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Declaration of the shipping channel service at the Port of Newcastle

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1. Introduction and executive summary

1.1. Introduction

1. The National Competition Council (**"the Council"**) has asked for our views as an input into its assessment of whether declaration of the shipping channel service provided by Port of Newcastle Operations Pty Limited (**"PNO"**) at the Port of Newcastle (**"the Port"**) would be likely to satisfy the criterion set out in section 44CA(1)(a) of the Competition and Consumer Act 2010 (**"criterion a"**). Criterion (a) requires "that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote a material increase in competition in at least one market (whether or not in Australia), other than the market for the service".

2. In particular, we have been asked to address the following questions:

   a. What are PNO's incentives with respect to related markets, particularly a "coal tenements" market?

   b. Assuming that PNO is a monopolist / has substantial market power, what are the likely consequences of this for competition in related markets, particularly a "coal tenements" market?

   c. The 4 February 2019 Synergies report analyses the level of price increases PNO would find profitable under various levels of coal prices. Is the Synergies analysis reasonable?

1.2. Executive summary

3. We interpret that a primary argument being made for (continued) declaration is that an unconstrained PNO would increases prices to the point that investment in new mines in the Newcastle catchment would be unattractive. For example, Synergies (2019, 29) states:[1]

   In a future without declaration, Synergies maintains that PNO's unfettered ability and clear incentive to impose significantly higher charges at any point in time will result in a material loss of competition in the coal tenements market, primarily because of investors' concerns over the prospect of higher costs, which will reduce the economic viability of new and prospective mining developments. Absent declaration, PNO's unfettered ability to price the use of the channel empowers it to appropriate much of the economic rent that would otherwise incentivise mine investment.

4. However, PNO is the owner of a 98-year lease to (primarily coal) port, which is a sunk investment. In setting its price for the shipping channel service, it will have an eye on future investment in coal mines in the Newcastle catchment. Although PNO is a monopolist in respect of existing coal mines in the Newcastle catchment, it has quite a different relationship in respect of future investors in coal mines. Those investors can develop mines elsewhere, or not invest in mines at all. When considering whether to invest in the Newcastle catchment, they would consider the potential for "hold-up" by PNO once they have sunk their capital.[2]

5. Accordingly, it is important for PNO's future coal-derived profits that it develops a reputation for *not* holding-up its customers. Therefore, PNO would not price in the way posited by Synergies, because this would easily create a reputation for hold-up, and so would deter future investment in the Newcastle catchment.

[1] Synergies Economic Consulting "Port of Newcastle – Assessment of revocation application by Port of Newcastle Operations Pty Ltd", report prepared on behalf of Glencore Coal Pty Ltd, 4 February 2019.

[2] A firm is "held-up" if it is forced to accept a worsening of the terms of its relationship once it has sunk an investment. This can occur because a substantial part of the investment cannot be recovered through a sale or redeployment of the asset for other uses.

6. It is in PNO's interests to attract entry into the coal export market via the Newcastle catchment – PNO would *not* want to "reduce the economic viability of new and prospective mining developments", as Synergies (2019) suggests. Accordingly, in our view declaration of the service would not promote a material increase in competition in the tenements market.

2. PNO's incentives

7. The Council has found that PNO has market power in respect of coal exporting through its shipping channels (Statement of Preliminary Views (**"SOPV"**), [6.26]), and we will assume this is correct for the purposes of our analysis.

8. PNO is not vertically integrated into coal exporting or coal exploration and production (SOPV [6.28]). If it were vertically integrated into these or similar activities, PNO might have the incentive (and ability) to foreclose competition in relevant related markets.[3] For example, if PNO also operated a coal mine in the Newcastle catchment area, it might seek to raise price for the channel service to rival coal mines, in the expectation that customers of those mines would switch their coal purchases to PNO's mines. However, PNO is not vertically integrated in this way, and so would not have that incentive.[4]

9. Indeed, as the 1993 Hilmer report noted:[5]

   > *Where the owner of the "essential facility" is not competing in upstream or downstream markets, the owner of the facility will usually have little incentive to deny access, for maximising competition in vertically related markets maximises its own profits.*

10. As we will develop in this report, PNO wants to encourage coal mine investment in the Newcastle catchment area. Because tenements are (critical) inputs into coal mine investments, PNO will therefore want the tenements market to be competitive. If the tenements market was not competitive:

    a. Tenements might not be allocated to the most efficient miners. This would reduce coal volumes across the Port, as those miners might not be able to economically produce as much coal as more efficient miners could; and

    b. There would be fewer tenements transacted, and so fewer mines developed, reducing coal volumes across the Port.[6]

11. Rather, as a non-vertically integrated firm, PNO's incentive is to maximise profits from the shipping channel service. For a firm with market power, this is generally different to maximising the volume or quantity of shipping utilising the service. Because PNO has market power in this market, maximising its profits may mean some restriction of total quantity compared to what would occur with a competitive price.

