



NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.

Grid Characteristics and the Interface between Competition and Regulation Policies

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Background

- Potential overlaps and clashes now arise re Transpower as between:
 - The Electricity Commission (EC) as electricity industry governance body
 - The Commerce Commission (CC) under Part 4A of the Commerce Act (CA)
 - Recognised in part by the CC/EC MoU of August 2007
- In general there are questions as to the appropriate boundaries between competition authorities and industry regulators
- This boundary can be affected by grid characteristics, such as those inherent to:
 - Transpower
 - New Zealand
 - Grids in general
- This presentation explores the demarcation of this boundary and how it is affected by grid characteristics, as a first step towards an ongoing comparative analysis of the institutional dynamics of competition and regulation policies in the electricity sector (for presentation at IAEE 2008)



General Demarcation Issues

- Competition policy generally seeks to protect and encourage competition, e.g. through:
 - Controls on mergers and takeovers
 - Prohibitions of certain anti-competitive practices
 - Prohibitions on the acquisition or abuse of market dominance
- Presumption is that but for rules and interventions to curtail anti-competitive practices, *workable* competition would not prevail (allows for imperfection)
- Competition is seen as the means towards the objectives of enhancing economic efficiency and maximising social welfare
- Sometimes applied with a bias towards consumer welfare (which can be stretched to also allow for producer welfare when investment is recognised as important for consumer welfare)
- One challenge is to recognise the importance of dynamic efficiency over static textbook conceptions of efficiency, particularly in sectors where innovation is an important source of consumer gains → e.g. allowing competition *for markets* and not just trying to impose competition *within markets*



General Demarcation Issues – cont'd

- Industry-specific regulation is typically justified on the basis that workable competition is absent and unlikely to arise in some sectors or under certain conditions
- The aim is to regulate the relevant firms in such a way as to best mimic competitive outcomes (i.e. price, quantity, quality *and* contestability/entry), recognising industry cost structures will deviate from competitive ideals
- Perennial problem is the informational advantages enjoyed by the regulated firm
- As for competition policy, the challenge is to not impede dynamically efficient innovations → made all the more difficult here due to investment impacts (entrants and incumbents)



General Demarcation Issues – cont'd

- Danger is that regulation could impede as much as facilitate the advent of workable competition – e.g.:
 - Creating institutional inflexibilities based on old technologies
 - Using the wrong or inadequate regulatory models
- Important questions include:
 - What are the appropriate boundaries for delimiting workable competition? → a focus of today's presentation
 - What should be the tests for introducing regulation?
 - What regulatory models should be applied, and how?
 - How should those models be monitored and changed?
 - What tests should be applied for abandoning regulation in favour of competition policy?
- In general, what institutional arrangements do we have/need to ensure an efficient transition between competition and regulation policies (and vice versa)?



Relevant Grid Characteristics – General

- Electrical networks function as an “organic” whole, with important interdependencies and at least partial substitutability between the grid and:
 - Generation – location, type/stability, wholesale market (e.g. LMPs versus zonal prices), capacity margins, ...
 - Load – location, demand flexibility, prices, ...
 - Distribution – location/creep, technical demarcation ...
 - Competing energies and networks – gasfields/pipelines, coalmines/railways, LNG terminals/pipelines, ...
- Important dynamic considerations:
 - Real time – ancillary services and grid constraints affect energy prices, generator/load incentives and competition
 - Longer-term – location of generator and load investments affected by grid constraints, affecting competition ...



Relevant Grid Characteristics – NZ/TPNZ

- Physical/technical – creating problems for competing grid provision:
 - Grid is “long skinny and sparse”
 - Limited DC – hard to secure property rights in loop flows
- Institutional – creating problems for grid competition:
 - EC’s transmission pricing methodology – “non-contestable right to tax” (but helps reduce strategic uncertainty for generators?)
 - EC’s grid investment test (GIT) requires *Transpower* to evaluate *generation* alternatives to grid upgrades
 - Have locational marginal prices, but no FTRs or TCCs
 - Renewables dominance/preference – lack of locational flexibility compared with other fuel types
 - Limited embedded generation, in part due to EIRA
 - RMA affects generation viability/investment
 - No merchant transmission, and distribution not able to own/operate high voltage network
 - Muted commercial objectives plus state ownership – monopoly rents reduced and socialised anyway? (but efficiency incentives blunted too?)



