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# Two Towers: A comparison of the regulatory regimes which affect new electricity transmission lines and wind farms in Queensland

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*Wind farms represent a clean and sustainable method of generation of electricity, while high voltage overhead power transmission towers and lines represent the old fashioned approach to transmission of energy. Both share a common characteristic which is their visual impact on the environment. This article looks at two recent developments on the Darling Downs in South East Queensland, one a 75 turbine windfarm, the other a 90 km 330 kilovolt transmission line. The article looks at the regulatory framework which governs both developments in the local and Commonwealth jurisdictions. It draws more general conclusions about the ability of those affected by those developments to gain a merits review of their objections as well as the unequal regulatory playing field which favours the traditional method of electricity transmission as compared to the greener method of electricity generation.*

## INTRODUCTION

This article concerns two electricity related developments on the Eastern Darling Downs near Toowoomba in South Eastern Queensland. One is the proposal by Powerlink, the Queensland government owned transmission entity,<sup>1</sup> to build a 90 km, 330KV dual circuit overhead transmission line from Millmerran to the Middle Ridge sub-station on Toowoomba's outskirts (the transmission line). The second project is the proposal by Energreen Wind Pty Ltd to construct a 75 turbine wind farm on a number of properties approximately 50 kms north of Toowoomba in the predominantly rural shires of Crows Nest and Rosalie (the wind farm). (See the map in the Appendix.)

These projects have some obvious similarities and some equally obvious points of distinction. Both concern electricity, but the wind farm concerns its generation and the transmission line obviously is to enable the transmission of electric power at extremely high voltages over considerable distances to supply consumers. Both projects take place against the background of the National Electricity Market established in 1998 as a result of the market based reforms brought about through the National Competition Policy (NCP).<sup>2</sup>

The most prominent similarity is referred to in the title of this article "two towers". Both projects require the construction of very large towers which cannot help but have an impact on the visual backdrop. They are located in the same region, the Darling Downs, approximately 150 km west of Brisbane (see Appendix). The eastern Darling Downs is a predominantly rural area and these projects

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<sup>1</sup> Powerlink is the trading name of Queensland Electricity Transmission Corporation Ltd.

<sup>2</sup> The National Competition Policy was given shape by the Independent Commission of Inquiry headed by Professor Fred Hilmer which resulted in Council of Australian Governments Agreements concerning the review of public sector businesses such as electricity, gas and water. See Lyster R, "The Implications of Electricity Restructuring for a Sustainable Energy Framework: What's Law Got to do With it?" (2003) 20 EPLJ 359 at 363-366.

are located in or through these rural areas which are generally of high scenic value.<sup>3</sup> It is also worthy of note that the nearby Brisbane/Gold/Sunshine Coast is the fastest-growing region in Australia<sup>4</sup> and an inevitable corollary of that growth is an increasing demand for electricity.<sup>5</sup> The Darling Downs has also recently seen the construction of two new coal fired generators.<sup>6</sup>

An important distinction for the purposes of this article is that the transmission line represents a traditional aspect of electricity supply – the use of overhead transmission lines over vast distance to supply electric energy. The windfarm is a new (for south east Queensland<sup>7</sup>) approach to generating energy from that renewable resource. So the contrast is between the traditional, which draws upon a history of tested and economically successful technology as well as regulatory procedures, and the innovative supply of electricity from wind which is without precedent in the local jurisdiction.

The article first describes the details of each project and their rationale. It then looks at the regulatory framework of each under the topics of the National Electricity Market, land acquisition, town planning and finally environmental requirements. In comparing and contrasting the manner in which these two projects are dealt with, within the regulatory framework, one issue which arises is the opportunity afforded to those affected by each proposals to argue their case. A second issue of particular interest is the environmental impact of the developments and the manner in which those costs are either borne or compensated. Related to this is the manner in which the regulatory regime reflects a long-term view about the supply of energy in the 21st century.

It should be noted that the transmission line was completed by June 2005 and is operational while the windfarm is currently facing a submitter appeal in the Queensland Planning and Environment Court.<sup>8</sup>

## THE TWO PROJECTS

### The Millmerran to Middle Ridge Transmission Line Project

Powerlink is the government-owned corporation which has responsibility in Queensland for transmission of electricity. It is classified as a transmission entity under s 22 of the *Electricity Act 1994* (Qld) and under the terminology of the *National Electricity Code* (now the National Electricity Rules<sup>9</sup>) it is a transmission network service provider (TNSP).<sup>10</sup> It operates as a monopoly but must

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<sup>3</sup> C&B Group, *Environmental Impact Assessment: Proposed Millmerran to Middle Ridge 330KV Transmission Line and Millmerran Substations Extensions* (August 2003) p 11; Parsons Brinckerhoff, *Assessment Report for Crows Nest Wind Farm*, (October 2004) p 64.

<sup>4</sup> Australian Bureau of Statistics, *Regional Population Growth – 2004-05* (Catalogue No 3218.0, 2006) pp 4-5.

<sup>5</sup> Demand in South East Queensland has grown at the rate of approximately 200MW – Powerlink submission to the National Electricity Code Administrator, *Final Recommendation: Proposed New Large Network Asset – Darling Downs* (8 July 2003) p 8. This is also related to the growth in air-conditioning sales in the sub-tropical climate of the region.

<sup>6</sup> InterGen, a multinational power company, operates a 880 MW generator at Millmerran south west of Toowoomba which is near the western terminal of the transmission line. It commenced operation in 2003. Currently nearing completion is the 750MW Kogan Creek generation facility approximately 140 kms west of Toowoomba. It is operated by CS Energy Ltd, a Queensland government owned corporation.

<sup>7</sup> The only other windfarm in Queensland is operated by the Stanwell Corporation, a State government owned generation entity, at the appropriately named Windy Hill near the township of Ravenshoe in far north Queensland. It commenced operations in 2000.

