Report to the Utility Regulator on the Review of Supplier Charging for use of the Transmission System

January 2011

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Executive Summary

SONI commenced a review of Supplier Transmission use of System (STUoS) charging in 2009. This process was agreed with the Utility Regulator (UReg) and sought to determine a new charging methodology for STUoS in Northern Ireland. SONI met with Supplier's to discuss the review process and to allow them to provide feedback on the existing methodology and input into the design of any new approach.

SONI published a consultation paper on 29th July 2010 which outlined both the existing methodology and recommended a simplified time of use based tariff structure. SONI received a number of responses to the consultation which are submitted to UReg alongside this recommendation paper.

In this paper SONI are recommending changes to 4 key elements of the STUoS tariff methodology:

1. The time bands used in charging,
2. Removal of charging by voltage level
3. Cost allocation i.e. how load related and non load related costs are apportioned
4. The discontinuation of Transmission rebates.

Each of these elements is fundamental in the signal given by the tariffs and their effect needs to be considered both individually and when combined together in a tariff.

SONI have carried out extensive analysis to ascertain the justification of continuing with a time-of-use based tariff methodology and what the appropriate time-bands would be. The analysis carried out supports the continued use of time of use charges. The recommended time bands continue to provide a peak signal in winter and also reflect the impact of the winter months outside of the peak on the transmission network.

SONI are also recommending the removal of charging by voltage level as the continued use of a distribution reinforcement model was not deemed cost reflective for transmission pricing. Energy used by all customers is transmitted across the transmission network and as such are viewed as having the same impact regardless of the voltage level they are connected to.

SONI, having studied the breakdown of costs elements that are represented in the annual transmission revenue entitlement also examined the rationale used in apportioning costs within

STUoS tariff design. Taking this into account SONI are recommending a change in the proportions of the costs perceived as being load related and those that are non load related. Currently load related and non load related costs are allocated on a 90:10 basis respectively, the proposed change would see this move to an allocation that is based on the annual amounts to be recovered by the tariff.

Currently in NI a transmission rebate is payable to any supplier who has a contract to purchase energy from an eligible generator connected to the distribution system in order to offset their use of the transmission system. In Northern Ireland distribution connected generation is dominated by wind. Analysis carried out by SONI has shown this generation is remotely located from load centres and as such does not offset demand. Conversely the need for such generation to export onto the Transmission network contributes to the need for increased Transmission system investment. SONI recommend the discontinuation of Transmission rebates for distribution connected generators.

SONI would seek annual approval of the time bands, cost allocation, dead band to be used in STUoS from UReg. Taking this into account this paper sets out SONI's recommendations for approval by UReg.

Introduction

On 3rd November 2009, the Utility Regulator announced that a review of NI Supplier TUoS tariffs would take place. The aim of this review was to put in place a Supplier Transmission tariff methodology which is appropriate for NI. This review gives consideration to the issues & concerns highlighted with the current methodology used in NI and aims to deliver a new methodology that is reflective of the objectives of all key stakeholders. The stakeholder objectives were determined through a series of bilateral meetings with suppliers in November 2009.

SONI researched international best practice in the area of tariff design and used the stakeholder objectives to assess each approach to determine a new methodology for NI STUoS. Details of the research carried out, assessment and proposed methodology were published in a consultation paper on 26th July 2010.

SONI received a number of responses to the consultation paper which will be published along side this paper. These responses formed the basis of the further work SONI carried out in developing the proposed methodology. This paper outlines in greater detail the outcomes of the analysis carried out and the recommendations made by SONI on the new proposed STUoS methodology for STUoS.

Current Supplier Tariff Model applied in Northern Ireland

Until the introduction of SEM in November 2007 STUoS Tariffs had been calculated by NIE T&D using a single tariff model to derive both Transmission and Distribution use of system charges. In March 2008 the transmission component of this model was provided to SONI by NIE T&D and this was used by SONI to derive the Supplier TUoS charges since tariff period 2008/2009. For this reason the current Supplier TUoS charges have a similar charging structure as the Distribution Use of System charges in NI.

Supplier tariffs are recovered based entirely on energy usage. The tariff methodology does not take into account the location of demand. All suppliers within the same tariffs category pay the same charges irrespective of where they are located on the network. Ten different schedules of tariffs are produced; these are published in the SONI Statement of Charges document available on www.soni.ltd.uk.

Purpose

The aim of the Supplier TUoS tariff is to recover a given revenue amount associated with the costs of building, operating and maintaining the NI transmission network. The current charging regime aims to recover 75% of total Transmission revenue for NI from all demand users. Customers are grouped in a manner which is designed to align with the costs they impose on the network and are thus charged on the schedule of tariffs applicable to their category.

Energy Forecast & Profile data

The tariff model uses energy forecast data and profile data to determine the probable spread of demand across each tariff group. The energy forecast is an extremely important element of the tariff derivation process as this is a key determinant in the new tariff rates. Regression analysis is used to create an energy forecast for the tariff year for each of the high level groups. These high level groups are set out in Table 1:

