NORTHERN IRELAND AUTHORITY FOR ENERGY REGULATION

NORTHERN IRELAND ELECTRICITY – TRANSMISSION AND DISTRIBUTION PRICE CONTROL 2007-2012

FURTHER CONSULTATION PAPER

June 2006

CONTENTS

Page

Introduction	3
Capital Expenditure Review	4
NIAER proposed Capital Expenditure Programme	13
Capital Expenditure Efficiency Incentive	16
Smart programme	19
Responses	21

INTRODUCTION

The amount of revenue which NIE's Transmission and Distribution Business (T&D) earns is subject to controls which are set by the Northern Ireland Authority for Energy Regulation (the Authority) following consultation with NIE and other interested parties.

In December 2005 the Northern Ireland Authority for Energy Regulation - 'The Authority' published a paper outlining certain proposals for the Northern Ireland Electricity Transmission and Distribution price control for the fourth regulatory period (RP4) to run from 1 April 2007 to 31 March 2012.

Since that paper was published Ofreg - working on behalf of the Authority – has continued to liaise with NIE and has employed consultants with the aim of developing further proposals which would strike a fair balance between the interests of customers in terms of fair prices and the interests of shareholders in terms of a fair return to their investment. This paper outlines the results of the consultants' findings on NIE's proposed capital expenditure programme and illustrates the operation of the incentive mechanism for efficiencies in capital expenditure. The paper also presents proposals for the continuation of the SMART (Sustainable Management of Assets and Renewable Technologies) programme.

Following this consultation, having had regard to any responses and the responses to the December 2005 paper, the Authority will issue NIE with its final proposals for the 2007-2012 T&D price control.

Financial figures appearing in this paper are quoted at 2004/05 price base, unless otherwise stated.

CAPITAL EXPENDITURE (Capex)

The major omission from the December paper was a review of NIE's proposed capital expenditure programme. At that time Ofreg had just employed the services of Mott MacDonald Ltd (MM) to assess the company's expenditure plans and the results of the work were not completed. Mott MacDonald has now presented the Authority with their review of the NIE Capital investment programme for RP3 and RP4.

The purpose of the review was to

- Examine and analyse the investment proposals of NIE's transmission and distribution business;
- Carry out preliminary investigations of recent investment policy, actual capital expenditure and projected expenditure for the remainder of RP3;
- Undertake an analysis of the investment proposals for RP4, separately identifying transmission and distribution expenditure plans;
- Identify areas where expenditure may be considered unnecessary, or where a reduction or delay in expenditure could be accommodated without affecting NIE's ability to fulfil its licence duties.

The results of the report are summarised below:

The Mott MacDonald report

In summary Mott MacDonald found that:

- 1. NIE's standards and policies are generally in line with good electricity industry practices elsewhere in the UK.
- 2. The current status of the RP3 projects indicates that NIE is on track to complete their budgeted expenditure within the current review period.
- 3. There are a number of uncertainties in the RP4 Capex for which they recommend adjustments.

NIE's RP4 proposal is for a total value of £361.7m. The review identifies a reduction of £29.17m resulting in an adjusted RP4 total of £332.53m. Taking into consideration NIE's efficiency target of 10% which in MM's view is challenging yet applicable, the RP4 Capex target recommended by MM for RP4 is £299.28m which equates overall to an 8% reduction from NIE's proposal of £325.53m (£361.7m less 10%).

The following table show the findings of Mott MacDonald's review of RP4

Summary of RP4	4 Capex Adjustm	ents and Recomn	nendations	
Category	NIE RP4	Notes		
	Proposal (£m)	adjustment (£m)		
Transmission				
Load related	30.2			
Non load related	28.34	(2.0)	T auxiliary	
plant			systems	
		(1.87)	110/33kV Power	
			transformers	
Non load related	17.25			
lines				
Distribution				
Load related	34.5			
Non load related	179.4	(4.9)	D Switchgear	
		(5.9)	D Network	
			refurbishment	
Other Expenditure				
New Business	45.6			
(Net)		(
Network	4.5	(4.5)		
performance				
ESQCR	8.0			
compliance				
Metering	10.7			
Network IT	3.2			
Other Consideratio	ns			
Delivery Shortfall		(10.0)	Resource	
Risk			availability	
SUB TOTAL	361.7	332.53		
NIE 4% Volume	(14.47)	(13.3)		
Reduction				
NIE 6% Efficiency	(21.7)	(19.95)		
Gain				
I TOTAL	325.53	299.28		

