanes flying into nuclear reactors. Aeroplanes can fly into any of the modern nuclear reactors and it would automatically shut down. There would not be any contamination. I do not think people really understand that.<sup>162</sup>

- 11.182 Cameco acknowledged that these accidents reflected weaknesses in the industry's performance in the past. It argued, however, that the industry has 'been living with that and responding to it as an industry since [the incidents] occurred in 1979 and 1986.'<sup>163</sup>

### Historical opposition to uranium and nuclear power

- 11.183 Mr Keith Alder argued that the antinuclear climate in Australia is a legacy of the large number of groups, principally unions, historically opposed to uranium mining and nuclear power, combined with the fact that so few organisations have been prepared to advocate in favour of nuclear power:

At the time I retired – which was February 1982 – we counted up the number of active bodies in Australia promoting antinuclear feeling. There were 37. There were two organisations promoting the positive side: the Australian Atomic Energy Commission and the Uranium Information Centre, which started then. Of the 37 ... more than half were trade unions ...

Who is putting the positive side to the population today? The Atomic Energy Commission used to be promotional; ANSTO is not. The Uranium Information Centre, to my knowledge, is the only organisation that is presenting a positive line on uranium. From the public point of view, the public look at the federal opposition and see that it is antinuclear. They look at the federal

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162 Mr Stephen Mann, *op. cit.*, p. 10. See also: Nova Energy Ltd, *op. cit.*, p. 15.

163 Mr Jerry Grandey, *op. cit.*, p. 11.

government and what do they see? That nuclear energy is not on the agenda. Do you wonder that they are confused and that they are anti? Everything is pointing them in the wrong direction.<sup>164</sup>

- 11.184 It was submitted that the future expansion of the uranium and/or nuclear power industries in Australia would improve public perceptions of the industries. It was suggested that the negative attitudes towards nuclear power in Australia are, in part, due to the public's lack of contact with the industry in the past. Heathgate Resources noted that the general public's perceptions of the relative risks of nuclear power are starkly different to the views of people actually involved in the industry.<sup>165</sup>
- 11.185 Summit Resources also alleged that 'the entrenched position of the Australian power, coal mining and export industries' has also unduly swayed public policy and has 'stifled informed debate on ... uranium in Australia'.<sup>166</sup>

### Uranium industry reporting requirements

- 11.186 As discussed above, the UIC and Nova Energy suggested that the unique and stringent reporting requirements imposed on the uranium industry may impede the public's understanding of the industry's true impacts. For example, being required to publicly report spills that have no environmental impact could lead to the industry being subjected to 'exaggerated or misleading public comment about its operations.'<sup>167</sup>

### Impacts of misinformation

- 11.187 Nova Energy contended that 'misunderstandings and at times misinformation about uranium and nuclear issues' has resulted in uranium mining and nuclear energy both becoming 'contentious issues in the public's eye.'<sup>168</sup>
- 11.188 Similarly, the ANF felt that this public cautiousness about, and opposition to, the nuclear industry has influenced state governments' policies:

In Australia opposition to nuclear activities has been vociferous but clearly not too numerically strong ... This has led to

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164 Mr Keith Alder, *op. cit.*, p. 83.

165 Mr David Brunt (Heathgate Resources Pty Ltd), *Transcript of Evidence*, 19 August 2005, p. 104.

166 Summit Resources Ltd, *op. cit.*, p. 21. See also: Jindalee Resources Ltd, *op. cit.*, p. 3.

167 Nova Energy Ltd, *op. cit.*, p. 26. See also: UIC, *op. cit.*, p. 16.

168 Mr Richard Pearce, *op. cit.*, p. 69.

governments adopting antinuclear positions and enacting legislation prohibiting certain nuclear related activities.<sup>169</sup>

- 11.189 Professor Kemeny agreed that false perceptions held by the public, and the subsequent fear these have produced, have restricted the uranium industry's development in Australia:

For more than three decades the Australian community has been assailed with false perceptions of danger or high risk ... In the absence of sound education and informed realism, some will react to this with fear and anger.<sup>170</sup>