<sup>8</sup> *Harper v Crows Nest Shire Council* (unreported, Planning & Environment Court, Toowoomba Registry No 6 of 2005 filed 9 December 2005).

<sup>9</sup> On 1 July 2005 the *National Electricity Code* was changed to the National Electricity Rules which can be found at the website of the Australian Energy Market Commission: <http://www.aemc.gov.au/rules.php> (viewed 15 August 2006). The sections relevant here had remained unchanged at the time of transition to the National Electricity Rules, however, more recent changes have altered numbering as well as a material change with respect to standing which will be discussed below. Both the original sections in the Code and current sections of the Rules are listed in subsequent references.

<sup>10</sup> Australian Energy Market Commission, National Electricity Rules, *Glossary* available online at <http://www.aemc.gov.au/pdfs/rules/chapter10.pdf> (viewed 15 August 2006).

justify expenditure on network extensions to its shareholder, the Queensland government, and the *National Electricity Code Administrator* (now the Australian Energy Regulator).

As early as 2001 Powerlink stated<sup>11</sup> that it had identified a risk to the reliability of supply of electricity to the Darling Downs area which includes Toowoomba (population approximately 95,000). It determined to initiate the procedure to remedy this situation with consultation commencing in August 2002. The Darling Downs was supplied, through the Middle Ridge substation, by a single 275MW line from the Tarong power station to the north, which was anticipated to reach its capacity by 2004/2005. Powerlink also identified a looming problem with the “generation deficient/transmission dependent” south east Queensland region.<sup>12</sup> There was an opportunity to bolster the supply to both the Darling Downs and south east Queensland by the construction of a new 330KV dual circuit overhead transmission line approximately 90 kms from Millmerran to Middle Ridge (Toowoomba). The coal fuelled power station at Millmerran, while already connected to the national grid, mainly via the Queensland-New South Wales Interconnector, would, through this proposed connection, supply power more directly to the Darling Downs and ultimately, with further upgrades, south east Queensland. It was supplementary to Powerlink’s proposal that the Middle Ridge to south east Queensland transmission line also be upgraded.

The proposal required the acquisition of easements for all but 7 kms of the distance which involved dealings with 138 property owners and 6 local governments.<sup>13</sup> The transmission lines were to be strung between either steel poles or steel lattice towers approximately 50 m in height at intervals of approximately 500 m depending on the terrain and the appropriate choice of structure used. The poles were preferred at the more densely populated end of the line near Toowoomba as it was believed they were less visually intrusive.<sup>14</sup>

### The wind farm

Investigations had been undertaken for some time in relation to the possible installation of wind turbine generators on spurs of the Great Dividing Range in the Crows Nest region (see Appendix map). The culmination of these investigations was an application by a private company, Energreen Wind Pty Ltd (formerly Wind Developments Australia), for a development approval for a wind farm which was lodged with the Crows Nest Shire Council late in 2004.

The development was for 75 wind turbines on 30 allotments with 15 property owners, the majority located in the Crows Nest Shire with 11 located in the neighbouring Rosalie Shire.<sup>15</sup> The wind turbines were to be placed on towers 78 m in height with three blades of 82 m in diameter giving a total height of 119 m.<sup>16</sup> The footprint of each turbine was expected to impact a land area of 15 m diameter, together with access tracks and underground cables.<sup>17</sup> Each turbine was to generate 1,650 KW giving the wind farm a potential output of approximately 300,000 MWh per annum of grid connected power.<sup>18</sup> The rationale for this project was stated to be to take advantage of the Mandatory Renewable Energy Target of 2% new renewable energy by 2010 set pursuant to the *Renewable Energy (Electricity) Act 2000* (Cth), as well as the Queensland Government’s *Queensland Energy Policy – A*

<sup>11</sup> Powerlink submission to the National Electricity Code Administrator n 5, p 6.

<sup>12</sup> Powerlink submission to the National Electricity Code Administrator n 5, p 7.

<sup>13</sup> Queensland, Department of Energy, *Information Paper: Request for Designation of Land for Community Infrastructure Under the Integrated Planning Act 1997* (October 2003) p 1.

<sup>14</sup> C&B Group, n 4, p 12.

<sup>15</sup> Crows Nest Shire, *Agenda Addendum, General Meeting 08/2005: Development Application DA 375 – Impact Assessable Material Change of Use – Wind Energy Facility (75 Turbines) – Energreen Wind Pty Ltd* (25 August 2005) hereafter referred to as “the planner’s report”.

<sup>16</sup> Parsons Brinckerhoff, n 3, p 5.

<sup>17</sup> Parsons Brinckerhoff, n 3, p vi.

<sup>18</sup> Parsons Brinckerhoff, n 3, p v and 5.

*Cleaner Energy Strategy* which set a target of 15% of energy supplied by retailers to be sourced from either gas-fired or renewable energy by January 2005.<sup>19</sup>

## THE REGULATORY FRAMEWORK

### The national electricity market

As a registered participant under the *National Electricity Code*, Powerlink was required to consult about the proposed new large transmission network and in compliance with its responsibility it issued an application notice in March 2003.<sup>20</sup> Interested parties, which term includes end users, were able to make submissions to Powerlink on the application notice and 11 responses were received. The responses included industry players such as TransEnergy Australia Pty Ltd, a private company with network construction expertise, as well as local residents and the unincorporated association representing affected landholders, Power Down Under.

