Review of the National Access Regime

Submission in response to
Submission DR116 (NECG)
The 'uneconomic to develop' criterion after Duke

National Competition Council

September 2001

The National Competition Council has taken a strong interest in the Productivity Commission's Review of the *National Access Regime*, providing two substantial submissions and participating in the Commission's workshops and public hearings. Council staff have also monitored other submissions provided to the Commission, however the Council has generally refrained from responding directly to those submissions.

NECG has recently forwarded a submission: *The "uneconomic to develop" criterion after Duke*. The submission purports to review the arguments before, and the decision of, the Australian Competition Tribunal's review of the decision to cover the Eastern Gas Pipeline (EGP) under the National Third Party Access Code for Natural Gas Pipelines [2001] ACompT 2 (4 May 2001), (the Duke matter). The submission also purports to review comments by the Council in response to the Tribunal's decision.

The NECG submission contains a number of errors including a number of errors in relation to matters that are said to have been put or not put to the Tribunal in the course of the Duke matter. The submission appears to have been drafted on a reading of the economic expert witness statements and the Tribunal's decision alone, without reference to other evidence before the Tribunal and submissions made on behalf of the parties including those made on behalf of Duke. Some of the comments or views attributed to the Council are not referenced and are simply wrong. It is an impossible task for the Council, at this stage, to respond to all of these errors. Further, some of the issues raised are 'live' in the context of the Council's consideration of the Eastern Australian Pipeline Limited (EAPL) second revocation application (NECG is acting on behalf of EAPL in this matter). Consequently, it is not appropriate for the Council to respond to all of the NECG views in this submission.

Four errors in the NECG submission, however, cannot pass without comment.

First, NECG discusses at some length what it refers to as *the 'other, also very significant, element in the Tribunal's decision in Duke – namely, its sharp rejection of the NCC's arguments in respect of criterion (a) (the "promotion of competition" test)'* (NECG 2001a, p. 9). As a matter of record, the Tribunal expressly adopted the Council's arguments about how the promotion of competition test was to be applied and the threshold that had to be satisfied. At the hearing, consistently with the role that it is appropriate for the Council to take in a matter such as this, the Council did not advocate a particular factual outcome. What it did do was to identify and refer to a number of factors that were relevant to the Tribunal's assessment as to whether or not this criterion was satisfied. The Tribunal reached a conclusion that the EGP did not have market power in any market. Such an assessment is a matter of judgment and the

Tribunal's assessment was based on different factual material from that before the Council in its consideration of the original application.[1]

Second, the NECG submission says, in relation to proceedings before the Tribunal in the Duke matter:

> *In particular, the NCC argued that the three characteristics of natural monopoly technology possessed by the EGP were that it: (1) was used to facilitate the long distance movement of gas over land, (2) displayed economies of scale over a large range of output of volume, and (3) was heavily capital intensive and immobile. On this basis, the NCC argued that the EGP satisfied the "uneconomic to develop" criterion because the EGP's "production technology" exhibited natural monopoly characteristics'* (NECG 2001a, p.38).[2]

The Council did not make these arguments in submissions to the Tribunal in the Duke matter. The arguments made by the Council on the appropriate test for criterion (b) were outlined in the Council's previous submission to the Commission. (NCC 2001b, pp.28-29)

Third, NECG criticises the Council's approach to the application for revocation of coverage under the Gas Code of the Tubridgi pipeline in Western Australia (NECG 2001a, p.43). The Tubridgi pipeline runs parallel to the Griffin pipeline for 87 kilometres of its route (notably, there has been no application for revocation of coverage of the Griffin pipeline). The reasons the Council considered that the Tubridgi pipeline satisfied the criteria for coverage included that the Tubridgi and Griffin pipelines:

- were owned, effectively, by the same entity;
- serve different gas production fields;
- carry gas of different specification: the Tubridgi pipeline is exempt from the usual gas standards; and
- the different specification of gas substantially limits the quantity of gas that can be carried on the Tubridgi pipeline.

In the light of this information, it would be difficult to argue that the two pipelines are effective substitutes.

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1 Notably, in its decision on whether costs should be awarded in the Duke matter, the Tribunal said: 'Whether the statutory criteria for coverage of a pipeline are met will often be, as the present case illustrates, a matter on which there can be different points of view and legitimate differences of opinion.' (Duke Eastern Gas Pipeline Pty Ltd [2001] ACompT3, p.4).

2 The submission makes similar points at p.41.

In the context of NECG's criticism of the 'automatic' nature of the application of criterion (b) of the Gas Code, it is notable that in the only opinion provided under clause 1.22 and 1.23 of the Code (on whether a proposed pipeline would satisfy the coverage criteria), the Council expressed the view that effective substitutes appeared to be available and that, as a consequence, criterion (b) was unlikely to be satisfied (NCC 2001b, p. 19).

