ENVIRONMENTAL PLANNING REPORT
Alternatives to the Directlink Transmission Line (Mullumbimby to Terranora)

Environmental Planning Report
November 2004

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1. Introduction

This Report identifies an environmentally acceptable route for an "alternative" transmission line connection between Mullumbimby and Terranora. An acceptable route is considered one that would be likely to gain planning approval and have an acceptable level of community support.

This Report has been prepared in response to the Directlink Joint Venture (DJV) application to the Australian Competition and Consumer Commission (ACCC) for Conversion of its transmission line to a *Prescribed Service and a Maximum Allowable Revenue for 2005-14* (22 September 2004)[1]. The ACCC has indicated that the Department's views would be relevant to its decision with respect to this application.

The Department has focused its attention solely on transmission line route alternatives that provide a similar function to the Directlink line. That is, it has not been the purpose, or the intent, of this Report to investigate or question the need or justification of a DC 180 MW transmission line between Mullumbimby and Terranora.

2. Background

Directlink is an existing electricity transmission link between Mullumbimby and Terranora in northern NSW that effectively connects the NSW and Queensland electricity grids. It is a high voltage (+/- 80kV DC) transmission line of about 65km, constructed predominantly underground and in galvanised steel troughs installed along the North Coast railway easement. It commenced operation in July 2000.

Directlink Joint Venture (DJV) is owned jointly by Emmlink Pty Ltd (a Country Energy subsidiary) and the Canadian owned HQI Australia Ltd Partnership.

The Directlink line was subject to Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), on the basis that NorthPower (one of the predecessors of Country Energy) was a proponent and public authority. No Environmental Impact Statement (EIS) was prepared, and hence it was not subject to Division 4, Part 5 of the EP&A Act (i.e. it did not require approval of the then Minister for Urban Affairs and Planning).

On 22 September 2004 DJV submitted a complete revised application for conversion from a market network service to a prescribed service and a maximum allowable revenue to 30 June 2015.

The conversion process (under the National Electricity Code) is a complex process. It is understood that the ACCC will value the Directlink line based on the cost of replacing it with one of a number of comparable hypothetical alternatives. Most, but not all, of the alternatives involve transmission lines. Therefore, the DJV application includes an assessment of alterative routes as investigated by URS Australia.

[1] The DVJ application is publicly available from ACCC website: www.accc.gov.au

3. The Environmental Impact Assessment process

In constructing and operating an electricity transmission line, a public authority has a legal requirement under the EP&A Act to consider the environmental significance of this activity. Generally, Part 5 of the EP&A Act applies to activities that:

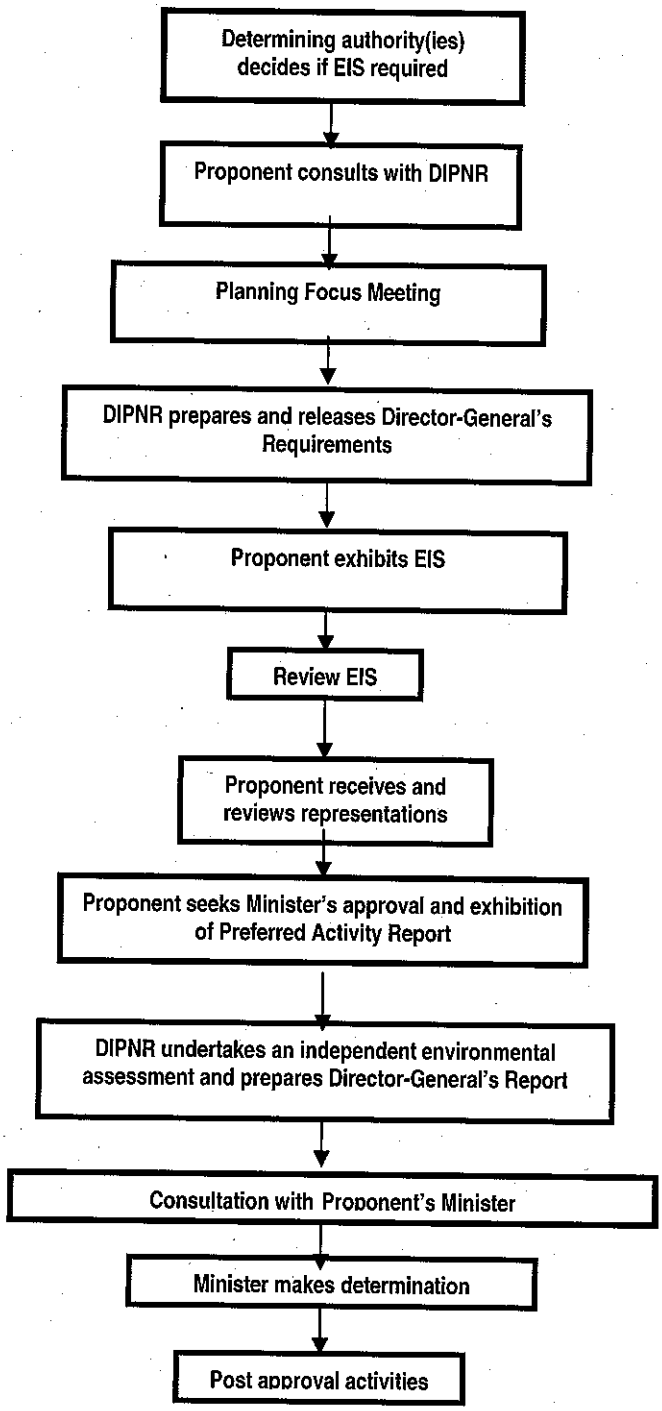
- are permissible and do not require development consent (under Part 4 of the EP&A Act), and
- require an approval from a public authority or Minister (known as "determining authorities") or are proposed by a determining authority. Note that the term "approval" is quite widely defined and includes funding someone else's activity (see s110 of the EP&A Act).