Affected residents, which included those whose land was not to be directly traversed by the power line but whose view would be effected, had two major objections: the impact of the lines on the visual amenity, and concerns about electromagnetic effects on health. As the name of the residents' group indicates – Power Down Under – they were interested in the possibility of undergrounding the transmission line. However, under the provisions of the *National Electricity Code*, the arguments are to be based on economics to ensure competition not environmental impacts. The market framework has been described by Rosemary Lyster as “an environmental policy vacuum driven principally by competition policies”.<sup>21</sup> Thus the Code requires that the application notice must demonstrate how the preferred proposal satisfies the “regulatory test”.<sup>22</sup> The regulatory test is based upon the nature of the proposal and generally the benefits accruing to the market.

The objections of the land owners based on visual pollution, electro magnetic fields, demand side management<sup>23</sup> were dismissed by Powerlink in the following terms:

Many of these submissions contained opinion pieces on what the authors thereof thought the regulatory framework should be rather than what it is today (eg. that the Regulatory Test should include social costs; that all powerlines should be underground; that the NEM reliability criteria should be economic rather than deterministic etc).

Whilst Powerlink disagrees with some of the content of those opinion pieces, this report is not the appropriate forum for a debate on those matters.<sup>24</sup>

Thus those opposed to the transmission line on the grounds of its environmental impact could not argue that basis under the *National Electricity Code*. Nonetheless, the residents group did find some ammunition under the Regulatory Test on the basis that the proposal was being characterised by Powerlink as a reliability augmentation of the network to prevent future outages on the Darling Downs, whereas the residents claimed it ought to have been characterised as a new augmentation or interconnector. The distinction was that if the project was a new interconnector or an augmentation option the test ought to have been “the net present value of the market benefit”. Whereas a reliability augmentation required to satisfy a service standard, which Powerlink characterised the project as, faces a less stringent test being the least cost to meet the standard.<sup>25</sup> Some support for the residents'

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<sup>19</sup> Parsons Brinckerhoff, n 3, p ii; and Queensland, *Queensland Energy Policy – A Cleaner Energy Strategy* (May 2000) p 10, available online at [http://www.epa.qld.gov.au/publications/p00545aa.pdf/Queensland energy policy a cleaner energy strategy.pdf](http://www.epa.qld.gov.au/publications/p00545aa.pdf/Queensland%20energy%20policy%20a%20cleaner%20energy%20strategy.pdf) (viewed 8 August 2006).

<sup>20</sup> *National Electricity Code* s 5.6.6(b) (now s 5.6.6(j) under the Rules).

<sup>21</sup> Lyster, n 2 at 366.

<sup>22</sup> *National Electricity Code* s 5.6.6(b)(3) (now s 5.6.6(b)(4) under the Rules) and s 5.6.5A (the same under the Rules); the test was formulated by the ACCC.

<sup>23</sup> Powerlink, *Final Recommendation: Proposed New Large Network Asset – Darling Downs Area* (8 July 2003) pp 51-53.

<sup>24</sup> Powerlink, n 23, p 1.

<sup>25</sup> Australian Competition and Consumer Commission, *Review of the Regulatory Test* (Discussion Paper, 5 February 2003) pp 45-49.

stance was found in the submission of TransEnergie Australia Pty Ltd who would most likely have had an interest in competing with Powerlink for the project if it was found to be not a reliability augmentation.<sup>26</sup> To satisfy its obligations under the Code, Powerlink had costed six scenarios. The lowest cost option in line with the Regulatory Test was the overhead transmission line as proposed. Powerlink had costed other overhead transmission line options and other route alternatives as well as undergrounding the power lines. Undergrounding was costed at \$511 million compared to the \$71 million for the overhead transmission line.<sup>27</sup> The residents' group was not able to obtain an independent costing of the undergrounding. The residents also canvassed other options including a grid support agreement with a gas-fired peak load generator close to Toowoomba at Oakey which had the ability to meet any proposed shortfall. However, Powerlink reported that its negotiations with the generator were unsuccessful and that since electricity generation is a commercial activity, it could not release the details of those negotiations being commercial in confidence.<sup>28</sup> Nevertheless, Power Down Under was able to refer the issue to a dispute resolution panel under the Code which did meet and hear submission for one day.<sup>29</sup> However, the matter was not fully ventilated as it is understood the residents' group had insufficient time and resources to continue.<sup>30</sup>

Recent changes to the National Electricity Rules, most likely as a result of Power Down Under's use of this procedure, appear to have now excluded affected property owners from standing. The Rules now state that a dispute may not "relate to an individual's personal detriment or property rights".<sup>31</sup> While this may not have excluded the group's arguments which were related to the regulatory test, other changes in particular to the definition of "interested party" now require the party to have "the potential to suffer a material and adverse market impact from the *new large transmission network asset*".<sup>32</sup> Thus affected land owners are not market participants and would have no standing.

As to the wind farm, objectors main concerns again were environmental, visual amenity, noise and bird strike. There is no consideration of these factors under the *National Electricity Code* relating to applications for registration as a generator. Equally there is no concession on the basis that the generation will be using renewable energy. Energreen required registration as a generator under ss 2.2 and 2.9 of the Code (also the Rules). The administrator of the National Electricity Market, the National Electricity Market Management Company (NEMMCO), must be satisfied the applicant can meet its financial and prudential requirements.<sup>33</sup>

## Land acquisition

The windfarm requirements are approximately 8 m of land in diameter for the foundation for the tower, an underground cable route and access to the towers for inspection and maintenance.<sup>34</sup> These rights have been secured by agreements with all the landowners which may result in a lease when the project proceeds.<sup>35</sup> Thus landowners enter voluntary agreements with the developer and reach

<sup>26</sup> Cook AS (for TransEnergie Australia Pty Ltd), *Submission: Proposed New Large Network Asset Darling Downs Area* (undated) pp 16-18.

<sup>27</sup> Powerlink, n 23, pp 20-21.

<sup>28</sup> Powerlink, n 23, p 16.

<sup>29</sup> *National Electricity Code*, s 5.6.6(h)(i) & 8.2.