- 11.190 Paladin Resources argued that 'Australia's attitudes and policies governing uranium ... have been based on misconceptions, ignorance, and the occasional deliberate lie.'<sup>171</sup> It maintained that this has resulted in 'unjustifiable restrictions ... and the perpetuation of negative attitudes towards nuclear power'.<sup>172</sup>

- 11.191 Similarly, Mr Mike Nahan, Executive Director of the Institute of Public Affairs (IPA), claimed that the factually erroneous campaigns conducted by anti-nuclear groups since the 1970s had resulted in uranium mining being the most closely regulated of all mining activity. Indeed, he noted that:

... despite the absence of evidence and the weakness of their arguments, the anti-nuclear campaigners have been successful in limiting mining of uranium in Australia.<sup>173</sup>

- 11.192 Areva drew the Committee's attention to the detrimental effect of negative public perceptions on uranium exploration activities in Australia. It suggested that recent increases in uranium exploration activity were partly a response to increased world demand for uranium, but were also due in large part to 'local influences such as a more balanced assessment of the nuclear industry by some legislators, commentators and the public at large.'<sup>174</sup>

- 11.193 ERA argued that negative public perceptions resulting from adverse incidents, such as British and French nuclear testing at Maralinga and in the South Pacific, had 'led some State Governments to oppose mines, particularly in Western Australia and Queensland.'<sup>175</sup>

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169 Mr James Brough (ANF), *Transcript of Evidence*, 16 September 2005, p. 43.

170 L Kemeny, 'Pseudo-science and lost opportunities', *loc. cit.*

171 Paladin Resources Ltd, *op. cit.*, p. 2.

172 *ibid.*

173 M Nahan, *loc. cit.*

174 Areva Group, *op. cit.*, p. 13.

175 ERA, *op. cit.*, p. 4.

## Recent shifts in perceptions

- 11.194 A number of industry representatives expressed the view that public sentiment had shifted dramatically, having become much more positive towards uranium mining and nuclear power over the last 12 months:

I would say that, in the last year, you would have had to be asleep not to notice that perhaps once or twice a week in the national press there is a fairly positive article on uranium mining. It has been in other forms of media as well. I believe the debate has swung a long way in the last 18 months – further than I would have said if you had got me in here 18 months ago. Then, I would have said that it was a very difficult issue and the public are not going to be with us. I do not believe that any longer. I really think it has swung along way.<sup>176</sup>

- 11.195 This shift has been illustrated in opinion poll results:

There was a Newpoll some weeks ago in the *West Australian* – and I have to say that the results were very surprising to all of us in the uranium industry – which found that 48 per cent of those surveyed supported uranium mining in Western Australia and only 44 per cent opposed it.<sup>177</sup>

- 11.196 Further, a Westpoll conducted in June 2006 indicated that, ‘nearly 70 per cent of West Australians support an inquiry into the feasibility of a nuclear power industry in Australia ...’<sup>178</sup>

- 11.197 Deep Yellow attributed the allegedly dramatic shift in community attitudes to the global warming issue. It was suggested that the public had become more supportive of nuclear power because it had come to accept that ‘global greenhouse gases and global warming is more of a threat than uranium mining’.<sup>179</sup>

- 11.198 The shift was also the result of the public’s increasing awareness of the shortcomings of renewable energy in effectively meeting energy demands:

I think that awareness is growing ... I think a lot more people understand that now than did 12 months ago, but I do not think the broader community really understands. A lot of people still

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176 Mr Alan Eggers, *op. cit.*, p. 16. See also: Dr Michael Goldsworthy (Silex Systems Ltd), *Transcript of Evidence*, 9 February 2006, p. 3.