12. In general, the degree to which quantity is restricted depends on how effectively PNO can price discriminate. If PNO could perfectly price discriminate, then volume would not reduce at all

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[3] For example, at [69] of its 2017 *Media Merger Guidelines*, the ACCC states: "Foreclosure refers to strategies a vertically integrated firm might adopt by which it uses its position in one market to foreclose rivals in another market. For example, it may raise prices or limit access for downstream competitors to an important input, or raise the cost or limit access to a sufficient customer base for upstream competitors."

[4] Even if PNO was vertically integrated into coal mining, we doubt it would have an incentive to discriminate in this way, because of the likely competitiveness of the coal export market.

[5] Hilmer Committee, National Competition Policy, Canberra: Australian Government Publishing Service. 1993, pages 240-241.

[6] We can think of tenements and the coal shipping channel service as being complements – the higher the price (or lower the quality) of tenements, the lower the demand for the shipping channel service.

compared to the competitive benchmark.[7] Other forms of price discrimination, if feasible, would result in smaller volume restrictions than if there was no ability to price discriminate. However, the NCC finds that PNO's ability to price discriminate between mines is not significant (SOPV, [6.117]). This suggests that PNO's efforts to maximise profit in supplying the shipping channel service to coal producers are more likely to involve the use of a uniform price.[8] It is therefore likely that any increases in price above the competitive level would entail some volume reduction.

13. At the same time, PNO will be cognisant that substantial future revenues from the shipping channel service depend largely on continued coal exports. While PNO is seeking at present to diversify into containers and cruise ships, the Council has found these "will account for a relatively small proportion of total throughput (and most likely revenue) in the Relevant Term" (SOPV, [6.36]). In any case, the continuation of coal exports from the Newcastle catchment represents an important source of future income for PNO, which is a fact it will not ignore in its present decision making. This is particularly the case because potential coal mine investors in the Newcastle catchment are yet to make any investments.

14. PNO will also be cognisant that potential coal mine investors have alternatives to the Newcastle catchment. These alternatives include options for developing coal mines elsewhere, or indeed not investing in coal at all. To the extent that such options are realisable for coal investors within the relevant timeframe, PNO has an incentive to encourage the development of new coal mines in the Newcastle catchment.

15. Therefore, even if PNO is a monopolist in respect of shipping services for existing coal mines in the Newcastle catchment, it faces competition to attract future coal mines. In setting prices now, PNO is likely to account for this competition for future coal mines. It follows that PNO will account for the potential reductions in future coal output.

16. A theme we will develop in this report is that PNO will be cognisant of the signal its current pricing sends to potential coal mine investors in the Newcastle catchment. In particular, PNO will be wary of chilling investment in future mines.

17. In maximising profit, PNO is therefore likely to account for some reduction in current coal volumes, but in addition, would also account for future potential reductions in coal volumes.

18. On a final note on the topic of price discrimination, the Council refers to the submission of NCIG that PNO will have an incentive and ability to price discriminate in favour of containerised services (SOPV, [6.23]). If containerised demand is more price elastic than coal demand, then PNO could have this incentive. However, this would not affect PNO's profit maximising price to coal exporters. The NCIG submission also argues that PNO would provide preferential access to container services over coal. But if PNO makes higher margins from coal than containers (as the NCIG submission implies), then it would be the opposite, if anything.[9]

3. Effect of declaration on competition in tenements market

19. One of the inputs required to enter and supply the coal export market is the right to extract coal, i.e., a tenement. Various submitters to the process, and the Council itself, refer to there being a

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[7] See, e.g., page 300 of Dennis W Carlton and Jeffrey M Perloff (2005) Modern Industrial Organization, Addison-Wesley, 4ed.

[8] We understand that PNO is likely to set separate prices for the shipping service supplied to container ships. Our point in relation to price discrimination is with respect to ships carrying coal.

[9] We note the Council's finding that the Port is unlikely to be capacity constrained during the Relevant Term (SOPV, [6.35]).