<sup>30</sup> The dispute resolution panel comprised such well-known legal persons as Sir Anthony Mason and Tony Fitzgerald. I am advised the hearing was not continued since the extension of time of a dispute must be agreed to by both parties and no such agreement was reached with Powerlink – *National Electricity Code*, s 5.6.6(i)(2) (now s 8.2.6D(c) under the Rules). The author has also been advised that the use of this mechanism by affected residents was viewed as inappropriate and that changes to prevent such access in the future are in train.

<sup>31</sup> *National Electricity Rules*, s 5.6.6(j).

<sup>32</sup> *National Electricity Rules*, Ch 10, Glossary "interested party" 1A.

<sup>33</sup> Prudential Requirements under 3.3 of the Code and now the Rules relate to residency, credit and trading limits.

<sup>34</sup> Parsons Brinckerhoff, n 3, p 80.

<sup>35</sup> Parsons Brinckerhoff, n 3, p 79.

commercial agreements, albeit with little local experience of the values and fee involved. It should be noted, however, that adjoining property owners who may be opposed to the wind farm do not directly benefit from the project or receive compensation.

Powerlink, in the construction of the transmission line, had the benefit of being authorised under the *Electricity Act 1994* (Qld), to be able to utilise the compulsory acquisition powers of the *Acquisition of Land Act 1967* (Qld) (AOLA).<sup>36</sup> The criteria under the AOLA is very broad. The acquisition must be for “electrical works”<sup>37</sup> and once having satisfied that threshold, the relevant minister<sup>38</sup> must be satisfied that “the land to be taken *may* be taken and *should* be taken for the purpose for which it is proposed to be taken” (emphasis added).<sup>39</sup> The mechanics of the process are that the constructing authority serves a notice of intention to resume to which affected property owners may object both in writing and also have the option of a *vive voce* hearing before the delegate of the constructing authority. The delegate then reports to the constructing authority governing entity, in this case the Powerlink board, which may then resolve to proceed. Thereafter, an application is made to the minister who must consider the documentation including the objections and if the decision is to proceed with the resumption, the Governor in Council gazettes the compulsory acquisition.<sup>40</sup>

This was the procedure to obtain the necessary easements for the transmission line which was utilised by Powerlink. Objections by landowners included: visual amenity; the desirability of undergrounding; the existence on the corridor of a nationally listed bluegrass ecological community (discussed further below under environmental issues); the effect of electromagnetic fields; and alternative solutions to the threatened Darling Downs power shortage.<sup>41</sup> Powerlink countered with arguments including those previously canvassed in relation to the economic viability of proposed alternatives such as undergrounding. It discharged the onus that the land should be taken on the basis of needing to ensure reliable electricity supply to the Darling Downs. The minister was satisfied on the narrow statutory grounds that the land “may be taken and should be taken” and the various resumptions were gazetted in January 2004.

There is no merits review for this process – only the narrow grounds of judicial review. One land holder sought judicial review in the Supreme Court in relation to the particular circumstances of their case but the matter did not proceed to a final hearing.<sup>42</sup>

Compensation for those affected is the diminution of the value of the property which may be ultimately determined by the Land Court.<sup>43</sup> However, there is no compensation for adjoining landholders.

### Land use planning

It is in this aspect of the project development that a further significant point of differentiation exists between the wind farm and the transmission line. As with the land acquisition, Powerlink was able to take advantage of executive intervention to avoid the standard town planning requirements. The Queensland planning legislation is the *Integrated Planning Act 1997* (Qld) (IPA). The power line passed through six local government areas and therefore would normally be assessed against six planning schemes. The assessment required under three of the schemes was code assessment while the other three required impact assessment.<sup>44</sup> For present purposes the main difference between the two methods of assessment is that impact assessment would open up the application to public submissions

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<sup>36</sup> *Electricity Act 1994* (Qld), s 116.

<sup>37</sup> *Acquisition of Land Act 1967* (Qld), s 5 and Sch.

<sup>38</sup> In this case the minister for Natural Resources and Mines: see *Acquisition of Land Act 1967* (Qld), s 9(2)(d).

<sup>39</sup> *Acquisition of Land Act 1967* (Qld), s 9(6)(a).

<sup>40</sup> *Acquisition of Land Act 1967* (Qld), ss 8 and 9.

<sup>41</sup> Powerlink, *Delegates Objection Conference Report* (8 December 2003).

<sup>42</sup> *Rice v Minister for Natural Resources* (unreported, Queensland Supreme Court, No BS 3587/04, 21 April 2004).

<sup>43</sup> *Acquisition of Land Act 1967* (Qld), s 24.

<sup>44</sup> C&B Group, n 3, p 71.

and potentially a merits appeal to the Planning and Environment Court. Appeal rights are available to any person who makes a submission, not simply those directly affected such as landowners. This would have meant that the key issues of concern to residents, visual amenity and the effect of electromagnetic fields, could have been canvassed in a judicial setting, financial resources permitting. The purpose of IPA is ecological sustainability which includes amongst others, managing effects on the environment and applying standards of amenity, conservation, energy, health and safety in the built environment that are cost effective and for the public benefit.<sup>45</sup>

However, IPA also provides a method of ministerial designation of land for community infrastructure. This method while it allows submissions, does not allow any appeal against the designation.<sup>46</sup> The conditions allowing ministerial delegations are:

#### 2.6.2 Matters to be considered when designating land

Land may be designated for community infrastructure only if the designator is satisfied the community infrastructure will—

- (a) facilitate the implementation of legislation and policies about environmental protection or ecological sustainability; or
- (b) facilitate the efficient allocation of resources; or
- (c) satisfy statutory requirements or budgetary commitments of the State or local government for the supply of community infrastructure; or
- (d) satisfy the community's expectations for the efficient and timely supply of the infrastructure.