Figure 1 Current customer tariff categories

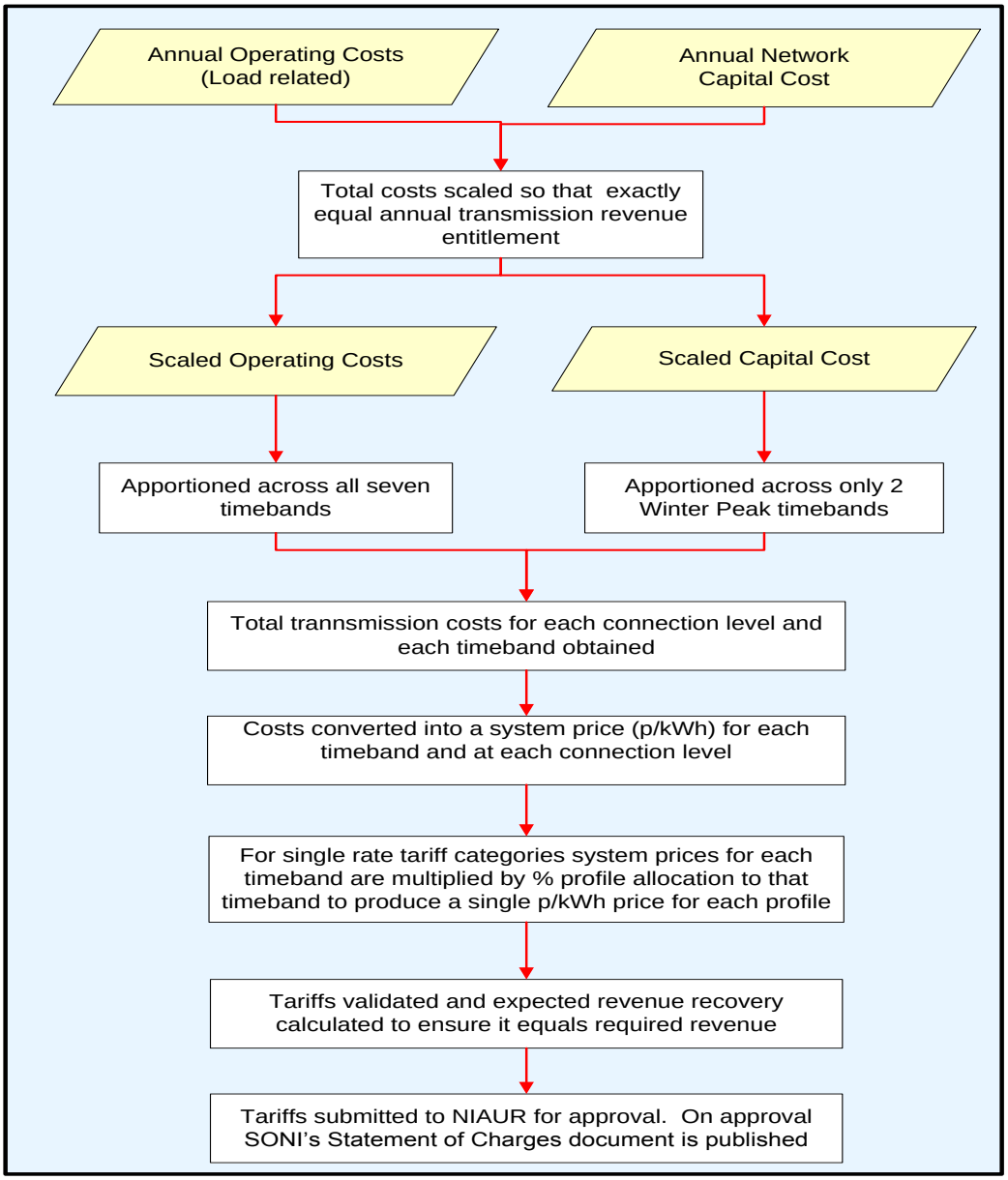
Customer Grouping	Description
Domestic and Farm/Combined	Supply of electricity for use exclusively for domestic purposes, flats and combined residential/farms
Domestic and Farm/ Combined Economy 7	Supply of electricity for use exclusively for domestic purposes, flats and combined residential/farms using Economy 7
Commercial & Industrial /Ind 3.1 & 3.3 <70KVA	Supply of electricity for commercial, industrial and miscellaneous premises where the max power does not exceed 70KVA
Commercial/Industrial E7 3.2/3.4	Supply of electricity for commercial, industrial and miscellaneous premises where maximum power does not exceed 70KVA using economy 7
Off Peak	Preserved Tariffs
Public Lighting	Supply for Public lighting
MV<1MW	Supply for Non Domestic Customers where supplies are less than 70kVA and taken at Medium Voltage
HV<1MW	Supply for Non Domestic Customers where supplies are less than 70kVA and taken at High Voltage
EHV<1MW	Supply for Non Domestic Customers where supplies are less than 70kVA and taken at Extra high voltage
MV>1MW	Supply for Non Domestic Customers where supplies are taken at Medium Voltage
HV>1MW	Supply for Non Domestic Customers where supplies are taken at High Voltage
EHV>1MW	Supply for Non Domestic Customers where supplies taken at Extra high voltage

Cost allocation

The objective of the current tariff model is to attribute annual network capital costs and load related operating costs to the various users of the transmission system in proportion to the estimated usage that these users make of the transmission system. In order to do this, details of the annuitized network costs associated with a 500MW load on the system are obtained as well as annual operating costs. These costs are then scaled to equal the required transmission revenue to be recovered from Supplier TUoS. These costs are then allocated across voltage levels and customer

groups such that the resulting network charges are somewhat cost reflective. Network capital costs are allocated based on estimated peak usage only and therefore are allocated to only the two peak time-bands in each customer connection level. Load related operating costs are allocated to all time-bands based on estimated load duration. A total cost is then summed for each time-band at each of the customer connection levels. An illustration of the cost allocation is outlined in figure 2 below.

Figure 2 Overview of Current Supplier Tariff Methodology



Multi-Rate Time-bands

Tariffs for domestic customers, with the exception of Economy 7, are all based on a flat rate and do not vary on the basis of time of day (this is the only option as currently domestic customer metering is not time banded). The tariffs for half hourly metered non domestic customers however consist of prices for seven separate time-bands. These tariffs are designed to have some influence on non domestic customer's usage patterns and correspond with the impact on the system at these times. The time-bands outlined in the statement of charges are set out below.

Figure 3 Description of current TUoS charging time-bands

Time-band Name	Details of Time-band
Night	Night time hours from 10.30pm – 8am
Peak December and January Day	Peak hours during weekday Days in the months of December and January. Peak hours are from 4pm to 7pm and exclude Public Holiday and the Christmas period from 24th December to 1 January
Peak November and February day	Peak hours during weekday Days in the months of November and February. Peak hours are from 4pm to 7pm and exclude Public Holiday.
December and January day	Weekday hours in the months of December and January. Weekday hours are from 8am to 8.30pm except for Peak Times, which are described above. Also excluded are Public Holidays and the Christmas period from 24th December to 1 January.
November and February day	Weekday Days in the months November and February. Weekday hours are from 8am to 8.30 pm except for Peak Times, which are described above. Also excluded are Public Holidays
Other Day	Weekday hours in the months March to October inclusive. Weekday hours are from 8am to 8.30pm and exclude Public Holidays.
Evening & Weekend	All Evenings 8.30pm – 10.30pm as well as Weekends, Public Holidays and Christmas period from 24 Dec to 1 Jan 8am - 10.30pm

Proposed STUoS Methodology Overview

The following section outlines the analysis carried out to assess the validity of the existing STUoS methodology. This section also sets out the analysis and rationale used to determine the key areas of change to STUoS methodology that are required to ensure the new model delivers against stakeholder objectives.

Time band Analysis

Following on from the consultation paper published in July 2009 and the resulting responses, SONI carried out further research into the validity of continuing to charge using the existing approach, this work determined the final time bands and tariff structure recommended later in this paper.

