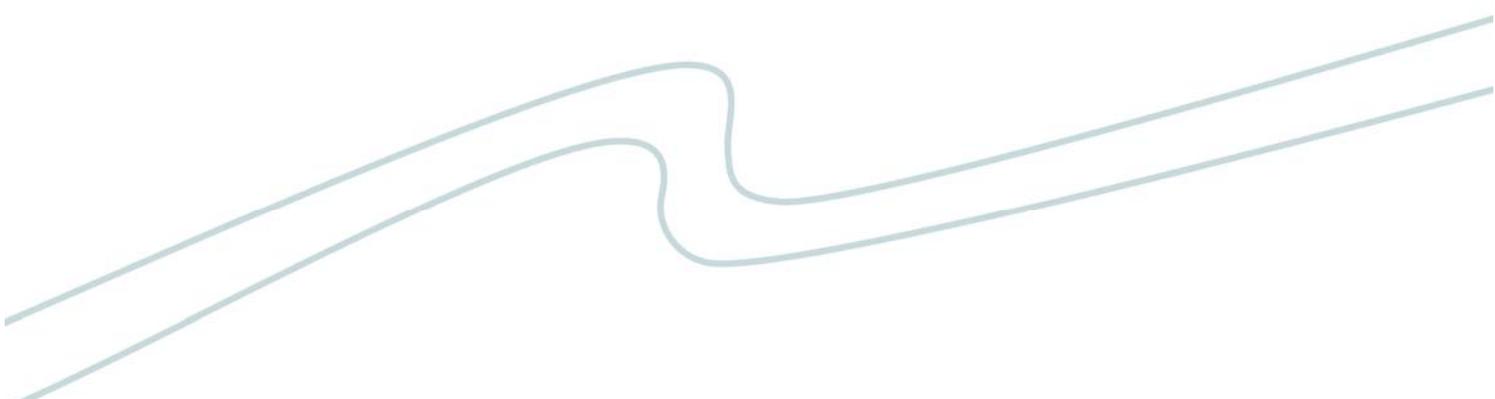


Rolling Outage Regulations and Planning

The Electricity Commission's Proposed Regulations

**Report to MEUG, ONTRACK (New
Zealand Railways Corporation) and
Wallace Corporation**



27th October 2006

Preface

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1. Introduction

The Government Policy Statement (GPS) contains an expectation that as part of its endeavours to ensure security of supply the Electricity Commission (the Commission) will put in place contingency arrangements to provide for the scheduling of rolling outages in the extreme event that blackouts are required. The Commission is invited in the GPS to recommend regulations and rules, if required, to implement rolling outages.¹

The Commission is proposing to recommend regulations to the Minister of Energy (the Minister). Before doing so the Commission is required to consult on the proposal. The Commission has issued a consultation paper with two appendices. The first contains draft regulations and the second an associated draft Security of Supply Outage Plan (SOSOP).² The Major Electricity Users' Group (MEUG), ONTRACK (New Zealand Railways Corporation) and Wallace Corporation engaged NZIER to provide them with an independent report on the Commission's documents and proposal. This paper is that report.

2. Background

The GPS sets out a number of requirements that have implications for security of supply policy. The Commission published in June 2005 an "Initial Security of Supply Policy" which explains how the Commission intends to fulfil a number of these requirements. This report introduced the monitoring of 'minzone'. This is the amount of hydro storage required to sustain a 1 in 60 year low inflow sequence with all non-hydro supply fully committed.

The Commission has also done a lot of work on an Interim Emergency Response Plan (Interim ERP) to cover longer term energy constrained emergencies at a national or regional level and this work has set the context for its current rolling outages proposal. More specifically, the Commission had identified that there are two different categories of contingent event that could trigger a security of supply emergency:

- Category A
 - an event which develops slowly over time, such as an extended period of low inflows to hydro storage lakes; and

¹ Government Policy Statement on Electricity Governance, para. 74.
http://www.med.govt.nz/templates/MultipageDocumentPage____6670.aspx

² Available at <http://www.electricitycommission.govt.nz/consultation/rollingoutagesep06/view>

- Category B
 - an event which occurs with little warning, such as a major supply of transmission failure, a critical gas pipeline disruption or a significant and extended generator failure.

The Commission has also identified that it will move through three phases as an emergency situation develops:

- Security normal phase:
 - the Commission monitors and regularly reports on minzone;
- Security alert phase:
 - that there is a reasonable risk of supply shortage would be communicated by the Commission to stakeholders as would the nature and extent of risks; and
 - The Commission’s monitoring and assessment activity would be intensified; and
- Security emergency phase:
 - The Commission would manage the emergency through an organisational structure headed by a Steering Group made up of Commissioners and managed by an Emergency Project Manager accountable to the Steering Group;
 - The Project Manager would oversee a project team drawn from Commission and industry staff;
 - The Steering Group would interact with a group of senior industry executives formed into an Executive Advisory Group;
 - the Commission would introduce supply side emergency measures, such as having all contracted reserve energy supply operating, expecting generators and the owners of distributed generators to maximise plant availability; and
 - The Commission would introduce a voluntary conservation campaign to reduce demand.