It should be noted that the provisions allowing designation are in the alternative so that only one is required to be met. It is also not an objective test in that the designator has to be *satisfied*, meaning that the only challenge would be on the ground of unreasonableness on judicial review.

The town planning issue was resolved on Powerlink's behalf by ministerial designation. The reasons given for the designation were to:

- put uniform town planning requirements in place for development of the proposed transmission line project across six different local governments affected; and
- facilitate the timely construction and commissioning of the proposed transmission line project so that growing electricity demand can be met and reliable electricity can be secured for the Darling Downs region;<sup>47</sup>

Thus the decision was firmly grounded on 2.6.2(b) & (d).

However, besides affected landholders, one local government made a strong submission to the designating minister. Clifton Shire Council made some telling points against the designation. One point goes to the status of the local government planning scheme process under IPA. Clifton Shire had finalised its new planning scheme earlier in the year. The process of putting planning schemes in place under IPA requires a series of state government interest checks and opportunities for public submissions.<sup>48</sup> It is a process that has taken several years for most local governments' planning schemes to be finalised under the IPA requirements. Planning schemes are to coordinate matters including matters having State and regional dimensions and infrastructure, which is referred to as a core matter in IPA.<sup>49</sup> Clifton Shire Council in its submission made the point that Powerlink did not participate in the plan making process and the use of the designation process ran counter to the objects of plan making under IPA in co-ordinating such infrastructure, especially where the scheme was such a newly promulgated one. Other points made were that the transmission line proposal ran counter to numerous provisions of the planning scheme relating to visual amenity in particular, provisions in the Rural Development Code which contained performance criteria such as:

- Protect the high scenic, visual and landscape areas of the Shire;

<sup>45</sup> *Integrated Planning Act 1997* (Qld), ss 1.2.1 and 1.2.3.

<sup>46</sup> *Integrated Planning Act 1997* (Qld), Ch 2, Pt 6.

<sup>47</sup> Hon Nita Cunningham MP, Minister for Local Government and Planning, correspondence to submitters (11 February 2004).

<sup>48</sup> *Integrated Planning Act 1997* (Qld), Sch 1.

<sup>49</sup> *Integrated Planning Act 1997* (Qld), ss 2.1.3(1)(a) and 2.1.3A(1)(b).

- Important views are not to be obstructed or degraded;
- Disruption to the natural profile of the land is minimised;
- The features of the Plains Rural Landscape (vegetated basalt hills and River Red Gums) are protected.<sup>50</sup>

The development approval aspect of the wind farm proceeded as an impact assessable development under the Crows Nest and Rosalie Shires' planning schemes. Public notification was effected and some 270 submissions were made – 107 supporting the windfarm and 163 opposing it.<sup>51</sup> The application aroused considerable public interest and agitation in the area to the point where placard waving protesters gathered outside Council Chambers. The full gamut of matters were raised in submissions in support of and opposing the application. Briefly, the range of matters included key environmental issues such as noise, shadow flicker, visual amenity and bird strike; as well as economic impacts, reduction of greenhouse gases, property values and town planning considerations.<sup>52</sup> The environmental issues relating to the wind farm will be discussed further in the next section specifically relating to that topic. However, a significant point at this stage is that through the land use planning process interested persons are given scope to canvas such issues.

The Crows Nest Shire Council, which had been appointed the assessment manager since the application involved two shires, approved the windfarm subject to conditions on the casting vote of the mayor on 24 August 2005.<sup>53</sup> Subsequently, negotiated conditions were issued.

83 objecting submitters instituted an appeal in the Planning Environment Court against the decision. The following are some of the grounds of appeal:

- noise generated by the turbines;
- shadow flicker;
- impact on visual amenity;
- bird strike;
- conflict with the planning instruments; and
- technical matters concerning the application process.<sup>54</sup>

Like all residents' groups those opposing the wind farm have limited resources and it is expected that the grounds may be narrowed before the matter goes to hearing.

## Environmental issues

For both projects there is the overarching role of the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (the EPBC Act). That Act controls actions which may have a significant impact on a matter of national environmental significance. Matters of national environmental significance are:

- World Heritage areas;
- National Heritage places;
- threatened species or communities;
- Ramsar wetlands;
- Commonwealth marine areas;
- migratory species; and
- nuclear actions.<sup>55</sup>

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<sup>50</sup> Clifton Shire Council, *Submission to the Minister for Local Government and Planning on Proposed Designation* (12 November 2003) pp 6, 8-9.

<sup>51</sup> Crows Nest Shire Council, n 15, p 46.

<sup>52</sup> Crows Nest Shire Council, n 15, pp 46-61.

<sup>53</sup> Crows Nest Shire Council *General Meeting Minutes* (5 August 2005) pp 11-23.

<sup>54</sup> *Harper v Crows Nest Shire Council* (unreported, Planning & Environment Court, Toowoomba Registry No 6 of 2005 filed 9 December 2005).

<sup>55</sup> *Environment Protection and Biodiversity Conservation Act 1999* (Cth), Div 1, Pt 3.

The Act establishes a process whereby the proponent of a development refers details of the project to the Federal environment minister who then decides whether or not the action is a controlled one requiring further assessment by the Commonwealth before approval may be issued.<sup>56</sup> The process allows for members of the public to comment on these referrals but there is no appeal from the decision and the only recourse is to seek judicial review of the minister's decision.<sup>57</sup> Both projects were found by the federal minister not to be controlled actions therefore requiring no further assessment however the transmission line faced several challenges including one to the Federal Magistrates Court before that outcome was confirmed.