177 Mr Alistair Stephens, *op. cit.*, p. 54.

178 G Mason, ‘Poll shows WA support for inquiry into nuclear industry’, *West Australian*, 12 June 2006, p. 6.

179 Mr James Pratt, *op. cit.*, p. 83.

think that renewables might be able to do a lot more than they actually can.<sup>180</sup>

11.199 Areva contended that the increased awareness of uranium mining was also due to the recent influx of junior exploration companies into the industry:

... it has only been recently that between 30 and 40 new companies have come on board or have taken uranium under their wings. With that momentum there will be a lot more reply and a lot more comment. Over the last six months we have seen a lot more comment on some of these things than we ever saw in the previous 10 years.<sup>181</sup>

11.200 As discussed in chapter four, a number of prominent environmentalists and founding figures of environmental groups now also support nuclear energy as essential for the reduction of greenhouse gas emissions. These individuals include:

- Dr Patrick Moore, co-founder of Greenpeace;
- Sir James Lovelock, a prominent environmentalist, scientist and climatologist; and
- Bishop Hugh Montefiore, a prominent environmentalist, theologian and former trustee of Friends of the Earth.<sup>182</sup>

11.201 ERA noted that the attitude of the Australian environmental movement had not yet followed the lead of the international environmental community.<sup>183</sup>

11.202 Internationally, surveys show increasing public support for nuclear power. Examples of international polls include:

- Germany, 1998: 77 per cent support for the continued use of nuclear energy plants;
- United States, March 2004: 80 per cent of respondents indicated nuclear energy will be important in meeting US electricity needs; 67 per cent of respondents personally favoured the use of nuclear energy; two-thirds of self-described environmentalists favour the use of nuclear energy;

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180 *ibid.*, pp. 83–84. See also: Mr Alistair Stephens, *op. cit.*, pp. 54–55; Cameco Corporation, *op. cit.*, p. 1; Dr Timothy Sugden (Nova Energy Ltd), *Transcript of Evidence*, 23 September 2005, p. 78.

181 Mr Stephen Mann, *op. cit.*, p. 9.

182 See for example: Summit Resources Ltd, *op. cit.*, p. 21; Jindalee Resources Ltd, *op. cit.*, p. 3; Cameco Corporation, *op. cit.*, pp. 7–8.

183 ERA, *op. cit.*, p. 4.

- Sweden, March 2005: 83 per cent support for maintaining or increasing use of nuclear power;<sup>184</sup> and
- United Kingdom, November 2005: Majority of respondents (59 per cent) believe that nuclear energy will be a major contributor to energy supplies in the future. Further, 41 per cent of respondents supported new nuclear power plants being built to replace those being decommissioned, compared with 28 per cent opposed and 26 per cent with no opinion on the matter.<sup>185</sup>

## Strategies to correct misconceptions and better inform the public

### What needs to be done

- 11.203 The Committee notes that the first major Commonwealth inquiry into uranium, the *Ranger Uranium Environmental Inquiry*, which was presided over by Mr Justice R W Fox and reported in 1976 and 1977, concluded that it was vital that 'the public be kept fully informed of relevant facts.'<sup>186</sup> Moreover, the Fox report noted that 'there is a tendency on the part of some to misrepresent those facts' and concluded that accurate information pertaining to the uranium industry and nuclear power should be provided to the Federal Parliament and the general public.<sup>187</sup>
- 11.204 Throughout the course of the Committee's inquiry, the uranium industry consistently suggested that more needed to be done by way of educating the public about all aspects of the uranium and nuclear power industries, including information on radiation. For example, ERA discussed the necessity for 'more informed dialogue, less characterized by emotion.'<sup>188</sup> Arafura Resources suggested that there is a need to:
- ... educate the population with a balanced view on how our resources can be used to prevent an environmental crisis.<sup>189</sup>
- 11.205 Paladin Resources felt that a change in public perception could be brought about if 'Australians understood the energy value of uranium oxide ... in

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184 Information provided to the Committee by Mr Ian Hore-Lacy, UIC.

185 Market and Opinion Research International (MORI) Topline Findings, *Attitudes to nuclear energy*, MORI, 1 December 2005, viewed 8 May 2006, <<http://www.mori.com/polls/2005/pdf/na.pdf>>.