Only if these measures proved to be inadequate would the Commission invoke the proposed regulations as a last resort.

In drawing up its proposal and draft regulations the Commission has drawn on the recommendations of the 2003 Winter Task Force and a 2005 report by Concept Consulting that was reviewed and largely endorsed by the Commission’s Security Advisory Group (SAG). Following the recommendations of the Concept report the Commission established a project team chaired by a Commission staff member but otherwise made up of industry and consumer representatives. This team drew together draft

regulations and the SOSOP largely in the form presented for the current consultation.

3. Proposed Regulations

There are three parts to the draft regulations:

- the requirements on the Commission and ‘specified participants’ to develop plans for shortage of supply situations;
- the making of supply shortage declarations by the Commission and the obligations on parties when it does so; and
- miscellaneous provisions dealing with liabilities and information provision.

3.1 Planning

3.1.1 The Commission

The Commission must prepare and publish a Security of Supply Outage Plan (SOSOP) that:

- describes events the Commission predicts will be likely to give rise to the need to make a supply shortage declaration;
- sets out thresholds that the Commission will apply when deciding whether to make a supply shortage declaration;
- specifies how the Commission intends to determine what directions to give to address the shortage of supply or transmission capacity that gives rise to the declaration;
- identifies specified participants, or a class or classes of specified participants who are required to develop participant outage plans; and
- specifies criteria, methodologies, and principles relating to the application of outages to be provided for in participant outage plans.

The Commission is required to consult on a draft SOSOP before publishing one. The SOSOP may be amended by following a similar process.

3.1.2 Specified Participants

The Commission can require particular ‘specified participants’ or groups of ‘specified participants’ to prepare participant outage plans. The regulations provide for retailers, Transpower, embedded network operators in addition to distributors and direct connect customers to be ‘specified participants’. However, the Commission has signalled that at this stage it intends to only require distributors and direct connects to prepare and submit plans to it for approval.

It is an offence, punishable by a fine of up to \$20,000, for a specified participant to fail to provide a plan by the specified date and to fail to provide a plan approved by the Commission three times in a row. Specified participants are required to review their plans at least once every two years. The plans must be published on the internet as soon as practicable after they are approved by the Commission.

Interestingly, generators and distributed generators and non-direct connect customers cannot be 'specified participants' and so cannot be required to submit participant outage plans.

3.2 Supply Shortage Declarations

The Commission can make a supply shortage declaration only if it considers:

- that the normal operation of the wholesale market is, or will soon be, unlikely to facilitate the adjustment of supply and demand necessary to ensure that supply matches demand; and
- that if planned outages are not implemented, emergency load reductions under grid emergency provisions are likely.

Once a declaration has been made, the Commission may direct any specified participant, whether they have prepared an outage plan or not, to implement outages. The directions must be given in accordance with the SOSOP and must specify the savings targets for each participant to achieve. Directions must be published on the internet as soon as practicable after they are given. A participant who fails, without reasonable excuse, to comply with a direction commits an offence and is liable on summary conviction to a fine not exceeding \$20,000.

3.3 Miscellaneous Provisions

3.3.1 Liability

The Commission has taken legal advice and this advice suggests that the empowering provisions in the Electricity Act 1992 (the Act), section 172D do not enable regulations to be made limiting the liability of participants in tort to third parties. The Commission has raised the matter with the Ministry of Economic Development with a view to it considering a legislation change.

The Commission has also noted that it is an offence to fail to comply with a direction may make it less likely for a Court to find that a distributor owes a duty in tort to act in a different way. Further, the Commission notes that if the outages were imposed through the grid emergency provisions, distributors would face the same legal risks and so the regulations do not impose the risks *per se*.

3.3.2 Information

The Commission may require any person to provide relevant information to assist the Commission's planning, or to assist it to evaluate the need for a declaration or direction. There are also information provision requirements on distributors, direct consumers and the system operator during the course of a supply shortage.

4. Comments on Proposal

4.1 Rolling outages or savings targets

The Commission's description and discussion suffers from confusion as to whether the planning and directions are about achieving rolling outages or about limiting electricity consumption to available supply. The Consultation Paper refers to rolling outages in many places and the regulations do so also. However, it is clear that the regulations are really about planning and implementing schemes to achieve saving targets; and this is as it should be. Outages and rolling outages are merely a means by which distributors and direct consumers may reduce electricity consumption, from a national point of view it does not matter whether the matching of demand and supply comes about by this means or some other.

