

# On the Lines

MAY 2008

Welcome to the Electricity Commission's first workplan newsletter. The Commission is currently working on more than 80 projects on a range of differing timeframes. The purpose of this newsletter is to provide a brief overview of important milestones in some key projects and to provide direction on where you can find more information about further developments.

Major pieces of work that have been years in development have been completed in the last few months – Benchmark Agreement, Wind Generation Information Project (WGIP) and the electricity efficiency potentials study, for example. Industry input has been a vital part of many of these, including a significant amount of work by advisory groups.

But the completion of one project often leads to the development of a number of new ones. The WGIP and electricity efficiency potentials projects are examples that have kick started major programmes of new work. This newsletter will be published every few months to keep you informed of progress on key projects the Commission is undertaking. We also would welcome your feedback on what is in this issue or on what you would like to see in the future. Contact Jessica Norman with your comments: [jessica.norman@electricitycommission.govt.nz](mailto:jessica.norman@electricitycommission.govt.nz)



**Mervyn English** General Manager



## Service provider changes

A new reconciliation system for the electricity market is about to be implemented as part of a review of the Commission's service provider agreements for its market operations services.

An important initial step in this whole process was the tendering of the service provider agreements. Following that the successful providers were M-co and Jade. Jade will manage the registry and M-co will provide the clearing manager, pricing manager, market information system, and reconciliation manager services.

The tender has resulted in improved services at similar cost. As part of M-co's reconciliation manager contract, it has also managed the development of the new reconciliation system, which went live on 1 May 2008 while Jade have implemented a new registry which began operation in April.

A major change from the process was the Commission entering into licensing agreements around the core systems. This means the Commission will have greater control over them, so allowing them to more easily be future proofed. It will also support future tendering of those systems and the maintenance of a competitive market for service provision.

The Commission's priority has been ensuring market continuity and confidence during the change process. It signed transition agreements with incumbent service providers to ensure the market received seamless service during any transition. A key to the success of this work has been the high level of commitment from many participants.

More information at [www.electricitycommission.govt.nz/opdev/servprovinfo](http://www.electricitycommission.govt.nz/opdev/servprovinfo)



## Efficiency campaigns rolling out

The Commission's energy efficiency activities are ramping up following the successful roll out of a range of marketing campaigns promoting the use of low energy compact fluorescent lamps (CFLs).

The Commission has begun to develop a range of efficiency programmes aimed at the commercial sector after more than 3.4 million CFLs were sold in Commission-supported campaigns in the last three years. It is estimated there are now 10 –12 million CFLs in New Zealand homes.

The new programmes are promoting efficiency in electric motors, commercial buildings, commercial lighting and the use of compressed air. They are supported by the findings of the New Zealand electricity efficiency potentials study, which was completed for the Commission last year. This identified and quantified key areas of potential electricity efficiency gains.

The Commission has already let a tender for an electric motors bounty scheme. This encourages the replacement of older, less efficient electric motors with modern ones that meet the New Zealand minimum energy performance standard. Participants will be paid a bounty if old motors are permanently retired.

The Commission is also developing a programme aimed at encouraging best practice in the use and maintenance of compressed air systems, which use significant amounts of electricity. It has recently developed an efficient lighting strategy in partnership with the Lighting Industry Council and EECA, due for release in May.

The Commission's energy efficiency programmes are based on assessing the costs of the programmes against the benefits gained, in terms of the cost of avoided generation investment. The Commission takes a conservative view in its cost benefit analysis to ensure the benefits are real. The analysis of the CFL programme shows that the cost of reducing electricity through using energy-saving bulbs is about one cent per kilowatt hour – a fraction of what it would cost to build, for example, a new wind farm.

In addition to the benefits for individuals and the country through deferred investment in electricity infrastructure, there are significant environmental benefits in terms of

reduced greenhouse gas emissions from improved electricity efficiency. Installation of three million energy-saving bulbs can save emissions of some 200,000 tonnes of carbon dioxide, equivalent to the emissions of 5,500 vehicles.

It is not the Commission's aim to remain involved in campaigns where market transformation is achieved. The aim is to stimulate interest in efficiency amongst suppliers and customers, and build capacity so that market forces take hold and the programme becomes self sustaining, at which time the Commission can back out.

An example is the change in the lighting market. As well as providing a similar level and quality of light, CFLs use a lot less energy and cost less to run than traditional bulbs. They also last far longer. However, they cost more to buy and their different appearance has created some consumer concerns.