To arrive at the proposed time bands extensive analysis was carried out on time-of use tariffs to assess their impact on driving investment on the transmission system. A total of 17 scenarios were examined with each of these scenarios representing a specific time band. The set of scenarios included the 7 time bands which are currently utilised in both TUoS and DUoS charging. An additional 10 scenarios were also considered to establish if new time-bands should be included in the charging model in order to make the model more cost-reflective of actual transmission investment cost drivers. These scenarios consider a range of different times of day and different seasons.

Generation and demand assumptions consistent with the NI Planning Assumptions (TIA[1] process) used in planning the transmission system were used in carrying out the time band analysis. Each of the 17 scenarios were analysed against various levels of generation (including wind) dispatch, imports/exports between north and south and imports/exports on the Moyle Interconnector under appropriate levels of system demand. The current NI transmission system was modelled with all circuits deemed to be operating.

Specialist software was used to perform load flow studies on the network under various scenarios of generation and demand. This software can identify for each individual circuit on the NI Transmission system which time-of day/year that the circuit is utilized most by establishing when the maximum flow occurs on each circuit. The associated scenario responsible for the maximum flow is then identified.

[1] The TIA is the Transmission Interface Agreement. This is the agreement that defines formally the relationship between NIE T&D and SONI in respect of their licence obligations

The costs associated with each individual circuit[2] are then attributed to the scenario with the maximum flow, as it is deemed that the scenario that produces the maximum flow on a circuit is the scenario that drives investment on that circuit. This approach of using maximum flow on the circuit as a determinant of driving investment needs is used by National Grid UK as well as a number of other System Operators. An example of how costs are attributed is set out in Appendix 1.

[2] The circuit cost includes any overhead line, cable and any associated switchgear and station costs at either end of the circuit. The cost of each circuit is calculated based on an annuitized modern equivalent asset value (MEAV) as provided by NIE.

Use of Dead band in circuit cost allocation model

The load flow software used to analyse the time bands has a facility to set a dead band, this is essentially a threshold that determines the degree of sharing of circuit costs in the interests of fair cost allocation. The level of dead band used in the model will affect the degree of difference in cost allocation between each of the time bands examined. In doing so the dead band plays a significant part in shaping the tariff signal.

In the situation where the maximum flow on a circuit occurs in more than one scenario, the costs are shared between the scenarios in proportion to the duration of the scenario.

The situation can arise where one or more scenarios have a flow very close to the maximum flow on a circuit. In this situation it is considered unreasonable to apply the full cost of the circuit to a scenario with a marginally higher flow, therefore a dead band is set in order to share the cost of any circuit when the flow in one or more scenarios is very close. Selecting a bandwidth that is too low will result in a very sharp differential in tariffs and too high a dead band can result in the price signal becoming over diluted. When the cost of the circuit is shared, it is done on an equal basis in the same way as both scenarios had an equal flow. The rationale for such is that in the event that two or more scenarios have similar flows, perhaps with only 0.5MW of difference, it would not be appropriate to allocate the cost of the circuit to one scenario rather than another based on a small difference in flow. It would follow that usage on the circuit at times other than maximum flow, or within the dead band range of maximum flow, does not drive investment.

A number of dead band levels were assessed and after careful consideration a dead band of **2%** was considered the most appropriate N.B the degree of dead band would be approved annually by UR.

Using this approach the scenarios, and therefore the time bands which drove the greatest investment costs were determined. After carrying out this analysis a number of scenarios proved to be consistently dominant across each set of studies in their driving of network costs. Similar analysis was carried out to assess potential volatility. This analysis used future network and generation assumptions against the same set of potential scenarios. SONI would carry out this analysis each year to ensure continued validity of the time bands and the share of costs they represent. The time bands and the share of costs they represent would also be subject to approval annually by UR.

Removal of Charges by Voltage Level

The current NI supplier tariff model, is based on a Distribution Reinforcement Model (DRM).DRMs traditionally have been employed to evaluate the long run marginal cost of expanding, maintaining and operating the distribution system. Cost allocation is achieved by identifying the contribution of each customer group at each voltage level to the long-term distribution system cost.

Use of system tariffs using DRM models have been developed for customers who take power from the network rather than for customers who inject power into the network. In the context of the objective to facilitate the developments in distribution connected generation it becomes important to develop a pricing regime that will recognise the impact that distributed generation makes on network costs. One of the key issues is the economic efficiency of tariffs and their ability to reflect cost streams imposed by the users, particularly distributed generation.

DRM tariffs have no real ability to capture the impact of multi-directional flows (caused by the presence of embedded generation) and cannot deal with the temporal and spatial variations of cost streams. Hence alternative propositions have been developed elsewhere to take into account changes in directions of power flows that may be driven by distribution connected generation. Locational charging methods are required in order to do efficiently manage treatment of distribution connected generation. In the absence of a location specific charging model it is not possible to appropriately deal with embedded generation and its impact on the transmission network.

SONI are recommending that this DRM based charging is no longer used as it is not deemed cost reflective for transmission pricing. Energy used by all customers is transmitted across the transmission network and as such are viewed as having the same impact regardless of the voltage level they are connected to.

Based on the reasons above it is no longer reasonable to produce transmission charges that differentiate between various connection voltage levels on the distribution network. The new methodology that SONI propose will not produce different tariffs based on voltage levels but rather a single tariff to apply at the transmission/distribution interface which all transmission users would pay. If NIE meter data continues to be used in its current form account must be taken of the relevant distribution loss adjustment factors when settling energy at the transmission-distribution interface. Moving to SEM data as a meter data source would eliminate the need to apply dlaf as it would be provided at trading point and as such will already be loss adjusted.

Proposed Time-bands

Within the existing tariff structure there are tariffs for both winter peak and winter outside of peak time bands; however these are defined as having 2 distinct rates, one for December & January and a different rate for November and February. The proposed new tariff structure would see the December & January and November & February tariffs merging to create a single time band for winter peak (November to February) and a single time band for Winter outside of peak (November – February).Within the existing tariffs there is a time band for Evening and weekend or holiday which covers the entire 12 months of the year. The third proposed time band, Evening and weekend or Holiday for winter (Nov – Feb) follows the same timings but will only be charged during the winter months, November through to February.