Fourth, NECG misrepresents the Council's formulation of the relevant market power test for considering whether criterion (a) is met (NECG 2001a, pp. 47-49). The Council has interpreted the Tribunal's decision in this area as a test of whether a pipeline has the ability to profitably hinder competition in the relevant gas market or other dependent market, on the assumption that a firm with such an ability has an incentive to exploit that ability to maximise profits. This formulation clearly goes beyond the question of market power in the provision of transportation services.

This submission by the Council discusses the key points raised by the NECG submission in arguing the case for an amendment to criterion (b) of the Part IIIA declaration and Gas Code criteria. The new words proposed by NECG are:

> *(b) that it would be uneconomical for anyone to develop another facility to provide the service or a substitute for the service in the same market as that in which the service is provided*

The proposed rewording aims for a more technical test of natural monopoly than the current wording. The main arguments of the NECG submission are summarised in the following extract from its introduction:

> *This paper's argument that the "uneconomic to develop" test in Part IIIA needs to be amended arises from the Tribunal's rejection in Duke of a market-based interpretation to the "uneconomic to develop" test. In considering this decision, it is important to be clear as to the exact nature of the disagreement between the parties to the Duke proceedings about the meaning of the "uneconomic to develop" test, and the import of the decision itself.*
>
> *This disagreement does* ***not*** *centre on whether a "service" can be defined independently of a "market", as the National Competition Council ("NCC") has argued in its most recent submission to the Commission. In effect, it is clear, and has long been accepted in competition policy analysis, that the identification of the good or service at issue can be a prior step to the process of market definition. As a result, it would not be sensible or desirable to take issue with the Tribunal's view that the definition of a service can occur as a matter of factual inquiry, rather than necessarily being a matter of economics.*

> *Rather, the crucial issue is whether the "uneconomic to develop" test can be given any meaningful interpretation independently of an economic assessment of the availability of substitutes.*
>
> *…the Tribunal's decision in Duke, and its latest interpretation by the NCC, robs the "uneconomic to develop" test of any practical bite because, wherever a facility has excess capacity, it can and will meet the test. This is profoundly problematic, as it amounts to, or at least creates the scope for, a significant expansion in regulatory discretion* (NECG 2001a, p. 7-9).

The key points discussed in this submission by the Council are:

- the importance of service delineation in testing for natural monopoly or natural monopoly characteristics;
- testing for relevant service substitution;
- relevant market analysis for testing for natural monopoly or natural monopoly characteristics; and
- the NECG contention that, according to the approach taken by the Tribunal and the Council, criterion (b) would be satisfied by any facility with spare capacity.

Service delineation

NECG argues that 'it is clear, and has long been accepted in competition policy analysis, that the identification of the good or service at issue can be a prior step to the process of market definition' (NECG 2001a, p.8). NECG implies that the Council has focused on the wrong issue in its submission in response to the Commission's Position Paper in its review of Part IIIA.

However, NECG's acceptance of the Council's (and the Tribunal's) approach to service delineation is a recent development. Previously, NECG argued that analysis of substitution possibilities, markets and natural monopoly in relation to gas pipelines should ***not*** begin with an examination of the transportation of gas between two points. Instead, according to NECG until its most recent submission, this analysis should begin with some different notion of service; one which focussed on services provided to a producer at point A and services provided to a consumer at point B. The justification for this approach was that it is necessary to properly understand substitution possibilities from an 'economic' perspective.

In his statement in evidence to the Tribunal in the Duke matter, Mr Ergas said:

> *…the NCC has defined the services provided by the EGP "in terms of both the start and end points…" Strictly, this is not the same as defining a point-to-point market for gas transportation services.* **However, some confusion between the services and a relevant market may be inevitable.** *Thus, it is useful to examine the question of whether a firm that controlled the sole pipeline linking point A and point B, but not the other pipelines that terminated at point B, could exercise a substantial degree of market power over gas transportation services. The answer is that it could not if the other pipelines terminating at point B were effective substitutes* [**emphasis added**] (Ergas 2001, p.15).[3]

Later in his statement, Mr Ergas concludes that the relevant market for pipeline services should be identified before the relevant services are delineated (Ergas 2001, p.17). Thus, according to Mr Ergas, a pipeline operator is effectively providing a service *'from an economic perspective to two parties - a producer at A and a consumer located at B…'* (Transcript 1/2/2001, p.378 line 36 to p.379 line 3)[4]. Mr Ergas variously described this origin/destination service delineation approach as *'important when you analyse the substitution possibility'* (Transcript 1/2/01 p.379 line 10)[5]; '*essential*' and '*analytically crucial*' for *'proper market definition of any transport function*' (Transcript 1/2/01, p.380 line 25)[6]; and '*very important*'

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3 The distinction between services and markets was clearly made by the Council in its final recommendation on the EGP:

> *The Council concludes that, for the purpose of identifying competing transmission services, the services of the Eastern Gas Pipeline are those related to the transportation of natural gas between Longford and Sydney, including all possible destinations between these two locations proximate to pipeline.*
>
> *This approach to the description of the relevant transmission services provided by the Eastern Gas Pipeline does not, however, exclude the possibility that other services, such as those provided by the Moomba to Sydney Pipeline, are competitive with the services of the Eastern Gas Pipeline; that is that those other services are in the same market as the services provided by the Eastern Gas Pipeline* (NCC 2000, p.51).

