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NEW ZEALAND GOVERNMENT BROADBAND INVESTMENT INITIATIVE

SUBMISSION TO THE MINISTRY OF ECONOMIC DEVELOPMENT

27 APRIL 2009

1. BACKGROUND TO IPENZ

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 10,000 Members, including a cross-section from engineering students to practising engineers to senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

2. EXECUTIVE SUMMARY

IPENZ supports the Government target of 75 per cent coverage in ten years, noting that additional investment is planned to address rural broadband.

IPENZ generally supports the key principles of the Government Broadband Investment Initiative and recommends that an additional principle be added - that of “incentivising innovation”. IPENZ considers that encouraging innovation will make the investment more cost effective and ensure that state of the art technology is utilised.

IPENZ supports the regional approach of the Government Broadband Investment Initiative and notes that some regions will require additional Government support to prepare credible proposals.

IPENZ notes the inclusion of “proportionate spread of funds across regions” as a selection criteria. IPENZ does not support the proportionate spread criteria as we consider that proportionate spread may lead to uneconomic investments. We consider that an open, transparent and contestable process should be sufficient in ensuring even handedness.

IPENZ notes that broadband currently has low penetration. IPENZ recommends that an education campaign be undertaken to encourage the up-take of ultra-fast broadband.

IPENZ notes that the New Zealand information and communication technology industry has a skills shortage. IPENZ considers that this shortage may constrain the

implementation of the Government Broadband Investment Initiative. We recommend that the Government urgently address the skills shortage.

In relation to the installation of cabling, we note that the installation methods need to be considered carefully as they have constraints. IPENZ recommends that the estimated costs of fibre network installations be prepared with care and include contingencies to cover the costs of consents and designations for cabling, cabinets and other structures.

IPENZ notes that the Government is developing solutions for rural broadband. IPENZ supports this.

3. STRUCTURE OF THIS SUBMISSION

This submission presents IPENZ comments on the Cabinet Paper. The headings used in this submission are the relevant headings used in the Cabinet Paper.

4. SUBMISSION

COMMENT- OBJECTIVE AND PRINCIPLES

IPENZ notes the Government's goal (Paragraph 28) to accelerate the roll-out of ultra-fast broadband to 75 per cent of New Zealanders within ten years of the beginning of the programme. The Australian Government recently announced a A\$43-billion National Broadband Network. The Australian Government aims for 90 per cent of users to have access to speeds of 100 Mbps within eight years.

We note that the Government target of 75 per cent coverage in ten years is significantly lower than the 90 per cent target set by the Australian Government. However, IPENZ considers the 75 per cent target appropriate given that further investment is planned to address rural broadband.

We note that the Crown intends (Paragraph 29) to co-invest with private sector partners. IPENZ submitted on the Digital Strategy in 2008 and in that submission IPENZ did not promote a particular infrastructure model for a broadband roll-out, but indicated that a combination of private sector and public sector funding would be required. We note that this Government Broadband Investment Initiative (GBII) has taken this approach and we support this.

OBJECTIVE AND PRINCIPLES - KEY PRINCIPLES

IPENZ notes that one of the key principles in Paragraph 30 is for the GBII to "make a significant contribution to economic growth". IPENZ supports this principle and supports the GBII as we consider it will significantly contribute to improving New Zealand's economic performance and labour productivity.

The IPENZ submission on the Digital Strategy (dated 23 May 2008) set out the IPENZ view on principles for a regulatory regime for private sector investment. Paragraph 30 sets out the key principles of the GBII. These two sets of principles are compared below.

IPENZ principles (Submission on Digital Strategy)	Key Principles of Broadband Investment Initiative
Open access	Requirement of local fibre companies
Ensuring fair competition between providers	Avoiding entrenching or lining the pockets of existing providers Ensuring affordable broadband services
Incentivising economically efficient investments	Avoiding excessive infrastructure duplication
Removing barriers to new entrants	
Incentivising innovation	
	Neither discouraging nor substituting for private sector investment
	Making a significant contribution to economic growth
	Focus on new infrastructure, not preserving the legacy of the assets of the past

Although there are some commonalities, this comparison highlights the need for ensuring open access to all providers, and removing barriers to new entrants.

IPENZ recommends that an additional principle should be added to the list of key principles for this GBII – that of “incentivising innovation”. We consider that encouraging innovation will ensure that state of the art technology is taken advantage of, the investment will be more cost effective and will assist in future proofing the investment.

HOW THE GOVERNMENT WILL ACHIEVE THIS OBJECTIVE - INVESTMENT APPROACH

Paragraph 33 states that it is the intention of the GBII to focus on the provision of dark fibre network at the wholesale level. IPENZ supports the intention to confine the Government’s role to the wholesale level.

