WHOLESALE MARKET ADVISORY GROUP

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Review of Offer and Dispatch Rules: Results of Meetings with Major Users

This paper provides WMAG members with an update on the meetings with major electricity users and the Commission's analysis of the way forward.

Review of Offer and Dispatch Rules: Result of Meetings with Major Users

Wholesale work plan task W16a

1 Introduction

1. The Electricity Commission (the Commission) has issued a number of exemptions to the dispatch rules for industrial co-generators. These exemptions are not intended to be permanent. They were granted in part to allow time for the Commission to review the offer and dispatch rules for plant, with special characteristics in the hope of being able to address these issues through a rule change.

2. As part of this workstream, Commission staff, the WMAG administrator and a System Operator representative have met with a representative selection of major users with co-generation plants to discuss their problems and what rules changes would assist in solving them. Based on these discussions, this paper discusses possible rule changes. Detailed draft rules will be provided once the preferred option is selected.

2 Purpose of this Paper

3. The purpose of this paper is to:

    a. summarise the issues raised in meetings with the major co-generators; and

    b. present a list of possible options for discussion.

3 Structure

4. The structure of the remainder of this paper is as follows:

    a. Section 4 provides some background on how this task arose, how it fits within the overall work plan, and previous work on this task;

    b. Section 5 provides a summary of the meetings with major users, and the suggestions for rule changes they put forward;

    c. Section 6 analyses these suggestions against a framework for assessment;

    d. Section 7 provides an overall summary of the analysis and relative evaluation of each option against the framework;

    e. Section 8 suggests a way forward and timetable for the remaining work on this task; and

    f. Section 9 provides recommendations to WMAG.

4 Background

5. On 1 March 2004, a mandatory gross pool was introduced that required all generation (except embedded generation below 10 MW) to comply with the offer and dispatch rules in part G. This has raised a number of issues for a number of different types of plant, in particular, co-generation plant. To enable the Commission to investigate the concerns raised by these generators, it granted two exemptions to the offer and dispatch rules (a third exemption application is also currently being considered). The exemptions were granted until such time as co-generator concerns were addressed under the Electricity Governance Rules 2003 (Rules).

6. The exemptions discussed above are listed below:

Party	Generator	Nature of Exemption	Expiry Date
Trustpower (on behalf of Carter Holt Harvey)	Kinleith	Widens dispatch compliance to 5 MW from 1 MW. (Rule 4.11 of section III of part G).	1 April 2006
Alinta	Glenbrook	Widens dispatch compliance to 5 MW from 1 MW. (Rule 4.11 of section III of part G).	1 April 2006
Todd Energy	Whareroa	Widens dispatch compliance to 5 MW from 1 MW. (Rule 4.11 of section III of part G).	Application in process

7. It is noted that the system operator has submitted a suggested change to the Whareroa exemption to make it subject to a security notice. This is because there are circumstances where undispatched generation at Whareroa could overload the lines in the region. See Appendix C – System Operator Submission on Todd Energy Exemption Application for details.

8. The review of offer and dispatch rules for industrial co-generation is part of a wider review of offer and dispatch rules with priorities as follows:

Task Number	Description	Priority
W16 a	Review offer and dispatch rules for industrial co-generation	High
W16 b	Unit Commitment	Medium
W16 c	2 hour rule review	Medium
W16 d	Offer and dispatch rules remaining	Low

9. This wider task arose from a survey of participants to identify issues with the offer and dispatch rules.

10. In early 2005 the WMAG group was presented with a series of papers summarising these issues, and seeking to prioritise them within the overall work plan. These resulted in the groupings and priorities above.

11. It has previously been suggested to the WMAG group that the following issues should be resolved within this subtask:

    a. Dispatch compliance, including consistency between re-offer and dispatch rules, and how this should be applied to blocks;

b. Better definition of ramp rates; and

c. Better definition of bona fide physical reason, including the covering increases in output for co-generation plant.

5 Summary of Meetings with Major Users

12. Meetings were attended by:

a. Laurie Counsell and/or Tim Street from the Electricity Commission;

b. David Wright from Transpower (the system operator); and

c. Tracy Wilkinson or Neil Walbran from M-Co (the MMSAA).

13. Meetings were held with:

a. Alinta (provides co-generation for NZ Steel);

b. Carter Holt Harvey;

c. Norske Skog; and

d. Fonterra.