The reason for the repeated references in the description and discussion to rolling outages is undoubtedly due to the use of this term in paragraph 74 in the GPS. The description suggests the purpose of the regulations is to cut peoples power supply whereas the real purpose should be to match demand with a limited capacity to supply. Power outages may be necessary to do this, but it would be preferable in many instances if it was achieved without the need for them. This is not just an issue of terminology but a fundamental error in the description of the purpose of the proposed regulations that has a material effect on how they are drafted and will have a material effect on how they are evaluated and viewed by submitters and the Courts.

In my opinion, the repeated references to rolling outages in the Consultation Paper, including in its title means it fails the basic requirement of clearly explaining what is proposed. The Commission should rewrite the Consultation Paper and redraft the regulations and SOSOP so they accurately describe and implement the policy intent; to have a mechanism to ensure demand and supply are matched when the wholesale market will not do so by the setting and imposing of target savings on distributors and direct connect customers.

4.2 Regulations or Rules?

The Commission has decided to implement its proposal through recommending regulations rather than through recommending rules. It

prefers regulations as “the arrangements will have a material effect on the rights and interests of individuals”.³ Section 172H(2) of the Act sets out the criteria to be used in deciding whether to recommend a rule or a regulation. Subsection (a) refers to “the importance of the rule, including whether the rule has a material effect on the rights and interests of individuals”. On this basis, the decision to recommend a regulation rather than rules seems appropriate. We consider the issue of whether the regulatory/rules approach is desirable later in this paper.

4.3 Consultation by Distributors?

One aspect of the proposal that I think is unsatisfactory is that specified participants that are required to produce a participant outage plan are under no obligation to consult with retailers or end use customers taking supply from their network. This would seem an oversight. As noted in the Consultation Paper, decisions made as a result of the regulations will have a material effect on individual consumers and they will also have a potential effect on local retailers. It is not satisfactory that they have no means to provide feedback on a proposed outage plan.

4.4 Definition of a Supply Shortage

The proposed regulations provide that “the Commission may make a supply shortage declaration only if there is a shortage of electricity supply or transmission capacity such that the Commission considers that the normal operation of the wholesale market is, or will soon be, unlikely to facilitate the adjustment of supply to demand necessary to ensure that supply matches demand; and that if planned outages are not implemented, unplanned outages are likely.”⁴

The subjectivity of this provision is undesirable for promoting the dynamic efficiency of the responses to potential supply shortages. What does the wholesale price have to get to before the Commission will make a supply shortage declaration? This is a critical question for anyone assessing whether to install distributed generation or implement some demand management programme as it tells them roughly the maximum price they will face in the market place. The test in the regulations provides potential investors in schemes to alleviate supply shortages no guidance on the level at which prices will be effectively capped.

We suggest that the test for whether the Commission can issue a supply shortage declaration include an additional requirement: that the wholesale price is, or will soon be, at least \$40,000 per MWh. Moreover, we suggest that when the price slips below, say \$20,000, that the supply shortage

³ Consultation Paper, para. 6.3.

⁴ Clause 18(2).

declaration become void. If the market is clearing at a price less than \$20,000 then it is hard to argue that it is in imminent danger of failing to clear. Inclusion of this requirement would mean that potential investors in means to help match demand and supply like distributed generation will know the minimum price that will occur before the Commission rules a supply shortage and essentially places a cap on further price rises by this action.

5. Alternatives to Regulations

5.1 Alternatives

The Commission's view is that the only reasonably practicable alternative to the proposed regulations is "voluntary industry action". This option would involve the Commission relying on industry participants to voluntarily achieve specified load reduction targets when the Commission calls for them. Grid emergency measures could be used to reduce demand as a final backstop to prevent frequency drop and cascade failure when physical shortages occur.

The Commission rejects expanding the grid emergency measures in Part C of the rules as a reasonably practicable alternative because it believes these rules are designed for dealing with short-term emergencies and it would be risky to employ them for another purpose. The Commission also argues that this would require a review of the role of grid emergencies throughout the rules and a review of the role of the system operator.⁵

We believe the Commission is overstating the difficulties of using the grid emergency procedures, especially if they are a back-stop to 'voluntary industry action'. However, as a sole basis for dealing with acute supply shortages over an extended period of time we accept amendment of them would not be appropriate.

Another alternative which is not considered by the Commission is to invite the industry to develop a more formal voluntary industry action plan than the informal ad hoc arrangements required. The Commission could encourage action and resolution by indicating that if the industry is unable to reach agreement that regulations of the kind currently proposed are an option.

This type of approach would appear to be what is required by the GPS. The GPS includes the statement: "as with other regulation-making powers, the Commission may only recommend regulations if it has first established that there are significant problems that are not resolvable through voluntary

⁵ Consultation Paper, para 9.7.

arrangements and co-operation.”⁶ While this statement is made in the context of discussing hedge market transparency and liquidity it clearly has more general application. The requirement on the Commission to prefer non-regulatory solutions is also contained in paragraph 4 of the GPS: “whenever possible, the Commission should use its powers of persuasion and promotion, and provision of information and model arrangements to achieve its objectives rather than recommending regulations and rules.”