There are six areas where MM recommends an adjustment to NIE's planned Capex programme. The first four of these result from a difference of opinion on the appropriate engineering requirement to meet NIE's statutory and licence obligations and the fifth adjustment is a reduction of proposed expenditure because this would improve network performance above the present levels. The final adjustment relates to MM's view that there may be constraints in delivering the programme which NIE may have overlooked.

Mott MacDonald's RP3 Review:

NIE's initial RP3 proposal to Ofreg was for a capital expenditure (Capex) of £311m (1999/00 prices). Following the RP3 Capex Review, NIE agreed to a reduced Capex of £227m (1999/00 prices) in July 2002. The reduced capital investment programme prompted NIE to prioritise projects using a risk based ranking methodology.

The detailed review of RP3 capital expenditure indicated that most of the load related projects had been deferred or carried over from RP2. NIE advised that the deferral of projects was mainly due to delay in planning permissions and obtaining site access.

NIE is currently carrying out an extensive non load related programme in RP3 focusing on replacement of assets identified through their risk based ranking methodology. This has highlighted transmission switchgear, mainly 275kV circuit breakers, and transmission overhead lines. On the distribution network, the investment has focussed on 11kV overhead lines as well as replacement of primary and secondary plant.

In summary, MM found that the current status of the RP3 projects indicates that NIE is on track to complete their budgeted expenditure within the current review period.

Mott MacDonald's RP4 Review:

Demand Forecasting and Network Modelling

In order to understand the context of NIE's proposals for load related schemes, the following were reviewed:

- Demand forecasting methodologies for transmission, sub transmission and distribution networks.
- Security of supply and planning standards for all voltage levels.
- Modelling methodologies for transmission, sub transmission and distribution networks.

Having considered the load forecasting, network modelling and business processes used by NIE for identifying load related projects, MM are satisfied that the processes are generally robust, and would identify areas of network non-compliance and network constraints with a satisfactory level of accuracy. This gives confidence that having identified the network constraints, NIE can identify project options with confidence to take forward into the business plan.

Load Related Capex

Having understood the context within which NIE is developing the load related

proposals, the Mott MacDonald review considered if:

a) NIE has identified the various options available to overcome the network constraints.

b) NIE has used a sound methodology for comparing options including comparison of the advantages and disadvantages, risks associated with each option, costs, overall fit with business policies and objectives etc.

c) NIE has selected the most appropriate option with reasons why, and that this process is well documented for future reference and ongoing business improvement.

d) The investment is suitably timed.

In summary, the MM view is that the load related proposals are adequately justified.

(i) Transmission Load Related Capex

NIE's proposal for this category of Capex amounts to £30.2m. All load related transmission Capex appears reasonable, and MM recommends no change to the NIE proposal.

(ii) Distribution Load Related Capex

NIE's proposal for this category of Capex amounts to £34.5m. All load related distribution Capex appears reasonable, and MM recommends no change to the proposal.

Non Load Related Capex

The non load related capital expenditure includes both the transmission and distribution network, each covered separately.

Non load related Capex is separated into (i) transmission plant £28.34m (ii) transmission lines £17.25m and (iii) distribution £179.4m

(i) Non Load Related Capex for Transmission Plant

NIE's proposal for this category of Capex is £28.34m

The following points are noted from the MM review.

- Replacement of the 275/110kV interbus transformers is justified and MM recommend no change to this aspect of the proposal.
- In MM's view, the forward purchase of a strategic spare transformer for the duration of RP4 is a sensible proposal.