A key feature of Part 5 is Division 4, which provides the Minister with an approval role, and the Director General of the Department with an independent assessment role, for environmentally significant State Government activities. Division 4 applies when:

- an activity is subject to Part 5 (permissible without consent);
- the proponent is a determining authority (other than a council or county council); and
- an Environmental Impact Statement (EIS) is required.

Figure 1 outlines the Part 5 process.

Figure 1 General stages in the EIA process (under Division 4, Part 5 EP&A Act)



4. Alternative Route Selection

4.1.1 Background

DJV commissioned URS to undertake an assessment of alternative routes. URS produced a report as part of the DVJ application: *Alternative Projects to the Directlink Transmission Line – Environmental Review: Mullumbimby to Terranora (NSW)*, 9 March 2004.

The Department has reviewed the URS report (9 March 2004), which identified environmental and social constraints affecting a "transmission corridor". The main constraints are identified as National Parks, steep terrain, habitat and remnant vegetation, existing towns and future urban release areas and visual impacts.

A "best alternative" route was located in the hinterlands between well vegetated ranges and the sensitive coastal zone (the "foothills route"). The corridor is approximately 47km long, of which 18km would be underground. The above ground corridor traverses cleared land (mostly used for grazing), modified vegetation and sparsely settled areas.

Within the limitations of this desktop assessment, URS identify that the "best alternative" would be acceptable to the community and to the relevant planning authorities, and would have a reasonable probability of planning approval.

A second report (*Alternative Projects to the Directlink Transmission Line – Motorway Option*, prepared by URS, 15 July 2004) identified environmental, social and institutional constraints affecting a transmission line route along the Yelgun to Chinderah Motorway corridor. Notably, the RTA has a number of objections to development within the road corridor.

The report noted significant institutional issues related to the extent that the Roads & Traffic Authority (RTA) must approve the location, nature and standard of any utility works within a road corridor. The main environmental constraints are identified as visual impacts, threatened species and engineering considerations. Environmental constraints were considerably reduced by utilising the Motorway corridor.

The report concludes that a predominantly underground Motorway option has the potential to result in acceptable environmental impacts provided the appropriate engineering and consent challenges can be overcome.

4.1.2 Additional Information

The Department commissioned Connell Wagner to undertake an independent study to identify a cost-effective and environmentally acceptable route that would have the same functionality as the existing Directlink line. The Directlink line, which connects Mullumbimby and Terranora, is a Direct Current (DC) transmission line, with a nominal transfer capability of 180 megawatts.

The study identified environmental and social constraints to identify a Preferred Option for a transmission line from Mullumbimby to Terranora. Two options were considered that would be likely to achieve planning approval (Figure 2):

- Option 1 is a combination of overhead and underground facilities. It is similar to the URS foothills route with modifications to further minimise impacts. This route travels underground at the south

and north ends. The overhead facility utilises cleared land and the lower flanks of the Chincogan Mountains.

- Option 2 relies on existing infrastructure corridors, following the Motorway for a substantial portion of the route. This option is an underground facility alongside the Motorway corridor and has reduced environmental impacts compared to Option 1.

The Connell Wagner study concludes that both options would achieve planning approval, however Option 1 is preferred due to the cost implications of Option 2.

4.1.3 Department's Consideration

The Department considers that the routes identified in the Connell Wagner study represent the only reasonable and acceptable alternative options to the Directlink line. Additionally, the Department notes that the Connell Wagner options are not materially different from those identified in the URS reports.