5.2 Commission’s Evaluation

The Commission considers that the voluntary industry action option is inferior to its regulatory solution because:⁷

- the regulatory option makes it more likely that small rolling outages will be able to be implemented earlier to reduce the chances of deeper outages being required later; and
- under the voluntary option that all will benefit from demand reductions but the costs will only fall on those that cut demand so there will be a free rider problem.

The first claim is at variance with the claim that the regulations will be a last resort and with the regulations themselves. The Commission cannot make a supply shortage declaration until the wholesale market is on the brink of failing to match demand and supply without unplanned outages. This appears too late for small outages to be effective in resolving matters. A voluntary arrangement is likely to be more effective in achieving early pre-emptive action; at least that seems to be the lesson from the dry-year problems in 2001 and 2003.

The second claim is correct only if wholesale prices do not reflect true marginal cost. This will be the case when the computer algorithm determining prices cannot find a feasible solution, but not otherwise, even when prices may appear very high.

More generally, the Commission considers there will be significant free rider and hold-out problems under the voluntary industry action option. We are less concerned because failure by the industry participants to make satisfactory arrangements is not without considerable risks for all of them. Failure to agree and implement a satisfactory regime will result in the system operator matching demand and available supply under the short-term grid emergency arrangements. Most parties will not want to leave themselves vulnerable to this outcome and so voluntary agreement and enforcement appears to us to be workable.

⁶ GPS, para. 77.

⁷ Consultation Paper, paras 3.17 -19.

As part of the justification for the regulated solution, the Consultation Paper contains an ‘economic’ assessment “of the benefit of implementing smaller outages earlier rather than larger outages later”.⁸

*Suppose rolling outages rotated through residential areas for three weeks (saving 3 to 5 percent per week) could save the same amount of energy as deep cuts affecting commercial and industrial loads for a week (saving 10 to 15 percent). If the deep cuts reduced GDP by 4 percent during the week, and annual GDP is \$150 billion, then the reduction in GDP could be of the order of \$115 million, provided the smaller rolling outages could be achieved at little or no cost.*⁹

Obviously, the smaller rolling outages would not be costless to the economy even if restricted to residential consumers. Consumers’ preferences and losses of consumer surplus do matter for economic welfare. Moreover, the reduction in GDP is not an appropriate measure of the costs and benefits of smaller outages. The appropriate measure is the loss of consumer and producer surplus.

In addition, this assessment completely overlooks the negative impact the existence of the proposed regulations will have on the provision of back-up facilities by key installations. This point is explained more fully in Section 6.3.2 below. It also overlooks the possibility that instead of acting to minimise their exposure by having back-up plant and contingency plans some parties will act strategically and devote their time and effort to lobbying for their industry or firm’s inclusion in a category higher up the list of priorities.

Overall, therefore, we are sceptical as to whether the regulated solution is superior to the voluntary option for the economy as a whole. Moreover, we do not accept the Commission has “established that there are significant problems that are not resolvable through voluntary arrangements and co-operation.” According to the GPS the Commission is required to establish this before it may recommend a regulatory solution to the Minister.

6. The Proposed SOSOP

6.1 Scope of the SOSOP

A draft SOSOP is included as an appendix to the Consultation Paper. It covers the following matters:

- the parties required to prepare a participant outage plan;

⁸ Consultation Paper, para. 13.20.

⁹ Loc. Cit.

- the criteria distributors should take into account when preparing their plan;
- the content that the Commission expects to be included in distributors' participant outage plans;
- the planning requirements for direct connect consumers;
- the allocation of savings targets to different specified participants;
- the information requirements on those subject to savings targets; and
- communications.

6.2 Parties

6.2.1 Proposal

The SOSOP provides that every electricity distributor (except Transpower) and every direct-connect consumer must prepare a participant outage plan. Generators, retailers, embedded networks and Transpower are not required to prepare plans.

6.2.2 Comment

If the overall approach proposed is accepted, then the parties required to produce a participant outage plan are the appropriate ones. We have already noted that there should be a requirement on distributors to consult with retailers and consumers utilising their network when preparing the plan.

6.3 Criteria for Distributors

6.3.1 Proposal

The SOSOP lists six priority levels in order of importance:

1. Major hospitals, air traffic control centres and emergency operation centres
2. Energy control centres, communication networks, water and sewage pumping, fuel delivery systems and major ports
3. Minor hospitals, medical centres, schools and street lighting
4. Dairy farms and milk production facilities
5. Commercial and industrial premises
6. Residential premises

The participant outage plans of distributors are expected to reflect these priorities. To the extent that particular essential services have back-up

supply arrangements, that should be taken into account when scheduling outages. The plans are required to cover target savings levels of up to 25%.