After extensive analysis a number of distinct time bands have emerged as driving cost on the transmission system:

a) Winter Peak (Nov – Feb) - Peak Units and for peak units excluding the Christmas period for each kilowatt hour delivered between 1600 – 1900 hrs Monday – Friday inclusive. November – February inclusive

b) Winter outside of Peak (Nov – Feb) - Weekday units excluding Public Holidays and Christmas period for each kilowatt hour delivered between 0800 to 2030 hrs excluding 1600 – 1900 hrs Monday – Friday inclusive November – February inclusive

c) Evening and Weekend (Nov – Feb) - Evenings and Weekend Units including weekday units during Public Holidays and Christmas period for each kilowatt hour delivered between 0800 hrs and 2230 hrs at weekend and for each kilowatt hour delivered between 2030 hrs and 2230 hrs on weekday evenings, November – February inclusive

These proposed time-bands will ensure that the STUoS tariffs are cost reflective. The recommended approach would recover load related costs across the proposed time bands and non load related costs on a uniform basis across all half hour periods.

The implementation of these proposed time bands for half hourly metered customers, along with the removal of charging by voltage level and application of a flat rate charge to all suppliers would see significant simplification of supplier transmission use of system charges.

The figure 4 below shows how existing time bands map to the recommended time bands proposed

Figure 4 Comparison of Existing Time bands against Recommended Time bands

Time-band Name	Details of Time-band	Recommended Time-band	Details of Time band
Night	Night time hours from 10.30pm – 8am	**Flat rate**	Flat rate for units delivered outside of time band periods
Other Day	Weekday hours in the months March to October inclusive. Weekday hours are from 8am to 8.30pm and exclude Public Holidays.		
Peak December and January Day	Peak hours during weekday Days in the months of December and January. Peak hours are from 4pm to 7pm and exclude Public Holiday and the Christmas period from 24th December to 1 January	**Winter Peak (November to February**	Peak Units and for peak units excluding the Christmas period for each kilowatt hour delivered between 1600 – 1900 hrs Monday – Friday inclusive. November – February inclusive
Peak November and February day	Peak hours during weekday Days in the months of November and February. Peak hours are from 4pm to 7pm and exclude Public Holiday.		
December and January day	Weekday hours in the months of December and January. Weekday hours are from 8am to 8.30pm except for Peak Times, which are described above. Also excluded are Public Holidays and the Christmas period from 24th December to 1 January.	**Winter outside of Peak (November – February)**	Weekday units excluding Public Holidays and Christmas period for each kilowatt hour delivered between 0800 to 2030 hrs excluding 1600 – 1900 hrs Monday – Friday inclusive November – February inclusive
November and February day	Weekday Days in the months November and February. Weekday hours are from 8am to 8.30 pm except for Peak Times, which are described above. Also excluded are Public Holidays		
Evening & Weekend	All Evenings 8.30pm – 10.30pm as well as Weekends, Public Holidays and Christmas period from 24 Dec to 1 Jan 8am - 10.30pm	**Evening and Weekend (Nov – Feb)**	Evenings and Weekend Units including weekday units during Public Holidays and Christmas period for each kilowatt hour delivered between 0800 hrs and 2230 hrs at weekend and for each kilowatt hour delivered between 2030 hrs and 2230 hrs on weekday evenings, November – February inclusive

Final Tariff structure and cost allocation

Figure 5 sets out the various components that make up the STUoS tariff and how these come together.