186 R W Fox, *Ranger Uranium Environmental Inquiry First Report*, AGPS, Canberra, 1976, p. 184.

187 *ibid.*

188 ERA, *Exhibit No. 76*, p. 2.

189 Arafura Resources NL, *op. cit.*, p. 11; See also: Paladin Resources Ltd, *op. cit.*, p. 4; Mr Robert Parsons, *Submission No. 24*, p. 1.



comparison with coal or natural gas.<sup>190</sup> Similarly, Nova Energy suggested that the public need to be made aware of the benefits of nuclear power compared with renewable energy, particularly in relation to its ability to provide baseload power.<sup>191</sup>

11.206 In addition to emphasising the environmental benefits of nuclear energy, the MCA submitted that shifting public perceptions requires communication of the adequacy of Australia's non-proliferation safeguard policies. Equally, it stressed the importance of communicating information about technological advances that have resulted in better management of safety risks and waste products associated with nuclear power generation.<sup>192</sup>

11.207 Mr Jerry Grandey, Chief Executive Officer of Cameco Corporation, stated that the best way to better inform the public about the nuclear industry was to be forthright and transparent:

[Nuclear] has its share of technical problems – admit it. Say that the industry, like all industries is ... improving itself. And then talk about the recognised cost benefits, security of supply benefits and environmental benefits in the context of an open debate, with full transparency.<sup>193</sup>

11.208 Chairman of Jindalee Resources, Mr Donald Kennedy, stressed the importance of educating teachers. He noted that, during the initial debate to permit the establishment of Olympic Dam in SA, the SA Chamber of Mines conducted a program of tours for primary school teachers to the mine and other uranium deposits in the Flinders Ranges. This program achieved the desired effect of contributing to a shift in public perceptions, highlighting the importance of educating the educators.<sup>194</sup>

11.209 AMEC also referred to the success of *Australian Student Mineral Venture* (ASMV). ASMV is a school program that funds visits of school groups to various mines throughout Australia.<sup>195</sup> Summit Resources also argued that public perceptions could be improved by a greater effort at 'education from preschool to university.'<sup>196</sup>

11.210 Areva suggested that university curricula for mining and engineering also be reviewed, citing a lack of coverage uranium has received in the past:

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190 Paladin Resources Ltd, *loc. cit.*

191 Dr Timothy Sugden, *op. cit.*, p. 70. See also: Mr Stephen Mann, *op. cit.*, p. 3.

192 Mr Mitchell Hooke, *op. cit.*, p. 29.

193 Mr Jerry Grandey, *op. cit.*, p. 17.

194 Mr Donald Kennedy, *op. cit.*, p. 59.

195 Dr David Blight (AMEC), *Transcript of Evidence*, 23 September 2005, pp. 19–20.

196 Mr Alan Eggers, *op. cit.*, p. 13.

The only university education that I had with regard to uranium or the nuclear industry was, quite literally, exposure to what pitchblende or uraninite looks like in year 1 mineralogy class. That was it. Everything I have learned about the nuclear energy industry and uranium exploration in general has been learned on the job since I became a geologist.<sup>197</sup>

### Industry's role

- 11.211 There was an acceptance that the industry has a large role to play in correcting public misconceptions about the uranium industry through public education campaigns, by being vocal on the issue of uranium mining and nuclear energy, and by performing well.
- 11.212 The UIC was credited with helping to bring about shifts in public opinion over recent years, particularly through its provision of 'objective data and commentary'.<sup>198</sup> Silex Systems also stated that the UIC 'provides a marvellous educational forum in Australia with very high-quality factual educational material on the nuclear industry'.<sup>199</sup>
- 11.213 Eaglefield Holdings advocated that the uranium industry, particularly in WA, take part in well-funded and well-organised public information campaigns in order to better educate, and ultimately win the support of, the general public.<sup>200</sup>
- 11.214 Nova suggested that, in some situations, taking part in public education campaigns delivered value to shareholders, and could therefore be justified from a commercial standpoint:
- My view is that, as far as shareholder value goes, we have a uranium deposit that can be profitably developed and it will generate large amounts of value for shareholders and the people of the country and the state, so it is appropriate for us to work towards developing that deposit, and if that means public education then I think it is an appropriate use of shareholders' funds, to a degree.<sup>201</sup>
- 11.215 It was suggested to the Committee that the uranium industry also had a responsibility to inform elected officials, in order to better inform debates in state and federal parliaments. Having observed recent parliamentary debates in WA, Nova Energy argued that there was a need to remedy:
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197 Mr Damien Ewington (Areva Group), *Transcript of Evidence*, 23 September 2005, p. 11.

