



CONSULTATION DOCUMENT

CUSC Amendment Proposal CAP127 Calculation and Securing Value at Risk

*The purpose of this document is to
consult on Amendment Proposal CAP127
with CUSC Parties and other interested
Industry members*

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Prepared by	National Grid

I DOCUMENT CONTROL

a National Grid Document Control

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Interested Parties	Various
Core Industry Document Owners	Various
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1.0 SUMMARY AND VIEWS

Executive Summary

- 1.1 Ofgem published a conclusions document on best practice guidelines for gas and electricity network operator credit cover in February 2005. In order to address and codify these guidelines, CUSC Amendment Proposals CAP089, CAP090 and CAP091 were implemented. Following implementation, Ofgem considered that there were particular areas that still needed further work. One of these areas was the calculation and securing of Value at Risk (VAR).
- 1.2 It is recognised that the current arrangements in the CUSC for calculating the Value At Risk (VAR) associated with Demand TNUoS charges only address one of the many elements of actual VAR and therefore provides an inappropriate basis for determining the amount of security required from users.
- 1.3 Although Ofgem's best practice guidelines provide a proxy across all Network Operators in relation to the calculation of VAR, it has proven difficult to apply this calculation to demand TNUoS charges, due to the unique way in which they are calculated and billed, with liabilities for each charge occurring at specific times during the financial year. The current arrangements introduced by CAPs 089, 090 and 091 do not fully implement the intention of the guidelines and do not present an appropriate balance between risk and securitisation.
- 1.4 The Proposed Amendment seeks to introduce a more accurate calculation that better reflects the actual VAR and all the elements that contribute to it. This will result in a more appropriate balance between risk and securitisation by calculating VAR closer to actual VAR and securing a percentage of VAR over different periods of the year to reflect the different liabilities at risk.
- 1.5 In order to address this further work, CAP127 was raised by National Grid and was considered by the CUSC Amendments Panel on 29th September 2006 where it was agreed that a Working Group should consider the proposals. The Working Group were required to report back to the December 2006 Panel meeting but its terms of reference required that if the Group reached agreement before this then it should submit the report earlier.

Working Group Recommendation

- 1.6 The Working Group recommended to the CUSC Panel that CAP127 has been fully considered and recommends to the CUSC Panel that the proposal should proceed to wider Industry Consultation as soon as possible. The Working Group believed that it had met its Terms of Reference.

National Grid's View

- 1.7 National Grid as the proposer of CAP127 is supportive of the Amendment Proposal, believing that it will better facilitate achievement of the Applicable CUSC Objective (a) and (b).

Amendment Panels View

- 1.1 The Amendments Panel agreed that CAP127 should proceed to wider consultation by National Grid for a period of 5 weeks.

2.0 PURPOSE AND INTRODUCTION

- 2.1 This is a consultation document issued by National Grid under the rules and procedures specified in the Connection and Use of System Code (CUSC) as designated by the Secretary of State.

- 2.2 Further to the submission of Amendment Proposal CAP127 and the subsequent evaluation by the CAP127 Working Group, this document seeks views from industry members relating to the Amendment Proposal.

- 2.3 CAP127 was proposed by National Grid and submitted to the CUSC Amendments Panel for consideration at their meeting on 29 September 2006. CAP127 Working Group Report was submitted to the CUSC panel meeting on 15 December 2006. Following evaluation by the Working Group, the Amendments Panel determined that CAP127 was appropriate to proceed to wider industry consultation by National Grid.

- 2.4 This consultation document outlines the discussions held by the Working Group and the nature of the CUSC changes that are proposed. Representations received in response to this consultation document will be included in National Grid's Amendment Report that will be furnished to the Authority for their decision.

- 2.5 This consultation document has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid website, at www.nationalgrid.com/uk/Electricity/Codes/ along with the Working Group Report for CAP127 and the Amendment Proposal form. This document invites views upon CAP127 and the **closing date is 5pm, 24th January 2007 for responses** including any Consultation Alternatives.

- 2.6 CUSC Parties are reminded that any Consultation Alternatives must be submitted by the above closing date and must be in writing and contain sufficient detail in accordance with the requirements within CUSC 8.15.2

3.0 PROPOSED AMENDMENT

- 3.1 CAP127 proposes to amend the CUSC Section 3, Part III (Credit Requirements) to amend the calculation of Value at Risk.

4.0 SUMMARY OF WORKING GROUP DISCUSSIONS

- 4.1 National Grid presented analysis that built a picture of the numerous elements that make up VAR for demand TNUoS charges for user's non-half-hourly (NHH) and half-hourly (HH) demands, how VAR varies as a year progresses, and how VAR can vary as a result of variance in each element.

- 4.2 Given the VAR profiles presented by National Grid it was clear that VAR has an element of seasonality. It was therefore, proposed that each year will be divided into a number of security periods in which a different level of VAR will be secured.

- 4.3 It is difficult to forecast VAR due to the large number of variables, such as adverse weather conditions, reconciliation, missed invoice payments, under/over forecasting and triad dates, each of which is discussed in more detail in this report. National Grid proposed that the level of VAR to be secured in each security period is split between Base VAR (BVAR), comprising of those elements generally outside a User's control, and Forecasting Performance Related VAR, in which a user does have control. Therefore, this proposal would determine a level of VAR for each individual User.
- 4.4 National Grid proposed that the Base Level of VAR to be secured in each security period is determined from a BVAR profile defined by determining appropriate levels for each of its constituent elements. It was agreed that a pragmatic view of each element should be taken, considering the typical risk, and the likelihood of any extremities, whilst being minded to strike an appropriate balance of risk and securitisation.
- 4.5 The second part of the VAR calculation is based upon the User's forecasting performance. It was recognised that this area needed a considerable amount of attention as this is the main area of the current arrangements and is not addressed fully. The group debated the relative merits of a number of methods of calculation, including looking at:
- a) a Suppliers performance in the 2 month period at the end of the financial year;
 - b) a 5 month period between October and March; and
 - c) a 5 month period between October and March with a weighted average to reflect the User's ability to forecast.

The group considered all methods based on the risk of default, the users ability to forecast accurately during the periods being considered and applicability against the relative objectives.

- 4.6 In looking at the applicability, the group considered the most appropriate way to manage the VAR is to incentivise a User to forecast accurately. One member of the Group commented that a User, outside of the usual trading rounds, may pick up customers for whom he has no ability to forecast, and thus any performance related forecasting method would be distorted to the detriment of that User. This was agreed by the group and an appeals process was considered, by which the User has redress if it can be proven that they have picked up a significant amount of customers beyond their ability to forecast for them.
- 4.7 It was agreed that the resulting solution should be transparent, equitable for all Suppliers and sufficiently deal with the prospect of placing anyone at an unfair competitive disadvantage whilst also being reflective of the additional VAR posed by under forecasting. The results of the workgroups deliberations and majority consensus are presented below.
- 4.8 **CALCULATION OF BASE VALUE AT RISK PROFILES**

There are a number of elements that should be taken into account when determining BVAR. These are as follows:

Weather Conditions

National Grid presented an analysis of how weather conditions can affect a user's actual VAR. It is possible that due to different weather conditions, a user's actual VAR can be affected by up to $\pm 3\%$ of their annual NHH liability and up to $\pm 6\%$ of their annual HH liability. National Grid proposed that average weather conditions were to be assumed as this was the typical case, and using any alternative method may lead to over or under securitisation.

The Working Group agreed that the best approach was to assume average weather conditions, and that the risk associated with the socialisation of a user's additional liability due to adverse conditions was acceptable under this proposal.

Initial Reconciliation

The Initial Demand Reconciliation is undertaken to account for any difference between Users demand forecasts and demand observed in settlement data which has been received up to a point in time shortly after the financial year has ended.