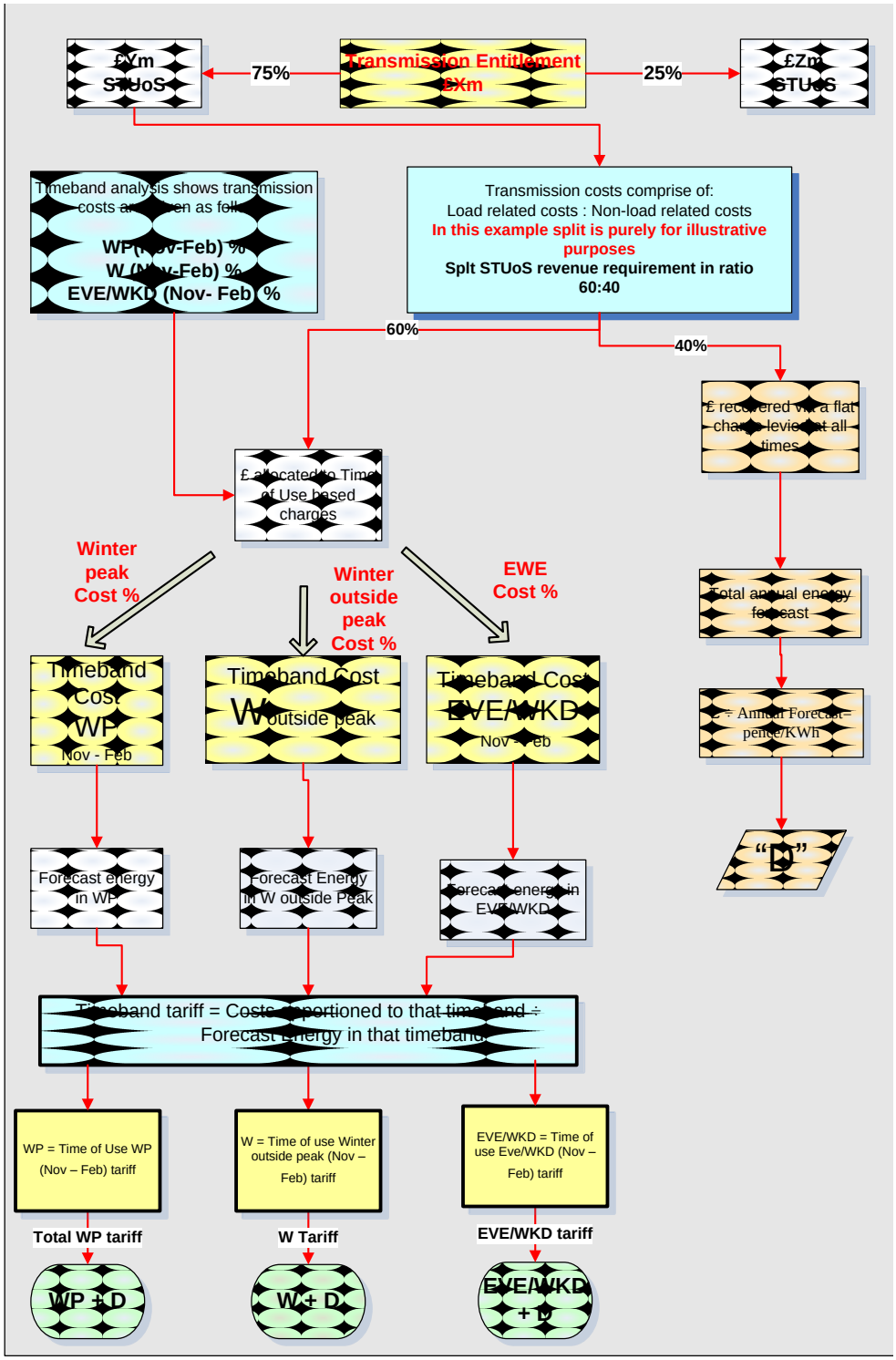


Figure 5 Allocation of costs and tariff structure

Rationale for allocation of Transmission Revenue Costs

Transmission costs consist of load related and non load related costs. Load related costs are considered to be costs which are influenced by time of usage and as such the methodology used determines the percentage share of these costs to be attributed to each time band. Load related charges are applied only to time banded tariffs as suppliers have the ability to react to the signal the tariff is setting. In the existing STUoS model Load related costs have represented 90-95% of total transmission costs with the remaining being applied to non time banded tariffs. In SONI's recommended tariff structure Load related costs would be somewhat smaller at 60% of total cost allocation with the remaining 40% representing non load related costs. Non-related load costs are not influenced by time of day/year that users consume energy. Given that these do not vary depending on time of use these are recovered on a flat basis across all time bands.
Moving to this allocation would result in an increase in the revenue recovered in non time banded periods. The impact of this proposed shift is more clearly illustrated in the Impact analysis set out in Appendices 2 & 3

SONI recommend this change in apportioning costs having studied the breakdown of cost elements that are represented in the annual transmission entitlement. SONI believe this allocation of costs is the most cost reflective and recommend this approach is validated and approved each year by UR

SEM Data

Energy volumes for the proposed time bands are available using the existing meter data from NIE T&D; however SONI are further examining the feasibility of moving to SEM data as a STUoS data source. In the July consultation paper the potential use of SEM data was discussed. This had to some extent been disregarded on the basis that suppliers had initially expressed in our initial meetings that they value the ability to cross check their DUoS and TUoS data and so they should be from same data source i.e. meter data provided by NIE T&D. The formal consultation responses received from the suppliers no longer articulated this strong view on source data usage. Since the publication of the July consultation paper NIE T&D have been asked to carry out a review of their DUoS charging methodology. Any changes in DUoS methodology may mean the ability to cross check between DUoS and TUoS would be untenable long term, and has highlighted the value in further examining the use of SEM data.

STUoS currently follows the same structure as NIE's DUoS charges. Meter data from NIE is provided in the same level of granularity as currently outlined in the statement of charges and is provided on a monthly total basis for each supplier for each tariff category. SEM data is available on a half hour by half hour basis for each supplier. The data is provided at trading point whereas the data provided by NIE is at meter point – using SEM data would mean that suppliers would no longer need to apply a DLAF to their reading as SEM data is at the distribution/transmission interface. By the very nature of SEM data being half hour by half hour it provides enhanced flexibility of tariff design. Moving to SEM data would allow usage patterns to be more readily monitored and would facilitate the annual review of the scenarios driving investment.

Suppliers are free to determine how they wish to pass on charges they incur from STUoS on to their customers and if they believe it necessary can apply profiles to their energy volumes to distribute charges amongst their customer based as they see fit. To enable SEM data to be utilised by SONI, suppliers would be asked to provide consent for SEMO to release this data to SONI for the purposes of STUoS. A Trading & Settlement modification will be considered to provide long term access to the data.

Transmission rebates

Currently in NI a transmission rebate is payable to any supplier who has a contract to purchase energy from an eligible generator connected to the distribution system in order to offset their use of the transmission system. In the past the rationale for these payments was that the energy purchased from the eligible distribution connected generators is deemed to not have used the transmission system and by offsetting demand will reduce the need for transmission network capacity. Suppliers therefore, who have paid TUoS on the full amount of their energy usage are rebated TUoS charges in respect of this energy purchased from these generators, which is assumed did not flow on the transmission system.

In Northern Ireland distribution connected generation is dominated by wind. Analysis carried out by SONI has shown this generation is remotely located from load centres and as such does not offset demand. Conversely the need for such generation to export onto the Transmission network contributes to the need for increased Transmission system investment. Given the findings from the study and growing levels of such generation SONI is of the view that it is no longer reasonable to issue rebates of transmission charges in respect of energy supplied by any eligible distribution connected generators. SONI will review this position as the range of technologies and situating of

distributed generation develops. Respondents to the consultation paper generally supported this proposal. It is recommended that transmission rebates are discontinued going forward.

Impact analysis

The new proposed tariff structure is more simplified than the existing approach which is very detailed right down to a domestic customer level. In the new approach the flat rate charge would be applied to all half hour periods, if the half hour in question also falls within one of the proposed time bands the appropriate time band charge will also be levied to energy consumed in that period.
To examine the impact of the new proposed tariffs on customers a number of customer profiles were compared using existing and new tariffs. These example tariffs are purely for illustrative purposes, for consistency the tariffs calculated in these examples assume the same required revenue recovery and total forecast energy as the existing 2010/11 tariffs. These tariffs are calculated using the existing 90:10 cost split to show the impact of the proposed time bands and separately with the proposed 60:40 split and new time bands to show the combined effect of proposed changes.

The annual invoice for each user was estimated at 110,000 kWh. In comparing invoices it is assumed that the supplier has passed costs directly through to its half hour customers. Invoices

These invoice examples are set out in Appendices 2 and 3

Summary of Recommendations

1. SONI continue to use time of use based charging
2. Removal of charging by voltage level
3. Implementation of proposed time bands of

    a. Winter Peak (Nov – Feb) - Peak Units and for peak units excluding the Christmas period for each kilowatt hour delivered between 1600 – 1900 hrs Monday – Friday inclusive. November – February inclusive

    b. Winter outside of Peak (Nov – Feb) - Weekday units excluding Public Holidays and Christmas period for each kilowatt hour delivered between 0800 to 2030 hrs excluding 1600 – 1900 hrs Monday – Friday inclusive November – February inclusive

    c. Evening and Weekend (Nov – Feb) - Evenings and Weekend Units including weekday units during Public Holidays and Christmas period for each kilowatt hour delivered between 0800 hrs and 2230 hrs at weekend and for each kilowatt hour delivered between 2030 hrs and 2230 hrs on weekday evenings, November – February inclusive

With a flat rate charge also applied to all half hour periods

4. Cost allocation split to change to be reviewed each tariff year based on NIE Costs
5. Annual approval of Time-bands, cost allocation and dead band to be approved each year by UR
6. Termination of Transmission Rebates
7. Moving to use of SEM data

Appendix 1: Example of cost allocations to time-bands

Consider a five circuit system with three time-bands under examination, Winter Peak, Summer peak and all other times. For simplicity we shall assume that the time-bands all span the same number of hours in the year.