- In MM's view, proposals for replacement of 110/33 kV power transformers is conservative, and the risk based ranking methodology is too sensitive to transformer age. MM's recommendation is that NIE's 110/33 kV replacement programme be reduced by 25% which equates to 3 transformers in RP3. This is a Capex reduction of £1.87m (3 x £624,440).
- Throughout their switchgear proposal NIE make the observation that some existing switchgear does not meet latest standards. In MM's view this in itself is not a justification for switchgear to be changed, unless the switchgear is actually no longer able to perform its duties to its original functional requirements.
- With respect to Transmission Auxiliary Systems: On the basis of age, it is MM's expectation that a number of substations will require some auxiliary systems work. In MM's view, prioritisation can be refined and some work deferred. This is a Capex reduction of £2m.

In MM's view, the category of Non Load related Capex for Transmission Plant can be reduced by £3.87m the details of which are outlined above.

(ii) Non Load Related Capex for Transmission Lines

NIE's proposal for this category of Capex is £17.25m

From the review, the following points are noted:

- The condition assessment activities are comprehensive however the processes for determining costs, risks, and programme, for the refurbishment or replacement of assets appear unstructured and could be improved.
- The scope of condition assessment is not clear and the budget for a five year period for 110kV and 275kV lines suggests that some expenditure is falling into maintenance.
- No mention is made of environmental implications during the refurbishment process, which can add delays to the delivery of schemes.

In summary, all non load related Capex for transmission lines appears reasonable, and MM recommend no change to the proposal.

(iii) Distribution Non Load Related Capex

NIE's proposal for this category of Capex is £179.4m

The areas where MM's expectations did not align with NIE's are included below:

• Given that low voltage plant is very accessible to the general public, MM's expectation would be that NIE completes a safety inspection of all low voltage equipment as soon as practicable to address any immediate

safety issues, allowing the more rigorous 5 year inspection to proceed as planned.

- MM's view is NIE can optimise their replacement of 11 kV and 6.6 kV distribution switchgear in two areas as follows:
 - (a) Further condition assessment and prioritisation of transformer replacements associated with RMU replacements.
 - (b) Re-assessment of distribution switchgear replacement numbers for RP4 focussing on those with risks which cannot be managed with operational restrictions.
- Based on MM's assessment of replacements for RP4 MM recommend that the RP4 Capex expenditure of £19.78m for 11kV and 6.6 kV Distribution Switchgear be adjusted to £ 14.84m - a reduction of £4.94m.
- With respect to NIE's strategy for management of overhead lines, the level of expenditure must be considered against the underlying regulatory aim to maintain network performance at current levels. On this basis MM recommend a reduction of investment in this category of £5.9m (10% of £59.2m).

Other Expenditure

(i) <u>New Business (Net)</u>

NIE's proposal for this category of Capex is £45.6m MM note that the level of expenditure is fully dependent on customer contributions, which may, in future cover the full cost of the work thereby reducing this category of Capex to zero. For the purposes of the review MM have left this category unchanged, however, it should be noted that any reduction in NIE's contributions to new connections should result in an equivalent adjustment to the RP4 Capex budget.

(ii) <u>Network Performance Improvement</u>

NIE's proposal for this category of Capex is £4.5m

NIE has two strategies for network performance improvement:

(a) install remote control on the pole mounted sectionalisers; and

(b) install remote control on critical air break switches (ABSs) to enable faster restoration of customers through remote network reconfiguration.

Both of these strategies are technically sound and will inevitably result in improved network performance. However, MM's observation is that NIE is already meeting Ofreg's CML target for RP3 and this additional £4.5m will invariably enhance CML (customer minutes lost) performance further. MM state that if there are no associated targets for improved network performance, then this expenditure should be removed. However, if

appropriate improvements to network performance for worst served customers were agreed, then in MM's view this expenditure would be justified.

(iii) <u>Metering</u>

NIE's proposal for this category of Capex is £10.7m. In MM's opinion, this proposal appears reasonable and they recommend no change.