It was agreed that as the initial reconciliation related to forecasting performance, it should be considered part of the Forecasting Performance Related VAR.

Final Reconciliation

The Final Demand Reconciliation is undertaken to account for any difference between the set of settlement data used for the Initial Demand Reconciliation and the Reconciliation Final (RF) run of settlement data. This is carried out approximately 14 months after the end of the year.

Generally a supplier's final reconciliation will range between $\pm 2\%$ of the annual liability in the year concerned, therefore National Grid proposed to use this value in the calculation of the Base VAR profile.

The Working Group agreed that due to the accuracy of HH metering, the likelihood of any liability outstanding would be low and therefore 0% of a user's HH annual liability was an appropriate level to be used in determining the HH Base VAR profile.

The group also agreed that although there is a real risk that 2% of NHH liability could be outstanding there is an equal probability that this could be a credit back to the User. Therefore the group agreed a level of 1% of a user's NHH annual liability was an appropriate level to be used in determining the NHH Base VAR profile.

Triad Dates

An analysis of historical triad dates was undertaken and presented to the Working Group.

Initially, National Grid proposed that the average date of each triad leg observed over the last 15 years should be used to determine the HH Base VAR profile. Further analysis was undertaken at the request of the Working Group, and it became apparent that recent triad dates have occurred later than those observed in the 1990s. Therefore, the group agreed that it was

sensible to use average triad dates since NETA Go Live in determining the HH Base VAR profile.

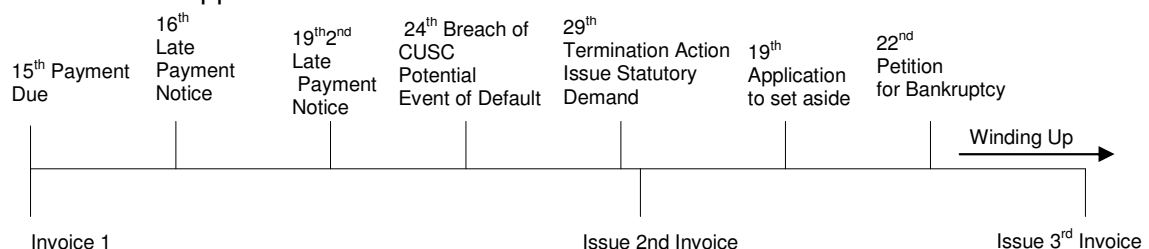
Missed Payments

National Grid proposed that two missed payments were used in determination of the Base VAR profiles. It believed that this was appropriate, given that a Supplier would miss at least two payments in the majority of cases in which a Supplier becomes insolvent and that it is in fact realistic to expect three payments to be missed prior to liabilities being taken on by an administrator or Supplier of Last Resort, or before a trade sale could occur.

The majority of the workgroup recognised that a realistic number of missed payments should be used, as the eventual solution should be reflective of the actual VAR. It was recognised that the eventual solution should strike a balance between the risk of socialisation of unpaid liabilities and competition. National Grid proposed the use of two missed payments in the determination of the base VAR profiles as this covered the amount which it deemed to be the minimum amount expected.

Two members agreed that in practice there would be a minimum of 2 months missed payments before a Statutory Demand was issued. One of the members gave the timescales for a statutory demand being issued against a shipper failing to pay gas balancing charges, which indicated at least two months worth of missed payments. Two members agreed that it can take up to 2 months for a Supplier of Last Report to be implemented.

The majority of the Working Group agreed that two missed payments was an appropriate level to use. One member requested that National Grid provide a timeline of actions that would be conducted following a payment being missed, all the way up to the issuing of a statutory demand, this was provided at a subsequent meeting and the majority of the group agreed that using two missed payments in the determination of the Base VAR profiles was the correct approach to take. This timeline is as follows:



1st Invoice Issued on 1st day of month 1

Day 1, 15th day of month 1: First missed payment, Use of System invoices are issued on the 1st of the month for payment on the 15th under the terms of CUSC.

Day 2, 16th day of month 1: Late Payment Notice issued to supplier in accordance with terms of the CUSC, three business days are given to allow the User to settle the invoice.

Day 5, 19th day of month 1: 2nd Late Payment Notice issued stating Late Interest will accrue each day invoice remains unpaid.

Day 10, 24th day of month 1: Seven business days after payment due date issue breach of CUSC & Potential Event of Default in accordance with terms of the CUSC, gather all evidence of Users failure to pay, inform Ofgem, instruct solicitor.

Day 15, 29th day of month 1: Issue Termination notice & Statutory Demand/Legal proceedings.

Day 18, 1st day of month 2: 2nd invoice issued.

Day 32, 15th day of month 2: Second missed payment.

Day 35, 19th day of month 2: User has 18 days receiving Statutory Demand to file an application to set aside.

Day 38, 22nd day of month 2: If no application to set aside then under the terms of a statutory demand the earliest a Petition for Bankruptcy can be filed is 21 days after the issuing of the demand.

Day 47, 1st day of month 3: 3rd Invoice issued.

Day 61, 15th day of month 3: 3rd missed payment.

Winding up of the User occurs over a period of time after the issuing of a Petition for Bankruptcy which is certainly more than 9 days, by which time the 3rd invoice has been issued and in reality will not be paid.

The timeline is based on actions that National Grid are able to take under the current terms of the CUSC and actions relating to the issuing of Statutory demands and in consideration of the Insolvency Act 1986. Considerations in the issuing of statutory demands include:

- Exhausted efforts to recover debt
- Comprehensive evidence that they are unable/won't pay
- Termination of contract prior to issue

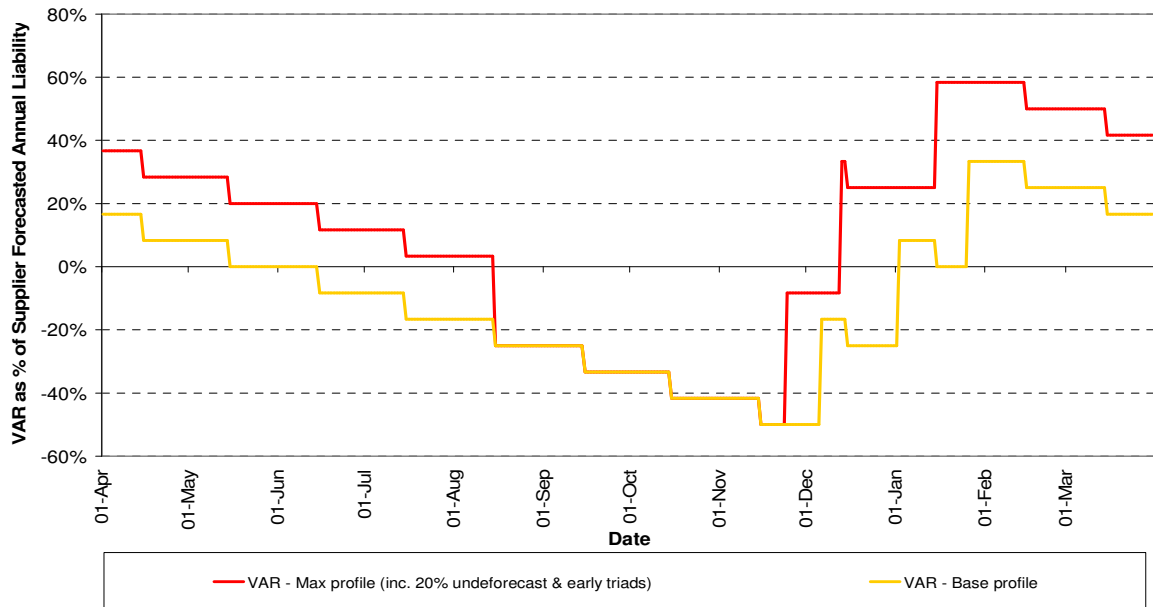
One member, though agreeing that there would be at least two missed payments when applying the rules of the CUSC and the Insolvency Act, was concerned that two missed payments was too much to use in the calculation of base VAR and would cause Suppliers to post an inappropriate level of security. This Working Group member was concerned that this could have a negative impact on competition. This view was not shared by the remainder of the workgroup. It was agreed that whilst the relating areas of the Insolvency Act and the CUSC (which are out of the scope of this amendment) were in place, two missed payments should be used in determining the Base VAR Profiles, as this was reflective of the actual risk. No Working Group alternative amendments were raised in relation to this concern.