The Commission recognised these barriers and so developed campaigns that involved part-funding of bulbs that met the Commission's criteria. The criteria included a minimum lifespan of 8,000 hours, high electrical performance standard appropriate to the New Zealand electricity system, and low mercury content.

The Commission campaigns involved major bulb marketers Phillips, Energy Mad and CDB, and were marketed nationally in high profile campaigns through a major service station chain, supermarkets and DIY stores. They complemented a number of local campaigns run through lines and retail companies, and energy trusts. One company also worked with Housing New Zealand to directly incentivise state house tenants to become more energy efficient.

A range of new suppliers and product styles have since entered the market and there is increased consumer awareness and demand. The Commission is now planning to phase out its involvement with CFL programmes as community awareness and understanding of their benefits has grown, and as commercial sale and distribution channels have become stronger, creating their own momentum.

More information at [www.electricitycommission.govt.nz/opdev/elec-efficiency](http://www.electricitycommission.govt.nz/opdev/elec-efficiency)



## Compliance with revised retail guideline

A revised guideline on arrangements to assist low income and vulnerable customers that came into force in July 2007 has seen a significant decline in the level of retail disconnections.

The Commission initiated the review of the 2005 guideline following public concerns about the way retailers may have been managing disconnections of low income and vulnerable consumers.

The guideline is an example of the Commission working closely with participants and stakeholders to quickly develop a commonly accepted set of standards to achieve an outcome without a need for the lengthy process of regulation.

The revised guideline strengthens the processes that retailers and other organisations have to go through before a disconnection can occur for non payment, with particular emphasis on identifying vulnerable consumers and offering

assistance through referrals to welfare agencies or alternative payment plans. It also states that people with vital medical equipment reliant on electricity cannot have their power disconnected.

The Commission was very pleased at the co-operative approach taken by electricity companies and other agencies to quickly put in place the revised guideline.

The Commission has been monitoring retailer implementation of the guideline and the high level of compliance has meant the Commission has recommended that no further regulation is necessary. Ongoing monitoring is important to enable understanding of all the impacts of the new guideline.

More information at [www.electricitycommission.govt.nz/opdev/retail/lowincome](http://www.electricitycommission.govt.nz/opdev/retail/lowincome)



## Benchmark Agreement finalised

After years of discussion and consultation, two major Transmission initiatives have come into force – a Benchmark Agreement has been established around access to the transmission grid and the Transmission Pricing Methodology (TPM).

The Benchmark Agreement is a major milestone in electricity governance. While the Commission began work on the project in March 2004, the industry itself has been working on such agreements since at least 1996.

It provides a basis for Transpower and its customers to negotiate transmission agreements for connection and use of the grid.

The Commission has not tried to deal with every single issue relating to transmission services in the Benchmark Agreement. It is only intended as a starting point for negotiations. If customers want special arrangements with Transpower, those can be negotiated as part of a transmission agreement.

It does cover service definitions, levels and measures. Some services are provided in accordance with enforceable service measures and levels; others are provided for information only; and there is an obligation on transmission customers to pay prices calculated in accordance with the TPM.

As part of the consultation, the Commission had to review how connection and interconnection services were to be treated. Interconnection assets are those where it is too difficult to attribute services to any single customer because the assets serve a large number of parties, whereas the

users and beneficiaries of connection assets can be easily identified. These complexities mean connection services will be covered by transmission agreements and so fall under the Benchmark Agreement, while interconnection services will be covered by the interconnection rules.

In addition to the Benchmark Agreement, the Commission concluded there should be rules setting out how Transpower should develop an Outage Protocol. This would set out the basis on which Transpower determines when it undertakes outages, and incorporates a net-benefits principle in determining the timing of most outages.

The TPM has also been a project that has required extensive review and consultation with industry.

The TPM allows Transpower to recover its full economic costs from transmission customers in accordance with the pricing principles in the rules, which seek to ensure efficient pricing. A number of components make up the TPM, including the connection charge, interconnection charge, and HVDC charge amongst others.

The TPM sets out how Transpower will assign and allocate charges to recover its required revenue. Transpower's overall revenue is regulated by the Commerce Commission.

Like the Benchmark Agreement, the TPM came into force on 1 April 2008.

More information at [www.electricitycommission.govt.nz/opdev/transmis/Benchmark](http://www.electricitycommission.govt.nz/opdev/transmis/Benchmark) and [www.electricitycommission.govt.nz/opdev/transmis/tpm](http://www.electricitycommission.govt.nz/opdev/transmis/tpm)



## Grid upgrade investment review policy

The Commission is developing a new policy to streamline and potentially speed up grid upgrade investment reviews by creating a clear process under which proposals will be submitted and examined. It provides a practical integration of the Transpower planning and Commission regulatory review processes.