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market for these tenements (see, e.g., SPOV [6.124]). It is worth briefly reflecting on the nature of this market.

20. Although a right to explore or mine will have value, potential investors in tenements do not necessarily have to buy them in New South Wales (**"NSW"**). We understand that currently in NSW:

    a. Except in the case of exploration tenements under "strategic release" areas[10] (of which there are currently none for coal in New South Wales), the NSW government does not employ a competitive bidding process for exploration licences. Rather they are administratively provided;

    b. A mining licence is awarded administratively (not under an auction) to the holder of an exploration licence; and

    c. Although tenements can be traded, trading is rare.[11]

21. From the perspective of any potential tenement investor, each tenement is specific to one location. Therefore it is true that there could be competition for a specific tenement, which Synergies, among others, evaluate in their assessment of competition in the tenements market. However, this competition for a specific development tenement is in most cases likely to occur within a broader field of rivalry for coal tenements located across a geography that is wider than the Newcastle catchment. This is because a tenement's ultimate value is derived from its sole use as an input into the production of supply for the coal export market.

22. The Council finds that the coal export market is most likely global, and that a narrower coal export market might be relevant, which is likely to be as broad as the Asia-Pacific region ([6.91]). In either case, a firm wishing to supply the market could do so from similar coal fields located elsewhere in Australia and overseas.

23. So although each tenement is specific to one location, potential investors are not limited to that location – if a tenement in the Newcastle catchment is not attractive, an investor could consider exploring or mining for coal elsewhere (or not coal mining at all). There is scope for some potential investors to prefer the Newcastle catchment all else being equal, because of economies of scope and potentially also scale, if those buyers have established operations close to there. However, in general, prior to investing capital into a mine, potential owners of tenements have geographic options.

24. In fact, because the coal export market is global (or at least as broad as the Asia-Pacific region), it does not make sense to consider the "tenement market" to be limited to the Newcastle catchment. If an owner of a coal tenement in the Newcastle catchment raised price above the competitive level (or otherwise made the tenement less attractive), potential investors could in general look elsewhere (although as noted those with existing mines might have economies of scope and scale).[12] Accordingly we consider the geographic scope of the tenements market to be at least as wide as Australia, and potentially as broad as the Asia Pacific.

25. Indeed, the players who are geographically constrained are PNO itself, and existing coal mines. To emphasise, PNO is vulnerable itself (having bought a 98-year lease to a business that owns

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[10] See https://www.resourcesandgeoscience.nsw.gov.au/miners-and-explorers/programs-and-initiatives/strategic-release-framework-for-coal-and-petroleum-exploration.

[11] At least, if we leave aside joint venture changes.

[12] We recognise that our view is different to that expressed by the Queensland Competition Authority in its draft DBCT declaration review (December 2018). In our view, the correct test does not just involve comparing prices between regions. Rather the correct test is to ask whether a hypothetical monopolist of tenements in one region would be able to profitably increase price above the competitive level. Products with different prices can still be in the same relevant market. (Our view is the same even if a hypothetical monopsonist test is applied).

largely sunk investments)[13] to the risk that there is little new mining in its catchment area. It would be wary of doing anything that would substantially discourage future mines.