Resulting Base VAR Profiles

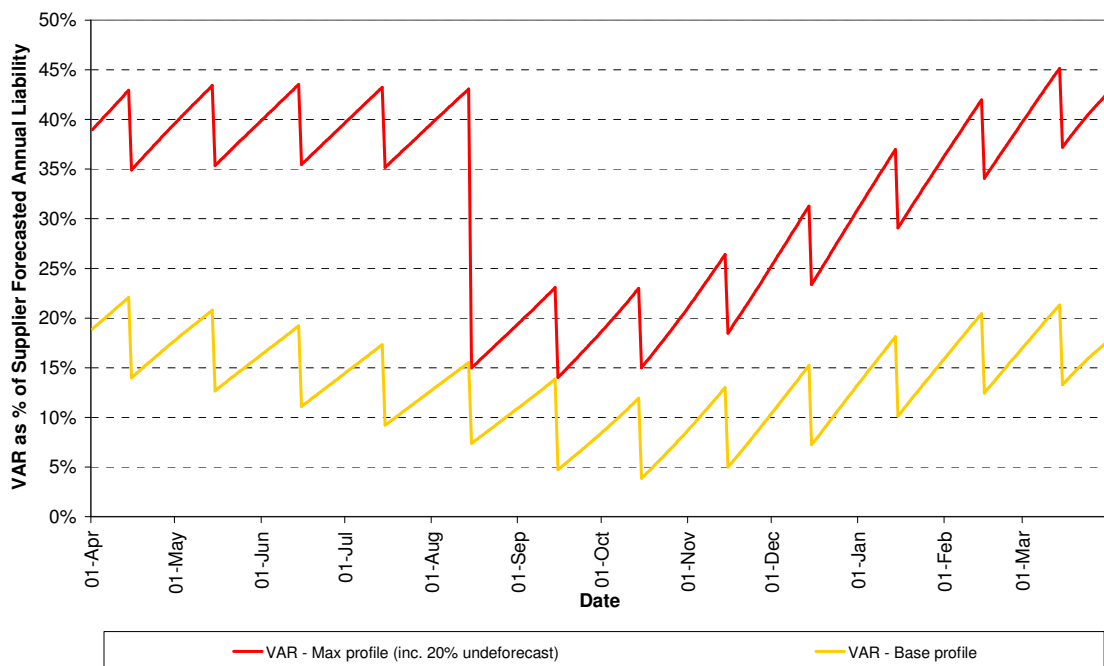
Taking each of the elements of Base VAR as agreed above, the resulting Base VAR and maximum expected VAR profiles are depicted in the following charts. The Base VAR profile indicates the amount that will be outstanding for each date if the supplier ceases to accrue any TNUoS liability on that date, taking into account the elements discussed above. Similarly, the maximum expected VAR profile indicates the amount that will be outstanding for each date if the supplier ceases to accrue any TNUoS liability on that date, when a user under forecasts by 20% and early triads have been experienced. A 20% under forecast has been used in determining the maximum expected profile

as this is the allowed difference from National Grid's forecast of a supplier's demand, as stated in paragraph 3.12.2 of the CUSC.

HH Demand:



NHH Demand:



4.9 SECURITY PERIODS AND ASSOCIATED BVAR

National Grid proposed that the year should be divided up into multiple security periods and that in each security period; the Base VAR Profiles should be used to determine a base level of security (as a proportion of their current forecasted liability) for every supplier to provide in relation to their HH and NHH liabilities.

National Grid proposed that two security periods (commencing 15th August and 13th December) were used based upon when a significant level of risk

was apparent when the expected maximum VAR profile (including 20% under forecast and early triad dates) was considered.

Members of the Working Group suggested a number of alternative sets of periods:

- quarterly periods; and
- two security periods, similar to National Grid's proposal, but with the second period commencing on 1st November;
- two security periods based upon when a level of risk was apparent in the Base VAR profiles.

National Grid also proposed that one of the following approaches was undertaken to calculate the Base level of VAR to be secured in each security period:

- using the maximum level of each of the Base VAR profiles in any given security period;
- using an average of each of the Base VAR profiles (collared at zero) in any given security period (effectively taking the average level of security that would be required if considered on a daily basis); or
- using the actual average of each of the Base VAR profiles in any given security period.

The Working Group agreed that using the maximum level of the Base VAR profile in any security period, would not be appropriate as it would lead to over securitisation during the majority of each security period. The group therefore went on to consider the two remaining options for calculating the Base VAR level in each of the proposed set of security periods.

The Working Group agreed that using 2 security periods, as originally proposed by National Grid did not result in an adequate level of security to cover the value at risk when the HH Base VAR profile was at its greatest, as the duration of the security periods resulted in dilution of any average taken, substantially reducing the amount of security required. This argument also discounted the set of two security periods, similar to National Grid's proposal, but with the second period commencing on 1st November from the discussions.

Further to this, the group agreed that using 2 periods based upon where the risk was most apparent in the Base VAR Profile was an inadequate solution. This was because it resulted in unacceptably lengthy periods of time for which a risk of a significant amount being outstanding was present upon a user becoming insolvent, when there was potential for no security being required.

The group agreed that using quarterly periods, with the first period commencing on 1st April, gave an appropriate balance between providing an adequate level of security over periods where the greatest risk occurs and potential over securitisation. Although this approach would result in short periods of time where an adequate level of security may not in place, the group agreed that this level of risk was an acceptable balance.

This then led the discussion as to which of the two averages to use in determining the Base level of VAR during each security period. The Working Group agreed with National Grid's proposal that as the HH Base VAR profile was negative during the summer security periods, whilst the NHH profile was positive, it would be appropriate for the two levels to be netted. The majority

of the group agreed that taking this into consideration, an actual average of the Base VAR Profiles to determine the Base Level of VAR, would provide the most appropriate solution. An example of how the netting of HH and NHH Base Levels of VAR is intended to be undertaken can be found in the examples given in Annex 3.