(iv) ESQCR (Electricity, Safety, Quality and Continuity Regulations)

NIE's proposal for this category of Capex is £8.0m

MM's understanding is that any remedial works needed on the network to comply with the new regulations is capital expenditure, while the cost of initial surveys are thought to be split between capital and operating expenditure, the exact details of this split being the subject of a regulatory ruling.

Until surveys are completed, the Capex amount is only a rough estimate and subject to regulatory ruling with respect to Capitalisation of costs. Because of these uncertainties, MM would recommend that this expenditure be treated as provisional only. They have therefore recommended no change.

(v) <u>Network IT</u>

NIE's proposal for this category of Capex is £3.2m In MM's view, this proposal appears reasonable and no adjustment has been made.

NIE Network Performance

NIE's distribution network performance in the first three years of RP3 has been improving in many areas compared to RP2 and is now meeting the regulatory targets. In MM's view, the following factors have contributed towards improved performance:

- An extensive asset replacement programme in RP2 that increased the reliability of assets and reduced the number of faults.
- Lower replacement Capex in RP3 compared to RP2 resulting in reduced number of planned outages hence a reduction in planned Customer Interruptions (CI) and Customer Minutes Lost (CML).
- Increased investment in SCADA providing real time information on faults and enabling NIE to attend faults more rapidly.
- The use of mobile generators to support planned and unplanned outages.
- Vegetation management in conjunction with the asset replacement programme.
- Re-engineering, refurbishment and Targeted Asset Replacement (TAR)

programmes on the overhead line network.

In summary, NIE is meeting its regulatory targets and appears to be operating within its security and quality of supply standards.

Other Considerations

Mott MacDonald state that their review of NIE's RP4 proposals has been undertaken in detail by looking at each proposed project, and each asset category. With all but a few exceptions, the overall proposals have been well presented with adequate justification. Mott MacDonald suggest that the following are some additional points which need to be consider when setting the overall Capex for RP4:

Delivery Shortfall Risk

In MM's experience, utilities in the UK and abroad are experiencing difficulties in undertaking increased levels of work on their networks. This is due to a number of factors including; consents and environmental constraints, system access, and the most prominent being the availability of skilled labour. In Ofgem's final proposals for the Electricity Distribution Price Control it is apparent that GB DNOs on average will aim to spend 48% more during 2005-2010 compared with 2000-2005 review period.

Presently, NIE is spending £51m per year on average, and under their RP4 proposals would be aiming to increase this to circa £65m per year on average. This equates to an increase of just over 27%. Taking into consideration MM's proposed adjustments (excluding the £10m for delivery shortfall risk), NIE would be aiming to spend circa £62m per year average. This equates to an increase of slightly over 21%. Based on utility experience in GB and abroad, achieving any increase in expenditure and ultimately delivered projects) introduces a risk of delivery shortfall.

In MM's view, the limited availability of skilled resources, not only in Northern Ireland but throughout the UK and abroad, will make delivery of Capex increasingly difficult over the remaining review period. They consider that this situation will be exacerbated where a company is aiming to increase volumes and expenditure from current levels. While it may be the intention to correct for any underspend in early years, it is likely that this will not be corrected in the remainder of the review period.

MM consider that risks to the network will result if planned and approved investment is not undertaken in a timely manner. It is therefore prudent for NIE to have a contingency plan, demonstrating to Ofreg that any volume shortfall will not result in increased risks to network security, performance or safety. Because of the potential consequences of unplanned underinvestment, MM have suggested an allowance for Delivery Shortfall Risk of £2m per year (a total of £10m). MM believes it is prudent to make allowance for this eventuality by setting this into the targets.

NIE's 10% Efficiency Target

In MM's view, NIE's RP4 proposed Capex programme is overly conservative in some areas, and they have therefore recommended some adjustments. A further 4% reduction on volume as proposed by NIE is now a sensible target which will prompt business improvement over the coming RP4 period. In MM's view, this will be attainable without any negative effect on network performance. As NIE states, there is some scope for reducing costs through innovation, development and design. It will also be possible to further reduce replacement volumes by optimising the risk ranking methodology as NIE gains more knowledge of the network.