26. One thing that would discourage future mines would be PNO developing a reputation for hold-up of existing mines, which is effectively what Synergies (2019) is arguing PNO would do, as we will discuss in section 4. A firm is "held-up" if it is forced to accept a worsening of the terms of its relationship once it has sunk an investment.[14]
27. Although PNO is a monopolist in respect of existing coal mines in its catchment, it faces competition for future coal mines, and it is not in PNO's interests to undermine development of those mines.
28. PNO would not exercise market power in the complementary shipping channel market in a way that would reduce competition in the tenements market. As noted above, PNO has an incentive to account for effects that its shipping channel pricing could have on coal mine investors, if that effect would lead to a reduction of future shipping channel revenues. In other words, PNO does not have an incentive to materially reduce the attraction of mining in the Newcastle catchment, and accordingly would not behave in a way that would reduce competition in the tenements market. We return to this in section 4.
29. Even if we were wrong on this, and PNO would for some reason set price in a way that materially reduced the attractiveness of future mining in the Newcastle catchment, we are not convinced there would necessarily be a material reduction in competition in the tenements market.
30. Because the PNO charge is a cost to a coal miner, an increase in that charge would lower the expected net present value of a mining project to which a tenement relates. However, this *per se* would not be a reduction in competition in the tenements market – the lower value of the tenement would reflect the lower value of the mining project, not a loss of competition in the tenement market. In other words, the lower value of the tenement would reflect less attractive entry to or expansion in the coal export market, via the Newcastle catchment only. It would not affect the value of tenements in other parts of the Asia Pacific.
31. There are likely to be substantial numbers of alternative coal tenements elsewhere in the Asia Pacific that are suitable for supplying the coal export market. These alternatives reduce the scope for impacts on the value of tenements in the Newcastle catchment to have a material impact on competition in a market for tenements.
32. The argument of Synergies is that without declaration PNO could raise price to the point that "comparatively marginal projects" would become less attractive, and so the number of bidders for those tenements would decrease. In particular, the argument is that smaller miners with higher costs would drop out of the market (see, e.g., page 13 of Synergies (2019)), reducing competition.
33. We note that Synergies uses the term "bidders" frequently. However, as we have already discussed, the actual use of bidding (at least in the narrow sense of that term) in NSW is limited. Nevertheless, for present purposes we will interpret the Synergies point to be broader than this, e.g., potential investors might file lower quality work programmes with the NSW government if there is less competitive pressure.
34. As a general proposition, we might think that reducing the number of "bidders" would reduce price or otherwise detriment competitive outcomes. However, auction theory is more nuanced

[13] SPOV, [6.87(d)].

[14] The concept is well described in Milgrom, Paul and John Roberts (1992) *Economics, Organization and Management*, Prentice Hall.

than this. Auction theory predicts that price will be set by the second highest valuation for the asset.[15] This result can be demonstrated formally, but we now explain it intuitively.

35. Consider a house auction of the type where the auctioneer calls out ascending prices. The price is bid up, to the point where there are only two bidders left. When the bidder with the lowest valuation out of those two drops out, the bidder with the highest valuation wins, but she only pays the price at which the other bidder drops out (or some small margin over that). This may be well below what she was actually prepared to pay.

36. So the bidder with the highest willingness to pay wins, but only pays the valuation of the second highest bidder (or some small margin over that).

37. Therefore the withdrawal of the relatively high cost miners (who because of their high costs would have relatively lower valuations of the tenements) would not make much difference to the selling prices, unless those withdrawing bidders happened to have among the highest valuations. This seems unlikely, as presumably the bidders with the lowest valuations would drop out first.[16]

38. Even if we interpret "bidding" in a broader sense, the conclusion would be similar – the competitive benchmark will generally be set by the stronger players.[17]

39. To put this finding more generally, a competitive tenements market is one in which the tenements are allocated to the most efficient miners/explorers. Even if the value of tenements was reduced because of PNO's pricing, the tenements are likely to be allocated to the most efficient miners/explorers.

40. As already noted, the Council finds that PNO's ability to price discriminate between mines is not significant (SOPV, [6.117]). Without the ability to target prices, PNO would also not have the ability to hold-up individual mines, without potentially holding up others, because it can only set a uniform price. When setting this uniform price, PNO would be taking into account the volume effects on existing mines, the viability of future mines, and the signal it is sending to future investors.

41. If in fact PNO does have the ability to price discriminate, it could worry less about the volume effect on existing mines but would still need to consider the viability of future mines, and the signal it is sending to future investors.

4. Synergies price analysis

42. Synergies (2019, 18-19) makes the argument that, if not subject to declaration, PNO might increase prices to a level higher than that offered under the arbitration between PNO and Glencore. Although we have not reviewed the building block models developed by PNO and Synergies for the arbitration, we agree in concept with the Synergies point. It is likely that a price developed on a (properly calculated) building block basis would be lower than one developed on a demand-side driven monopoly basis – this is of course why building block models are often used in regulatory and arbitral processes.

43. Having said that, we do not agree with the methodology Synergies (2019) uses to estimate the monopoly (without declaration) price that PNO would set.

[15] See, for example, McAfee, R P and J McMillan (1987) "Auctions and Bidding", *Journal of Economic Literature*, 25, 699-738. Note also an important finding in the economics literature is that under certain assumptions, the expected price under all auction types is the same.

[16] The NSW government may also be able to use a reserve price.

[17] We acknowledge there are other complexities that would affect a bidding analysis. For example, rights to mine coal will have "common value" elements, implying there might be "winner's curse" effects. However, because we do not think PNO would price in a way that would materially reduce the value of tenements, there is limited value in comprehensively exploring the auction issues.