14. The following three companies currently have, or have requested, exemptions for co-generators from the Commission:

a. Carter Holt Harvey, who use waste products and gas to fire boilers. The boilers provide both process steam, and generate electricity via a steam turbine. They have control of the boilers and, therefore, generator output, by varying the fuel input. However, in practice the degree of control is limited by both of the inputs (waste products) being determined by the production process and, the need to produce adequate steam for the production process.

b. Alinta, can run their plant both on NZ Steel's heat output and on natural gas. When electricity prices are high NZ Steel can reduce their net load by using more gas and, producing more electricity. However, Alinta has limited control over exactly how much electricity they generate in the short run. Since the plant is running off steam from NZ Steel's factory, they have frequent fluctuations in generation of a few MW. Furthermore, the co-generator is designed so that, if things go wrong at the plant the co-generator shuts down to prevent any risk to the health of employees and/or the generator.

c. Fonterra's Whareroa plant that generates electricity with gas turbine generating sets, with waste heat used to produce steam for the dairy factory. Excess steam can be used in a steam turbine to generate electricity. Generally this system generates more electricity than the factory needs and excess is exported to the grid. Fonterra is installing a regulator on the plant, so the electricity production is more controllable.

15. From these discussions we have deduced that the co-generation users favoured the following changes to the rules:

either

a. no requirement to offer or be dispatched;

or

b. if they have to offer and be dispatched:

i. do so on a net basis;

ii. increase dispatch tolerance range;

iii. widen the definition of bona fide;

iv. lower the compliance costs for claiming bona fide incidents (specifically costs involved in answering market governance queries) – currently it can take more effort claiming a bona fide than they put into directly complying;

v. 30-minute gate closure would help; or

vi. a combination of some or all of i. to v. above.

16. Co-generators did not think that more education would address the problem of non-compliance, since non-compliance was being driven by the physical problems of their load. Fonterra was interested in the Commission running a course for their site operators when its plant closes down for winter.

6 Analysis of Suggestions

17. This section presents an analysis of the suggestions put forward by the parties interviewed. The overall summary of how each option scores against the evaluation framework is provided in section 7.

Options Considered

18. This paper considers the following set of options:

a. Removing the Requirement to Offer or be Dispatched;

b. Increasing the Dispatch Tolerance Range;

c. Widening the Definition of Bona fide;

d. Lowering Compliance Costs Around Bona fide Incidents;

e. 30 Minute Gate Closure Period;

f. Permitting Bidding on a Net Basis; and

g. Maintain the Status Quo

19. These options are not mutually exclusive – several or all of them could be done at the same time.

20. There is a further option beyond this list. If a special set of rules for co-generators makes sense, there are two ways the set of rules could be implemented:

    a. for free – automatically granted to all qualifying co-generators; and

    b. charging for classification as a co-generator – a qualified co-generator could pay if they want a looser set of rules. This would maintain some incentive for co-generators to comply if it is economic.

21. This idea is discussed further in the Efficient Cost Allocation section of this paper.

Framework for Analysis

22. The Commission has analysed the suggested rule changes, and developed some high level draft rules or changes to existing rules to implement these suggestions. In order to evaluate the merits of each option a framework for analysis has been developed.

23. This framework has been drawn from the Commission's principal objective and specific outcomes, as stated in the Government Policy Statement on Electricity Governance,[1].

24. When considering the draft rule changes, it became necessary to decide how the principal objectives, and specific outcomes were relevant to the co-generation problem.

25. For example, reducing barriers to entry to co-generators by making it easier for them to comply with the rules. This could be seen as increasing efficiency in that it would increase competition for supply of electricity, and encourage energy efficient technology to emerge. That is, most co-generators are energy efficient in that they utilise waste products, or utilise both heat and electricity from a single process.

26. On the other hand if accommodating co-generators imposed costs on others, for example increased frequency keeping costs or undermine the accuracy of the pricing process, then this may be inefficient if such costs are not allocated efficiently.