With respect to NIE's costs, these are being influenced and driven by a number of primary drivers including raw materials, oil, labour and exchange rates, technology and staff resources. In MM's view, obtaining 6% efficiency in costs will be challenging, but taking into consideration their observations in NIE's declared gains through their procurement practices and the impact of spreading a fixed level of corporate costs over an increased Capex spend, this target is not unrealistic.

In MM's view, the 10% target will be a challenging but realistic target which should be applied to the proposed revised spend.

THE AUTHORITY'S PROPOSALS IN THE LIGHT OF THE MOTT MACDONALD REPORT

The Authority wishes to thank Mott MacDonald for the considerable effort put in to delivering a very comprehensive analysis of NIE's existing and proposed Capex plans. In the same manner, the Authority wishes to thank NIE for the level of co-operation they have given to Mott MacDonald throughout the project. The Authority appreciates the work inputs from both parties which have enabled it to draw a conclusion on NIE's Capex budget for RP4.

The Authority has also received a response from NIE to Mott MacDonald's draft report.

Having examined NIE's proposed Capex plan, the Mott MacDonald review of the plan and NIE's response to the draft review, the Authority proposes the following in relation to RP4 Capex:

The original NIE plan should be reduced in the four areas highlighted by Mott MacDonald in relation to

- (1) Transmission Auxiliary systems £2m
- (2) 110/33kV Power Transformers £1.87
- (3) Distribution Switchgear £4.9m
- (4) Distribution Network refurbishment strategies £5.9m

In relation to the planned expenditure of £4.5m on remote control of the distribution network, MM recommend that it should be abandoned on the grounds that there is no regulatory mandate to improve overall network performance. NIE have argued that there is a sound customer argument for proceeding with the programme because it allows the benefits of previous investment in SCADA to be leveraged with the aim of shortening supply restoration times during fault outages. NIE argue further that failure to maximise the benefit of SCADA through a relatively small investment in remote control would be a short-sighted approach that would deny customers the opportunity of a reduction in the inconvenience they experience during network faults.

The Authority has weighed up the arguments for this is expenditure and is willing to accept it as part of the overall programme if NIE can demonstrate as part of its annual Capex reporting, the benefits which accrue to customers. The Authority therefore believes that this expenditure can be justified if NIE demonstrates the necessary network performance improvement to worst served customers.

In relation to the Delivery Shortfall risk identified by Mott MacDonald and estimated as a £10m shortfall in the expenditure programme, NIE has presented the Authority with a counter-argument in terms of its ability to plan and resource for deliver of the Capex programme.

NIE state that they are in a better position than the GB DNOs in terms of

resourcing for the following reasons:

- NIE have been planning the programme for a number of years;
- Senior staff have been appointed to focus on delivery;
- NIE has retained a training capability which many DNOs have not;
- NIE has recruited and trained apprentices (18 in 2005);
- NIE recruits and trains graduates (average 4 per annum);
- NIE have a facility to import staff from their sister company Powerteam Electrical Services (PESL). Recently around 30 PESL overhead line staff were transferred to NI, with 20 more planned;
- PESL have access to worldwide resources

NIE have also supplied examples of when they have recently been able to ramp-up their work on the Transmission and Distribution network through recruitment, outsourcing and their skills in engineering and design capability.

As part of the Capex reporting structure NIE will be required to flag up any issues to do with resourcing at an early stage through the annual reporting process.

Under the new Capex proposals where the allowance will be on actual rather than forecast expenditure the price risk to consumers of NIE not being able to meet its planned expenditure has been eliminated. The Authority therefore proposes that NIE's planned Capex budget should not be adjusted to take account of 'ramp-up' difficulties.