4 See Transcript Extract 1, Attachment A.

5 See Transcript Extract 2, Attachment A.

6 See Transcript Extract 3, Attachment A.

to his analysis whether criterion (b) is satisfied (Transcript 2/2/01, p.385 line 14)[7].

While NECG's recent submission recognises that its previous approach to service delineation is not appropriate, it has not revisited its analysis of substitution possibilities for the EGP based on a proper starting point: the point-to-point pipeline services provided by the EGP; that is, those services that are actually bought and sold. Given the admitted importance of the origin/destination service delineation to NECG's analysis of substitution possibilities and markets, it would seem appropriate to revisit this analysis. This need is highlighted by NECG's views that the appropriate point-to-point approach to service delineation almost compels a conclusion that criterion (b) is satisfied.[8]

Testing for substitution

Testing for substitution involves a two step process:

- identifying the initial product which is the subject of the analysis; then
- identifying other available or potential products which, via demand-side or supply-side switching in the long term, materially and directly constrain the pricing of the first product.

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[7] See Transcript Extract 4, Attachment A.

[8] In a submission to the Council, NECG said:

> '*An assessment of whether it is economic to duplicate EGP has to be made by reference to the service provided by means of "*a covered pipeline.*"[8] This predisposes a point to point service definition, in this case from Longford to Sydney which is, indeed, the interpretation presented by the NCC.*
>
> > *"The Council concludes that the relevant services are the transportation of natural gas between Longford and Sydney, backhaul, interconnect, and linepack."*
>
> *The problem with this approach is that it almost compels that the economic to duplicate test is interpreted in terms of whether it would be economic to duplicate the pipeline in question. When this test is applied — as applied by the Council — we would concur with their conclusion, that it would not be economic to build a new pipeline to provide the services of the EGP. EGP, from the outset of its operation, will have substantial spare capacity which can be brought into use at low cost; hence, it is unlikely to be efficient to duplicate the EGP pipeline facility.'* (NECG 2000, p.26)

One analytical tool sometimes used to test for substitution is referred to as SSNIP analysis. This analyses the likely demand-side and supply-side responses to an assumed small but significant non-transitory increase in the price of a product. The analysis is commonly used in relation to proposed mergers, especially in the US, to test whether post-merger market conditions would be substantially less competitive than the conditions pre-merger. In this context, the SSNIP analysis is used to test whether the merged entity would be able to profitably increase prices by a significant margin. Generally, the analysis is predicated on an assumption that pre-merger prices reflect competitive market conditions (Harris and Simons 1989, p. 212, Ergas 2001, p. 23 and p. 71). The Harris and Simons model involves two stages. Firstly, the relevant 'critical loss' is calculated: this identifies the loss of sales necessary to render a specified increase in price by a prospective merged entity unprofitable. Secondly, the likely loss of sales in response to the price rise is estimated.

NECG conducted a SSNIP analysis in relation to the EGP and this analysis was submitted in evidence to the Tribunal in the Duke matter to seek to establish that the Interconnect and MSP pipelines provided economically viable substitute services for the EGP. Thus, the analysis was presented to support a contention that the EGP was not a natural monopoly.

However, the NECG SSNIP analysis:

- assumed that buyers of gas transportation services are indifferent as to which of any available pipelines provided those transportation services. That is, the analysis assumed that gas pipeline services are homogeneous; and

- used, as a starting point, Duke's proposed pricing of the services of the EGP (in particular, a price of 86 cents per Gj for transport of gas from Longford to Horsley Park near Sydney) without any evidence on how this price was derived or that it reflected competitive market conditions.

Each of these issues is discussed in turn.

Homogeneous gas pipeline services

Gas transportation services have no intrinsic value in their own right: these services are merely a means of delivering something that consumers value; that is, gas delivered to where those consumers want to use it. The gas is produced according to strict standards so that there is no practical difference between gas molecules. Thus, consumers are indifferent to the source of gas that is actually delivered – delivered gas is effectively homogeneous and consumers care only about the price of delivered gas.