27. These trade offs need to be considered in developing any possible rule changes.

28. The table below summarises the Commission's view on how the specific outcomes apply to the co-generation problem:

[1] See http://www.med.govt.nz/ers/electric/governance-gps/final/final-01.html

Objectives and Outcomes	Response
Under section 172N of the Act The Commission's principal objectives are as follows:	
a. To ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and b. To promote and facilitate the efficient use of electricity.	
The Commission's specific outcomes are as follows:	
a) energy and other resources are used efficiently;	An option will enhance efficient use energy and other resources if it affects co-generator's incentives to reduce variation in output, (and thus reduce frequency keeping costs) where this is economic.
b) risks (including price risks) relating to security of supply are properly and efficiently managed;	An option will enhance security of supply if it enhances the system operator's ability to manage security of supply.
c) barriers to competition in the electricity industry are minimised for the long-term benefit of end-users;	An option will reduce barriers to competition if it addresses co-generators ability to comply with offer and dispatch rules.
d) incentives for investment in generation, transmission, lines, energy efficiency, and demand-side management are maintained or enhanced, and do not discriminate between public and private investment;	Co-generators contribute to energy efficiency, by efficient use of primary fuel, and reduce the need for investment in transmission, by locating near the load. Therefore, an option will enhance energy efficiency, and investment efficiency if it addresses co-generators ability to comply with offer and dispatch rules.
e) the full costs of producing and transporting each additional unit of electricity are signaled;	An option will enhance this objective if it enhances the integrity of the pricing process.
f) delivered electricity costs and prices are subject to sustained downward pressure; and	
g) the electricity sector contributes to achieving the Government's climate change objectives by minimising hydro spill, efficiently managing transmission and distribution losses and constraints, promoting demand-side management and energy efficiency, and removing barriers to investment in new generation technologies, renewables and distributed generation.	

29. From the above, the following criteria for assessment of each option have been developed. Each option has been analysed against the extent to which it:

    a. addresses co-generator's problems with complying with the offer and dispatch rules;

b. affect incentives for co-generators to reduce variation in output where economic;

c. affect the system operator's ability in manage system security; and

d. impacts price integrity of forecast, 5-minute and dispatch prices.

30. It is noted that no one solution is clearly the best answer, and a combination of options may well be the best answer.

31. It is also noted that because the ability of co-generator's to comply with the rules affects more than one specific outcome, this criteria is weighted more heavily than others in the summarised assessment in section 7.

Co-generator flexibility vs. System Operator Information

32. A trade-off exists between allowing co-generators flexibility with the offer and dispatch rules, and the ability the system operator has to efficiently manage the grid. However, it is noted that trying to have co-generators meet unrealistic or unobtainable expectations is counter-productive for everybody, including the system operator. The rules need to be pragmatic.

33. Flexibility with the offer and dispatch rules will reduce the compliance costs of co-generators. All three parties that the Commission approached on the offer and dispatch rules raised concerns at the costs incurred with compliance, and potential cost of breaches. The Commission is considering seven options (see paragraph 18) to reduce the cost of compliance for co-generators.

34. The ability of the system operator to perform their role efficiently is largely determined by how closely dispatch instructions are followed. For example, if the dispatch tolerance range is expanded it may create incentives for co-generators to become more lax with the accuracy of their offers, and how closely they follow dispatch instructions. A trade-off therefore exists, in that reducing the offer and dispatch requirements on co-generators will decrease their incentive to provide good information where possible, and to comply with the rules. This affects the reliability of the grid, and as such the system operator is required to take precautionary action in the form of procuring more ancillary services, (for example by increasing the quantity of reserves and/or widening the band of the frequency keeper).

Suggested Definition of a Co-generator

35. Most of the possible rule changes require special rules for a co-generator. If any of these changes are adopted, a definition of what is a co-generator is required in Part A of the Rules. Several of the options include granting special privileges to co-generators, e.g. exemption from the requirement to offer or wider dispatch tolerance bands. These would create incentives for parties to claim co-generator status. It is therefore important that the definition is very tightly defined and perhaps involves Board approval. Member's input is sought on what criteria should be applied for the co-generator definition.

Option A: Removing Requirement to Offer and Dispatch

36. One option for addressing the issue raised is to remove the requirements for co-generators to offer and, therefore, not be subject to dispatch instructions. This option could take several forms. For example:

    a. A complete removal of the requirement to offer, similar to embedded generators below a certain size[2];

    b. A requirement to submit an expected output profile, but not an offer, similar to the approach adopted for intermittent generation; and

    c. Removal of the requirement to offer, but subject to certain security criteria, similar to the restrictions on Whareroa dispatch compliance exemption, suggested by the system operator in Appendix C – System Operator Submission on Todd Energy Exemption Application.