Circuit	Scenario with max flow	Annual circuit cost (£m)	Share of costs attributed to each time-band
1-2	Summer peak	0.2	0.2 to Summer Peak
2-3	Winter peak	0.7	0.7 to Winter peak
3-4	Winter peak	0.8	0.8 to Winter Peak
4-5	Summer peak	0.1	0.1 to Summer Peak
1-5	Same flow in Winter Peak and Summer Peak	0.6	0.3 to Summer Peak 0.3 to Winter Peak
3-5	Other Times	0.6	0.6 to other time
Total		3.0	

Total circuit costs that are driven by a maximum flow in Winter Peak are £1.8m (60%), total circuit costs that are driven by a maximum flow in Summer Peak are £0.6m (20%), and total circuit costs that are driven by a maximum flow in Other times are £0.6m (20%). Based on this 60% of the required annual revenue to be recovered from the time-of-use tariff would be allocated to the winter peak time-band, 20% to the Summer Peak time-band and the remaining 20% to the Other Times. The final tariff for each time-band would then be calculated by dividing the required revenue recovery in each time by the forecast energy in that time-band.

Appendix 2 Impact Analysis of New Time bands (Tariffs calculated using existing cost split and new time bands)

Invoice for T101 Customer – Industrial, Commercial greater than 70KVA under 1MW connected at Medium Voltage.

This category of customer has seen a very small increase in costs as a result of the new methodology, this type of customer has in general benefited from a reduction in costs during the winter months between November and February which has virtually offset the increase in costs this user has experienced during the months March through to October.

T101 **% of annual consumption**

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	1.13%	0.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.71%	0.67%
Working Day	kWh	4.41%	4.05%	3.97%	5.18%	4.53%	4.27%	3.77%	3.68%	4.30%	4.53%	3.10%	2.94%
Evening & Weekend	kWh	2.08%	1.77%	2.38%	1.90%	2.19%	1.73%	1.05%	1.24%	0.71%	0.78%	0.74%	1.08%
Night	kWh	3.36%	2.97%	3.11%	3.29%	3.28%	2.95%	2.12%	1.91%	1.68%	1.91%	1.72%	1.83%
Total	kWh	10.97%	9.77%	9.46%	10.37%	10.00%	8.95%	6.94%	6.83%	6.69%	7.22%	6.27%	6.52%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	7.4730	6.3840	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	6.3840	7.4730
Working Day	kWh	0.0330	0.0340	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0340	0.0330
Evening & Weekend	kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	3.3886	3.3886	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	3.3886	3.3886
Working Day	kWh	0.6069	0.6069	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.6069	0.6069
Evening & Weekend	kWh	0.3825	0.3825	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.3825	0.3825
Night	kWh	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276

Invoice with existing tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	9696.875	7120.935	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5230.574	5755.986
Working Day	pence	167.311	158.511	73.076	95.265	83.298	78.586	69.351	67.744	79.065	83.402	121.283	111.570
Evening & Weekend	pence	26.253	22.446	30.118	23.976	27.702	21.946	13.285	15.665	9.017	9.835	9.399	13.638
Night	pence	42.489	37.537	39.311	41.657	41.553	37.288	26.791	24.210	21.275	24.184	21.728	23.211
		9932.928	7339.429	142.505	160.898	152.553	137.819	109.427	107.619	109.356	117.421	5382.983	5904.406

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	4396.948	3779.712	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2776.329	2609.993
Working Day	pence	3077.030	2829.432	125.877	164.099	143.485	135.368	119.462	116.693	136.194	143.665	2164.912	2051.894
Evening & Weekend	pence	912.972	780.597	75.463	60.073	69.410	54.986	33.286	39.249	22.591	24.643	326.848	474.280
Night	pence	106.459	94.050	98.496	104.374	104.113	93.426	67.125	60.659	53.305	60.593	54.440	58.155
		8493.408	7483.790	299.836	328.546	317.007	283.781	219.873	216.601	212.090	228.901	5322.530	5194.321

Total Invoice Current tariff	£295.97
Total Invoice New tariff	£286.01
% Change	-3.37

Invoice for T201 Customer – Industrial, Commercial under 1MW connected at High Voltage.

This category of customer would experience a significant decrease of 37% in their overall invoice based on this usage pattern. Again while this customer may incur increased charges during the months March to October the customer would also experience reduced charges during the winter period between November and February.

T201 **% of annual consumption**

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	0.23%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.14%
Working Day	kWh	2.72%	2.54%	2.99%	3.44%	3.20%	3.52%	3.76%	3.57%	3.85%	4.02%	2.62%	2.34%
Evening & Weekend	kWh	1.78%	1.66%	2.34%	1.62%	2.08%	1.79%	1.84%	2.28%	1.77%	1.80%	1.85%	2.53%
Night	kWh	3.14%	2.95%	3.18%	2.98%	3.16%	3.07%	3.18%	3.24%	3.12%	3.29%	2.91%	3.09%
Total	kWh	7.87%	7.22%	8.51%	8.04%	8.44%	8.37%	8.78%	9.09%	8.74%	9.10%	7.75%	8.10%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	7.3040	5.8860	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	5.8860	7.3040
Working Day	kWh	0.0310	0.0330	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0330	0.0310
Evening & Weekend	kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	kWh	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	3.3886	3.3886	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	3.3886	3.3886
Working Day	kWh	0.6069	0.6069	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.6069	0.6069
Evening & Weekend	kWh	0.3825	0.3825	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.3825	0.3825
Night	kWh	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276

Invoice with existing tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	22849.639	17182.887	54.950	63.215	58.926	64.694	69.112	65.666	70.765	73.923	17707.099	19647.091
Working Day	pence	63.477	62.976	43.134	29.781	38.314	32.949	33.815	41.916	32.561	33.116	70.239	90.228
Evening & Weekend	pence	39.703	37.270	40.220	37.710	39.975	38.793	40.266	41.047	39.487	41.559	36.832	39.110
Night	pence	90.472	82.995	97.866	92.404	97.116	96.293	100.936	104.554	100.476	104.680	89.069	93.140
		23043.292	17366.128	236.171	223.109	234.331	232.728	244.129	253.183	243.289	253.277	17903.238	19869.568