Delivered gas is a bundle of gas molecules and transportation services. Consumers can purchase delivered gas as a bundled product (generally from a gas retailer) or enter into separate gas supply and transportation agreements. The availability of gas from a particular producer will depend, in part, on the availability of transportation services from the relevant gas-producing region. For example, a gas consumer in Sydney may be able to strike a wonderful deal with a gas producer in the North-West Shelf of Western Australia but would have no efficient means of conveying that gas to Sydney. However, a gas consumer in Sydney does have the practical ability to deal with gas producers in the Cooper Basin and in the Bass Strait.

While gas molecules and delivered gas may be homogeneous, the different available gas transportation services to a particular consumer are not. A consumer may care a great deal about a particular gas transportation service if that consumer wants to contract with a particular gas producer.

The fact that gas transportation services are not homogeneous is made apparent if the correct point-to-point approach to the delineation of these services is adopted. Thus it is obvious that a gas transportation service from Moomba to Sydney is quite distinct from a gas transportation service from Longford to Sydney. This is not to say that these services cannot be substitutes for each other, but it is quite wrong to simply assume they are the same service and that consumers are indifferent as between them.

But this is what the NECG SSNIP analysis has done. By defining the relevant services as gas transportation services into Sydney, the NECG analysis simply assumes that the EGP and the MSP provide identical services to consumers in Sydney. Thus, the analysis assumes away the main reason that consumers may not regard the services of the EGP and the MSP as substitutes: that is, the fact that the two services are different. This is apparent in the Ergas statement:

> *The Moomba-Sydney Pipeline presently supplies the vast bulk of natural gas which is consumed in Sydney and Canberra. From the qualitative perspective this pipeline is perfectly substitutable for the Eastern Gas Pipeline for this service* (Ergas 2000, p.32; see also Transcript 02/02/01 p402 line1-14[9], p410 line 5-18[10]).

By assuming that the MSP and EGP provide homogeneous services, NECG relied heavily on the first stage of the Harris and Simons model – the 'critical loss' analysis – and avoided the need to consider consumer preferences under the second stage of the model. However, it is clear that Moomba to Sydney gas transportation services and Longford to Sydney

[9] See Transcript Extract 5, Attachment A.

[10] See Transcript Extract 6, Attachment A.

gas transportation services are not homogeneous. The assumption of homogeneity assumes away the most important issue in testing for substitution between the two pipelines.

Starting with a 'competitive' price

NECG's SSNIP analysis modelled the costs of expanding capacity for the Interconnect and MSP in response to a significant price increase for the EGP over and above Duke's offer of gas transportation services from Longford to Horsley Park (near Sydney) at 86 cents. The analysis draws on work by Harris and Simons (Harris and Simons 1989). The analysis assumes that 86 cents is a 'competitive' price, in accordance with assumptions in the Harris and Simons model (Harris and Simons 1989, p. 212, Ergas 2001, p. 23 and p. 71). However, no evidence was provided to support this proposition. Further, Mr Ergas conceded:

- firstly, that starting with a price that does not reflect a price derived in a competitive market may undermine the validity of the SSNIP analysis; and
- secondly, that starting with a high profit-maximising price for a monopolist would mean that the monopolist could not profitably impose a SSNIP (Transcript 2/2/01, p.399 line 23 to p.401 line 2).[11]

On the first point, Mr Ergas said that the analysis would fail if the starting point for the SSNIP analysis was such a high price that it induced quite artificial substitution, such as using wrapping paper instead of cellophane. Mr Ergas did not concede that using a monopoly price as a starting point in SSNIP analysis would ***automatically*** raise these problems. However, there was no explanation of why NECG's SSNIP analysis could be relied upon in this instance.[12]

On the second point, if the starting point for the NECG SSNIP analysis was a profit maximising monopoly price, then the monopolist could not profitably increase its price any further, and therefore could not benefit by imposing a SSNIP. This is a simple matter of definition: if a monopolist could benefit from imposing a SSNIP, then it could not be said to be profit maximising before imposing the SSNIP.

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11 See Transcript Extract 7, Attachment A.

12 The Tribunal said (at paragraph 108) about this questioning of the SSNIP analysis: 'Mr Ergas said that if the EGP tariff was a monopoly price then there would be a greater risk that the analysis was incorrect but it would not be completely invalidated. The Tribunal is not convinced that these assumptions invalidate the analysis when taken together with the evidence of the competition currently occurring and likely to occur.'

Thus, NECG's SSNIP analysis could just as readily be testing for whether Duke was a profit-maximising monopolist by pricing at 86 cents as testing for relevant substitution. The result simply turns on the initial assumption about the 86 cents. NECG has assumed the price was derived competitively, because the EGP is in 'competition' with other pipelines in providing services to Sydney, and concluded that the EGP is in competition with other pipelines. However, if the initial assumption is that 86 cents is Duke's profit maximising monopoly price, then the SSNIP analysis, by conducting the same analysis based on the same information, could be said to have proven that 86 cents is Duke's profit maximising monopoly price.