One would expect a transmission line traversing some 90 kms of countryside to have significant environmental impacts on flora, fauna and habitats, which would trigger more close examination by the Commonwealth. However, much of the terrain was far from pristine having been farmland for 160 years. Nevertheless, the referral to the Commonwealth minister identified some threatened flora, some threatened ecological communities and no threatened fauna.<sup>58</sup> Comments were made by the residents' group and in particular these centred on the nationally endangered Queensland bluegrass ecological community, which the referral and the supporting environmental impact assessment failed to give sufficient details about in relation to the extent of the bluegrass and the impact of the project on it. Supplementary information was supplied on behalf of Powerlink in relation to this and other issues<sup>59</sup> and the Federal minister decided that the transmission line was not a controlled action provided it was carried out in accordance with conditions.<sup>60</sup>

The residents' group continued to press the point of the impact on the bluegrass ecological community by way of seeking an internal review of the decision, and ultimately an unsuccessful application to the Federal Magistrates Court for judicial review.<sup>61</sup> The decision was that the applicant, Ms Paterson, had no standing to pursue the application for review either under the EPBCA or the *Administrative Decisions (Judicial Review) Act 1977* (Cth). It was accepted for the purpose of the interlocutory hearing that the bluegrass community did exist on the applicant's property. The EPBCA provides an extended definition of a person aggrieved for the purpose of judicial review in s 487(2). The relevant provision is as follows:

- (2) An individual is taken to be a person aggrieved by the decision, failure or conduct if:
- (a) The individual is an Australian citizen or ordinarily resident in Australia or and external Territory; and
  - (b) At any time in the 2 years immediately before the decision, failure or conduct, the individual has engaged in a series of activities in Australia or an external Territory for protection or conservation of, or research into, the environment.

The Magistrate referred to the explanatory note to the legislation which stated, "there must be a genuine and consistent pattern of such activities for there to be 'a series' of activities". Thus a distinction was drawn between Ms Paterson's "one off" opposition and concern about a particular action and the long standing interest which the extended definition suggested.<sup>62</sup>

The Magistrate then turned to the definition under the *Administrative Decisions (Judicial Review) Act 1977* (Cth), s 5, whereby a person aggrieved is one whose interests are adversely affected. The problem encountered by the applicant was that the decision under review was not whether a power line should traverse her property but the effect of that power line on the bluegrass ecological

<sup>56</sup> *Environment Protection and Biodiversity Conservation Act 1999* (Cth), ss 68, 75 and 133.

<sup>57</sup> See *Queensland Conservation Council Inc v Minister for Environment & Heritage* [2003] FCA 1463.

<sup>58</sup> Powerlink, Referral under *Protection and Biodiversity Conservation Act 1999* (Cth) 19/06/03.

<sup>59</sup> C&B Group, *Correspondence to Environment Australia* (25 July 2003).

<sup>60</sup> Queensland, Department of the Environment and Heritage, *Decision That Action is Not a Controlled Action* (8 August 2003).

<sup>61</sup> *Paterson v Minister for Environment & Heritage* [2004] FMCA 924.

<sup>62</sup> *Paterson v Minister for Environment & Heritage* [2004] FMCA 924 at [15].

community situated on her property.<sup>63</sup> The Magistrate failed to find that the mere presence of the bluegrass gave her an interest sufficient to give her standing.<sup>64</sup>

As far as standing under the EPBCA is concerned there are two lessons, albeit at the Magistrates Court level: the extended definition will not cover a single issue interest even though it might be of greater than the two-year duration; and secondly, even though the action is to take place on the person's land, there must be a more direct connection with the affected matter of national environmental significance. For example, in this case if evidence had shown that Mrs Paterson had been aware of the existence of the bluegrass and had encouraged its growth the result may well have been different.

It is reasonable to draw the conclusion that the Power Down Under group were not specifically interested in the preservation of the bluegrass but intent on finding a method of preventing the transmission line in its proposed form from proceeding and were prepared to utilise the avenues which presented themselves to achieve that goal. The EPBCA process did not offer scope for the group to argue their key concerns, visual amenity and adverse effects of electromagnetic fields.

With regard to wind farms there is a precedent for ministerial refusal under the EPBCA. On 3 April 2006 the environment minister refused approval of the Bald Hills wind farm in Victoria.<sup>65</sup> The reason given was that the threatened orange-bellied parrot would be placed at grave danger of extinction by that development. In the previous year the Victorian planning minister had refused a permit for a wind farm on the unacceptable risk to the wedge-tailed eagle.<sup>66</sup>

Bird-strike is one of the concerns of the opponents of the Crows Nest wind farm. In the report attached to Energreen's referral to the Federal minister under the EPBCA, it was noted that wedge-tailed eagles were sighted in the locality.<sup>67</sup> However, on 4 May 2006 the Federal minister decided that the windfarm was not a controlled action.

Besides the requirements under the EPBCA, transmission entities have an obligation under the *Electricity Act 1994* (Qld) to properly take into account the environmental effects of their activities.<sup>68</sup> That Act does not provide any detail about the manner in which that obligation should be discharged or that there be public scrutiny of that environmental duty under that section. The manner in which Powerlink sought to discharge that obligation was by means of an environmental impact statement (the EIS).<sup>69</sup> This was also used to support the various other requirements such as the EPBCA referral. It is in this document that the concerns of the residents groups about visual amenity and electromagnetic fields are addressed.

With respect to visual impact, the EIS used a "qualitative field based assessment rather than detailed GIS modelling and community survey" but goes on to state that community comments were also taken into account.<sup>70</sup> The EIS quotes a local study which found that

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<sup>63</sup> *Paterson v Minister for Environment & Heritage* [2004] FMCA 924 at [33].

<sup>64</sup> *Paterson v Minister for Environment & Heritage* [2004] FMCA 924 at [35].