198 ERA, *op. cit.*, p. 4.

199 Dr Michael Goldsworthy, *op. cit.*, p. 18.

200 Mr Michael Fewster, *op. cit.*, p. 31.

201 Dr Timothy Sugden, *op. cit.*, p. 77.

... the lack of knowledge or understanding of a large number of local politicians on both sides of the house. I think part of the process of improving community awareness is working to inform our state representatives far more effectively so they can actually carry out that debate and discussion with their communities.<sup>202</sup>

11.216 The Committee received evidence that the industry could soon be expanding its public education activities, as it considered:

... the enhancement of a program of public education and information to augment work already being undertaken in this respect.<sup>203</sup>

11.217 Industry conceded that its past education efforts and engagement in public debate have been inadequate:

I think the industry has been very tardy in its education and its support of the nuclear industry in Australia. Up until the last nine months, we have very rarely seen any responses to any negative press regarding nuclear power.<sup>204</sup>

11.218 Mr Grandey emphasised the importance of the industry continuing to perform well. Cameco's experience suggested that 'the best way of addressing public opinion is to stay out of the headlines, to put your head down and run a very clean operation' and to educate opinion leaders.<sup>205</sup> Cameco claimed the increased support for the industry in North America in recent years is:

... not a function of public relations campaigns; it is a function of the US industry operating their plants extremely well and extremely safely, and staying out of the headlines.<sup>206</sup>

11.219 The SIA concurred, noting the important role that the regulatory system provides and the necessity that industry members comply with regulations:

It is the responsibility of the industry to ensure that the general public's concerns are recognised ... The emotion that is conjured up by the word 'nuclear' is real. People fear nuclear because they cannot see and touch it. Therefore, it is incumbent on the industry ... to recognise that people are concerned. The best way to do that is to have the regulatory environment in which you work visible

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202 Mr Richard Pearce, *op. cit.*, p. 79.

203 UIC, *op. cit.*, p. 17. See also: Nova Energy Ltd, *op. cit.*, p. 26.

204 Mr Stephen Mann, *op. cit.*, p. 8.

205 Mr Jerry Grandey, *op. cit.*, p. 7.

206 *ibid.*

and capable of making pronouncements to the general public where appropriate ... to put their minds at rest. It is the responsibility of any responsible operator of any kind of industrial plant.<sup>207</sup>

## Government's role

- 11.220 Arafura Resources and Nova Energy asserted that government has an important role to play in ensuring that the public has a sound, non-emotive appreciation of the role of uranium mining. It was suggested that one way government could fulfil this role is by funding public education campaigns.<sup>208</sup>
- 11.221 Evidence received by the Committee suggested that the government has an important educational role to play by engaging in an open public debate on the issue, covering the 'recognised cost benefits, security of supply benefits and environmental benefits.'<sup>209</sup> The government could also be involved by funding some objective public education campaigns.
- 11.222 The ANF stated that information on the nuclear industry must come from a respected source: 'It needs to come from some authoritative people that the public has respect for and will accept what they say.'<sup>210</sup> While the ANF acknowledged the difficulty in identifying an agency to lead in this area of public information, potentially suitable agencies suggested included the Australian Academy of Science, CSIRO and, for radiation safety issues, the NHMRC.<sup>211</sup>
- 11.223 The ANF emphasised the need for the public to receive information specifically on radiation risks and the normal presence of background radiation. It was argued that government had a key role to fulfil in this regard:

... if decisions are made to move forward with our uranium industry, we submit that governments must prepare the population by giving them clear and simple information on matters of uranium and radiation safety. For too long – for a generation at least – the nuclear industry has suffered from myth and misinformation in the media and the schools, leading to fear in the

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207 Mr John Thornton (SIA), *Transcript of Evidence*, 10 October 2005, pp. 36–37. See also: Deep Yellow Ltd, *op. cit.*, p. 2.