6.3.2 Comment

Some of the priorities are debatable. Street lighting coming ahead of production activities and residential premises, for example. Most people would prefer to have a heater on in the bedroom and work to go to than lights on in the street outside the house.

More generally, the priority list approach will inhibit seeking and finding economically efficient solutions. The efficient outcome is if the parties that least value the continuity of supply are disconnected first and progressively parties with higher and higher values of lost load are sequentially disconnected until the last disconnected is the party with the highest value of lost load at the time. The priority ranking in the list does not necessarily reflect the relative values of lost load of participants. Many commercial and industrial firms are likely to value electricity more highly than a dairy farm or school. We doubt any council or more than a few individuals would pay high electricity prices to retain street lighting. To have power when elevated reservoirs are running low may be critical for a water supply system in a hilly region, but it may not be necessary for it to have power even most of the time.

The list approach also has very serious drawbacks as regards the incentives it gives, or does not give, for owners of priority organisations to provide their own standby facilities. The owners and operators of facilities with high rankings – hospitals, water and sewage pumping, fuel delivery systems, major ports, etc. - are often best placed to economically install back-up supply arrangements.

As a result of the proposed regulations and SOSOP they are not going to face the full costs of having not done so. They are guaranteed high priority access to electricity if they have not invested in stand-by plant and, ironically, a lower priority if they have. So their incentives to invest in such equipment will be reduced by the regulations. This is dynamically inefficient and a cost associated with the regulatory approach. The Commission's Consultation Paper completely overlooks this issue with its proposal when assessing alternative approaches. Under a voluntary industry arrangement these kinds of factors are likely to be more carefully considered.

6.4 Content of Plans

6.4.1 Proposal

The SOSOP includes a guide to the preparation of plans by distributors. The guide suggests that distributors:

- identify the people in their organisations that are responsible for communicating with the Commission and other stakeholders;
- set out the process for translating the savings target provided by the Commission into an operational plan;
- describe how the distributor would co-ordinate rolling outages under the regulations with demand reductions under a grid emergency; and
- describe the systems to be used to monitor savings performance against targets.

6.4.2 Comments

If the overall approach proposed is accepted, then these guidelines appear generally reasonable and appropriate. We would, however, prefer that the reference to rolling outages is deleted from the third item. It would be better stated as co-ordinating means to achieve target savings with demand reductions under a grid emergency. Rolling outages are only one means to achieve target savings.

6.5 Planning for Direct Connects

6.5.1 Proposal

Direct consumers can either provide a:

- full information plan; or
- partial information plan

If a direct connect provides full information then its savings target will be individually set by the Commission to meet its specific needs. If it provides partial information then its savings target will be set equal to the target for distributors in its region.

6.5.2 Comments

This proposal does provide some flexibility for direct connects but it also opens up some limited opportunities for them to game the regulatory system. If the targets of distributors in the region are likely to be easy because, for example, the networks had unusually high demand in the past year, then the direct connect is more likely to opt for the partial information approach and share this benefit.

6.6 Allocation of Savings Targets

6.6.1 Proposal

Directions made by the Commission will be designed to achieve a particular percentage level of savings compared with the previous year in each region. The regions will be defined in electrically relevant terms. The savings

targets will vary between regions and may vary depending on the times of the day or week. The targets will be specified in MWh.

6.6.2 Comment

The Commission considered using the composition of load in terms of priority categories and the prevailing climate in a region as factors for setting the savings targets. It abandoned these because it believed they would prove contentious. A conclusion it is hard to debate. However, using the previous year's consumption figure will be tougher on fast growing regions than slow growing ones. We suggest that the allocations would be less contentious if they were based on a forecast of the year's energy consumption estimated using the rate of growth in consumption over the last five years.

6.7 Monitoring and Communications

6.7.1 Proposal

Parties required to meet savings targets will be required to report their actual performance to the Commission. The system operator will also provide data on actual usage in regions.

Distributors' plans are required to set out their own communication strategy with various groups of stakeholders and how public messages will be co-ordinated with the Commission. Distributors' plans will also have to set out how its operational activities will be communicated to the system operator.

6.7.2 Comments

If the overall regulatory approach proposed is accepted, then these requirements are reasonable and sensible.

7. Commission's Assessment of Proposal

7.1 Scope of Assessments

Sections 172E and 127F of the Act set out the requirements on the Commission regarding consultation on, and assessment of, a regulation before recommending it to the Minister. When making a recommendation, the Commission is also required to have regard to its principal objectives and specific outcomes as set out in Section 172N of the Act and the objectives and outcomes in the GPS.

We have already commented upon the inadequacy of the Commission's assessment of its proposal against the alternative of 'voluntary industry action'. We will not repeat this. The Commission has also provided in the

Consultation Paper a statement of reasons for the proposal, an assessment of its proposal against its principal objective and specific outcomes in the legislation and an assessment against the objectives and outcomes in the GPS. We will consider each in turn.