Possible Rule Revision

37. The form of the rule drafting would depend on which approach above is chosen, but all would involve some modification of rule 3 of section II of part G. Approach a. could be achieved by modification of rule 3.1 to simply exempt co-generators. Approaches b. and c. are probably best achieved by a specific new rule under rule 3, and spelling out the details of the limitations.

Discussion of Possible Rule Revision

38. Removing the requirement to offer and be dispatched would address all of co-generators' problems with the offer and dispatch rules.

39. However, it would create problems for the rest of the system. The system operator would have less information about what the co-generators are planning to do than is now the case. It would also not create any incentive for co-generators to minimise variation in their output when economic. Therefore, frequency keeping costs would increase, which would be borne by all grid users. Similarly, the integrity of the pricing process would be undermined.

40. The reason for increasing generator freedom to not comply with dispatch instructions increases frequency keeping costs, and undermines the integrity of the pricing process, is explained further in paragraphs 50 to 54 below.

41. Option A will increase frequency keeping costs and undermine the pricing process more than option B (increased dispatch tolerance band), because the extent of dispatch freedom would be greater.

42. To a lesser extent, it would also be more difficult for the system operator to manage transmission security because the system operator would have less information about how load and generation may suddenly change at the end of a constrained line.

[2] This approach was suggested by Carter Holt Harvey in their rule change proposal.

43. Furthermore, it would create an incentive for generators to attach a small production plant to their output and declare they are co-generators. There would also be a reduction in price integrity, as less information would be feeding into the pricing system.

44. Some of these concerns may be able to be addressed by restricting the removal of the requirement as proposed in approaches b and c of this option. However, these do not completely address these concerns and consequently the Commission does not consider that this option should be pursued further.

Option B: Increase dispatch tolerance range

45. A second option, and one that could be implemented in conjunction with options a to f is to increase the tolerance range for complying with dispatch instructions from +/- 1 MW to +/- 5 MW. The Commission has done this in granting exemptions to Carter Holt Harvey, at Kinleith and Alinta (NZ Steel). Alinta reports that this has made life much easier.

Possible Rule Revision

46. This rule could be implemented by incorporating an exemption into Rule 4.16 of section III of part G.

47. It is noted that any revision of the dispatch tolerance band in rule 4.16 of section III should also consider aligning the dispatch tolerance requirements with the requirements to re-offer in rule 3.15 of section II. Currently the re-offer tolerance band is wider than the dispatch tolerance band. One simple approach, that may well meet the requirements of industrial co-generators, would be to align the dispatch tolerance band with the re-offer requirement band. This was suggested by Mighty River Power in a rule change proposal, applicable to all generators in February 2005. This issue is applicable to all generators and would need to be considered for all generators, not just co-generators.

48. The exact level of the tolerance is a matter for consultation. We suggest a starting level of 5 MW as consistent with the already granted exemptions, or 10% of the dispatched level, whichever is the lesser.

Discussion of Possible Rule Revision

49. The advantage of an increased tolerance band is that co-generators will be able to comply more often with the Rules. This will reduce their compliance costs and allow co-generators to operate their plant more efficiently.

50. The disadvantages of an increased tolerance band, is that it would increase frequency keeping costs slightly and may slightly undermine the integrity of the pricing process.

51. An increased tolerance band would create a degree of uncertainty in the exact generation from co-generators. Any under or over generation by co-generators would be met by the frequency keeper and/or in constrained on or

off by other generators. Frequency keeping and constrained on costs are allocated to purchasers in proportion to their MW load.

52. Although frequency keeping costs are high (approximately $50 million pa) the marginal impact of an increased tolerance band for co-generators is unlikely to be significant, given current levels of co-generation, and the fact that such increased tolerance bands reflect current practice with the exemptions. Also, such an impact needs to be considered within the context of other drivers for increased frequency keeping costs, such as intermittent generation and even the degree of competition in the frequency keeping market.

53. There would be a small impact on price integrity, as there is less certainty of the actual price band utilised. For example, if scheduling and dispatch assumed a co-generator output of 10MW, but the actual output was 15MW then the net load at that GXP would be 5MW's lower. If a number of co-generators all took the same action then the net load would be lower, and when final prices are calculated the actual net load could clear a lower price band than was assumed in scheduling and dispatch.

54. Again the degree of undermining of the pricing process is unlikely to be major given current levels of co-generation, and that such increased dispatch tolerance would only reflect current exemptions.