208 Mr Alistair Stephens, *op. cit.*, p. 57; Mr Richard Pearce, *op. cit.*, pp. 71–72.

209 Mr Jerry Grandey, *op. cit.*, pp. 2, 17; Mr Alan Layton, *op. cit.*, p. 15. See also: Mr Alistair Stephens, *ibid.*, p. 54.

210 Dr Philip Moore (AMEC), *Transcript of Evidence*, 16 September 2005, p. 46.

211 *ibid.*

public mind. There always will be some controversy, but governments have a duty to inform and to lead.<sup>212</sup>

- 11.224 The MCA conceded that the state minerals industry bodies do have resources for advocacy, but was sceptical of the benefits of public education programs and instead emphasised the importance of governments in bringing about changes in attitudes:

It kind of sounds arrogant to say we are going to go out and educate the public ... Until state politicians start to talk about all the benefits and positives of nuclear power generation, it is unlikely that they are going to turn it around ... If the politicians are saying, 'We used to have this policy and we now see no justification for it,' that is worth a hell of a lot more than all the publicity that we could generate ...<sup>213</sup>

- 11.225 Cameco asserted that, unlike traditional fossil fuels that tended to be viewed as politically stable, public opinion on uranium mining has been politicised. Bipartisan support for uranium mining is therefore necessary before any shift in public opinion can be affected. Cameco commented that the shift in public perception in North America over the past several years has resulted from bipartisan support for the industry.<sup>214</sup>

- 11.226 Another role for government could be ensuring that a balanced view of nuclear energy is presented to children throughout their primary and secondary education:

This is the place where the government could be intimately involved with educating people, not necessarily brainwashing them – I am not suggesting that by any stretch of the imagination – but at least providing some objective and balanced information about the pros and cons of the nuclear energy industry.<sup>215</sup>

- 11.227 There was also a suggestion that government activities, such as conducting inquiries into the industry, could assist in dispelling some of the myths surrounding the uranium industry in Australia:

... inquiries like this certainly help to bring the attention of the industry and the issues to the people ... Even from that point of view, I think the government has an involvement.<sup>216</sup>

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212 Mr James Brough, *op. cit.*, p. 43.

213 Mr Mitchell Hooke, *op. cit.*, pp. 35–37.

214 Mr Jerry Grandey, *op. cit.*, pp. 2, 17.

215 Mr Damien Ewington, *loc. cit.*

216 Mr Stephen Mann, *op. cit.*, p. 4.

11.228 Finally, it was suggested that the expansion of the uranium industry would, in and of itself, produce more favourable public perceptions. Nova argued that the Australian public's lack of exposure to the uranium industry in the past had made it overly cautious of uranium mining. It ventured that, in the absence of adverse incidents, the more contact the public had with the uranium industry, the more supportive the populace would become.<sup>217</sup>

## Conclusions

11.229 The Committee does not question the sincerity with which those people expressing 'moral outrage' at the very existence of the uranium industry hold their views. However, the Committee believes that these views are not informed by an accurate assessment of the benefits and risks associated with the industry. Misinformation and ignorance of the facts, as presented in evidence to the Committee, included: the failure to appreciate the true greenhouse benefits of nuclear power across the fuel cycle; nuclear power's safety record, which is far superior to all other major energy sources; massive overstatement of the known number of fatalities associated with the Chernobyl accident; the success of non-proliferation regimes; and the sophisticated management of waste, which is very small in volume compared with fossil fuel alternatives. There is also a general refusal to acknowledge the immense energy density of uranium and its value in a world where demand for energy may triple by 2050. There is no acknowledgement that uranium is Australia's second largest energy export in thermal terms, or nuclear's part in addressing the global energy imbalance. Such views, although held by perhaps a minority of people, do influence policy and this impedes the development of the industry.