The approach of the Tribunal and the NCC

It is clear from the Council's July 2001 submission to the Commission and the Tribunal's decision that testing for substitutes for the services of the EGP is an important part of the application of the criterion (b) test. In that regard, there was substantial consideration by the Council in its final recommendation and the Tribunal of whether the Interconnect provided viable substitutes for the services of the EGP, such that criterion (b) would not be satisfied in relation to the EGP. The Tribunal's conclusion was that the Interconnect did not provide viable substitute services for the EGP.

NECG is critical of the Tribunal decision in that it did not consider in detail whether the MSP provided viable substitute services for the EGP. NECG suggests that the Tribunal has rejected an approach to criterion (b) that would test for natural monopoly by examining all 'economic' substitution possibilities. Implicit in this suggestion is that NECG's destination market and SSNIP analysis of the EGP has conclusively established that the MSP provides substitute services for the services of the EGP. NECG argues that the fact that the Tribunal ignored this analysis represents a serious flaw in the Tribunal's interpretation and application of criterion (b).

However, once it is established that the EGP's transportation services should be delineated according to the point-to-point services actually sold, rather than the NECG's initial origin/destination service approach, the problems with the NECG analysis of the natural monopoly characteristics of the EGP become apparent. The services of the MSP and EGP are clearly not homogeneous, as assumed by NECG, while the NECG's SSNIP analysis was flawed because it simply proved its starting assumption: that 86 cents was a 'competitive' price.

The Tribunal's dismissal of the relevance of the MSP in testing whether the EGP is a natural monopoly or has natural monopoly characteristics should be equated with dismissing the relevance of a rail track from Melbourne to Sydney in testing for natural monopoly of a rail track from Brisbane to Sydney.

An analysis of substitution possibilities between the EGP and the MSP could be conducted by testing the extent that consumers discriminate between the respective services of the pipelines. In this respect, it should be noted that the MSP has spare and developable capacity to meet the gas needs of NSW with decreasing costs for some considerable time into the future. Unless it can be said that there is a discreet bundle of demand for the transportation of gas from Longford to Sydney, the EGP would constitute uneconomic development of a pipeline to provide the services of the MSP.

This raises the issue of the relevance of market analysis in the consideration of criterion (b).

Relevant market analysis

As explained in the Council's July 2001 submission, market analysis should not be used as an end in itself but as a tool to determine the question at hand.[13] There is nothing magical about market analysis: while a very important analytical tool, it always needs to be focused on the relevant issue. Different market analysis can be employed in relation to the same products depending on the question being asked.

Both economists in the Duke matter considered that the relevant market analysis of the services of gas transmission pipelines examines the market power of the pipeline at the origin (or gas producer) end, and separately at the destination (or consumer) end. This approach to market analysis of gas pipelines is used in other developed countries, particularly in the US, to test the influence of gas pipelines on the operation of markets that rely on gas transportation services, such as markets for gas. This analysis is important because gas pipelines may exert different levels of influence on different regions within a gas market, depending on the existence and role of other pipelines serving the same region or regions. Thus, a gas pipeline may exert a higher level of influence on a gas market in regard to destination (consumer) regions where there are no other pipelines, than in regard to regions where gas is available via other pipelines within the same gas market. Origin and destination market analysis is not used to test for the natural monopoly characteristics of gas pipelines.

While both economists regarded origin/destination market analysis as the relevant market analysis for gas pipelines, they differed on the question of how this market analysis should be employed. Dr Jeff Makholm of NERA, the economist called by the Council, suggested that origin/destination market analysis was relevant only for considering the influence of gas

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13 *Broken Hill Proprietary Company Ltd v. Queensland Wire Industries Pty Ltd* (1989) 167 CLR 177; see also Norman & Williams, *"The analysis of market and competition under the Trade Practices Act"* (1983) 11 ABLR 396 at 400

pipelines in associated gas markets. This market analysis was relevant only for the consideration of the promotion of competition test in criterion (a). This is consistent with the way that this market analysis is used in other countries. Mr Ergas, the economist called by Duke, on the other hand argued that origin/destination market analysis was relevant for the consideration of both criteria (a) and (b).

In evidence before the Tribunal, Dr Makholm said that criterion (b) was concerned with testing for natural monopoly characteristics. Dr Makholm preferred an approach that focused on the supply-side characteristics of a particular facility, rather than testing for economies of scale or scope within a market. However, Dr Makholm said that if a market-based test of natural monopoly was to be adopted, he would take the same approach as the Council in its recommendation: starting with the point-to-point services of the EGP and delineating the relevant market for these services, probably concluding that there was a point-to-point market (although he would regard this as a loose application of the term 'market', preferring the term 'demand' for services between two points) (Transcript 5/2/01, p.479 line 23 to p.480 line 5).[14]

Mr Ergas applied the SSNIP analysis to the 'destination services' of the EGP, MSP and Interconnect in transporting gas into the Sydney region. NECG now accepts that the right starting point for market analysis testing for natural monopoly is the point-to-point gas transportation services of the EGP. NECG argues that testing for natural monopoly should seek to identify 'those substitutes that are sufficiently close to prevent a hypothetical monopolist over the service from effecting a small but significant and non-transitory increase in price above the competitive level' (NECG 2001a, p.8). Thus, the relevant question now is whether Duke has the ability to profitably impose a small but significant and non-transitory increase in price above the 'competitive level' for the point-to-point gas transportation services of the EGP.