The Authority therefore proposes that the Capex budget for RP4 should be based on the following assessment of investment requirements:

Summary of RP	4 Capex Adjustm	ents and Recomm	nendations		
Category	NIE RP4	NIAER	Notes		
	Proposal (£m)	adjustment (£m)			
Transmission	· · · · · · · · · ·	· · · · ·			
Load related	30.2				
Non load related plant	28.34	(2.0) (1.87)	T auxiliary systems 110/33kV Power transformers		
Non load related lines	17.25				
Distribution					
Load related	34.5				
Non load related	179.4	(4.9) (5.9)	D Switchgear D Network refurbishment		
Other Expenditure					
New Business (Net)	45.6				
Network performance	4.5				
ESQCR compliance	8.0				
Metering	10.7				
Network IT	3.2				
Other Consideratio	ns				
Delivery Shortfall Risk					
SUB TOTAL	361.7	347.03			
NIE 4% Volume Reduction	(14.47)	(13.9)			
NIE 6% Efficiency Gain	(21.7)	(20.8)			
TOTAL	325.53	312.33			

No provision for expenditure relating to additional interconnection and renewable generation has been included in the £312.33m figure

CAPEX EFFICIENCY INCENTIVE

As part of the overall new conditions for the Capex programme NIE will be required to report annually to the Authority on the progress of its Capex expenditure programme and any significant changes in investment priorities.

This report will include a measure of performance against the investments outlined above. NIE will also provide an assessment of the efficiency savings which it has made against the costs projected in the approved Capex programme.

Under the old regulatory scheme with entitlement based on allowed Capex the company was able to retain any efficiency savings for up to five years until the next price control review. Under the new proposal to strengthen the incentive on the company to achieve savings in the capital programme, it is proposed that the company should retain a share of efficiency gains, representing five years worth of return and depreciation.

The proposal is that for every £1m of efficiency, the company would retain 38.9% of the efficiency, which in NPV terms equates to £389k, with customers retaining 61.1%. The calculation of 38.9% is outlined in Appendix 1 and represents five years worth of return and depreciation. The 38.9% is a figure which results from the application of the depreciation profile of NIE's assets and the cost of capital proposed in the December paper. If NIE invested £1m in new capital it would be allowed a return on this investment (cost of capital) and the depreciation charge associated with the investment. Capex efficiencies will be calculated outside the RAB and the incentive added to the overall revenue entitlement in the year after the efficiency is made.

Assessing Capital Efficiency

Annual variations in capital expenditure are a function of efficiency and the difference in levels of activity and/or outputs from one year to the next. A topdown assessment of efficiency therefore requires some normalisation of activity but this is made difficult by the limited number of specified outputs by which the Capex programme can be defined. On the other hand, efficiency measurement based on bottom-up project by project assessment is difficult in the absence of an equivalent benchmark cost for each project against which to assess outturn costs.

Capital efficiency savings can be attributable to engineering decisions (asset management efficiency) taken in producing innovative and cost effective solutions, which may involve prudent deferral of investment. The extent of asset management efficiency is difficult to demonstrate because of changes in investment priorities as the period progresses compared with that assumed in the Capex allowance. There is therefore no comparable benchmark programme against which to assess subsequent decisions. In setting the Capex allowance, the Authority is not prescribing a detailed capital investment plan at the level of individual projects and programmes. Rather, it is a budget within which the company's management must exercise its engineering and commercial judgement to respond to the priorities of the network and its customers as those priorities change over time. It is therefore proposed that in the first instance, notified efficiency gains should be assessed against two key themes: procurement of materials and services, and labour productivity.

Procurement of Materials & Services

The capex programme necessitates the procurement of a wide range of materials and services through framework contracts (typically for a three year period), major turnkey contracts and one-off purchases.

The procurement strategy includes competitive tendering, challenging engineering specifications and the development of key supplier relationships. Efficiencies are achieved through ongoing improvements and refinements of the procurement process. Contract renegotiation can deliver capex savings. For each new contract the assessed saving can be calculated as the difference in the cost of procuring the actual volumes at the time of the new contract and the cost that would have been incurred if the same volume had been purchased under the previous contract.

Each year the company will furnish Ofreg with a Capex report. This report will outline and notify the Authority of the procurement efficiency gains achieved.

Labour productivity

Annual Capex variations are also a function of (i) the relative level of activity and (ii) productivity changes from one year to the next. Consequently, an understanding of the underlying change in productivity requires a normalisation of the level of activity.