Transpower is required to seek approval for new grid investment proposals from the Commission before it can pass on the costs of those investments to grid users under the transmission pricing methodology. Proposals are subjected to a grid investment test (GIT), which is defined in the Rules, to ensure they are required for reliability reasons or will deliver economic benefits.

A 2006 review of the Commission's application of the GIT and submissions from industry suggested guidelines should be developed for the application of the GIT and to provide clarity on the respective roles of the Commission and Transpower in the grid investment decision-making process.

The Commission set up a joint working group with Transpower to look at the issue. The result is the Grid Upgrade Investment and Review Policy (GUIRP), the first draft of which has been completed and published for comment on by stakeholders.

The aim of the policy is to improve the grid upgrade process by improving certainty around the timing of key steps and the timeliness of the process, improving the predictability of the outcomes from the grid upgrade approval process, improving clarity of roles and clarifying assumptions likely to be common to most proposals.

The GUIRP is not required by the Rules: it is an operational policy. As such, the legislative requirements such as the Rules will always take precedence over anything agreed or otherwise within the GUIRP. However, it does provide a framework within which the Commission and Transpower will interact during the proposal development and review process, and provide guidance to interested parties in relation to how Transpower and the Commission will interact with them. Many elements of the GUIRP are already being used in the interim on current grid investment proposals.

The Commission has been carrying out a series of workshops to explain the GUIRP and expects to finalise it in June.

More information at [www.electricitycommission.govt.nz/opdev/transmis/gridupgradepolicy](http://www.electricitycommission.govt.nz/opdev/transmis/gridupgradepolicy)



## Market design review progress

The Commission is carrying out a major review of five key areas of the electricity market as a part of a project to see whether improvements in the market design could produce better outcomes.

Following consultation with a range of stakeholders from the electricity industry, business, consumer groups and individuals, five key areas which figured prominently in a substantial proportion of submissions have been identified for further study. These areas are competition and prices, effectiveness of energy-only price signal, availability of market information, demand-side participation and energy poverty.

The Commission's Market Design Review began in 2007 following a Government examination of the performance of the current electricity market framework. It concluded that the current market framework should be retained, but said opportunities for improvements should be pursued.

The market has been in place for more than 10 years, yet the industry has changed significantly in that time, so it was seen as a good opportunity to assess whether changes needed to be made to reflect current issues. The changing policy environment has also provided the opportunity to look forward and see whether the market design is suitable for the expected shape of the industry in the future.

An issues paper was produced, which canvassed a range of data on the performance of the market in the retail and wholesale sectors. The paper aimed to identify what issues were causing concern and needed further investigation,

and the five areas for further investigation were identified as a result.

On competition and prices, many consumer groups expressed concern about a perceived lack of competition, especially in the retail sector for residential customers. A number also expressed concern that the rising cost of electricity is making it less affordable for certain categories of consumer – especially those on low fixed incomes – and so the Commission will be discussing the issue of energy poverty with other government agencies.

Doubts were expressed in submissions about whether the current 'energy-only' spot price can provide a sufficient signal to ensure timely investment in generation and demand-side capacity, and ensure adequate unit commitment decisions. There were also concerns about the 'uneven' availability of market information – both for short term decision making and for longer term issues. Many submitters also commented that present arrangements disadvantage demand-side response relative to supply-side options, and limit the extent to which the demand-side can participate effectively in the market.

The next stage in the Market Design Review is to finalise an options paper. The paper will look at the five key issues in more depth and propose a range of potential options that the Commission could undertake to address them. The options paper is expected to be released for consultation in May.

More information at [www.electricitycommission.govt.nz/opdev/wholesale/marketdesign/marketdesignreview](http://www.electricitycommission.govt.nz/opdev/wholesale/marketdesign/marketdesignreview)



## Electricity potentials study

The Commission has released a major study into the potential for improving electricity efficiency in New Zealand that shows potential savings of thousands of gigawatt hours (GWh) of electricity a year.

The study was carried out by international energy consultancy KEMA, which has done similar studies in other countries, including in California, USA. It is believed to be the most comprehensive report prepared on efficiency in New Zealand.

It looks at the 10 year period from 2007 to 2016, and it focuses on efficiency measures that are achievable with current technologies. As well as reviewing existing electricity market and efficiency data, KEMA has carried out research to collect additional data to fill a number of gaps. It has used this data to model the efficiency potentials and draft some potential efficiency programmes.