SELECTION PROCESS AND CRITERIA - REGIONS

Paragraph 76 lists the regions that will be covered by the GBII. The regional approach provides for the request for proposals to be for up to a maximum of 25 cities and towns. This draws on the experiences of Project PROBE which was completed in 2005 to deliver broadband services to schools and communities. We note that some of the success factors of this project were the collaborative relationship between the PROBE team and the regional broadband liaison groups, and the progressive release of contracts.

However we also note that one of the issues was that the quality of input from some regions was highly variable and in some cases entirely inadequate. This required a good deal of assistance from the PROBE staff. The Government will need to take into account the limitations of some of the regions.

IPENZ supports the regional approach, but notes that in some cases regional contributions will need to be supported directly by Government through funding and support to assist in the preparation of proposals. Without this funding and support, smaller participants will not be able to compete with the major telecommunications companies in preparing credible submissions. Some of our members have offered their expertise to assist with the preparation of proposals, and IPENZ will be happy to coordinate these offers of assistance.

SELECTION PROCESS AND CRITERIA - CRITERIA

The IPENZ submission to the Digital Strategy set out the IPENZ view on criteria for the allocation of the public funding element of the new investment. Paragraph 78 sets out the criteria for the GBII. These two sets of criteria are compared below.

IPENZ Public funding criteria	Selection criteria of Broadband Initiative
Value for money	<ul style="list-style-type: none"> Additional number of potential end users Commercial viability of the proposal Ability of network topology to support unbundled fibre access Track record of the partner Amount of capital sought from Crown (CFIC)
Leveraging private sector funding	Amount of new capital invested by partner
Education objectives	Additional number of education users
Health objectives	Additional number of health users
Access for rural communities	
	Proportionate spread of funds across regions

This shows a reasonable alignment of criteria, but there are questions relating to access for rural communities and proportionate spread of funds across regions (see below for our comments in relation to rural communities).

In relation to the criteria of roughly proportionate spread of the available Government funds across regions, there are a number of ways of considering proportions:

- the number of users
- the population
- the number of businesses
- regional GDP.

Allocation on the basis of proportions might be an intention to be “even handed”, but also might lead to uneconomic investments – and conflict with the value for money criteria. IPENZ recommends that the proportionate spread criteria be removed. IPENZ considers an open, transparent and contestable process (as proposed in Paragraph 70) will address the issues that we assume proportionate spread is attempting to address.

If proportionate spread is pursued, IPENZ suggests that weightings be assigned to the selection criteria, with a relatively low weighting given to the proportionate spread criterion.

DEMAND-SIDE INITIATIVES

Paragraphs 90 to 95 relate to initiatives to improve up-take of ultra-fast broadband services. IPENZ notes that broadband currently has low penetration, which may be influenced not only by the lack of facilities but also by the lack of willingness to take up the facilities available.

It is therefore important that New Zealanders are made aware of the value that broadband can bring to them and IPENZ recommends that an education campaign be undertaken to encourage the up-take of ultra-fast broadband.

Paragraph 95 notes that the Ministers for Communications and Technology, Health, and Education will continue to work on assessing sector needs for broadband readiness. Some comments are presented below in relation to skills shortages, which is an issue that the Ministers need to consider and address.

SKILL SHORTAGES

The information and communication technology (ICT) industry in New Zealand is at risk through a potential skills shortage, which means that a lack of people resources may constrain the implementation of the GBII.

IPENZ has been working with the Department of Labour on engineering skill shortages, and consultation with the Telecommunications Carriers Forum indicated that they consider that the telecommunications sector is currently at capacity in terms of skills. The capacity to deliver fibre to the home is not currently available in New Zealand. Some Telecommunications Carriers Forum member companies are confident that they will be able to source skills from overseas if necessary as a short-term measure.

The Department of Labour study highlighted that over the 2003 to 2008 period the number of telecommunications technicians reduced by 4.2 per cent – the biggest decrease of the engineering occupations studied, most of which experienced an increase in numbers over the five-year period. For some reason New Zealand has been losing telecommunications technicians.

In December 2006, the Department undertook an Occupational Skill Shortage Assessment of the information technology profession and this concluded that the growth in the supply of information technology professionals has not been matched by the rapid growth in demand since 2001 and accordingly the profession is classified by the Department as having a genuine skill shortage.

IPENZ believes that the Government needs to urgently address the skills shortage in the ICT sector.