The labour content associated with each Capex and Opex work category for a given year can be derived from analysis of reported costs. Where a work category has an associated output, an output factor can be calculated. (e.g. km of overhead line refurbished per man). Some activities are more readily amenable to definition in terms of work outputs than others. For example, asset replacement programmes can generally be described in terms of the volume of units completed from one year to the next (e.g. km per man). In contrast, the nature of system reinforcement work is uniquely defined by the specification of individual projects, and cannot be readily unitised for comparative purposes.

A nominal reduction in the number of employees needs to be normalised by the level of activity to derive a measure of labour productivity. For example, a reduction in manpower numbers needs to net off the reduction which could be attributed to a fall in the level of activity to find the number attributable to improved productivity and thus efficiency.

NIE will report its productivity efficiency gains within its annual Capex report for an assessment to be made of overall efficiency savings.

Other Efficiency Savings

If the Company can demonstrate to Ofreg that it has made efficiency savings outside the two main categories outlined above the Authority will decide if these can be treated in a similar manner.

NIE has set itself the target of 10% efficiency savings over the next price control period. Under the proposed mechanism these will be shared with customers. Ofreg will monitor the capex programme through the annual reporting process.

THE SMART PROGRAMME

In response to the RP3 Price Control, NIE established its SMART programme. The programme is structured along two themes, Smart1 and Smart2 as detailed below.

Smart1 Programme

This programme seeks to stimulate near market renewable technologies through the funding of programmes of renewable installations. Commitments have been made to 33 projects covering a wide range of technologies and the first four years of the £250k pa Smart1 allowance has been fully taken up and c£1.8m of additional funding has been leveraged. Projects include;

- Photovoltaics
- Solar Water Heating
- Micro Combined Heat and power generation
- Biomass generation and heating
- Hydro generation
- Ground Source Heat Pumps heating
- Small Scale Wind generation
- Tidal generation

Smart2 Programme

Thorough its Smart2 programme, NIE has sought to encourage, identify and support renewable energy and energy efficiency alternatives to conventional network reinforcement.

However, despite considering a number of opportunities, the identification of Smart2 projects that have the practical potential to defer network investment in the short term remains extremely challenging. Despite the ongoing promotion of network opportunities via the niesmart website (www.niesmart.co.uk), and discussions with a number of potential partners, the above constraints continue to hinder the development of a specific Smart2 network supportive project.

Against that background and with Ofreg's agreement, during RP3 NIE therefore adopted a broader consideration of Smart2 funding beyond financially assisting generation projects that provided network support services. Subject to a consideration of the quality of the proposal, its dependence on additional funding and the scope for a proposal to offer downstream potential, requests for financial assistance from a number of renewable-related proposals have been considered within the Smart2 programme. In total, funding of £2.27m has been committed to the following schemes, (of which £1.35m has been provided):-

- > A biomass CHP and wood pellet production facility
- An Energy from Waste feasibility study
- A Tidal Stream generator
- A Biomass generator

The Smart programme in RP4

NIE has proposed that the programme should continue to be structured along the two themes

- Smart1 Support, through funding, for a range of renewable installation programmes and for a small number of higher-value renewable projects.
- Smart2 Publication of areas of the network where support could be of benefit and negotiation of network support contracts with renewable generation.

 \triangleright

NIE has proposed an increase in the Smart1 allowance to £727k pa (07/08 price base) in RP4 in order to fund

- (i) an expansion programme of projects similar to those covered by the RP3 Smart1 programme (£400k pa),
- (ii) new larger scale projects of the type that were funded under the Smart2 programme in RP3 but would be more appropriately funded under Smart1 going forward (£200k pa)
- (iii) NIE's internal costs in running the programme (£55k pa)
- (iv) continuation with the incentive to encourage NIE to leverage external funding (£72k pa)

The Smart2 arrangements would continue to operate in the way originally intended, i.e. where a Smart2 funding opportunity is identified and the support mechanism can be capitalised, it would be funded from the T&D network capital investment plan. To incentivise NIE to secure renewable network support, such investment would continue to attract a 1% (pre tax) additional rate of return.