The study identifies four types of efficiency potential: naturally occurring, economic, technical, and achievable with programme.

The study estimates that by 2016 technical potential for electricity savings is around 11,179 GWh per year and of this, 6,437 GWh per year is economic (i.e. cost effective). This represents 23 and 14 percent of projected 2016 energy usage, respectively.

Peak demand technical potential savings by 2016 are estimated at around 3,199 MW with 1,738 MW estimated as economic. This represents 39 and 21 percent of projected base 2016 peak demand, respectively.

'Naturally occurring' is the amount occurring without any outside intervention, such as the replacement of older, less efficient equipment with more efficient new technology as part of a business's normal asset replacement programme. 'Achievable with programme' is where a targeted programme can increase efficiency beyond the naturally occurring level, such as with the Commission's low energy lightbulb campaigns. 'Economic' is where an efficiency gain is possible and cost-effective when compared to supply-side alternatives such as additional transmission or generation. 'Technical' is where the efficiency is feasible from an engineering standpoint, but may not be cost effective at this stage.

As well as reinforcing the direction and potential energy savings in the Commission's current efficiency campaigns, the study also provides an analytical platform for further programmes to be developed in order to capture a greater share of the efficiency potentials in the New Zealand economy.

More information at [www.electricitycommission.govt.nz/opdev/elec-efficiency/potentialstudy](http://www.electricitycommission.govt.nz/opdev/elec-efficiency/potentialstudy)



## Hedge market developments

The development of new rules on the disclosure of risk management contract information is expected to promote the development of electricity hedges and increase liquidity and transparency in the hedge market.

One of the issues identified in the Hedge Market – Issues and Options paper as hampering the development of the electricity hedge market was a lack of information on market trades. The proposed disclosure regime is still being developed under the consultation process but it includes draft rules that would require participants to publish key details of their electricity risk management contracts.

Access to the disclosed information would allow parties to compare offer prices and other key risk management terms. Interested parties will have greater ability to assess the overall competitiveness of the electricity risk management market.

The Commission has amended the approach it outlined in the 2006 consultation document as a result of submissions from stakeholders and advice from the Hedge Market Development Steering Group. It is proposed that the information to be disclosed would include trade date, quantity, grid zone area where the contract applies, contract price and contract type.

The proposed rules have been drafted in such a way that participants should be unable to be identified. In some cases there will be allowances for limited disclosure, through the use of thresholds, where full disclosure could jeopardise anonymity.

For all Fixed Price Variable Volume (FPVV), Fixed Price Fixed Volume (FPFV) and Contract for Differences (CfD) contracts that are less than 10 years in duration, a participant would be required to fully disclose contract term, quantity and grid zone area. The contract price would be disclosed at a node within one of five grid zone areas.

For all FPVV, FPFV and CfD contracts greater than or equal to 10 years in duration, participants would have to fully disclose contract term and quantity, but not price or location. This

approach has been proposed because the value of disclosure of these very long term contracts is of limited value to the broader market and anonymous disclosure of price may be problematic.

The proposal would also involve disclosure of options contracts. Parties would be required to disclose that an options contract had been transacted, but only limited data would be published. The Commission could then monitor the use of options and decide whether additional details should be brought into the disclosure regime in the future.

While the information disclosed would be for historic contracts, participants could make comparisons with current market offers or use it to develop forward price curves. It is believed the provision of this information would greatly improve the transparency of the market and lead to increased confidence in the risk management market, more accurate and timely assessment of market offers, more efficient use of standardised contracts for differences, and better informed policy-making.

Only participants, as defined in the Electricity Governance Rules and Regulations and the Electricity Act, would be required to disclose risk management contract information. If both parties to a contract are participants, the seller would be required to submit disclosure information. If the seller is not a participant, but the buyer is, then the buyer would be required to disclose the contract information. If neither party is a participant, then no disclosure would be required, although this occurrence is expected to be rare.

The proposed rules have been drafted to include timeframes for disclosure and verification of information. A participant's failure to comply with the proposed rules would be dealt with under the existing rule breaches process. The proposed regime would also allow the Commission to audit participants and require sellers of hedges to certify, via a declaration, that they have disclosed all their risk management contracts.

More information at [www.electricitycommission.govt.nz/opdev/wholesale/Hedge/index.html](http://www.electricitycommission.govt.nz/opdev/wholesale/Hedge/index.html)



## Consumer complaint scheme

The Commission is working with the Gas Industry Company to develop a single joint approach to dealing with consumer complaints about electricity and gas distributors and retailers.