To assist with the skills shortage, IPENZ believes that it is critical to align tertiary education with the needs of ICT employers, particularly at levels 6 (diploma level) and below. A good practice example is the Canterbury ICT cluster. This cluster involved assisting enterprises to identify their current and ongoing skill requirements, articulating these to tertiary education organisations and providing ongoing mechanisms to enable greater alignment between education providers and industry requirements. It is suggested that this regional approach should be replicated in other major regions.

It is also important to recognise that, while the ICT industry requirements are dynamic in nature, there can be very significant changes in five years, and the tertiary education

system needs to ensure students have the basic skills in ICT principles. This will ensure that the core competencies remain current and are transferable to the changing environment.

IPENZ recommends that there be better alignment between ICT industry needs and education providers, and that this alignment be at the regional level.

A further action to assist with the skills shortage, particularly at higher levels, is to promote science, engineering and technology in schools. Programmes to increase participation of students in science, engineering and technology education must continue to be supported, as must programmes that work directly with schools, industries and universities to help ensure that technology, maths and science teachers have the right resources to inform school students and promote study to the tertiary level. IPENZ supports this need by managing the Ministry of Education's Futureintech and Techlink programmes.

COMPLEMENTARY MEASURES - ENVIRONMENTAL AND ACCESS ISSUES

We note that Paragraph 97 relates to the installation of new cable. The scale of the installation of new cable will be the biggest introduction of new cable in New Zealand in a relatively short space of time. Based on an assessment by the New Zealand Institute in 2008, it was estimated this would need 25,000 kilometres of cable – compared to the total roading length in NZ of 100,000 kilometres.

We note that four installation methods are mentioned in Paragraph 97 – deployment on telephone and electricity poles, ducting, micro-trenching and fibre-optic cable “drops”. We note that trenchless technology and conventional trenching are other possible methods of installation.

Each of these installation methods needs to be considered carefully as they have some constraints. For example:

- installing new bulky cables overhead even on existing poles has been very controversial in the past – also, an IPENZ Member notes many poles are already heavily loaded and may not be able to support an extra load
- installing new cables on new poles where existing reticulation is underground will be met with widespread community opposition
- micro- trenching can make it difficult to reinstate the trench and make it water-tight
- trenchless technology using self-directing drills is only suitable for certain types of soils
- conventional trenching is the tried and true method for the installation of underground services but can be costly.

Another consideration is the impact on other services such as the road surface. Installers of services often don't realise importance of the integrity of the road pavement and the need to replace roading materials and compact and seal the road. The installer's focus is on their specific service rather than the broader impact.

IPENZ therefore considers that the estimated costs of fibre network installations need to be prepared with care and need to include contingencies to cover costs of consents and designations for cabling, cabinets and other structures. The Government also needs to allow for a significant proportion of installation by conventional trenching.

There have been some recent good practice initiatives – the Broadband Protocol between Local Government New Zealand and the Telecommunications Carriers Forum, and the National Code of Practice for Utilities Access to Transport Corridors. These set

out frameworks for promoting co-operation between telecommunication companies and councils, and provide a good basis for the GBII.

Paragraph 98 of the GBII indicates that with the aim of reducing the cost of the network, codes of practice or regulatory or legislative amendments may be needed. While these codes of practice already exist as discussed above, using regulations or new legislation to facilitate installation will be problematic. If this intended to enable widespread use of overhead reticulation – particularly where there is none now, this would upset many communities. Most district plans prohibit new overhead reticulation where there is none now.

Similarly regulating to allow additional cables on existing overhead reticulation, or bundling of cables on existing overhead reticulation will meet with considerable opposition from communities. Again many district plans deal with this issue and they should be the preferred regulatory mechanism.

A National Policy Statement exists for electricity transmission. IPENZ considers that a National Policy Statement or National Environmental Standard could be an appropriate method of managing cable installation. IPENZ recommends that the role of a National Policy Statement or National Environmental Standard be considered.

COMPLEMENTARY MEASURES - RURAL BROADBAND

Paragraphs 99 to 101 state that areas outside the 75 per cent coverage area will be addressed pursuant to a separate process, which may be associated with the review of the Telecommunications Service Obligations (TSO). The GBII explicitly states that the Government is actively developing solutions for those parts of New Zealand not addressed by the GBII. IPENZ supports this.

IPENZ notes that Paragraph 99 states that the Government has set aside \$48 million for rural broadband. We consider this amount to low to provide adequate services to rural areas, but recognise that in many rural areas broadband is uneconomic. However rural areas and smaller centres are a key part of our economy, and social connectedness and equity issues arise. Rural areas will be more attractive for wireless and satellite technologies. These issues will have to be considered carefully when the government develops solutions for these areas.

5. CONCLUSION

IPENZ appreciates the opportunity to make this submission and is able to provide further clarification if required.

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