Option C: Widen the definition of bona fide

55. The current definition of a bona fide physical reason could be widened for co-generators. (See Appendix A – current definition of bona fide for the current full definition).

Possible Rule Revision

56. Widening the definition of a "bona fide physical event" could be implemented by adding an exception to the bona fide rules specifically for generators to include any unscheduled change in the associated industrial process. Care would need to be taken to define "associated industrial process" and "unscheduled change" in an unambiguous way that did not encourage abuse of this rule.

Discussion of Possible Rule Revision

57. Widening the definition of a bona fide physical reason would make it easier for industrials to claim bona fides for the specific problems they face.

58. A downside of this solution is that it reduces the incentives for industrials to improve their accuracy where possible.

59. Care will also need to be taken over tightly and unambiguously defining what constitutes a bona-fide event for a co-generator to avoid any incentive to game the bona-fide regime.

60. This option is probably neutral for price integrity, except if there are problems ensuring the last offers are included in pricing.

Option D: Lower the compliance costs around bona fide incidents

61. A common complaint by many of the major users at meetings (not just the ones with co-generators) was the high level of compliance costs around claiming a bona fide. One major user commented that eventually they just stopped doing paperwork and paid the resulting fine, as it was cheaper[3].

62. Another complaint was the time gap between when something happened and when it was investigated. In discussion, the system operator noted that this was not always avoidable, as non-compliance was sometimes only noted in an evaluation well after the original date. At times, the system operator had only determined after several months that the system operator itself had been in non-compliance for those months.

63. The Commission sees three possible answers to these concerns:

    a. lighter compliance regime;

    b. re-design compliance regime to make it an automatic financial cost; and

    c. keeping the status quo.

64. All these options may decrease price integrity slightly, as there may be an increase in the amount of variation between what is offered and what is actually done.

Lighter Compliance Regime

65. A lighter compliance regime could be implemented in a wide range of ways. One suggestion made by a major user was to measure compliance over several months or even a year, and only query if there was an increase in non-compliance. This would be a change from the current situation where every case of claim of bona-fide or breach allegation is investigated.

66. This option would reduce the costs of enforcing the compliance regime for both the co-generators and Market Governance.

67. A lighter compliance regime would maintain incentives to stop non-compliance increasing, but reduce incentives to increase compliance. Consequently, it may increase the costs of frequency keeping and constrained on and undermine the integrity of pricing as outlined in paragraphs 50 to 54.

[3] It is understood this remark relates to the NZEM period as no fines have been issued to major users since the EGRs came into effect.

Replace Current Regime with Automatic Financial Charge

68. Option 63.b means removing the current compliance regime, and replacing it with a system by which any generator or load that breaches its obligations under section III of part G of the Rules pays for doing so.

69. This would require more extensive changes to the Rules, and possibly the regulations, than the other options for addressing co-generation plans in here. It represents a fundamental shift in market governance, and would require much wider consideration than just WMAG. It would probably have to be led by the Market Governance section of the Commission.

70. If this option was carried through in its purest form, the exemptions for bona fide reasons could be eliminated. Instead the system operator would work out every month the total costs of the frequency keeping system and attribute these costs to the causers[4].

Separate Workstream Required

71. Due to the extensive nature of any changes to the compliance regime, no specific changes to the rules have been considered at this stage. If the WMAG group thinks it is appropriate to address co-generator's problems this way, the next step would be a report to the Commission's Board recommending a new, wider, workstream.

Option E: 30-minute gate closure

72. A further option to be considered is to allow a thirty minute gate closure for co-generators, rather than the current 2-hour rule. This would ease problems around predicting production schedules and remove some of the concerns about compliance and reporting, by allowing more time to revise offers rather than have to claim bona fides. But, it would not address non-compliance caused by normal variations in the plant's output or by breakdowns.

Possible Rule Revision

73. The two hour gate closure rule is stated in Rule 3.14 of section II of part G. The full text is in Appendix B – Current rule 3.14 of section II of part G . There is already an exemption for intermittent generators and for embedded generators. An exemption for any co-generators who are not embedded could be added to the embedded generators rule.

Discussion of Possible Rule Revision

74. A thirty minute gate closure would improve co-generators' ability to comply with the offer and dispatch rules by enabling them to adjust offers to reflect operational changes that happen inside two hours, but outside 30 minutes before gate closure. However, the bona-fide regime would still be required for

[4] Although this option is not pursued a slight variation on this option is considered under section 0.

operational changes that happen within the thirty minute gate closure period, or cases caused by natural variation in the industrial plant's output.