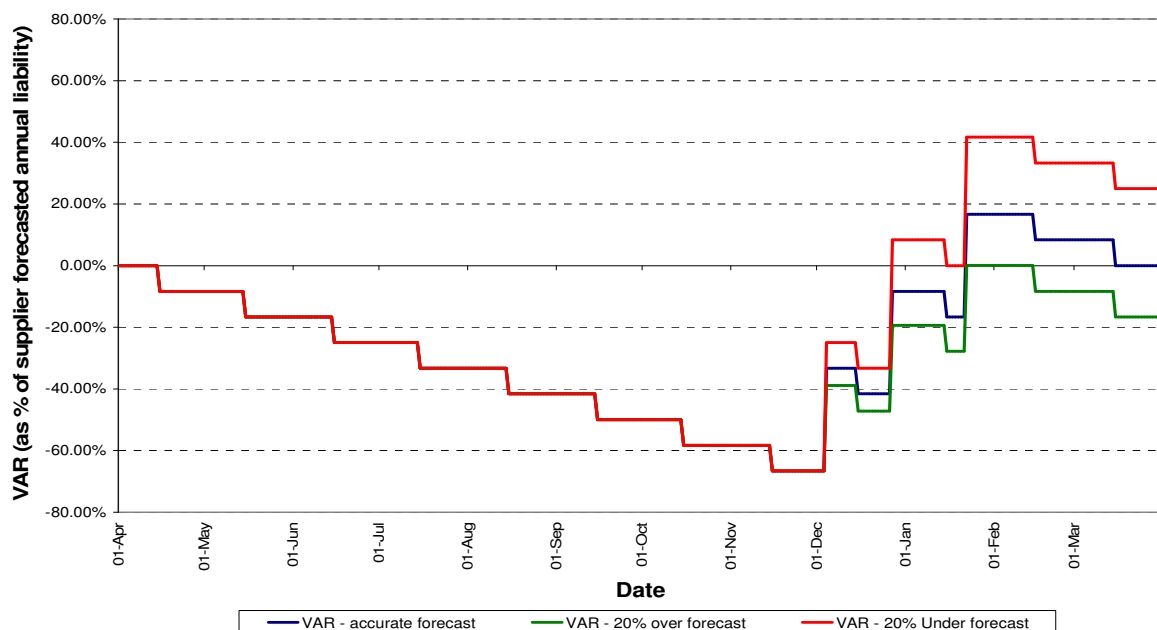
The Base levels of VAR agreed by the group are as follows:

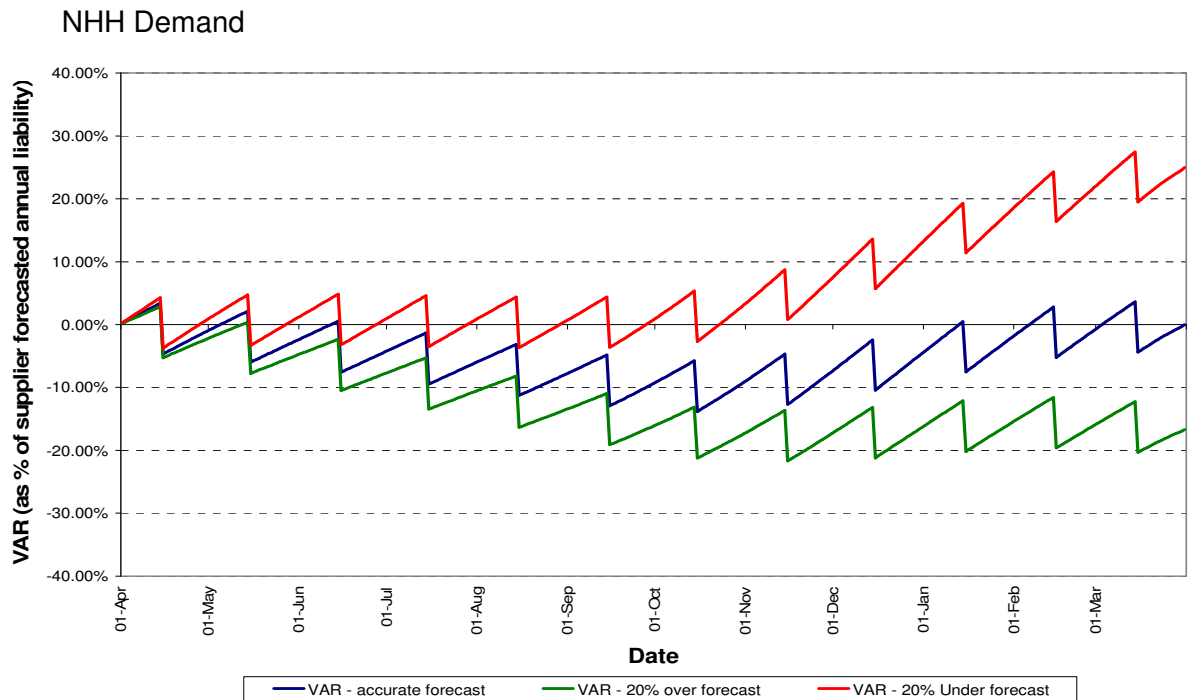
Security Period Start Date (inclusive)	Security Period End Date (inclusive)	HH Base Level VAR (as % of Supplier forecasted HH TNUoS Annual Liability)	NHH Base Level VAR (as % of Supplier forecasted NHH TNUoS Annual Liability)
1 st April	30 th June	3.8%	16.6%
1 st July	30 th September	-21.1%	11.3%
1 st October	31 st December	-36.8%	9.5%
1 st January	31 st March	19.3%	15.9%

One group member expressed concern that he believed that the actual average may lead to over-collateralisation, creating a potential barrier to new entrants into the market. However, the remainder of the group disagreed. They believed that taking the actual average was appropriate, given the manner in which the elements of the Base VAR profiles had been agreed, and that taking the average, by definition would provide an adequate balance between the amounts of under-securitisation and over-securitisation during each security period. No Working Group alternative amendments were raised in relation to this concern.

4.10 FORECASTING PERFORMANCE

National Grid presented evidence that a Supplier's forecasting performance has a significant impact on the level of actual VAR. This impact is depicted in the following charts:
HH Demand:





As this is something within a Supplier's control, National Grid believes that it is worthwhile for any final solution to provide suppliers with an incentive to forecast accurately during those periods in which the effect of under forecasting is greatest. It was agreed that the current calculation of VAR was open to gaming as it is based on only 1 month's level of under forecasting.

A methodology of taking an average forecasting performance over the last six months of a previous year, using the actual annual liability (from the last calculated initial reconciliation) was presented by National Grid as an initial proposal. Some of the Working Group members raised the concern that the first month being considered was submitted prior to a large contract round undertaken in October, and it was therefore probably more prudent to base the forecasting performance on forecasts used in calculating the last five TNUoS bill of the year.

Concern was also raised that the proposed methodology could discriminate against a supplier if they unexpectedly picked up extra customers (e.g. following another supplier becoming insolvent). One Working Group member suggested that either an appeals process was put into place, or the number of forecasts considered was reduced further.

In a subsequent meeting National Grid presented an appeals process that would adjust the forecasting performance of those penalised using the initially proposed methodology level calculated.

Concerns were raised by one member of the group that the appeals process may not necessarily cover all issues presented. They believed that some suppliers may still be disadvantaged as they may need some experience of a particular customers' behaviour before they can submit an accurate forecast and may be subject to slight forecasting error as a result of misleading

information provided by the customer. One member of the group questioned whether or not suppliers have an element of control over this issue, as they could provide an incentive to their customers to provide accurate information. Some members of the group did not believe that this was a practical solution.

Although any slight under forecast relating to misleading information provided by a supplier's customers does contribute to the value at risk, the group agreed that in the interests of competition any resulting effect on the security requirement should be minimised. In order to do this, one Working Group member suggested using a "weighted" average of demand forecasts over the five months, giving increased weight to the later months for which demand forecasting is easier.

National Grid stated that any weighted average must be logically based, and therefore proposed the following set of weightings, defined using amounts reflective of cumulative HH and NHH TNUoS liability profiles for a typical supplier:

Invoice Month	HH Forecast weighting	NHH Forecast weighting
November	33.3	41
December	33.3	49
January	33.3	59
February	66.7	70
March	100	81

After some deliberation, the Working Group agreed to use a weighted average of forecasts used to calculate the last five monthly invoices in a previous financial year to calculate the forecasting performance element of VAR, and that this should be carried out using the weightings proposed by National Grid (detailed above) specified as fixed amounts within the CUSC. In addition, it was agreed that an extreme weather allowance of 3% of NHH annual liability, 6% HH annual liability will be subtracted from the resulting forecasting performance related VAR.