7.2 Statement of Reasons

The Commission has not attempted to justify why New Zealand needs regulations of the type it proposes. Instead it points to the expectation in the GPS for contingency arrangements to provide for the scheduling of rolling outages to be in place.¹⁰ It is as though the Commission is not convinced itself, but is progressing the regulations because the GPS contains an expectation it should do so, and under Section 172X of the Act requires the Commission to ‘give effect to’ the GPS. This is very significant in view of our scepticism expressed above about whether the regulations do provide a net benefit over the status quo for New Zealand. We do not think it is too much to take this failure to provide a detailed reason as implicit acceptance of our concern by the Commission. At the very least it is consistent with it.

7.3 S.172N Principal Objectives and Specific Outcomes

The principal objective of the Commission is “to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and to promote and facilitate the efficient use of electricity.”¹¹ The Commission claims in the Consultation Paper that the proposed regulations are consistent with this because they “facilitate efficient and fair planning and implementation of rolling outages to improve reliability.”¹²

However, the regulations will not lead to efficient rolling outages as the priority rankings do not ensure that those that value electricity the most are the last to lose it, and so on. Regulations that did that would result in an efficient outcome. It is also highly questionable whether the priority rankings will result in outcomes that are fair. Fairness is hard to define, but maintaining power to major ports, which should have put back-up facilities in place, and street lights when industrial users and consumers lose power is unlikely to be considered by many to be fair. Finally, the regulations are unlikely to contribute to reliability overall, when the negative effect they will have on the installation of distributed generators and implementation of demand-side management is taken into account.

¹⁰ Consultation Paper, paras 13.10 & 11.

¹¹ Electricity Act 1992, s. 172N.

¹² Consultation Paper, Table 1, p.40.

In terms of specific outcomes, the Consultation Paper claims that the proposed regulations enable energy to be allocated efficiently when available supply is severely curtailed. We have already pointed out this is not correct because of the operation of the priority list. Another specific outcome is that risks (including price risks) relating to security of supply are properly and efficiently managed. Again, we have pointed out the inefficiency of the proposed regulatory outcomes and this clearly applies to risk and price risk. The final specific outcome to consider is that incentives for investment in generation, transmission, lines, energy efficiency and demand-side management are maintained or enhanced. We have already noted that the proposed regime will dampen incentives among those in high priority industries to invest in generation and demand-side management, and these are often the parties for whom it would be most efficient to do so. So clearly the regulations fail in relation to this specific outcome also.

7.4 GPS Objectives and Outcomes

One of the requirements in the GPS is to “use reasonable endeavours to ensure security of supply while minimising distortions to the normal operation of the electricity market.”¹³ The regulatory proposal will distort the operations of the wholesale market and will also distort the investment signals to deal with shortages. Moreover, the alternative arrangement of voluntary industry action would be less distorting.

We have already noted that the proposed regulations meet an outcome mandated in the GPS to provide for the scheduling of rolling outages in the extreme event blackouts are required to ensure the balance between supply and demand.

Moreover, the proposal to implement regulations at this stage appears to be contrary to the requirement in the GPS that the Commission must first establish that there are significant problems that are not resolvable through voluntary arrangements and co-operation. In our view the Commission has failed to do this.

8. Drafting of Regulations

We have already commented on the frequent use in the regulations of references to outages and outage plans. We believe these are misleading as the real requirement on parties subject to the regulations should relate to target savings.

Clause 4(1) Commission. This should read “means the Electricity Commission *constituted* under subpart 1 of Part 15 of the Act”

¹³ GPS, para. 37.

9. Summary and Conclusions

The Government Policy Statement (GPS) contains an expectation that as part of its endeavours to ensure security of supply the Commission will put in place contingency arrangements to provide for the scheduling of rolling outages in the extreme event that blackouts are required. The Commission is invited in the GPS to recommend regulations and rules, if required, to implement rolling outages.

The Commission is proposing recommending regulations to the Minister.

The Consultation Paper refers to rolling outages in many places and the regulations do so also. However, it is clear that the regulations are really about planning and implementing schemes to achieve target savings; and this is as it should be. Outages and rolling outages are merely one means by which distributors and direct consumers may reduce electricity consumption.

The repeated references to rolling outages in the Consultation Paper, including in its title, means it fails the basic requirement of clearly explaining what is proposed. The Commission should rewrite the Consultation Paper and redraft the regulations and SOSOP so they more accurately describe and implement the policy intent.

The Commission prefers using regulations in this instance as “the arrangements will have a material effect on the rights and interests of individuals”.¹⁴ The decision to recommend regulations rather than rules seems appropriate given that a voluntary arrangement is not favoured.