Mr Ergas' primary evidence to the Tribunal concedes that the EGP may be able to 'exercise some market power both with respect to the producers at the site it serves and with respect to final sales of gas in Sydney' (Ergas 2001, p.16). However, NECG has not conducted any analysis to test whether Duke would be able to exercise substantial market power in the provision of point-to-point gas transportation services. Such market analysis would need to recognise that the MSP and EGP provide different transport services and that many consumers may value the services differently.

Mr Ergas also suggested to the Tribunal that the natural monopoly characteristics of all transport services should be tested according to

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14 See Transcript Extract 8, Attachment A.

origin/destination market analysis (Transcript 1/2/01, p.380 line 1-28).[15] He provided the example of an orchardist who wants to transport produce to a market. Mr Ergas said that testing whether a road from the orchardist to a market was a natural monopoly would require consideration of whether there were other roads leading from the orchardist to other markets. Presumably, the assumption of homogeneity applies in these examples as well: thus, all roads available to the orchardist would be assumed to be of the same value.

Further, if this analysis were correct, there is no logical reason why the origin/destination market approach to testing for natural monopoly should be limited to infrastructure using the same technology. Alternative transport services might be available to the orchardist via a nearby port, airport or rail link. The available destinations or convenience of these alternate transport services is of no consequence, according to this argument. The mere availability of the alternatives is sufficient to defeat any proposition that the road link is a natural monopoly provided at least one of the alternate transport services can be provided at a similar price to the incumbent road transport service. This is the case regardless of the extent to which the orchardist might assign different values to the different transport services and different destinations.

The substantial practical consequences of applying market analysis such as this to criterion (b) aside, the argument that the natural monopoly characteristics of all transport infrastructure should be assessed using origin/destination market analysis, without regard to the relative utility of the alternate infrastructure services, is untenable.

Is criterion (b) trivial?

NECG suggests that: 'the Tribunal's decision in Duke, and its latest interpretation by the NCC, robs the "uneconomic to develop" test of any practical bite because, wherever a facility has excess capacity, it can and will meet the test' (NECG 2001a, p.9).

NECG argues that this is the case because the Tribunal in the Duke matter:

- firstly, did not explicitly adopt a market approach to the services of the EGP in testing whether criterion (b) was satisfied; and
- secondly, did not accept the arguments put by Duke on the relevance of the MSP, as a substitute for the EGP, in testing whether criterion (b) was satisfied.

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15 See Transcript Extract 9, Attachment A.

On the first issue, the discussion above of the NECG arguments tends to support a view that market analysis of the services of a gas transmission pipeline can be somewhat artificial: tending to merely confirm a starting proposition. The above discussion may also help to explain the formulation of the test for natural monopoly proposed to the Council by Professor Ordover, and ultimately accepted by the Tribunal (NCC 2001b, p.27-29). Rather than focus on market definition to test for natural monopoly, the Ordover test focuses on a relevant range of demand for infrastructure services. Finally, the discussion supports the Council's argument in its first submission to the Commission that any move to a more explicit natural monopoly test in the criteria for declaration (or the Gas Code coverage criteria) would be problematic:

> *The current test is a superior approach to any explicit test of natural monopoly. Testing for whether a facility is or is not a natural monopoly in a technical sense is a complex and controversial process, which generally involves the estimation of econometric cost functions. For example, even prior to the recent wave of technological change, twenty years of intense debate among leading econometricians about whether local telecommunications networks are genuinely natural monopolies did not yield any firm conclusions. Explicitly rephrasing the criterion in terms of natural monopoly would simply invite the presentation of ever more complex and costly economic evidence, with little gain in terms of the quality of the ultimate decision and some loss in terms of its predictability* (NCC 2001a, p.39).

On the second issue, the Tribunal was probably influenced by the approach to delineating relevant services in Duke's approach to criterion (b). It is not a large step from there to the Tribunal's view that the MSP does not provide relevant services in testing for the range of relevant demand for the services of the EGP. The NECG's proposition that the services of the MSP and EGP are homogeneous is not supported, and its SSNIP analysis provides little evidence of substitution between the services of the two pipelines. The Tribunal's decision cannot be criticised for not considering at length the substitution possibilities between the services of the MSP and the services of the EGP in reaching a view on whether criterion (b) was satisfied.