Forecasting Performance Appeals Process

As previously mentioned, one of the workgroup members proposed that an appeals process was created, in which it is intended to account for a User unexpectedly taking on Customers during the year that they have been unable to forecast for. The proposer of this mechanism explained that a Supplier, outside of the usual trading rounds, may pick up customers for whom he has no ability to forecast, and thus any performance related forecasting method would be distorted to the detriment of the Supplier. The proposal therefore addresses this issue by using a methodology by which the User has redress if they can prove that they have picked up a significant amount of customers beyond their ability to forecast for them.

The Working Group agreed that an appeals process based on the following criteria be made available:

- A User can request, within one month after National Grid notifies them of their forecasting performance related VAR, to recalculate the value, due to an unforeseen increase in their demand.

- The User will need to provide to National Grid the amount of increase in demand (which must equate to at least 1% of their annual HH or NHH liability) and the time period in which such an increase occurred (which must be less than 20 business days in length).
- National Grid has one month from the date of such a request to recalculate the forecasting performance related VAR.
- The recalculation will be based on the amount of growth observed, by Suppliers customers, in 20 business days following a period of growth when compared with the 20 days observed prior to the period of growth over and above a similar amount observed over demands observed from other chargeable sites over the entire system.
- This growth will be multiplied by the typical amount of chargeable demand remaining in the financial year to work out the resulting adjustment in TNUoS liability (A).
- The Users forecasting performance will then be recalculated adjusting the forecasts submitted prior to the period of growth by the adjustment in TNUoS liability (A), capped at the level of the forecast used to calculate the TNUoS Bill issued immediately following the reported period of growth.

The workgroup also agreed that multiple appeals were acceptable as long as periods of growth did not overlap.

National Grid proposed that the decision made following the appeals process would be final. One Working Group member believed that the process should be subject to CUSC disputes process or an appeal to Ofgem. However, the remainder of the group believed as the timescales and mechanics of the appeals process would be set out in the CUSC, this would not be required, as the process would be transparent and replicable by the user. Examples of how the Forecasting Performance calculation and relating Appeals Process are provided in Annex 4.

4.11 TRANSITIONAL ARRANGEMENTS

The Working Group agreed that following implementation, the amount of security required will be determined using the base VAR levels in the relating security periods in addition to any existing forecasting performance level.

Following the next complete year the proposed forecasting performance element will replace that currently used.

In addition, during the first twelve months from implementation any additional security requirement shall be stepped up equally until the full security amount is provided.

5.0 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES

Proposed Amendment

- 5.1 The Working Group believed that CAP127 would better meet the Applicable CUSC Objectives. These can be summarised as follows:

A more accurate calculation of value at risk and the securitisation of this in

quarterly periods would result in a more appropriate level of security being held, which would:

- ♦ Be more efficient, thereby better facilitating the achievement of Applicable Objective (a); and would
- ♦ Better facilitate effective competition (Objective (b)) by ensuring that an appropriate level of security was held for all parties, and thus reducing the chances of bad debt being passed through to the industry, and ensuring that the market is not unduly over securitised thus reducing barriers to entry.

6.0 PROPOSED IMPLEMENTATION

6.1 It is proposed that should the Authority approve the CAP127 proposal, implementation should be 10 Business Days after the Authority decision, with reference to the transitional arrangements agreed by the Working Group, detailed in 4.11, above

7.0 IMPACT ON THE CUSC

7.1 The CAP127 proposal will require a number of changes to Section 3 of the CUSC Part III Credit Requirements.

7.2 The text to give effect to the CAP127 Proposal is contained In Annex 1 to this document.

8.0 IMPACT ON INDUSTRY DOCUMENTS

Impact on Core Industry Documents

8.1 CAP127 has no impact upon Core Industry Documents.

Impact on other Industry Documents

8.2 CAP127 has no impact upon other Industry Documents.

9.0 WORKING GROUP RECOMMENDATION

9.1 The Working Group approve the proposal and agree that CAP127 should be implemented 10 Business Days following the Authority decision.

10.0 INITIAL VIEW OF THE AMENDMENTS PANEL

10.1 The Amendments Panel agreed with the Working Group's recommendation that CAP127 should go straight to industry consultation for 5 weeks.

11.0 INITIAL VIEW OF NATIONAL GRID

- 11.1 National Grid believes a more accurate calculation of value at risk and the securitisation of this in quarterly periods will result in a more appropriate level of security being held, which would better meet the applicable objectives by ensuring that an appropriate level of security was held for all parties, and thus reducing the chances of bad debt being passed through to the industry, and ensuring that the market is not unduly over securitised thus reducing barriers to entry.

12.0 VIEWS INVITED

- 12.1 National Grid is seeking the views of interested parties in relation to the issues raised by Amendment Proposal CAP127 and issues arising from the proposed timescale for implementation of CAP127.
- 12.2 Please send your responses to this consultation to National Grid by no later than 5pm on 24th January 2007.
- 12.3 Please address all comments to the following e-mail address:

Beverley.Viney@uk.ngrid.com

Or alternatively, comments may be addressed to:

Beverley Viney
Amendments Panel Secretary
Electricity Codes
National Grid
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

Annex 1 – Legal Text

The proposed Legal text to modify the CUSC Section 3 is detailed in a separate document with this Consultation Report.

Annex 2 – Amendment Proposal Form

CUSC Amendment Proposal Form	CAP:127
Title of Amendment Proposal: Calculation and Securing of Value at Risk	
Description of the Proposed Amendment (<i>mandatory by proposer</i>): Section 3 - Credit Requirements (calculation of security for Demand TNUoS) <i>Value at Risk (VAR) is the maximum amount of Use of System liability that any User is required to secure ("Security Requirement").</i> Post implementation of Ofgem's Best Practice Guidelines on Network Operator Credit Cover it has become evident that it is possible to develop the current calculation of VAR and to refine the amount of VAR that parties need to secure such that the CUSC more fully meets the intentions of the Best Practice Guidelines. Moreover that by ensuring that VAR is more accurate, appropriate and effective, National Grid believes that this proposal will better facilitate the applicable objectives. It is the intention of this proposal to ensure that the CUSC more clearly reflects both the value and variability of the true value at risk throughout the year. Hence, National Grid propose an amendment to the CUSC that seeks to implement a calculation of VAR for Demand TNUoS charges that is more closely aligned to the monetary value at risk and actual risk of exposure to non payment, and to more appropriately define the way in which VAR has to be secured. There are two elements to the proposal : 1) Calculation of VAR; 2) Securing VAR. 1) <u>Calculation of VAR</u> National Grid believes that the most effective way to treat VAR would be to ensure that a range of factors are taken into account in the relevant formula, such that the calculation is both sensitive and accurate. Instead of simply relying on a users forecast (as now) it is proposed that the calculation should factor in the cumulative daily risk adjusted liability, reconciliation demand and the amount invoiced to date. In more detail: <i>VAR = Cumulative Daily Risk Adjusted Liability + Reconciliation Determination + Allowance for Unpaid Invoices - Amount Invoiced to Date</i> Where: a) <i>Cumulative Daily Risk Adjusted Liability</i> is determined by using <i>daily liability profiles</i> from previous settlement data and a <i>risk adjusted forecast liability</i> factor calculated by assuming some variation in forecasting performance and weather effects. b) <i>Reconciliation Determination</i> - Allowances for Initial and Final reconciliation amounts that have potentially been accrued are then added to the daily liability profile to result in the "final adjusted liability determination": c) <i>Amount Invoiced to Date / Allowance for Unpaid Invoices</i> - A provision will be held in order to provide sufficient security for amounts invoiced, but remain unpaid upon a supplier failing to pay invoices. The value invoiced during the past 45 days will be held, which equates to the previous two invoices.	

2) **Securing VAR**

In addition to refining the treatment of VAR, it is proposed that the amount to be secured should also be amended such that the financial year's liability would be split into two "security periods" and parties would secure a percentage of the maximum VAR observed in the relevant security period.