11.230 Previous chapters of this report (five, six, seven and eight) address the three key arguments advanced in opposition to the expansion of uranium exports and of nuclear power – safety, waste and proliferation – and the misconceptions associated with these issues. Examples cited in this chapter included the risks associated with transporting uranium, and the risks associated with radiation exposure.

11.231 The Committee is convinced that while widespread misconceptions about the industry persist, the industry's growth will be impeded. As Eaglefield Holdings submitted in relation to misconceptions about the negligible health risks associated with transporting uranium from mines in Australia: 'those who would oppose uranium mining ... have succeeded in the public relations war.'<sup>218</sup> However, the Committee is pleased to note

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217 Dr Timothy Sugden, *op. cit.*, p. 73.

218 Mr Michael Fewster, *op. cit.*, p. 32.

that in light of the global warming threat there may be a shift occurring in public acceptance of the legitimacy of uranium mining and the use of nuclear power.

- 11.232 Factors that have contributed to negative perceptions of the industry have included the Australian public's lack of exposure to uranium mining and nuclear power in the past, which has led to a degree of ignorance about the industry and in turn created a climate in which myths and unfounded fears could be propagated. Ignorance and/or bias by sections of the teaching profession, and neglect of uranium and nuclear power from school and tertiary curricula may also have contributed. The opposition to uranium mining by environmental groups and some unions were also cited as factors in generating public antipathy to uranium mining and nuclear power.
- 11.233 The Committee believes that if a lack of balance in relation to uranium and nuclear power persists anywhere in Australia's school and tertiary curricula, it should be rectified.
- 11.234 The Committee notes that industry has, through state chambers of mines and energy, previously funded programs to educate teachers by conducting visits to uranium mines. The Committee believes that state chambers of mines and other industry bodies should be encouraged to conduct more schools and teacher programs of this kind. In addition, state chambers should also seek to educate representatives of the media and state political leaders.
- 11.235 One factor cited as adversely influencing public opinion was the onerous and arguably excessive reporting requirements to which the uranium industry is subject. No other industry is subject to such stringent reporting requirements. These requirements aid transparency, but may also provide material for those who wish to misrepresent the significance of incidents at mines. This is a particular concern given that such misrepresentations are received by a public that is not well informed about the nature of the industry's true impacts.
- 11.236 The Committee notes that even in 1976 the Fox inquiry concluded that 'the public be kept fully informed of relevant facts' and that 'there is a tendency on the part of some to misrepresent those facts.'<sup>219</sup>
- 11.237 The Committee concedes that finding the right balance between transparency versus the right of the industry to have its reputation protected from undue criticism is a difficult balance to strike. The

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219 Mr R W Fox, *Ranger Uranium Environmental Inquiry*, First Report, Commonwealth of Australia, Canberra, 1976, p. 184.

Committee is pleased to note the preparedness of the industry to comply with reporting standards as they currently stand.

- 11.238 The Committee believes that progress could be made if, in addition to maintaining the currently rigorous reporting requirements, regulators issued a brief assessment of the impacts of any incidents that occur. A simple classification system could be devised that states simply whether the incident has 'no impact', 'minimal impact' and so on. In this way, companies will continue to report incidents and satisfy the public's desire to be informed about the industry, while regulators' assessments will better communicate the seriousness of the impacts of any incidents that may occur. In this way, the Committee hopes that public understanding of the real impacts of uranium mining operations will be enhanced and companies will be somewhat protected from unfounded criticism.