So to conclude on what the Tribunal, in fact, decided about the meaning of criterion (b):

> *The Hilmer Report suggests that criterion (b) was intended to describe a pipeline which exhibits "natural monopoly characteristics". Whilst there is disagreement between the expert economists in the present case as to what constitutes a natural*

monopoly, the view expressed by NCC in its Final Recommendation (at 42) is that where a single facility can meet market demand at less cost than two or more facilities, then the facility exhibits "natural monopoly" characteristics.

That suggests that if a single pipeline can meet market demand at less cost than two or more pipelines, it would be "uneconomic" to develop another pipeline to provide the same services, because those services are most efficiently provided by the existing pipeline.

…Natural monopolies often require big upfront investments in infrastructure, but their operating costs are relatively small, and vary little as more of the infrastructure's capacity is brought on line.

…Thus we accept that if a single pipeline can meet market demand at less cost (after taking into account productive allocative and dynamic effects) than two or more pipelines, it would be "uneconomic", in terms of criterion (b), to develop another pipeline to provide the same services (Duke decision, paragraphs 60-64).

The Tribunal explicitly established a test of natural monopoly or natural monopoly characteristics for the consideration of criterion (b) and concluded that the EGP satisfied that test.

Even if there were some merit in the NECG arguments about flaws in the Tribunal's application of a natural monopoly test, this would hardly amount to cause for amendment of the legislation. Criterion (b) would retain its test of natural monopoly. The proposition that the Tribunal's decision robs the "uneconomic to develop" test of any practical bite, or that the test will be met wherever a facility has excess capacity, is without foundation.

Attachment A

Transcript Extract 1:

MR GAGELER: What it is that the pipeline operator sells to a pipeline operator's customer is a single transportation service from point A to point B. Isn't it as simple as that?

MR ERGAS: What the pipeline operator is doing is it is typically providing a service to, in, from an economic perspective to two parties - a producer at A and a consumer located at B and the service is being supplied by the service to the producer of transport from A to the consumer of provision of the good at B.

Transcript Extract 2:

MR GAGELER: Whoever is the customer the customer will purchase from the pipeline operator a transport service transporting gas from A to B, isn't that correct?

MR ERGAS: The reason I am stressing this distinction which may seem pedantic is that it's important when you analyse the substitution possibility. [16]

Transcript Extract 3:

HELY J: Can you tell us why it is inappropriate to look at it in the double dimension rather than a single dimension?

MR ERGAS: …For proper market definition of any transport function it is essential to look at it in two dimensions and that's why I laboured this admittedly seemingly pedantic but analytically crucial distinction.

Transcript Extract 4:

MR GAGELER: Mr Ergas, we discussed yesterday the distinction we draw between point to point services on the one hand and services from a point of origin and to a point of destination on the other hand and you referred yesterday to page 380 of the transcript to that being an analytically crucial distinction. Do you agree that that distinction is crucial to your analysis of whether criterion B is satisfied?

MR ERGAS: Could you, I think it's certainly very important to my analysis, yes.

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[16] Transcript p378 line 19 to p379 line 11.

Transcript Extract 5:

MR GAGELER: No, what I'm saying is that what you are assuming is that the increase in price will over the Eastern Gas Pipeline result in a decrease in demand and that decrease in demand will be precisely reflected in an increase in demand for other pipelines suggesting that consumers are indifferent as to the transportation services they acquire?

MR ERGAS: I'm suggesting that they treat a molecule as a molecule.

MR GAGELER: And what you then seek to analyse is whether after the introduction of this snip the Moomba to Sydney Pipeline or the Interconnect could be used to increase supply to meet the demand at a price that covers the marginal cost of increasing the supply; is that what you were doing essentially in the analysis?

MR ERGAS: Yes, that's correct.

MR GAGELER: And if the answer to that question is yes then you say that the pipelines are substitutes, they're in the same market and it follows that there's no bottleneck; is that right?

MR ERGAS: Yes.

Transcript Extract 6:

MR ERGAS: …assume the EGP really did attempt to increase its price by 25 per cent, is it likely that over a period of time it would only lose some 50 per cent of its demand. Well, in other words, is it likely that 50 per cent of the people who are using its services would continue to pay a price that was 25 per cent increased. It's unlikely, what they would do is, they would say, well, let other pipelines, you know, just as every bit as good and people don't care whether the molecule they consume have come via the EGP or via the alternative, the product is homogeneous. So, what would happen, given that the product is homogeneous is that in fact they would lose much more than that and what is happening here is that this analysis is telling you, you don't have to assume that they will lose it all, all you have to assume is that they'll lose that 5 petajoules for that price rise to be unprofitable and so, in that sense, it probably understates the loss that would occur in the event of an actual attempt at substantial price increase.

Transcript Extract 7:

MR GAGELER: An assumption underlying critical loss analysis, developed by Harris and Simons, is that the initial price represents a competitive price level, that's correct isn't it?