Commerce Commission and Transpower

- Relevant purpose re Transpower is found in s57E of the Commerce Act:

... to promote the *efficient* operation of markets directly related to ... transmission services through targeted control for the long-term benefit of *consumers* by ensuring that suppliers—

 - (a) are limited in their ability to extract excessive *profits*; and
 - (b) face strong incentives to improve *efficiency* and provide services at a *quality* that reflects consumer demands; and
 - (c) *share the benefits of efficiency gains* with consumers, including through lower prices.
- Note that producer profits are material here only to the extent they are excessive, and that producers cannot expect to pocket all of the efficiency gains they make
- Processes: CC sets thresholds, assesses compliance with those thresholds, conducts inquiries following any threshold breach, and can control prices, quantities and/or quality if breach leads to a declaration of control
- Transpower faces CPI-X price threshold, and reliability maintenance (plus consumer engagement) threshold
- CC only examines Transpower's grid expenditures or other relevant matters in the event of a breach of either or both of these thresholds



Electricity Commission and Transpower

- Principal objective (Government Policy Statement, October 2006) is to:
 - Ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and
 - Promote and facilitate the efficient use of electricity
- Note the absence of any consideration of producer surplus here, but see below
- EC approves Transpower's economic and reliability investments and its interim grid expenditure, as well as its pricing methodology, and develops/recommends benchmark agreements and interconnection rules
- Under the GPS Transpower is entitled to recover the full economic costs of its services, and make an appropriate return on its investments



EC and Transpower – cont'd

- Transpower thus sets its own *revenue* requirements subject to the *average price* constraints imposed on it by the CC under Part 4A
- EC's pricing methodology *allocates* Transpower's revenue requirement across its customers (the "right to tax"), while the GIT controls Transpower's grid expenditures (based on "net benefits", not the CC's wider "efficiency" test)
- Areas of functional overlap between EC and CC include:
 - How expenditures under approved grid investments are treated under the Part 4A thresholds
 - Interface between CC's price thresholds and EC's transmission pricing methodology
 - Respective body's treatment of valuation and pricing methodologies, pricing, quality and information disclosure



Discussion

- Pre-1986 – old school industry regulation:
 - No competition policy (or objective)
 - Generation and transmission integrated in state-owned monopoly with slack commercial objectives and political pricing
 - Consequently little prospect of (or place for?) workable competition in generation or transmission
- 1980s reforms – mix of old and new:
 - Now have Commerce and State-owned Enterprises Acts, and only light-handed regulation (Part 4A not yet born)
 - Transmission and generation still bundled, but commercial objectives and embryonic contestability (generation)
 - Monolithic generation provided workable competition and coordination with grid, so lack of Part 4A and EC OK?



Discussion – cont'd

- 1990s – competition focus in generation, with grid issues parked:
 - Same regulatory regime, but transmission and energy prices unbundled, and Transpower separated from ECNZ
 - Advent of NZEM and split of ECNZ paves way for generation contestability, but gentailing advent and lines/energy split after EIRA undermines?
 - Oligopolistic generation less able to workably compete with grid (coordination problems) – rationale for Part 4A and EC?
- 2000s – specific regulation of grid:
 - Part 4A added to Commerce Act, and EC created
 - Oligopolistic competition in generation, with possible increase in embedded generation (more workable competition with grid?)
 - A new stalemate ...?



Discussion – cont'd

- Any functional conflicts or discontinuities between EC and CC should in principle be resolvable
- Real question is whether the existing arrangements resolve, or create/perpetuate, the perceived problems:
 - Grid faces emerging/changing competition from embedded generation and gas (imagine a major gas find in the Southern Basin ...)
 - But do the EC's GIT and transmission pricing methodology aid competitive generation, or prefer the grid? Do they necessitate Part 4A?
 - What are the technical and institutional barriers to merchant transmission – if we (can) fix these, is Part 4A redundant, or are both 4A and the EC part of the problem (i.e. already redundant)?
 - With Transpower state owned, do we even care (or care enough to warrant the costly protections)?
 - If we do care, would lines company ownership of Transpower be the least-cost alternative to regulation, with open access rules the only required constraints? → cf new proposals for reversion to light-handed regulation of customer-owned lines companies, unregulated US G&T cooperatives, ...



Conclusion

- In general we should wish for a healthy and ongoing arm-wrestle between competition and regulation policies
- Certain grid characteristics, viewed alone, suggest the likely absence of workable competition in transmission
- Taking a broader view, grid competition can arise from many quarters – or not – in a large part due to institutional arrangements (and over time, from technological and other changes)
- New Zealand’s current arrangements (Part 4A and the EC) are perhaps a consequence of our reform path, but potentially also perpetuate any lack of workable competition in transmission and thus themselves
- Stones not yet fully turned over include:
 - Greater use of merchant transmission
 - Making Transpower’s “right to tax” (per the EC’s pricing methodology) contestable
 - Customer (i.e. lines) ownership of the grid



Thank You – Any Questions?



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