<sup>65</sup> Campbell I (Minister for Environment and Heritage), Transcript: *Bald Hills Wind Farm and Cumulative Impact Study* (5 April 2006) available online at <http://www.deh.gov.au/minister/env/2006/tr05apr06.html> (viewed 7 April 2006) and Press Release: *Wind farm report warns of risk to Orange-bellied Parrot* available online at <http://www.deh.gov.au/minister/env/2006/mr05apr206.html> (viewed 7 April 2006). The Minister has since agreed to reconsider the refusal following an application for judicial review: Campbell I (Minister for Environment and Heritage), Press Release, *Bald Hills legal action to end* (4 August 2006) available online at <http://www.deh.gov.au/minister/env/2006/mr04aug06.html> (viewed 15 August 2006).

<sup>66</sup> Hulls R (Victorian Planning Minister), Press Release, *Yaloak Wind Farm Permit Refused* (press release, 6 July 2005) available online at [http://www.dpc.vic.gov.au/domino/Web\\_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/0130c2bf5fc293f3ca25703700026af0!OpenDocument](http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/0130c2bf5fc293f3ca25703700026af0!OpenDocument) (viewed 7 April 2006).

<sup>67</sup> Parsons Brinckerhoff, n 3, p 53.

<sup>68</sup> *Electricity Act 1994* (Qld), s 31(b).

<sup>69</sup> C&B Group, n 3.

<sup>70</sup> C&B Group, n 3, p 171.

the community had a high preference for scenery free from built structures with major landscape elements including water, green pastures and trees. Scenery least preferred contained a high volume of built structures including transmission lines, power poles.<sup>71</sup>

The EIS then goes on to describe impact ratings in terms of negligible, low, moderate, high and very high and to use those in connection with various localities of the transmission line route. In general the impact of the transmission line is high to very high in most areas and there is particular emphasis on the impact of the line where it crosses the main highway.<sup>72</sup> The conclusion is that the route chosen minimises as much as possible those impacts, and colour treatment of towers and poles and planting vegetation would further mitigate that impact.<sup>73</sup> As indicated previously, there is no accountability for the conclusions except the opportunity for public comment and for those interested to make representations to the various State ministers who have authority as outlined above for town planning designation or acquisition of the land.

It is this issue of visual impact that the transmission line and the wind farm share. This similarity did not escape the author of the planner's report to Crows Nest Shire Council about the wind farm wherein it is stated: "The proposed development is significantly larger than any structure in rural environments except for major Power Link [sic] transmission lines".<sup>74</sup>

The assessment of preferred and non-preferred landscapes in the supporting study for the windfarm makes similar statements to the EIS in relation to the transmission line above and the methodology similarly fixes rankings.<sup>75</sup> The report goes on to make the statement that:

The proposed windfarm would introduce a new element that would contrast with the landscape of the Crows Nest area. Furthermore, the turbines would be visually prominent to many permanent (residential) and temporary (travellers on the New England Highway) viewers due to their size and number in a relatively small area.<sup>76</sup>

The report then goes on to describe mitigation methods and strategies that can be employed, such as fine tuning the precise location of the towers on lots, colour selection and vegetative screening<sup>77</sup> which is similar to the EIS recommendations on this topic in relation to the transmission line. However, the Parsons Brinckerhoff report on the wind farm proposal does make an interesting claim which distinguishes it from the discussion of this topic in the transmission line report. This is that "to some people, particularly travellers, the turbines may present an interesting and calming feature on the landscape".<sup>78</sup> The claim is not supported by any quantitative information.

This statement raises the issue in relation to the subjective aspect of amenity. The Australian courts have acknowledged that when assessing this aspect in planning law, the subjective views of residents should be given weight.<sup>79</sup> In assessing this aspect of the wind farm development under the planning regime, the subjective views of residents can be properly canvassed and considered by the planning authority and the Planning and Environment Court provided the matter proceeds to a trial. However, in relation to the executive decision making processes relating to the transmission lines, these matters relating to visual amenity may well be part of the administrative decision making process but there is no merits review of those decisions.

Noise and shadow flicker are issues which particularly concerned objectors to the wind farm especially non-participating neighbours. These were the subject of detailed surveys presented to

<sup>71</sup> C&B Group, n 3, p170.

<sup>72</sup> C&B Group, n 3, p 172-177.

<sup>73</sup> C&B Group, n 3, p 180.

<sup>74</sup> Crows Nest Shire Council, n 47, p 25.

<sup>75</sup> Parsons Brinckerhoff, n 16, p 85.

<sup>76</sup> Parsons Brinckerhoff, n 16, p 85.

<sup>77</sup> Parsons Brinckerhoff, n 16, p 86.

<sup>78</sup> Parsons Brinckerhoff, n 16, p 85.

<sup>79</sup> *Broad v Baptist Union & Brisbane City Council* [1986] 2 Qd R 317; (1986) 59 LGRA 296, a Queensland Full Supreme Court decision which has been cited with approval in the other Australian jurisdictions.

Council as part of the Parsons Brinckerhoff report which was part of the application.<sup>80</sup> The result of these were that the conditions permitting the development set limits for noise and shadow flicker for non-participating dwellings. The noise limitation set was 40 dB(A), while the wind turbines were not to be located within 500 m of any non-participating residence likely to be affected by a shadow flicker problem.<sup>81</sup> As indicated previously the sufficiency of these conditions may be tested in the court.