It is not satisfactory that stakeholders and consumers have no means to provide feedback on a proposed outage plan. Distributors should be required to consult on plans.

The test in the regulations setting out when a supply shortage can be declared by the Commission provides no guidance to potential investors in schemes to alleviate supply shortages on what the wholesale price has to get to before the Commission will make a supply shortage declaration? This will inhibit the implementation of otherwise efficient distributed generation and demand management schemes and so impose dynamic inefficiency on the economy.

We suggest that the requirements for the Commission to issue a supply shortage declaration include an additional requirement: that the wholesale price is, or will soon be, at least \$40,000 per MWh. Moreover, we suggest

¹⁴ Consultation Paper, para. 6.3.

that when the price slips below, say, \$20,000, that the supply shortage declaration becomes void.

The Commission's view is that the only reasonably practicable alternative to the proposed regulations is "voluntary industry action". This approach is effectively the status quo.

The Commission considers that the voluntary industry action option is inferior to its regulatory solution but its justification and supporting arguments are weak. We are sceptical as to whether the regulated solution is superior to the voluntary option for the economy as a whole. We do not accept that the Commission has established that there are significant problems that are not resolvable through voluntary arrangements and cooperation. This is a requirement in the GPS before it can proceed to recommend regulations.

The SOSOP provides that every electricity distributor (except Transpower) and every direct connect consumer must prepare a participant outage plan. Generators, retailers, embedded networks and Transpower are not required to prepare plans. If the overall approach is accepted, this is appropriate, although we would prefer the plan was labelled a target savings plan.

The participant outage plans of distributors are expected to reflect six priority categories listed by the Commission. Some of the priorities are debatable. The requirement to follow the priority list will inhibit searching for efficient solutions and the existence of the list will discourage investment in distributed generation and demand side management by high priority entities, many of whom will be the entities for which it would be most efficient to do so. In short, the proposal will result in allocative and dynamic inefficiency.

If a direct connect provides full information on its outage planning to the Commission then its savings target will be individually set by the Commission to meet its specific needs. If it provides partial information then its saving target will be set equal to the target for adjacent distributors. This provides some flexibility for direct connects but also opens up some limited opportunities for them to game the regulatory system.

Directions made by the Commission will be designed to achieve a particular percentage level of savings compared with the previous year in each region. The regions will be defined in electrically relevant terms. The savings target will vary between regions and may vary depending on the times of the day or week. The targets will be specified in MWh.

Using the previous year's consumption figure to set the target will be tougher on fast growing regions than slow growing ones. We suggest that the allocations should be based on a forecast of the year's energy

consumption estimated using the rate of growth in consumption over the last five years.

The Commission has not attempted to justify why New Zealand needs regulations of the type it proposes. Instead it points to the expectation in the GPS for contingency arrangements to provide for the scheduling of rolling outages to be in place.

The principal objective of the Commission is “to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and to promote and facilitate the efficient use of electricity.”

However, the proposed regulations will not lead to efficient rolling outages as the priority rankings do not ensure that those that value electricity the most are the last to lose it, and so on. It is also highly questionable whether the priority rankings will result in outcomes that are fair. The regulations are unlikely to contribute to reliability overall, when the negative effect on the installation of distributed generators they will have is taken into account.

The proposed regulations are also at variance with several of the specific outcomes set for the Commission: the efficient allocation of energy when available supply is curtailed; the efficient allocation of risks (including price risks); and maintaining and enhancing incentives to invest in generation and demand-side management.

Overall, even if the regulatory approach is accepted, we consider the Consultation Paper needs considerable work so it reflects that the policy is about target savings plans and not about rolling outages *per se*. There also needs to be careful consideration of whether the regulatory approach is required or whether a voluntary arrangement may work and whether the approach does contribute in a positive way to the net public benefit of New Zealand.

The inclusion of the priority list in the requirements for distributors and the absence of a price specification in the test before the Commission can make a supply shortage declaration are two features of the proposal that particularly require scrutiny.

Appendix A Issues on which Submissions are Sought

	Question	Response
1	Do you agree that the Commission should be able to require any “specified participant” to prepare a security of supply outage plan?	<p>We do not favour the proposed regulatory solution. We prefer the voluntary industry arrangement because we believe it is more likely to lead to an efficient allocation of energy and risks in the event of a crisis and less likely to give rise to dynamic inefficiencies in the provision of distributed generation and development of demand-side management.</p> <p>If a regulatory solution is adopted, then we believe the focus should be on meeting target savings. Outages are only one means, and not necessarily the optimal means, to do this. We would agree, that if the regulatory approach is adopted the Commission should be able to require any specified participant to prepare a target savings plan.</p>
2	Do you agree that the Commission should not be able to determine a participant outage plan for a participant who fails to obtain approval for a plan?	Agree.
3	Do you agree with the process in the regulations for the Commission to approve participant outage plans? If not, how should it be changed?	We do not favour the proposed regulatory solution. If one is adopted it should focus on target savings plans and not outages. Moreover, parties apart than direct connect customers should be required to consult on their proposed target savings plan with retailers and other stakeholders.
4	Do the regulations contain appropriate restrictions on the circumstances in which the Commission can make a supply shortage declaration?	No. The absence of a wholesale price that is to be exceeded means that potential investors in generation and demand-side management will not know the answers to some key questions. There should also be an automatic price related trigger which negates the supply shortage declaration.