### **Recommendation 10**

**The Committee recommends that the Australian Government, through the Council of Australian Governments, examine incident reporting requirements imposed on uranium mining companies with a view to aiding public understanding of the real impacts of incidents that may occur at uranium mines. Specifically, the Committee recommends that companies continue to meet existing reporting thresholds, but that regulators be required to issue a brief assessment of each incident informing the public of the gravity of the incident and its likely impacts on the environment and human health. To this end, a simple and accurate incident impact classification system could be devised.**

- 11.239 The uranium industry consistently emphasised the need for improved public education about all aspects associated with uranium mining and nuclear power. The Committee concurs with this view. It is imperative that the benefits and risks associated with uranium mining and use of nuclear power be more widely understood among the Australian public. Any concerns and unfounded fears should be addressed. Moreover, opinion leaders in Australia, particularly members of parliaments and the media, need to be better informed and provided with a more balanced perspective on the industry and its merits.
- 11.240 To this end, accurate and objective information about the industry needs to be made available by a credible and authoritative source or sources. In particular, evidence pointed to the need for information on radiation and radioactive waste management.



- 11.241 The Committee is well aware that across Australian Government agencies a considerable amount of relevant information is already being made available. For example, the Australian Radiation Protection and Nuclear Safety Agency provides information about radiation and health, the Department of Education, Science and Training provides information on radiation and radioactive waste management, and the Australian Safeguards and Non-Proliferation Office provides information on safeguards arrangements.
- 11.242 Industry has also contributed to increasing public understanding of uranium mining and nuclear electricity generation by funding the Uranium Information Centre, which provides comprehensive information on all aspects of the nuclear fuel cycle, uranium mining and the role of nuclear energy. Among its other activities, the UIC publishes continually updated nuclear issues briefing papers. The Committee applauds industry for establishing the UIC and making these outstanding information resources available to the public. The Committee is also aware of the 'Uranium SA' web site, prepared by the SA Chamber of Mines and Energy Education Program on behalf of companies in the uranium industry in SA.
- 11.243 Another relevant initiative is 'nuclearinfo.net', established by a group of scientists at the School of Physics at the University of Melbourne. The aim of the site is to provide authoritative information about nuclear power from a group that claims to have no vested interest in the industry.
- 11.244 Notwithstanding these efforts, the Committee believes that more needs to be done to ease the public's concerns, to better inform the public and dispel the persistent myths associated with uranium mining and nuclear power. Industry conceded that it had a greater role to play and observed that it should be prepared to engage in public debate where necessary.
- 11.245 Some industry bodies questioned the value of industry-funded public advocacy campaigns, arguing that without political leaders publicly talking about the benefits of nuclear power generation, industry campaigns were unlikely to be successful.
- 11.246 The Committee concludes that public education and advocacy needs to be augmented and the Committee believes that both industry and Government must play a part. In relation to the provision of information about uranium mining and nuclear power, it may be difficult to identify an authoritative agency or organisation that could serve this function. It is imperative that the organisation tasked with providing objective information command public confidence. It would need to have – and be seen to have – no vested interest in the industry. Suggestions of organisations that could potentially perform this role include the Australian Academy of Science, CSIRO, ANSTO, and the National Health

and Medical Research Council. Information should preferably be available from a single source.

- 11.247 The Committee believes that as the industry expands in Australia, particularly in light of the agreement to export uranium to China, governments have a responsibility to inform the public about relevant issues that may cause concern. A communication strategy is therefore also justified to address concerns the public may have and address areas of poor understanding. This information should also be provided to political leaders at all levels and the media.

### **Recommendation 11**

**The Committee recommends that the Australian Government:**

- **identify and fund an authoritative scientific organisation to prepare and publish objective information relating to uranium mining, the nuclear fuel cycle and nuclear power, including radiation hazards and radioactive waste management;**
- **support the scientific organisation identified above to develop a communication strategy to provide information to the public, media and political leaders to address concerns these groups may have in relation to uranium mining, uranium exports and nuclear power;**
- **seek to rectify any inaccuracies or lack of balance in school and university curricula pertaining to uranium mining and nuclear power;**
- **encourage industry bodies, including state chambers of mines, to conduct or augment programs to educate teachers, media and political leaders about the uranium industry;**
- **encourage companies to conduct programs of visits to uranium mines for teachers, school groups, media representatives and political leaders; and**
- **encourage industry to be forthright in engaging in public debate, where this may assist in providing a more balanced perspective on the industry and its impacts.**