75. More frequent updating of co-generators' offers would increase the accuracy of these offers and give the system operator more confidence in what is going to happen. Therefore, enhancing their ability to manage security and reduce ancillary service costs.

76. However, it is noted that Alinta and Carter Holt Harvey are embedded generators, and as such already have the advantage of thirty minute gate closure. So this change is mainly applicable to Whareroa, or any new direct connected co-generator.

77. This option would also raise the issue of why the overall gate closure could not be reduced to thirty minutes. This is the subject of a separate item recorded under the offer and dispatch rule change proposals.

Option F: Permitting Bidding on a Net Basis

78. Another option is to allow industrial co-generators to bid on a net basis. NZ Steel particularly favoured this option, as its net variation was less than the variation of both load and generation.

Possible Rule Revision

79. This would require changes to two sections of the Rules, rule 3 of section II of part G and Schedule 6 of part G, e.g. insertion of a rule to allow net for GXPs with co-generators in rule 3.3 changing schedule G6 to allow SPD to use net bids.

80. A complicating factor in rule drafting for this option is the situation where the co-generator and the load are connected to different, but closely connected grid connection points. For example, NZ Steel's arrangement at Glenbrook. One approach to dealing with the problem would be to utilise the core grid definition developed under Part F, and perhaps allow bidding to the nearest core grid point. However, this would require careful consideration of any security or transmission loading issues that might arise.

Discussion of Possible Rule Revision

81. Allowing co-generators to provide net bids would address some of the problems with complying with the offer and dispatch rules for those co-generators whose production and load is closely tied. However, it would not address variations in output caused by plant fluctuations when they went outside the 1 MW dispatch tolerance range.

82. Allowing net bids would retain incentives for co-generators to improve output accuracy where possible, as they would still be held to the 1 MW dispatch tolerance range threshold and any other relevant compliance rules.

83. However, allowing net bids would not provide sufficient information for managing frequency keeping and security risks. Transpower states that it needs to know gross generation and load for those times when the generation plant or the production plant goes down. This allows it to provide security for sudden increases, or falls in load. Even if the industrial plant automatically shuts down when the co-generator breaks it can be running long enough to cause problems for the electricity system.

84. Any impact on price integrity would be small as the net information is being provided.

Option G: Maintain the Status Quo

85. An option that should be considered in all policy analysis is maintaining the status quo. This would mean:

    a. Maintaining the current compliance regime;

    b. making no changes to the Rules;

    c. letting the existing exemptions expire; and

    d. breaching co-generators whenever they fail to comply with the offer and dispatch rules.

86. While the compliance regime has costs, it does maintain an incentive to comply. This reduces frequency keeping and other system security costs.

87. The downside of the status quo is that some co-generation plants may not be able to comply, and may be forced to close down. Others would not be built in the first place. This would mean a reduction in the benefits of co-generation for achieving the Commission's objectives and specific outcomes:

    a. security of supply (by generation investment)

    b. sustainable environment (by efficient use of energy resources);

    c. efficient use of energy (by using both heat and electricity from a generator);

    d. distributed generation (by locating generation near to the load);

    e. fairness; and

    f. maintaining a regulatory environment that is conducive to investment in all types of generation (refer foreword to Government Policy Statement on Electricity Governance (GPS)).

88. Consequently, the Commission does not consider that this option is viable.

Efficient Cost Allocation

89. If some combination of options A to F are decided on, a further option to consider is whether to allocate the costs associated with such special provisions in the rules, in line with the 'causer pays' concept.

90. The concept of 'causer pays' refers to the desire that a party that creates a cost, incurs that cost. In this case the causer is the co-generators, and the cost is the increase of ancillary services.

91. Allocating costs to causers will create incentives for co-generators to meet the offer and dispatch rules. This may be of most use for future co-generation plants, but some co-generation plants may be able to be upgraded to meet the offer and dispatch rules. It would also allocate some of the system costs to their causers and reduce them for other participants.