5	Is it appropriate for the Commission to have the power to direct any specified participant to implement outages to achieve specified energy savings targets?	We do not favour the proposed regulatory solution. If one is adopted it should focus on target savings plans and not outages. The objective should be unequivocally savings and outages are just one means to achieve them and so should not be the focus.
6	Is the Commission right to conclude that an administrative pricing regime is not necessary?	Yes.
7	What is the nature and extent of the legal risks that distributors face in implementing outages? Are these legal risks likely to prevent distributors from planning for and implementing rolling outages in a socially optimal way?	The risks are probably small, but it is totally unsatisfactory that regulations impose inappropriate risks on parties. That the alternative of a grid emergency may impose similar risks is not an excuse. The Commission should make any recommendation to the Minister conditional upon the Government providing adequate legal protection to participants.
8	Are the information gathering provisions in the regulations appropriate?	We do not favour the proposed regulatory solution. If one is adopted then the provisions are appropriate.
9	Do you agree that the option of expanding the role of grid emergency provisions to include long-term energy-constrained emergencies is not reasonably practicable?	Agree, but believe the role of the grid emergency procedures as a back-stop and so an incentive to reach voluntary agreements and avoid its operation has not been given enough weight in the assessments.
10	Are there other reasonably practicable alternatives to the proposed regulations that have not been considered in this consultation paper?	Yes. The use of a voluntary arrangement with the prospect of a regulatory solution if this proves unachievable. this approach seems to be required by the GPS.
11	Do you agree that the Commission should	We do not favour the proposed regulatory solution. If one is adopted it should focus on target

	require distributors (but not Transpower) and direct-connect electricity users to develop participant outage plans?	savings plans and not outages and the Commission should have the power to require specified parties to develop them.
12	Do you agree that the criteria to be taken into account by distributors are appropriate? If not, how should they be changed?	No. The priority list is not appropriate both as a priority list and as a criterion. If a regulatory solution is favoured, the criterion should be to develop a target savings plan which best promotes the efficient allocation of electricity and risks and provides signals that will encourage dynamic efficiency.
13	Are the requirements and guidelines for distributors for preparing their participant outage plans appropriate? If not, how should they be changed?	We do not favour the proposed regulatory solution. If one is adopted then the requirements and guidelines are reasonable and appropriate. We would, however, prefer that the reference to rolling outages were deleted from the third item. It would be better described as co-ordinating means to achieve target savings with demand reductions under a grid emergency. Rolling outages are only one means to achieve target savings.
14	Are the requirements for direct connect electricity users for preparing their participant outage plans appropriate? If not, how should they be changed?	We do not favour the proposed regulatory solution. If one is adopted then the requirements are reasonable and appropriate.
15	Is the “high probability” test for making a declaration appropriate? If not, is there a better test that the Commission should apply?	We do not favour the proposed regulatory solution. If one is adopted then the high probability test for making a declaration is appropriate.
16	Does the SOSOP contain appropriate guidelines for determining individual savings targets for distributors and direct-connect electricity users? If not, how should the Commission determine what	We do not favour the proposed regulatory solution. If one is adopted then the requirements and guidelines are reasonable and appropriate.

	directions to give to participants?	
17	Is it appropriate for savings targets to be determined by reference to (and measured against) electricity use in the same period of the previous year? If not, how should the savings target be set?	We do not favour the proposed regulatory solution. If one is adopted then we favour the target savings being based on forecast electricity use estimated on the basis of growth in consumption in the region over the last five years.
18	Should the Commission take additional factors such as the composition of load and prevailing climate into account when setting individual savings targets? If so, how could this be done?	No.
19	Do you agree with the Commission's assessment of the proposal? If not, what alternative assessments would you make and why?	<p>No.</p> <ul style="list-style-type: none"> • We do not agree that the reason given for the regulations is adequate. We do not agree the proposal is consistent with the principal objective of the Commission. • We believe the proposal is inconsistent with three of the specific outcomes of the Commission. • We do not agree the proposal meets the objectives and outcomes of the GPS, apart from the one relating to producing procedures to implement rolling outages. • We believe the proposal is contrary to the GPS requirement to first establish voluntary arrangements are not workable before recommending regulations. • We do not agree the proposal is preferable to the reasonably practical alternative, voluntary industry action with the grid emergency provisions as a back-stop.