There is also another method by which the effectiveness of the conditions set for the wind farm can be monitored if the wind farm proceeds. The conditions of approval establish a monitoring committee comprised of local government, participating and non-participating residents and wind farm management. The role of the committee is to consider complaints such as shadow flicker, noise and bird kills, recommend monitoring, mitigation works and remedial action.<sup>82</sup>

Another environmental issue which concerned those opposed to the transmission line was the possible adverse effects of electromagnetic fields. The persuasive response to these type of issues when raised is to measure the effects against the scientific standards. In this case the standard quoted was that of the National Health and Medical Research Council and with the assistance of a prominent epidemiologist it was found that the "maximum predicted EMF strengths ... will be well below the guidelines".<sup>83</sup>

One environmental issue which is obviously raised in support of the wind farm, but also surprisingly mentioned in relation to the transmission line, is the reduction of greenhouse gases. The rationale for raising this issue in connection with the wind farm was mentioned at the outset in relation to the incentives available for the production of renewable energy.<sup>84</sup> The Parsons Brinckerhoff report in support of the application gives an expected reduction of greenhouse gases as a result of the wind farm of approximately 250,000 tonnes of carbon dioxide equivalent per year.<sup>85</sup> The argument with respect to the transmission line is stated in the following terms:

One of the effects of transmission of electric power over great distances is a reduction of that power or transmission loss. Powerlink estimates that loss in monetary terms to be \$25/MWh. Since this electricity is mainly generated through coal fuelled generation any reduction in those losses means a reduction in the needed to burn fuel to compensate for that loss. The Millmerran to Middle Ridge transmission line was said to offer lower losses than the next lowest cost solution.<sup>86</sup>

As to the other environmental concerns about flora and fauna, except for bird strike with the wind farm and the blue grass ecological community with the transmission line, these matters were raised and appeared to be able to be accommodated in each instance by conditions.

## CONCLUSION

While much of this article has looked at the detail of these two projects and drawn comparisons for their treatment, for the most part based on the regulatory framework in the Queensland jurisdiction, there are two broader issues: the opportunity for public participation, as well as how transmission and generation of electricity reflects a longer term view of energy supply when environmental costs and benefits are taken into account.

The comparison of the two projects highlights that the removal of the transmission line from the normal town planning process removed the opportunity of the opponents of the project for an independent merit review on the issues important to them. There were good arguments put forward by

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<sup>80</sup> Parsons Brinckerhoff, n 3, Appendices; PB Power, *Wind Farm Noise Prediction and Background Noise Analysis* (9 February 2004); PB Power, *Shadow Flicker Analysis* (10 February 2005).

<sup>81</sup> Crows Nest Shire Council, *Conditions of Development Approval DA 375 Wind Energy Facility* (Minutes, 3 October 2005) Condition 6,7, 26-28.

<sup>82</sup> Crows Nest Shire Council, n 79, Conditions 31-35.

<sup>83</sup> C&B Group, n 3, 181.

<sup>84</sup> See above "The national electricity market".

<sup>85</sup> Parsons Brinckerhoff, n 16, p v.

<sup>86</sup> Powerlink, n 5, pp 34 and 40.

Powerlink and accepted for ministerial designation, such as the need for uniformity of dealing with the construction of the power line rather than the different criteria under six planning schemes and the possibility of delays pending the appeals which would have undoubtedly come about. Similar arguments were persuasive in Powerlink compulsorily acquiring the land for the transmission line. While there were numerous steps required to be taken before the power line could proceed: the National Electricity Code procedure, land acquisition, land use designation and environmental requirements, much of the information was of a complex or technical nature and the proponent was generally the sole source of that information. When the opponents of the project found limited avenues for review they faced structural and resource limitations in pursuing them.

On the other hand, the wind farm proposal is subject to a review on the merits because the usual planning procedure will apply. The wind farm is a greener alternative to generation of electricity but does not receive the same concession under the planning regime which is made available to the transmission line project, while the land acquisition was not by compulsory acquisition but by voluntary negotiation. It is not suggested that the wind farm should be exempted from the usual planning and acquisition processes, but that the decision to remove the power line project from those processes should not be done without full recognition of the implications and preference being given to that development.

The transmission line is an example of traditional technology – the transmission of high voltage power by means of overhead transmission lines over vast distances from coal fired generation facilities. The regime within which such a project operates is based on the economics of the National Electricity Market. There were at least two proposals which would have been acceptable to the opponents of the line: that the line be undergrounded; or that the Oakey gas-fired generator be available to fill the shortfall that might arise. Both of these failed on the grounds of being unacceptable on cost and competition grounds. Since generation is a privatised activity, it is a commercial decision whether such grid supplementation would be provided.<sup>87</sup> The undergrounding of the line was too expensive. The environmental costs of the transmission line are borne by those people who have the line on their properties or constantly within their view. Certainly some receive compensation being the value of easements and the loss of value of their land, but given the choice, the preference of those people would be not to have the power line.

Supply of electricity is a fundamental and crucial necessity for life in the 21st century. No one would question its reliable supply to consumers. However, it is clear that overhead electricity transmission lines are increasingly unpopular with the public on whom they are imposed, and at the same time there is a recognition that renewable energy sources should be encouraged. Rather than the major consideration for the transmission line being the economic cost to the transmission service provider and the market, the preferences of the public and the social and environmental costs should be given greater weight to make other alternatives viable. This is a view supported by others about the national electricity market generally.<sup>88</sup> Alternatives could be: greater emphasis on demand side management; undergrounding transmission lines; or looking at more encouragement of smaller scale greener electricity generation, such as gas generation and wind farms, which can feed into existing local networks supplementing supply when the need arises. The building of overhead transmission lines is 20th century technology which does not recognise changing preferences and environmental costs. The regulatory treatment of these two proposals reflects last century policy. Faced with increasing demand for power in the 21st century, the response based on the two towers experience is likely to remain a 20th century one: extend and upgrade overhead transmission networks, and commission more coal fuelled and even nuclear fuelled generation capacity. A change of direction of government policy and regulation is needed to reframe the energy market to take into account other priorities not simply economic ones.

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<sup>87</sup> The Oakey power station is in fact owned by the Queensland government owned corporation Enertrade Ltd.

<sup>88</sup> Lyster R and Bradbrook A, *Energy Law and the Environment* (Cambridge University Press, 2006) p 129.

APPENDIX

FIGURE 1 Existing Supply System – Darling Downs Area