The move follows the Commission Board's endorsement of the single joint consumer complaints scheme approach, and the draft Government Policy Statement on electricity, which has indicated a preference for a single scheme for electricity and gas complaints.

Once approved, membership of the scheme will be compulsory for all distributors, including Transpower, and retailers.

The Commission and the Gas Industry Company agreed to act jointly because a single scheme has benefits such as ease of access, consistency of outcomes and efficiencies of scale. Many customers also buy electricity and gas from the same supplier and that, combined with the relatively small size of the gas market, did not justify a separate scheme for gas.

A consultation document has been released by the two organisations and submissions are invited on the approach proposed.

More information at [www.electricitycommission.govt.nz/opdev/retail/consultationdocs/ElecGasComplaints](http://www.electricitycommission.govt.nz/opdev/retail/consultationdocs/ElecGasComplaints)



## Wind integration studies

A series of reports analysing the implications of greater wind generation capacity coming online, show that a range of changes are needed in the way the electricity system operates to ensure successful integration.

The need for changes has been known for some time. The New Zealand power system is dominated by hydro generation, backed by thermal and geothermal. The existing market arrangements were designed based on this generation mix.

The connection of wind generation, with its intermittent output and different technical characteristics, presents challenges to existing methods of power system operation and the prevailing market arrangements. If not managed, some of these issues also have the potential to impact the operation of the electricity system and market.

The Wind Generation Investigation Project (WGIP) was set up in 2005 to determine what changes would be needed to the Rules and industry arrangements to enable integration of a large amount of wind generation.

The WGIP had four phases: development of potential wind generation scenarios, implications analysis, options analysis, and development of recommendations to address identified issues.

The project had nine specific investigation areas that looked at the effects the variability and unpredictability of wind could have on the dispatch and pre-dispatch processes, transmission loadings, and voltage and frequency stability and management.

The aim was to determine which issues were important and when they might start to have an impact. Experience from overseas has also shown that delays in addressing potential issues could slow the development of new wind generation or its connection to the grid. The Commission is seeking to avoid such issues in New Zealand while ensuring any new arrangements neither penalise nor favour wind generation.

The analysis showed that the impact on pre-dispatch processes is the area of highest priority. It indicates large forecast errors may be expected on a monthly basis and these are expected to start to exceed load forecast errors at quite low amounts of installed wind generation capacity.

The System Operator is required to balance supply and demand and uses pre-dispatch forecasts to schedule when generation should come online. Reducing the accuracy of these schedules makes managing system security more difficult. It also complicates generators' decision making, particularly regarding when to commit slow starting thermal plant. This could mean shortfalls in generation needs may not be identified until it is too late for generators to offer more generation.

A number of other areas where wind generation may have an impact to varying degrees have been identified, including the potential for increased requirements for some ancillary services such as frequency keeping, instantaneous reserves and fault ride-through capability. Allocation of additional reserves costs is another key issue that will need to be resolved.

As well as identifying issues, the Commission worked with the industry to identify key areas to focus on and to propose solutions. These have been consulted on and agreed by the Board. Implementation of these solutions has been allocated to various Commission workstreams, with some new investigations resulting, such as on the pre-dispatch issue and allocation of additional reserve costs, and giving added impetus to existing workstream tasks, such as getting more competition in the frequency keeping market.

More information at [www.electricitycommission.govt.nz/opdev/comqual/windgen](http://www.electricitycommission.govt.nz/opdev/comqual/windgen)



## Transmission proposals

The Commission expects Transpower to submit at least five major proposals for grid investment in the coming year. The proposals involve investments ranging from the lower South Island to Northland.

Transpower has a proposal for the replacement options for HVDC Pole 1 out for consultation, and the Commission has indicated a timeline for review and decision making. Others expected or under initial review are a cross harbour 220kV cable in Auckland, North of Auckland and Northland additional 220kV circuit project, voltage control equipment to support high power transfer into the upper South Island, and projects in the central North Island and lower South Island to reduce transmission constraints and facilitate greater exploitation of renewable resources in those areas.

The Commission has also developed a pre-proposal process in consultation with Transpower that should smooth and speed up the submission and review process. More details on this can be found in this newsletter.

More information at [www.electricitycommission.govt.nz/opdev/transmis/transmission\\_projects](http://www.electricitycommission.govt.nz/opdev/transmis/transmission_projects)