National Grid believe that the securing of VAR in two security periods will more accurately reflect the fact that security levels will vary throughout the year (and are likely in some instances to be zero for a significant part of the year.)

Description of Issue or Defect that Proposed Amendment seeks to Address (*mandatory by proposer*):

Current CUSC VAR calculation

It had become evident that the methodology for calculating VAR under the terms of the CUSC for TNUoS does not reflect Ofgem's Best Practice Guidelines intention of securing the actual VAR at any given point in time, it is open to 'gaming' and can result in insufficient levels of security being provided and potential exposures to bad debt.

Best Practice Guidelines VAR Calculation

Billed and unpaid charges cover only one element of VAR and due to the unique manner in which TNUoS charges are calculated and charged, the methodology for use of system charges proposed by Ofgem's Best Practice Guidelines document would also provide insufficient levels of security and potential exposures to bad debt, if applied as interpreted.

Impact on the CUSC (*this should be given where possible*):

Section 3 Part III (Credit Requirements),
Section 6 (General Provisions) and Section 11 (Interpretation and Definitions)

Impact on Core Industry Documentation:

None anticipated

Impact on Computer Systems and Processes used by CUSC Parties

None anticipated

Details of any Related Modifications to Other Industry Codes:

N/A

Justification for Proposed Amendment with Reference to Applicable CUSC Objectives**
(*mandatory by proposer*):

National Grid believes that this proposal will better facilitates CUSC Applicable Objectives;

(a) the efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence; and

(b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;

by introducing a more accurate calculation of value at risk and the re-definition of two within year

periods for which VAR applies, will enable VAR to be treated more effectively, accurately and appropriately going forward.

Details of Proposer: Organisation's Name:	National Grid
Capacity in which the Amendment is being proposed: (i.e. CUSC Party, BSC Party or "energywatch")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Paul Murphy National Grid Electricity Transmission 01926 656330 Paul.Murphy@uk.ngrid.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	Bec Thornton National Grid Electricity 01926 656386 Bec.Thornton@uk.ngrid.com
Attachments (Yes/No): If Yes, Title and No. of pages of each Attachment: No	

Notes:

1. Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.
2. The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

The completed form should be returned to:

Beverley Viney
Panel Secretary
Commercial Frameworks
National Grid Company plc
NGT House
Warwick Technology Park
Gallows Hill
Warwick, CV34 6DA
Or via e-mail to: Beverley.viney@uk.ngrid.com

(Participants submitting this form by email will need to send a statement to the effect that the proposer acknowledges that on acceptance of the proposal for consideration by the Amendments Panel, a proposer which is not a CUSC Party shall grant a licence in accordance with Paragraph 8.15.7 of the CUSC. A Proposer that is a CUSC Party shall be deemed to have granted this Licence).

3. Applicable CUSC Objectives** - These are defined within the National Grid Company Transmission Licence under Section C10, paragraph 1. Reference should be made to this section when considering a proposed amendment.

Annex 3 - Example VAR Calculation

Supplier A has a TNUoS liability of £10m, derived from their latest demand submission. £6m of this liability relates to NHH demand and £4m HH demand.

Base Level VAR

Using an actual average of the agreed base VAR profile during each quarter of the year, results in the following base security requirements:

Security Period	Start Date	End Date	HH Base VAR (% of Forecasted Annual)	NHH Base VAR (% of Forecasted Annual)	HH Base VAR (A)	NHH Base VAR (B)	Base VAR (A+B, uncollared)
1	01/04/2006	30/06/2006	3.8%	16.6%	£ 152,000.00	£996,000.00	£1,148,000.00
2	01/07/2006	30/09/2006	-21.1%	11.3%	-£ 844,000.00	£678,000.00	-£ 166,000.00
3	01/10/2006	31/12/2006	-36.8%	9.5%	-£1,472,000.00	£570,000.00	-£ 902,000.00
4	01/01/2007	31/03/2007	19.3%	15.9%	£ 772,000.00	£954,000.00	£1,726,000.00

Forecasting Performance related & calculation of Final VAR

The methodology for calculating the forecasting performance element is covered in Annex 4. This example covers only how the resulting percentages will be used.

There will be three typical scenarios:

1. Supplier A under forecasts during a previous financial year

If a supplier under forecasts by 20% in each HH and NHH submission used to calculate the last five monthly TNUoS invoices issued during a previous financial year, then following the application of the forecasting performance assessment detailed in Annex 4, the resulting additional VAR would be 17% of the NHH supplier forecasted annual liability and 14% of the HH supplier forecasted annual liability. (A weighted average equal to 20% (as the forecast performance remains unchanged throughout the assessment period) minus extreme weather allowances of 3% of annual NHH TNUoS liability and 6% of annual HH TNUoS liability).

The following table gives the final VAR calculation:

Security Period	Start Date	End Date	Base VAR (A+B, uncapped)	HH Forecasting performance factor	NHH Forecasting performance factor	HH Forecast Performance Related VAR (C)	NHH Forecast Performance Related VAR (D)	Final VAR (prior to collaring, A+B+C+D)	Final VAR
1	01/04/2006	30/06/2006	£1,148,000.00	14.0%	17.0%	£560,000	£1,020,000	£ 2,728,000.00	£2,728,000.00
2	01/07/2006	30/09/2006	-£ 166,000.00	14.0%	17.0%	£560,000	£1,020,000	£ 1,414,000.00	£1,414,000.00
3	01/10/2006	31/12/2006	-£ 902,000.00	14.0%	17.0%	£560,000	£1,020,000	£ 678,000.00	£ 678,000.00
4	01/01/2007	31/03/2007	£1,726,000.00	14.0%	17.0%	£560,000	£1,020,000	£ 3,306,000.00	£3,306,000.00

2. Supplier A accurately forecasts during a previous financial year

In the case that a supplier is deemed to have accurately forecast during the each month of the forecasting performance assessment period, then the final VAR will be calculated as follows:

Security Period	Start Date	End Date	Base VAR (A+B, uncapped)	HH Forecasting performance factor	NHH Forecasting performance factor	HH Forecast Performance Related VAR (C)	NHH Forecast Performance Related VAR (D)	Final VAR (prior to collaring, A+B+C+D)	Final VAR
1	01/04/2006	30/06/2006	£1,148,000.00	0.0%	0.0%	£ -	£ -	£ 1,148,000.00	£1,148,000.00
2	01/07/2006	30/09/2006	-£ 166,000.00	0.0%	0.0%	£ -	£ -	-£ 166,000.00	£ -
3	01/10/2006	31/12/2006	-£ 902,000.00	0.0%	0.0%	£ -	£ -	-£ 902,000.00	£ -
4	01/01/2007	31/03/2007	£1,726,000.00	0.0%	0.0%	£ -	£ -	£ 1,726,000.00	£1,726,000.00

3. Supplier A over forecasts during a previous financial year

A supplier who is deemed to have been over forecasting will not be given any reduction in VAR beyond the baseline (i.e. the Base VAR in each security period collared at zero (after netting) will be the minimum VAR amount for any supplier). Therefore, the Final VAR shall be equal to that of a supplier that is deemed to have been accurately forecasting.

Final Security Requirement

If the resulting level of VAR (plus any equivalent amount for BSUoS charges) in a given security period exceeds any credit allowance (through credit rating, independent assessment, payment history, etc.) then the supplier will be required to provide security against any such difference.

Annex 4 - Forecasting Performance & Appeals Process

The calculation of each supplier's forecast performance will be undertaken on an annual basis, following the initial reconciliation of Demand TNUoS charges. The relating VAR adjustment will be applied during each quarter of the year following the calculation and the subsequent appeals period (2 months). Subject to the result of any appeals, this will be applicable until it is recalculated following the subsequent initial reconciliation. (The intention is for each adjustment to apply from quarter 3 in year y through to quarter 2 in year y+1, inclusive, where y is the current financial year).