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	10600.664	9892.143	94.655	108.892	101.503	111.440	119.050	113.113	121.898	127.336	10193.930	9114.902
Working Day	pence	1242.723	1158.189	74.301	51.299	65.998	56.756	58.249	72.203	56.089	57.044	1291.759	1766.434
Evening & Weekend	pence	1380.735	1296.118	100.774	94.483	100.160	97.196	100.889	102.845	98.935	104.127	1280.885	1360.107
Night	pence	249.351	228.742	269.729	254.674	267.661	265.392	278.188	288.161	276.922	288.508	245.482	256.703
		13473.473	12575.191	539.459	509.348	535.322	530.784	556.376	576.323	553.844	577.016	13012.057	12498.144

Total Invoice Current tariff	£801.02
Total Invoice New tariff	£559.37
% Change	-30.17

Invoice for T203 Customer – Industrial, Commercial over 1MW connected at High Voltage.

This particular customer would see an overall increase of costs of around 50% based on their usage pattern this is mostly as a result of increased costs outside of the winter months and increases within some of the non peak winter tariffs.

T203 **% of annual consumption**

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	0.32%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.28%
Working Day	kWh	2.92%	2.87%	3.19%	3.88%	3.70%	3.92%	4.21%	3.82%	4.12%	4.02%	2.77%	2.45%
Evening & Weekend	kWh	1.56%	1.51%	2.13%	1.56%	1.95%	1.77%	1.81%	2.17%	1.68%	1.49%	1.82%	1.95%
Night	kWh	2.90%	2.87%	2.87%	2.91%	2.89%	3.03%	3.20%	3.21%	3.14%	2.93%	2.91%	2.78%
Total	kWh	7.69%	7.53%	8.20%	8.35%	8.55%	8.72%	9.21%	9.20%	8.95%	8.44%	7.71%	7.46%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	7.2850	5.9050	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	5.9050	7.2850
Working Day	kWh	0.0310	0.0330	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0330	0.0310
Evening & Weekend	kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	kWh	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	3.3886	3.3886	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	3.3886	3.3886
Working Day	kWh	0.6069	0.6069	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.6069	0.6069
Evening & Weekend	kWh	0.3825	0.3825	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.3825	0.3825
Night	kWh	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276	0.0276

Invoice with existing tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	2669.260	1881.603	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1452.282	2368.433
Working Day	pence	103.936	108.831	58.735	71.452	68.151	72.126	77.392	70.337	75.859	73.891	105.080	87.400
Evening & Weekend	pence	19.756	19.113	26.963	19.727	24.673	22.403	22.873	27.472	21.303	18.901	23.036	24.605
Night	pence	33.296	33.040	33.048	33.435	33.248	34.790	36.752	36.881	36.152	33.680	33.422	31.982
		2826.248	2042.586	118.746	124.614	126.073	129.319	137.017	134.690	133.314	126.472	1613.821	2512.419

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	1241.583	1079.748	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	833.385	1101.656
Working Day	pence	2034.805	2001.518	101.175	123.081	117.394	124.241	133.313	121.160	130.672	127.282	1932.527	1711.079
Evening & Weekend	pence	687.057	664.661	67.557	49.427	61.820	56.133	57.310	68.833	53.376	47.357	801.121	855.673
Night	pence	91.767	91.062	91.082	92.149	91.635	95.885	101.292	101.647	99.637	92.825	92.115	88.145
		4055.211	3836.989	259.815	264.657	270.850	276.259	291.914	291.639	283.686	267.465	3659.149	3756.553

Total Invoice Current tariff	£100.25
Total Invoice New tariff	£175.14
% Change	74.70

Appendix 3 Impact Analysis of Combination of Changes (Using 60:40 split and New Time bands)

Invoice for T101 Customer – Industrial, Commercial greater than 70KVA under 1MW connected at Medium Voltage.

This category of customer has seen a very small increase in costs as a result of the new methodology, this type of customer has in general benefited from a reduction in costs during the winter months between November and February which has virtually offset the increase in costs this user has experienced during the months March through to October.

T101

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	1.13%	0.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.71%	0.67%
Working Day	kWh	4.41%	4.05%	3.97%	5.18%	4.53%	4.27%	3.77%	3.68%	4.30%	4.53%	3.10%	2.94%
Evening & Weekend	kWh	2.08%	1.77%	2.38%	1.90%	2.19%	1.73%	1.05%	1.24%	0.71%	0.78%	0.74%	1.08%
Night	kWh	3.36%	2.97%	3.11%	3.29%	3.28%	2.95%	2.12%	1.91%	1.68%	1.91%	1.72%	1.83%
Total	kWh	10.97%	9.77%	9.46%	10.37%	10.00%	8.95%	6.94%	6.83%	6.69%	7.22%	6.27%	6.52%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	7.4730	6.3840	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	6.3840	7.4730
Working Day	p/kWh	0.0330	0.0340	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0340	0.0330
Evening & Weekend	p/kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	p/kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	2.3509	2.3509	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	2.3509	2.3509
Working Day	p/kWh	0.4965	0.4965	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.4965	0.4965
Evening & Weekend	p/kWh	0.3469	0.3469	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.3469	0.3469
Night	p/kWh	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102

Invoice with existing tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	9696.875	7120.935	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5230.574	5755.986
Working Day	pence	167.311	158.511	73.076	95.265	83.298	78.586	69.351	67.744	79.065	83.402	121.283	111.570
Evening & Weekend	pence	26.253	22.446	30.118	23.976	27.702	21.946	13.285	15.665	9.017	9.835	9.399	13.638
Night	pence	42.489	37.537	39.311	41.657	41.553	37.288	26.791	24.210	21.275	24.184	21.728	23.211
	Monthly Total Pence	9932.928	7339.429	142.505	160.898	152.553	137.819	109.427	107.619	109.356	117.421	5382.983	5904.406

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	3050.508	2622.283	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1926.158	1810.757
Working Day	pence	2517.138	2314.593	503.509	656.396	573.941	541.473	477.847	466.772	544.775	574.658	1770.988	1678.534
Evening & Weekend	pence	827.906	707.865	301.851	240.290	277.638	219.945	133.143	156.996	90.365	98.571	296.394	430.089
Night	pence	425.834	376.200	393.984	417.497	416.451	373.705	268.500	242.636	213.218	242.373	217.761	232.622
	Monthly Total Pence	6821.386	6020.940	1199.344	1314.184	1268.030	1135.124	879.491	866.404	848.358	915.602	4211.300	4152.001

Total Invoice Current tariff	£295.97
Total Invoice New tariff	£296.32
% Change	0.12

Invoice for T201 Customer – Industrial, Commercial under 1MW connected at High Voltage.