92. However, such cost allocation would need to be considered within the wider context of:

    a. Fairness, e.g. other parties, such as intermittent generators, contributes significantly to frequency keeping costs. Any cost allocation mechanism should not one class of participant differently;

    b. Transaction costs, i.e. how difficult implementing and administering the regime would be;

    c. Materiality, i.e. is the size of the problem sufficient to justify doing anything; and

    d. Workstream responsibility, i.e. if this is primarily an issue of ancillary service cost, rather than price integrity then is this better dealt with by the Common Quality Advisory Group (CQAG).

Options for Cost Allocation

93. Options for dealing with such efficient cost allocation include:

    a. Leaving the offer and dispatch rules as is, but develop a dispensation regime similar to that utilised for asset owner performance obligations under rule 11.1.3 of section IV of part C and schedule C1.

    b. Changing the offer and dispatch rules for co-generators and introducing causer pays cost allocation for frequency keeping in a similar way to that applied for instantaneous reserves under 11.5 and 11.6 of section IV of part C.

    c. Changing the offer and dispatch rules for co-generators but charging a fee for admittance to the class of approved co-generator. The fee to reflect a reasonable estimate of the likely cost to be imposed on others by the co-generator. With fees perhaps used to offset frequency keeping costs.

94. All of these options revolve around allocation of frequency keeping costs, and should be referred to the Senior Advisor Common Quality.

95. It is also noted that option b best addresses the fairness issue, in that it does not treat co-generators different to other classes of causers and recognises this is part of a wider issue.

7 Summary of Analysis

96. The table below broadly summaries the above options. Each proposed solution is rated against the evaluation criteria. It is also recognized that a combination of options may be appropriate, and that some issues are being dealt with within the wider offer dispatch rules workstream. As noted in paragraph 31 the ability of each option to address co-generators problems is weighted higher than other criteria because it affects more than one of the Commission's specific outcomes.

Option	Address co-generators problems	Incentives for co-generators to reduce variation in output	Reduced frequency keeping costs	Price integrity	Total	Compatible with other options	Dealt with in other workstreams
A: Remove Offer and Dispatch	+4	-2	-2	-2	-2	No	No
B: Net Bidding	+2	0	-1	-1	0	Yes	No
C: Increase dispatch range	+3	-1	0	0	+2	Yes	No
D: Widen bona fide	+3	-1	0	0	+2	Yes	No
E: Lower compliance costs	+4	0	-1	-1	+2	Yes	Yes
F: 30 minute gate closure	+2	0	+1	+1	+4	Yes	Yes
G: Status Quo	0	0	0	0	0	No	No
Cost Allocation	0	+2	+2	+2	+6	Yes	Yes

97. It is noted that if efficient cost allocation can be implemented then the criteria for reducing frequency keeping costs could be eliminated. That is, if costs were allocated efficiently then investing parties could make this trade off themselves.

98. Based on the above analysis the Commission suggests the following course of action:

a. Refer the matter of efficient cost allocation of frequency keeping costs to the Senior Advisor Common Quality;

b. Refer the issue of reduced compliance costs to the Market Governance team;

c. Raise the priority of the review of the 2 hour rule (workstream item W16c to a high priority);

d. Develop detailed rule change proposals for:

i. Net bidding;

ii. Wider dispatch compliance range (including a review of consistency with re-offer rules); and

iii. Wider bona fide definition

8 Suggested Timetable

99. The WMAG group's advice is sought on the following proposed timeline:

WMAG considered initial paper	15 September 2005
Further analysis was undertaken, including: • Discussions with system operator and co-generation participants • Consider linkages with the review of bidding rules (under DSBF proposal) and feedback provided by industrials on this	October-November 2005
WMAG considers this options paper	27 January 2006
Development of consultation paper	February 2006
WMAG considers consultation paper	March 2006
Board considers consultation paper	April 2006
Consultation closes	May 2006
WMAG considers submissions and draft recommendation to Board	June 2006
Final recommendation to Board	July 2006

Board makes recommendation to Minister and rule amendments gazetted	August 2006
Rules become effective	September 2006

9 Recommendations

100. It is recommended that the WMAG:

a. **discuss** the issues and options raised above;

b. **comment** on the Commission's proposed course of action going forward; and

c. **advise** WMAG's favoured course of action going forward.