As part of the initial reconciliation, the annual HH and NHH demand TNUoS liabilities will be calculated for each supplier in relation to the previous financial year (y-1). These amounts will then be compared to forecasted annual liabilities derived from the HH and NHH supplier forecasts used to calculate the amounts on the last five months worth of TNUoS invoices, to give five percentage over/under forecasts.

A weighted-average percentage over/under forecasts will then be calculated for each demand type using the following weightings, to give the HH and NHH deemed forecasting performance:

Invoice Month	Forecast weighting, $W_{HH,m}$	Forecast weighting, $W_{NHH,m}$
November	33.3	41
December	33.3	49
January	33.3	59
February	66.7	70
March	100	81

3% of the annual NHH liability and 6% of HH liability will then be subtracted from the deemed forecasting performance levels to allow for the chance of extreme weather having a detrimental impact upon each supplier's forecasting performance.

If the result indicates an under forecast, then subject to any appeals, this percentage of the current year supplier forecasted annual liability will be the additional VAR required to be secured. If the result indicates an average over forecast, then there will be no additional VAR to be secured.

The following examples should clarify.

Example 1.1:

Suppose supplier A has the following annual liabilities during year y-1 (as calculated at initial reconciliation):

HH: £4,000,000
NHH: £6,000,000

However, during the financial year y-1, supplier A submitted forecasts suggesting the following annual liabilities:

Invoice Issue Date	Invoice Payment Date	Forecast Deadline	HH Forecast Liability	NHH Forecast Liability
01-Nov	15-Nov	10-Oct	£ 3,200,000.00	£ 4,800,000.00
01-Dec	15-Dec	10-Nov	£ 3,200,000.00	£ 4,800,000.00
01-Jan	15-Jan	10-Dec	£ 3,200,000.00	£ 4,800,000.00
01-Feb	15-Feb	10-Jan	£ 3,600,000.00	£ 5,400,000.00
01-Mar	15-Mar	10-Feb	£ 3,800,000.00	£ 5,700,000.00

Monthly forecast performance is calculated as the percentage difference between the monthly forecasted liabilities and the annual liabilities calculated at initial reconciliation:

Invoice Payment Date	HH Forecast Liability	HH Annual Liability	HH Forecast Performance	NHH Forecast Liability	NHH Annual Liability	NHH Forecast Performance
15-Nov	£ 3,200,000.00	£4,000,000	-20%	£4,800,000	£6,000,000	-20%
15-Dec	£ 3,200,000.00	£4,000,000	-20%	£4,800,000	£6,000,000	-20%
15-Jan	£ 3,200,000.00	£4,000,000	-20%	£5,400,000	£6,000,000	-10%
15-Feb	£ 3,600,000.00	£4,000,000	-10%	£5,400,000	£6,000,000	-10%
15-Mar	£ 3,800,000.00	£4,000,000	-5%	£5,700,000	£6,000,000	-5%

The weighted average of the forecasting performance can then be calculated:

HH deemed under forecast: 11.87%
 $((20 \times 33.3 + 20 \times 33.3 + 20 \times 33.3 + 10 \times 66.7 + 5 \times 100) / (33.3 \times 3 + 66.7 + 100) = 11.87)$

NHH deemed under forecast: 11.65%%
 $((20 \times 41 + 20 \times 49 + 10 \times 59 + 10 \times 70 + 5 \times 81) / (41 + 49 + 59 + 70 + 81) = 11.65)$

The allowances for potentially extreme weather (3% NHH and 6% HH) are then subtracted to give the additional percentage of supplier forecasted liability for year y to be added to the baseline VAR. In this case:

HH forecast performance related VAR: 5.87% (max(11.87-6,0))

NHH forecast performance related VAR: 8.65% (max(11.65-3,0))

Example 1.2:

At initial reconciliation, Supplier B has identical HH and NHH liabilities to Supplier A in the previous example. However, during the financial year y-1, supplier B submitted forecasts suggesting the following annual liabilities:

Invoice Issue Date	Invoice Payment Date	Forecast Deadline	HH Forecast Liability	NHH Forecast Liability
01-Nov	15-Nov	10-Oct	£3,600,000	£4,800,000
01-Dec	15-Dec	10-Nov	£3,600,000	£5,400,000
01-Jan	15-Jan	10-Dec	£4,400,000	£6,600,000
01-Feb	15-Feb	10-Jan	£4,400,000	£6,600,000
01-Mar	15-Mar	10-Feb	£4,200,000	£6,300,000

The monthly forecast performance percentages are calculated as follows:

Invoice Payment Date	HH Forecast Liability	HH Annual Liability	HH Forecast Performance	NHH Forecast Liability	NHH Annual Liability	NHH Forecast Performance
15-Nov	£3,600,000	£4,000,000	-10%	£4,800,000	£6,000,000	-20%
15-Dec	£3,600,000	£4,000,000	-10%	£5,400,000	£6,000,000	-10%
15-Jan	£4,400,000	£4,000,000	10%	£6,600,000	£6,000,000	10%
15-Feb	£4,400,000	£4,000,000	10%	£6,600,000	£6,000,000	10%
15-Mar	£4,200,000	£4,000,000	5%	£6,300,000	£6,000,000	5%

The average forecasting performance is then calculated for each case:

HH deemed under forecast: 11.87%
 $((10 \times 33.3 + 10 \times 33.3 - 10 \times 33.3 - 10 \times 66.7 - 5 \times 100) / (33.3 \times 3 + 66.7 + 100) = -3.13\%)$

NHH deemed under forecast: 11.65%%
 $((20 \times 41 + 10 \times 49 - 10 \times 59 - 10 \times 70 - 5 \times 81) / (41 + 49 + 59 + 70 + 81) = -1.28\%)$

The allowances for potentially extreme weather (3% NHH and 6% HH) are subtracted to give the additional percentage of supplier forecasted liability for year y to be added to the baseline VAR. In this case:

HH forecast performance related VAR: 0% (max(-3.13-6,0))
 NHH forecast performance related VAR: 0% (max(-1.28-3,0))

Forecasting Performance Appeals Process

If they believe that a significant increase in their customer base has had a detrimental effect upon their forecasting performance, a supplier may raise an appeal to National Grid during the month after National Grid's notification of the deemed forecasting performance level.

Upon raising an appeal, a supplier would notify National Grid of how much demand was taken on and over which period of time. In addition, the following conditions must apply:

- Appeals will be divided into HH and NHH demands, and the period of growth cannot exceed 20 business days (~1 month) as an opportunity for a supplier to resubmit their forecast should have occurred during this time.
- Multiple appeals may be raised for each demand type (HH/NHH), but appeals with overlapping periods of growth will not be permitted. Appeals with consecutive periods of growth are allowed.
- Appeals cannot be raised if the amount of growth in TNUoS liability for the demand type concerned does not exceed 1% of relating annual liability.
- There will be no process for subsequent appeals, as the calculations involved will be detailed in the CUSC, they will be transparent and replicable by the supplier.

Following the launch of an appeal, the average of a supplier's demand in the following periods for the demand type concerned over the 20 business days prior to and following the period of growth will be and a ratio of average growth calculated:

HH – demand taken during the half-hour commencing 17:00
 NHH – demand taken between the hours of 16:00 and 19:00

A similar calculation will be undertaken for all relevant chargeable demands over the entire system, and the two growth ratios compared. The proportion of growth experienced by the supplier's demand over and above the national level (if any) will determine the *effective growth* in the suppliers demand.