This category of customer would experience a significant decrease of 37% in their overall invoice based on this usage pattern. Again while this customer may incur increased charges during the months March to October the customer would also experience reduced charges during the winter period between November and February.

T201

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	0.23%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.14%
Working Day	kWh	2.72%	2.54%	2.99%	3.44%	3.20%	3.52%	3.76%	3.57%	3.85%	4.02%	2.62%	2.34%
Evening & Weekend	kWh	1.78%	1.66%	2.34%	1.62%	2.08%	1.79%	1.84%	2.28%	1.77%	1.80%	1.85%	2.53%
Night	kWh	3.14%	2.95%	3.18%	2.98%	3.16%	3.07%	3.18%	3.24%	3.12%	3.29%	2.91%	3.09%
Total	kWh	7.87%	7.22%	8.51%	8.04%	8.44%	8.37%	8.78%	9.09%	8.74%	9.10%	7.75%	8.10%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	7.3040	5.8860	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	5.8860	7.3040
Working Day	p/kWh	0.0310	0.0330	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0330	0.0310
Evening & Weekend	p/kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	p/kWh	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	2.3509	2.3509	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	2.3509	2.3509
Working Day	p/kWh	0.4965	0.4965	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.4965	0.4965
Evening & Weekend	p/kWh	0.3469	0.3469	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.3469	0.3469
Night	p/kWh	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102

Invoice with existing tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	22849.639	17182.887	54.950	63.215	58.926	64.694	69.112	65.666	70.765	73.923	17707.099	19647.091
Working Day	pence	63.477	62.976	43.134	29.781	38.314	32.949	33.815	41.916	32.561	33.116	70.239	90.228
Evening & Weekend	pence	39.703	37.270	40.220	37.710	39.975	38.793	40.266	41.047	39.487	41.559	36.832	39.110
Night	pence	90.472	82.995	97.866	92.404	97.116	96.293	100.936	104.554	100.476	104.680	89.069	93.140
	Monthly Total Pence	23043.292	17366.128	236.171	223.109	234.331	232.728	244.129	253.183	243.289	253.277	17903.238	19869.568

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	7354.513	6862.956	378.618	435.566	406.012	445.759	476.202	452.452	487.590	509.345	7072.330	6323.723
Working Day	pence	1016.599	947.446	297.204	205.196	263.993	227.024	232.995	288.813	224.356	228.178	1056.713	1445.016
Evening & Weekend	pence	1252.085	1175.353	403.095	377.933	400.638	388.785	403.556	411.381	395.741	416.509	1161.539	1233.379
Night	pence	997.403	914.967	1078.917	1018.695	1070.644	1061.568	1112.752	1152.646	1107.687	1154.032	981.926	1026.810
	Monthly Total Pence	10620.600	9900.722	2157.834	2037.391	2141.287	2123.137	2225.505	2305.291	2215.375	2308.063	10272.508	10028.928

Total Invoice Current tariff	£801.02
Total Invoice New tariff	£583.37
% Change	-27.17

Invoice for T203 Customer – Industrial, Commercial over 1MW connected at High Voltage.

This particular customer would see an overall increase of costs of around 50% based on their usage pattern this is mostly as a result of increased costs outside of the winter months and increases within some of the non peak winter tariffs.

T203

Consumption Pattern	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	kWh	0.32%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.28%
Working Day	kWh	2.92%	2.87%	3.19%	3.88%	3.70%	3.92%	4.21%	3.82%	4.12%	4.02%	2.77%	2.45%
Evening & Weekend	kWh	1.56%	1.51%	2.13%	1.56%	1.95%	1.77%	1.81%	2.17%	1.68%	1.49%	1.82%	1.95%
Night	kWh	2.90%	2.87%	2.87%	2.91%	2.89%	3.03%	3.20%	3.21%	3.14%	2.93%	2.91%	2.78%
Total	kWh	7.69%	7.53%	8.20%	8.35%	8.55%	8.72%	9.21%	9.20%	8.95%	8.44%	7.71%	7.46%

Current Tariff 2010/11	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	7.2850	5.9050	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	5.9050	7.2850
Working Day	p/kWh	0.0310	0.0330	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0160	0.0330	0.0310
Evening & Weekend	p/kWh	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
Night	p/kWh	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

New Tariff	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	p/kWh	2.3509	2.3509	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	2.3509	2.3509
Working Day	p/kWh	0.4965	0.4965	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.4965	0.4965
Evening & Weekend	p/kWh	0.3469	0.3469	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.3469	0.3469
Night	p/kWh	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102

Invoice with existing tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	2669.260	1881.603	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1452.282	2368.433
Working Day	pence	103.936	108.831	58.735	71.452	68.151	72.126	77.392	70.337	75.859	73.891	105.080	87.400
Evening & Weekend	pence	19.756	19.113	26.963	19.727	24.673	22.403	22.873	27.472	21.303	18.901	23.036	24.605
Night	pence	33.296	33.040	33.048	33.435	33.248	34.790	36.752	36.881	36.152	33.680	33.422	31.982
	Monthly Total Pence	2826.248	2042.586	118.746	124.614	126.073	129.319	137.017	134.690	133.314	126.472	1613.821	2512.419

Invoice with new tariffs	units	January	February	March	April	May	June	July	August	September	October	November	December
Peak	pence	861.384	749.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	578.185	764.305
Working Day	pence	1664.555	1637.325	404.702	492.324	469.578	496.964	533.251	484.639	522.689	509.130	1580.887	1399.734
Evening & Weekend	pence	623.040	602.731	270.229	197.709	247.282	224.531	229.239	275.332	213.504	189.429	726.477	775.946
Night	pence	367.066	364.246	364.330	368.595	366.539	383.539	405.168	406.587	398.549	371.299	368.462	352.578
	Monthly Total Pence	3516.045	3353.409	1039.260	1058.628	1083.399	1105.034	1167.658	1166.557	1134.743	1069.858	3254.010	3292.563

Total Invoice Current tariff	£100.25
Total Invoice New tariff	£222.41
% Change	121.85