44. In essence, the Synergies methodology posits that PNO would set price equal to (or just below) the gap between the expected export coal price and the "cash costs" of Newcastle coal producers. The argument is that PNO could price in this way because it would be rational for miners to continue producing at this PNO price, as they would still cover their cash costs (including the PNO charge).

45. However, this pricing approach would represent an appropriation by PNO of the revenues required to cover the sunk costs of producers. As Synergies (2019, 29) states:

Absent declaration, PNO's unfettered ability to price the use of the channel empowers it to appropriate much of the economic rent that would otherwise incentivise mine investment.

46. This pricing approach would also cause a reputation to develop that PNO is likely to appropriate again, and so would deter future mining in the PNO catchment area. For the reasons we have explained in section 2 of this report, we do not think this would be rational behaviour for PNO.[18]

47. A more plausible pricing strategy for PNO would be to price up to the gap between the expected export coal price and the *total* costs of Newcastle coal producers, including unrecovered sunk costs. This would avoid appropriation. However, PNO would also be cognisant of the likelihood that the remaining undeveloped coal resources are likely to be those which would involve relatively higher costs. Synergies noted this likely higher impact on the value of future tenements in its earlier report (2018, 49):

Further, over time the deposits which are being explored and developed have a tendency to be further away from the port, such that infrastructure costs would be anticipated to become more and more important to the prospect of tenements being developed into producing mines, and hence to the valuation of those tenements

48. Therefore a price close to the gap between the expected export coal price and the total costs of existing Newcastle coal producers would still deter future potential investors. This indicates the profit maximising price is likely to be lower than this level.

49. There are also other reasons which suggest the results of the Synergies (2019) analysis are implausible. From a base price of $0.53 per tonne, Synergies (2019) estimates that price could rise by up to $12.50 per tonne before revenues start to decrease, and potentially higher with a higher assumed coal price. In other words, prices could rise by almost 24 times the starting price.

50. Such a price increase implies that PNO would not place any weight on the threat of regulation, even though the Ports and Maritime Administration Regulation 2012 (NSW) provides "a degree of transparency" over PNO pricing (SOPV [6.41]). Moreover, price increases of this size would also imply that existing price restraints have been effective at suppressing the port's profits by a substantial amount. Under the circumstances it is reasonable to doubt that such sums could have been left 'on the table' for as long as this.

51. We acknowledge that PNO was only privatised in 2014[19], and that it is possible its pricing under public ownership was constrained below the profit maximising level for some reason.

52. In order to test this issue further, we think the following types of evidence would be relevant:

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[18] Even if we accepted the Synergies methodology, we think the application of it should be adapted to account for extinguished real options. A fundamental characteristic of a non-renewable resource is that if a unit of it is extracted and sold now, that unit cannot be extracted and sold later. Therefore extracting and selling a unit now has an opportunity cost equal to the discounted future profit from extracting and selling that unit in the future. Accordingly, when considering whether to extract and sell a unit now, it is not sufficient to simply compare the expected price to the expected cash costs of extracting and selling that unit. Rather the full opportunity cost needs to be considered. This opportunity cost is the value of the option of being able to extract and sell the unit at a later date.

[19] https://www.accc.gov.au/media-release/accc-takes-action-against-nsw-ports

a. The pricing behaviour of other Australian infrastructure following privatisation. Of course, there may be a variety of factors specific to each situation (e.g., differing forms of regulation, differing market constraints), but it would be relevant to know whether the scale of price increases postulated by Synergies has occurred, as this might tell us something about the constraints under public ownership; and

b. Analysis of the financial models underlying PNO's owners' successful bid price for the Port. Given the importance of coal to PNO, we imagine these financial models would have included assumptions about future coal pricing and volumes.

53. It is important to note we are not suggesting further analysis is required. Even with this evidence, our conclusions are unlikely to change.

54. In particular, it would not affect our conclusion that analysis of the potential for PNO to raise prices for the service should account for the likely impact on future coal export volumes.[20] Given its substantial investment in a long-term lease of the port, PNO would be likely to make this consideration when contemplating a current price increase for the service, yet consideration of this is absent from the Synergies price analysis. We raise these avenues mainly because we think they (particularly the second) would give a more accurate forecast of profit maximising prices than the methodology adopted by Synergies.

[20] Nor would it affect our conclusions (in section 3) about the impact on competition even if PNO did price in a way that materially reduced the value of tenements.

Qualifications, assumptions and limiting conditions

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