Any increase in demand will only affect chargeable demand over the remaining months of the year. To calculate the *deemed increase in chargeable demand*, the *effective growth* in demand shall be calculated by the typical amount of remaining chargeable demand from the beginning of the month in which the period of growth commences, as determined by the following table. The result is likely to be an over-estimate, but is simpler and more transparent than daily profiling:

Month	Remaining proportion of NHH Liability	Remaining proportion of HH Liability
October	59%	100%
November	51%	100%
December	41%	100%
January	30%	66.7%
February	19%	33.3%

The supplier's forecast performance shall then be recalculated with any forecast submitted prior to the end of the period of growth being increased by the deemed increase in chargeable demand multiplied – capped at the level of any subsequent forecast used for calculation of the monthly TNUoS charge.

The following example may clarify.

Example 2.1

Consider the scenario for supplier A given in example 1.1:

Invoice Payment Date	HH Forecast Liability	HH Annual Liability	HH Forecast Performance	NHH Forecast Liability	NHH Annual Liability	NHH Forecast Performance
15-Nov	£ 3,200,000.00	£4,000,000	-20%	£4,800,000	£6,000,000	-20%
15-Dec	£ 3,200,000.00	£4,000,000	-20%	£4,800,000	£6,000,000	-20%
15-Jan	£ 3,200,000.00	£4,000,000	-20%	£5,400,000	£6,000,000	-10%
15-Feb	£ 3,600,000.00	£4,000,000	-10%	£5,400,000	£6,000,000	-10%
15-Mar	£ 3,800,000.00	£4,000,000	-5%	£5,700,000	£6,000,000	-5%

Supplier A submits three appeals:

1. An appeal claiming that an increase in their customer base between 15th and 20th November caused their chargeable HH demand to increase by 10%;
2. An appeal claiming that an increase in their customer base between 15th and 20th November caused their chargeable NHH demand to increase by 10%;
3. An appeal claiming that an increase in their customer base on 8th February caused their chargeable HH demand to increase by 10%;

Appeal 1:

Given that supplier A did not alter their HH forecast prior following the reported period of growth (by the 10th December in time for January's invoice). The supplier's appeal will fail as the forecast HH annual liability will be capped at £3.2m – the level of the forecast used to calculate the January Invoice.

Appeal 2:

In this case the supplier has submitted a revised forecast.

Average daily NHH TNUoS liability taken by supplier A during the period 16:00-19:00 of the 20 business days prior to 15th November = £12,000.

Average daily NHH TNUoS liability taken by supplier A during the period 16:00-19:00 of the 20 business days following 20th November = £15,600

Effective Growth (Supplier) = $15600/12000 - 1 = 30\%$

Average Proportion of total system NHH TNUoS liability taken by suppliers during the period 16:00-19:00 of the 20 business days prior to 15th November = 0.30%

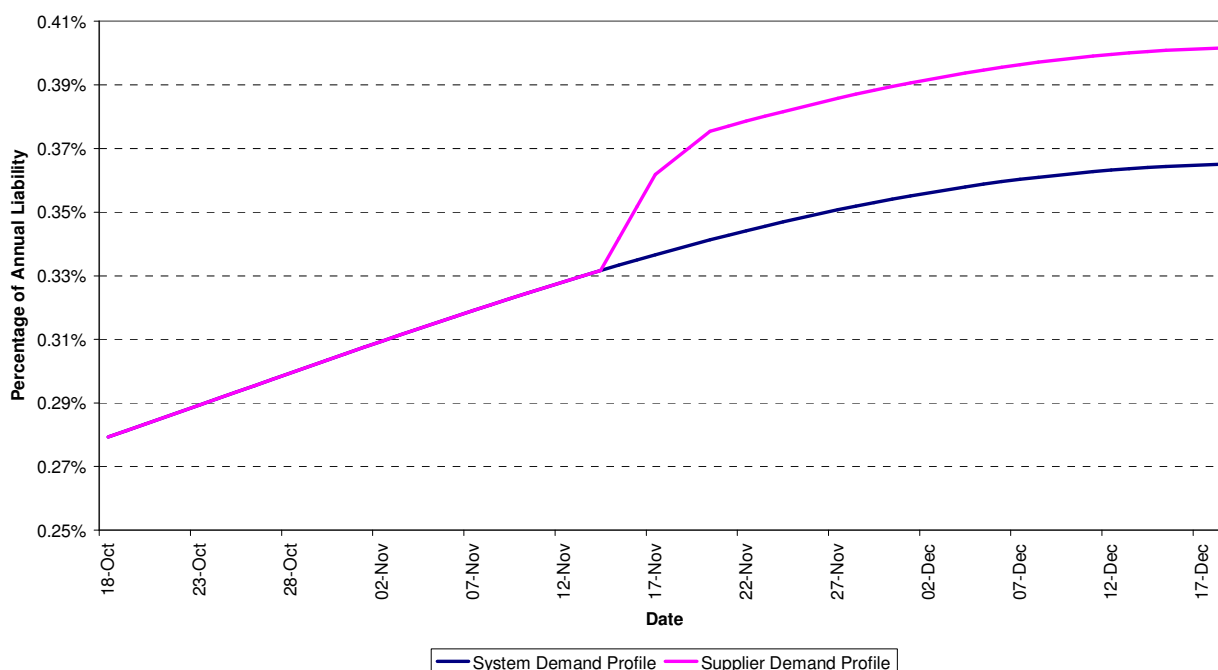
Average Proportion of total system NHH TNUoS liability taken by suppliers during the period 16:00-19:00 of the 20 business days following 20th November = 0.36%

Effective Growth (System) = $0.36/0.30 - 1 = 20\%$

Amount of growth in supplier NHH chargeable demand over and above that observed over the system = $30\% - 20\% = 10\%$.

Therefore there is evidence that supplier A's demand increased by 10% between 15th & 20th November. The change in demand is indicated in the following chart (figure 1):

**Figure 1: Supplier NHH Demand vs. System NHH Demand
(16:00-19:00 Business Days)**



Typically from 1st November, 51% of the annual NHH liability is accrued. As the supplier has experienced a 10% increase in daily TNUoS liability, the maximum amount of additional TNUoS liability expected due to this particular increase in demand would be 5.1% (10% of 51%). This is likely to be an over-estimate, but is simpler and more transparent than daily profiling.

As a result, when recalculating the forecasting performance, each of supplier A's demand submissions received prior to 20th November is increased by 5.1% of the annual liability calculated at the initial reconciliation, capped at the level of any subsequent demand forecasts:

$$\begin{aligned} & \text{Revised forecasting performance related VAR} \\ & = \max((\max((20-5.1),10)*41 + \max((20-5.1),10)*49 + 10*59 + 10*70 + 5*81)/300 - 3, 0) \\ & = \max(0, 7.12) \\ & = 7.12\% \text{ of supplier forecasted NHH liability for year y} \end{aligned}$$

Appeal 3:

The calculation in this case would work similar to appeal 2 only would look at indicative HH liabilities by considering demands observed during settlement period 35 of the 20 business days prior to and following the reported period of growth.

Once calculated, the resulting effective increase in demand will be applied to the deemed remaining HH liability, which in this particular example is 33.3% of the annual HH liability as at initial reconciliation (£4m).

Note that when recalculating the forecasting performance in this scenario, any resulting increase to forecasts prior to the reported period of growth will be capped at a level 5% below the annual HH liability as at initial reconciliation. This is due to the amount of under forecast observed following the reported period of growth. Therefore assuming the increase in supplier A's annual liability was 10% (resulting from a ~30% increase in demand (33.3% of 30% = 9.99%)), the revised forecasting performance would be:

$$\begin{aligned} & \text{Revised forecasting performance related VAR} \\ & = \max(\max(20-10,5)*33.3*3 + \max(10-10,5) *66.7 + 5*100)/266.6 - 6, 0) \\ & = \max(0.87,0) \\ & = 0.87\% \text{ of supplier forecasted NHH liability for year y} \end{aligned}$$