The Authority considers that the RP3 Smart programme has made significant progress in response to the challenges of promoting and supporting renewable technologies and projects. The programme is now well established and has a high profile. During 2004/05 the individual projects were profiled on more than 470 occasions in the press, radio and television.

Against that success to date, the Authority considers that the Smart programme should continue and expand in RP4 in line with NIE's proposal.

Next Steps

The December paper consulted on the following elements of the RP4 price control: its duration, the opex allowance, the price cap, the treatment of the RAB including the allowed rate of return, depreciation and the tax allowance, the Vulnerable Customer Programme and the Research programme. The Authority has carefully considered the views of the parties who responded to the December consultation paper and is currently not minded to change any of the original proposals.

This paper sets out the Authority's proposals for the RP4 capex budget, the capex efficiency mechanism and the SMART programme.

RESPONSES

Views are sought specifically on the Capital Expenditure proposals, the Capex efficiency mechanism and the proposed Smart programme for RP4 which are outlined above

Responses to this proposals paper should be sent to:

Kenny Dane Queens House 14 Queen Street Belfast BT1 6ER Tel: 028 9031 1575 Fax: 028 9031 1740 Email: <u>Kenneth.dane@ofregni.gov.uk</u>

The closing date for responses is 3 July 2006.

Please indicate if your reply is confidential and therefore cannot be published.

Please include a one page summary with your response.

£1m Capex Savi	ng in Yea	<u>r 1</u>										
		2	2			T-4-1	20	27	20	20	40	
DAD	1	2	з	4	3	ιοται	30	31	30	39	40	
RAD Opening Value	0.00	0.97	0.94	0.91	0.88		0.10	0.08	0.06	0.04	0.02	
Additione	1.00	0.57	0.04	0.01	0.00		0.10	0.00	0.00	0.04	0.02	
Denrecistion	-0.03	-0.03	-0.03	-0.03	-0.03		-0.02	-0.02	-0.02	-0.00	-0.02	
Closing RAB	<u>0.00</u>	<u> </u>	0.00	0.88	0.85		0.02	0.02	0.02	0.02	0.02	
closing to to	0.01	0.04	0.01	0.00	0.00		0.00	0.00	0.04	0.02	0.00	
Depreciation	0.03	0.03	0.03	0.03	0.03		0.02	0.02	0.02	0.02	0.02	
Return	0.07	0.07	0.06	0.06	0.06		0.01	0.01	0.00	0.00	0.00	
Total	0.10	0.10	0.09	0.09	0.09		0.03	0.03	0.02	0.02	0.02	
Discount Factor	0.94	0.88	0.82	0.77	0.72		0.09	0.09	0.08	0.08	0.07	
NPV	0.09	0.08	0.08	0.07	0.06	0.389	0.00	0.00	0.00	0.00	0.00	0.61
NPV												
1st 5 Years	0.389											
Remaining	<u>0.611</u>											
Total	1.000											
Percentage Savi	ng											
1st 5 Years	38.9%											
Remaining	<u>61.1%</u>											
Total	100.0%											
		% of RAB										
Transmission	6.41%	18%	1.154%									
Distribution	6.91%	82%	5.666%									
Cost of Copital		Total	6 800%									
Cost of Capital		rotai	0.020%									

APPENDIX 1: Calculation of the Allocation of Savings under the Capex efficiency incentive.

If NIE were to invest £1m it would be allowed revenue to cover the cost of financing that investment, (i.e. the cost of capital, and the depreciation). If the investment was made in year 1, over the 5 year period of the price control this would equate to £389k of revenue (based on the proposed RP4 rate of return). Under the old methodology, if NIE made an efficiency gain that avoided £1m of investment in year 1 the company would benefit by £389k and customers would save £611k. If the efficiency gain was made at a later stage in the period the company's share of the savings would diminish and the incentive to seek savings would tail off. The proposed capex efficiency incentive maintains the incentive constant throughout the period with the expectation that this will generate a greater quantum of savings to be shared with customers.