MR ERGAS: No, it's really a question of - - -

MR GAGELER: Let me say, Mr Ergas, that is exactly what you have said at page 23, about point 4?

MR ERGAS: You said something slightly different from what I said. I said that under that assumption you can show that result, what you said was that that assumption was critical to the result.

MR GAGELER: I said an assumption underlying the critical loss analysis, is that the initial price represents a competitive price level, do you deny that?

MR ERGAS: I return to my point, which is that - - -

MR GAGELER: Can I say this, Mr Ergas, look at page 71 of your report and look at about point 8?

MR ERGAS: About where?

MR GAGELER: The words, "under the assumptions that the initial price represents a competitive price level", and it goes on. All I put to you was that an assumption underlying the Harris and Simons model is that the initial price represents a competitive price level, do you accept that?

MR ERGAS: The assumption that is required for the test to be properly implemented is that the price is not such that it brings purely artificial substitution possibilities into the relevant market, and let me explain why that assumption is critical. That assumption is indeed critical. The reason that assumption is critical, is because, assume the initial price were extremely high, marked very far above the competitive level, then what you would observe in the market, is pans of substitution that merely reflected the distortion of consumption behaviour induced by that extremely high price, and so if you had a producer of cellophane, to take a celebrated example, and that producer of cellophane set a monopoly price, then at the monopoly price level, you would observe people substituting for cellophane other forms of packaging, even though those other forms of packaging were essentially inferior to cellophane as a product. So the important assumption is that the deviation from the competitive price is not such as to induce purely artificial pans of substitution, that is the assumption that is made.

MR GAGELER: The difficulty with taking an artificially high price, is that a monopolist has an incentive to set price in the first place at a high level, that maximises its profit, that's correct isn't it?

MR ERGAS: Yes, that is correct.

MR GAGELER: So that if one takes that initial high profit maximising price, and adds to that a snip, the result for the monopolist will be a decrease in profitability, isn't that correct?

MR ERGAS: It is indeed.

MR GAGELER: And that is why the Harris and Simons model must assume an initial price, at or around a price that is a competitive price?

MR ERGAS: You must assume a price that is not so far above the competitive price that you observe pans of substitution that are in terms I used a moment ago, purely artificial.

MR GAGELER: The price that you have used as the initial price in the application of the model is a price of 88 cents per gigajoule, is that right?

MR ERGAS: Yes, I believe so.

MR GAGELER: And you would agree with me that if that price itself represents a monopoly price then the model must break down? Yes or no?

MR ERGAS: If the price were a monopoly price there is a greater risk that the model would yield incorrect results.

MR GAGELER: If the price is a monopoly price the model yield an incorrect result; do you agree with that?

MR ERGAS: No, I don't agree with that.

Transcript Extract 8:

MR YOUNG: …What I want to suggest to you is this: that the determination of whether a facility has natural monopoly characteristics or is a natural monopoly requires one to evaluate whether that facility is capable of meeting the entire market demand. Do you agree with that?

HELY J: In a sense it begs the question depending upon what market you're talking about.

MR YOUNG: Yes, I'll come to that in a moment.

DR MAKHOLM: I agree, your Honour, because the market that we're talking about with respect to criterion B I would isolate to "the market" between point A and point B. I think that would be a loose use of the word, market, I think would be in this case better served by calling that a service and a demand between point A and point B.

Transcript Extract 9:

MR ERGAS: …assume that you were the owner of a road link on which you could charge a toll. And that road link provided the transport between an orchard and the fruit market and you are the owner of the sold road that links that orchard to that fruit market. You are then asked what is the market in which that road link sits. That road link is clearly providing a transport service from the orchard. It is clearly providing the service of delivering apple to the fruit shop or marketplace in which fruit is being sold. So, it is providing those services. In what market is it providing those services? Well, what you would need to do at that point is you would need to say to yourself, what would happen if you as the owner of that road tried to increase the toll? What are the alternatives to which the parties involved on demand and supply side? What are the alternatives to which they could turn? That is the question to which that QCMA quote directs us. Now, it would be very important to you when you grappled with that question if you knew that at that orchard there are actually three other roads that went to other markets, that went to other fruit stores because if you tried to increase the toll on your road hence taking more of the ultimate willingness to pay for apples for yourself the producers of those apples rather than giving more of that willingness to pay to you would try to substitute by shipping to other fruit shops. Equally it would be important to you to know if on your road that connects the orchard to the fruit shop if that fruit shop had roads that connected it to other orchards because again if you tried to increase the price and extract that from the retailer who ran that fruit shop that retailer rather than handing its willingness to pay over to you would substitute to roads that were at the other end. For proper market definition of any transport function it is essential to look at it in two dimensions and that's why I laboured this admittedly seemingly pedantic but analytically crucial distinction.

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