Appendix A – Current definition of bona fide physical reasons

"**bona fide physical reason**" includes:

(a) in relation to any **generator** or **purchaser** or any **asset owner**, a situation where personnel or plant safety is at risk;

(b) in relation to a **generator**:

(i) a reasonably unforeseeable full or partial loss of generating capability from an item of **generating plant** which is the subject of an existing **offer** by that **generator**; or

(ii) a reasonably unforeseeable change in the level of expected uncontrollable water inflows into the head pond of a hydro station which is the subject of an existing **offer** by that **generator**; or

(iii) a reasonably unforeseeable change in circumstances such that the **generator** will breach any consent held by it under the Resource Management Act 1991; or

(iv) a reasonably unforeseeable physical infeasibility which arises from a **pre-dispatch schedule** or **dispatch schedule**;

(c) in relation to a **purchaser**:

(i) a reasonably unforeseeable full or partial loss of demand at a **grid exit point** which is the subject of an existing **bid** by that **purchaser**; or

(ii) a reasonably unforeseeable change in circumstances such that the **purchaser** will breach any consent held by it under the Resource Management Act 1991; or

(iii) a reasonably unforeseeable full or partial loss of generating capability from an item of **generating plant** owned by, or the subject of a supply contract with, that **purchaser** during the relevant **trading periods**;

(d) in relation to a **grid owner,** a reasonably unforeseeable loss of full or partial capacity on transmission plant forming part of the **grid**.

Appendix B – Current rule 3.14 of section II of part G

3.14 Bids or offers may be revised or cancelled

3.14.1 By purchasers and generators (other than embedded generators and intermittent generators)

Subject to rule 3.17 of this section, and to rule 8 of section III, each **purchaser** or **generator** (other than an **embedded generator** submitting an **offer** in accordance with rule 3.14.2 or an **intermittent generator** submitting an **offer** in accordance with rule 3.14.3) may:

3.14.1.1 Revise bids or offers

Revise either any of its **bid** or **offer** prices, or any of its **bid** or **offer** quantities, as the case may be, for any **trading period** by submitting a new **bid** or **offer**, as the case may be, to the **system operator**. Any revised **bid** or **offer** may be made up to two hours prior to the beginning of the **trading period** in respect of which the **bid** or **offer** is made; or

3.14.1.2 Cancel bids or offers

Cancel any of its **bids** or **offers** by notice in writing to the **system operator**. Any such cancellation of a **bid** or **offer** may be made up to two hours prior to the beginning of the **trading period** in respect of which the **bid** or **offer** was made.

3.14.2 By embedded generators (other than embedded generators who are also intermittent generators)

Notwithstanding rule 3.14.1, and subject to rule 3.17 of this section, and rule 8 of section III, an **embedded generator** required to submit an **offer** in accordance with rule 4.5 of section III of part C[5] (other than an **embedded generator** that is also an **intermittent generator** submitting an **offer** in accordance with rule 3.14.3) must use reasonable endeavours to submit any revised **offers** at least two hours prior to the beginning of the **trading period** in respect of which the **offer** is made, but may:

3.14.2.1 Revise offers

Revise any of its **offer** quantities for any **trading period** by submitting a new **offer** to the **system operator**. Any revised **offer** may be made up to 30 minutes prior to the beginning of the **trading period** in respect of which the **offer** was made; or

3.14.2.2 Cancel offers

Cancel any of its **offers** by notice in writing to the **system operator**. Any such cancellation of an **offer** may be made up to 30 minutes

[5] Author's Note: Rule 4.5 requires all embedded generators greater than 10 MW to provide information about their intended output.

prior to the beginning of the **trading period** in respect of which the **offer** was made.

3.14.3 By intermittent generators

Notwithstanding rules 3.14.1 and 3.14.2, and subject to rule 3.17 of this section, and to rule 8 of section III, each **intermittent generator** must submit any revision to the **offer** price at least two hours prior to the beginning of the **trading period** in respect of which the **offer** was made. In addition, the **intermittent generator**:

3.14.3.1 Revise offer quantities

Must revise the quantity of each **offer** made pursuant to rule 3.14.3 during the two hours immediately before the **trading period** in respect of which the **offer** is made, in order to comply with rule 3.6.2. Each such revised **offer** must be based on a persistence model using actual output from the **intermittent generating station** at the time the revised **offer** is submitted, unless otherwise agreed with the **Board**.

3.14.3.2 Cancel offers

May cancel any **offer** by notice in writing to the **system operator**. Any such cancellation may be made up to 30 minutes prior to the beginning of the **trading period** in respect of which the **offer** was made.

Appendix C – System Operator Submission on Todd Energy Exemption Application