The corridor between Mullumbimby and Terranora displays a diverse and complex range of planning circumstances including:

- lands of high value biodiversity;
- National Parks, Nature Reserves and remnant vegetation;
- expansive floodplains and assorted hydrological features;
- rugged range lands;
- agricultural lands, including high value intensive horticulture; and
- patterns of human settlement (urban centres and expanding rural residential areas).

These features or constraints limit the possible routes for an acceptable transmission line in the area. In terms of undergrounding, the Department notes that the underground sections of Option 1 would reduce, to an acceptable level, the environmental impacts of a transmission proposal in the corridor between Mullumbimby and Terranora. Specifically, the underground sections would reduce:

- visual impacts at a regional scale in this sensitive and scenic coastal location to an acceptable level, both from a visitor and resident perspective, particularly where the line would cross the Chincogan Mountains in the south and where it would cross the Tweed River Floodplain and escarpment up to Terranora in the north;
- visual impacts at a local scale to an acceptable level from existing or future rural residential development, particularly at Laverty's Gap in the south;
- ecological risk in terms of potential vegetation clearing, management of acid sulfate soils, water crossings (where directional drilling would be practicable) and possible bird strike issues; and
- landowner risk in terms of access and cane farming operations (i.e. farmers would not have overhead lines to avoid and underground lines would be located along existing access tracks).

A full underground option (Option 2) would further reduce environmental impacts. Whilst the long-term visual impacts would be reduced substantially with this option, short-term construction impacts would potentially be more ecologically disturbing. Use of the Motorway corridor allows ecologically sensitive areas to be avoided. Other construction impacts would be manageable. A fully underground option is likely to be more acceptable to the local community and would be supported and encouraged by the Department.

5. Conclusions and Planning Advice

In constructing and operating an electricity transmission line, it is a legal requirement for a public authority to comply with the EP&A Act. Consistent with the environmental impact assessment processes undertaken under Part 5 of the EP&A Act, it is initially the role of the Proponent to determine the nature of any activity and whether or not an activity is likely to significantly affect the environment. Under Division 4, Part 5 of the EP&A Act, the Department has the key role in undertaking an independent assessment of the activity, taking into account community input when an Environmental Impact Statement is required. As such, the Department would assess the acceptability of an activity before putting its recommendations to the Minister for Infrastructure & Planning for a decision.

In the Department's experience, it has been rare to date for a Proponent to propose that transmission lines, outside densely built up areas, be placed entirely underground, because of the substantially higher costs.

Notwithstanding, in recent assessments of transmission line proposals, the Department has identified changing community values in relation to visual impacts and perceived/potential health implications of transmission lines. This has been particularly the case in sensitive locations, such as coastal and scenic areas and in proximity to suburban and rural residential areas. For example, in a current assessment near Riverstone, the Department has received substantial representations from the local community objecting to proposed overhead transmission lines.

Whether or not a Proponent puts forward an underground proposal, the Department would actively pursue and encourage underground options in response to the environmental impact assessment process and stakeholder/community response. Such requirements are raised specifically in Director General's Requirements for an Environmental Impact Statement.

The Department has examined the environmental issues associated with the construction and operation of an alternative to Directlink, including commissioning an independent assessment of route options. The Department undertook consultation with local Councils to gauge potential community reactions, noting that community opposition to an overhead transmission line would be high in some parts of the Tweed and Byron regions. This opposition would also be strengthening as a result of changing community values as the area shifts from rural activities to more "lifestyle" uses and urban areas expand.

The Department concurs with the options presented in the independent Connell Wagner report (September 2004) and notes that the routes identified in the Connell Wagner report are not materially different from those recommended by URS as described in DJV application to the ACCC.

Justification for the requirement to underground all or part of the transmission line would include the sensitivity of the location, proximity to existing or future rural residential development and ecological risk. Additionally, there is a strong possibility that further mitigation measures would be required if a full environmental impact assessment and community consultation process took place.

The Department's preferred option would be for a fully underground route (i.e. Connell Wagner Option 2 following the Motorway). Notwithstanding, the Department accepts that it is possible that it would consider an option with a combination of overhead and undergrounding (i.e. Connell Wagner Option 1). However, given the sensitivities of the local area, the extent of undergrounding identified in the Connell Wagner report would be insisted as an absolute minimum requirement in order to recommend that the project be approved. Following further, more detailed assessment as part of the post approval activities, additional mitigation measures, including additional undergrounding, could be required.

Figure 2: The study area between Mullumbimby and Terranora, with environmental and social constraints and two transmission line options considered likely to achieve planning approval (source: Connell Wagner, September 2004).