Summary Paper to the SSMG, 16th July

Determination of CALF Values for Interconnector Users

(by S.M. Drummond)

Purpose

The issue of Credit Cover for the interconnector Users has been considered on a number of occasions of the Imbalance Settlement Group, often at the time of a CALF Appeal but also as an agenda item when discussing ISG/24/267, and once specifically by the SSMG (see paper dated 17th March). A number of possible alternatives to the current CALF methodology have been proposed during the period but none of these have yet found universal favour for adoption. ISG also briefly discussed the results of some analysis undertaken by Elexon and reported in ISG/27/309, but it was felt more appropriate for the issues to be discussed at the SSMG. This paper seeks to summarise the problem, reiterate some of the possible solutions or palliatives and summarise where the debate has reached so far. This is to allow the SSMG on the 16th July 2003 to discuss the issue further and identify a way forward.

The Problem

Interconnector Users are parties that have contracted with the Interconnector Owners to use the interconnectors for trading electricity in a specific direction for periods of 1 day, 1 month, 3 months, 1 year or longer. The right of access to the electricity market, whether for importing or exporting, are obtained by the payment of an interconnector fee and any relevant transmission and BSC charges. On the Anglo-French Interconnector this is achieved through auctions, the timing of which is such that the prediction of GC and DC is very difficult if not impossible.

The number of parties on the interconnectors varies throughout the periods, as does the types of parties (sole trader through to portfolio player), as does the degree of activity in trading in both directions. The market prices in the markets either side of the interconnector also varies and the differential between them can change to such an extent that the interconnector flows and that of individual parties can regularly reverse in direction each day. Furthermore, Users can only trade in one direction at a time, so when their Production Account is positive, then their Consumption Account has to be zero and vice-versa.

On the Anglo-French Interconnector, the trading activity is at present known and fixed at the day ahead stage, although during this year it is expected that intra-day trading will be possible. Nevertheless, at Gate Closure the User's FPN will be that party's actual flow for settlement purposes; their Deemed Metered Volume is the same as their FPN. Therefore, there are no significant imbalance volumes beyond that due to transmission losses and rounding errors.

This is all in stark contrast to the position of a conventional BMUs in the E&W market, where the parties remain essentially the same, as does the size and the status (Production or Consumption) and where imbalances are under the party's 'control'.

The CALF methodology looks at a User's average import or export trading volume (as appropriate) over a preceding BSC Season and expresses this as a fraction of the GC or DC value declared at that time. The ensuing CEI calculation (see Appendix 1)

then multiplies the CALF value by the User's actual GC or DC value, which can be significantly different from that used initially. This can be for a number of reasons, ranging from correcting a previously incorrect figure through to the inherent volatility of the markets, the trading activity and the amount of interconnector capacity contracted.

This leads to a number of problems:

1. The historical average is more likely to bear no relation to the average trading activity of an Interconnector User in any current rolling 7-10 day window. Over a three month period and with a party trading in both directions, then the average import or export is unlikely to have a load factor greater than 0.5. However during a short period, especially during winter and long holidays, then trading can be in one direction, which in turn produces an apparent high load factor for comparison against the CALF value.
2. The use of the GC and DC values, both in the CALF determination and in the calculation of CEI unnecessarily distorts that calculation. This is because the two values of GC and/or DC so used can be so different, but also because of the absolute values can be for just one half-hour and not reflective of the average trade.

With the result that:

1. There is the need to post high amounts of credit cover during periods when market conditions imply prolonged periods (7-10 days) of imports to the E&W market across the interconnector; periods when the Interconnector User has supplied energy to the market for which the User will be owed money.
2. The current methodology incentivises accurate DC submission for C Status BM Units but inaccurate GC submission for P Status BM Units.

The challenge is to find a CALF methodology for the Interconnectors that does adequately reflect the risks they pose to the market, rather than penalising them for being inherently flexibility as a trading facility. Therefore avoiding the requirement for either very high credit cover to be posted all the time or for on-line monitoring systems to be put in place coupled with speedy and costly credit raising facilities.

Possible Changes that Could Correct or Part-Correct the Situation

1. Removing GC/DC from the CALF calculation and replace with the Maximum HH figure. This would effectively revert to the pre-Winter 2002/03 BSC Season CALF methodology for Interconnectors. *This would remove the lag time between accurate GC/DC submission and the values being used in the Credit Cover calculation, but still retains the distortion of dividing an average figure by one maximum HH trade.*

2. Compensating for new GC/DC values by multiplying by a factor which negates the effect of the seasonal GC and DC change. *This would keep the CALF value as an average trading value, but does not overcome the problem that the historical past probably bears no relation to the future trading activity.*

3. Assigning generic Class CALF values that reflect the physical availability of the Interconnector. *This has a simplicity of determination and arguably*

is more consistent with the risks imposed by the Interconnector User, although has little connection with an individual party's trading activity except that any imbalance volumes would only result from an interconnector failure.

4. Utilising the Information Imbalance data ie based upon the difference between expected and actual metered volumes for Interconnector Users. *Like the use of interconnector availability it arguably better reflects the likelihood of non-delivery of expected volumes.*
5. Using the last three full months trading figures to obtain an average trading volume, but neglecting the number of SPs that have zero values. *This avoids the distortion caused by having to set the reverse account to zero when trading in direction or another.*
6. Weighting the monthly and daily capacity auction figures, so that they are smoothed over the BSC Season. *This would ensure that the CALF figure is not unduly reduced due to a few days of high interconnection capacity won in the auctions.*
7. Obtaining the trading figures from a contiguous 7 day period during the previous appropriate BSC Season, that provides the highest amount of average trading activity. *If this were adopted it would at least try to identify a period that was truly comparable.*
8. Extrapolating the 22 days of credit cover assessed from the Interim Information Settlement Run data to apply to the full 29 days. *This would probably be the most favoured by all interconnector Users and was an option explored under the passage of P2. However it may be too expensive to employ because of the changes required to the BSC.*

Other Options

Should none of the above be considered reasonable, then other more fundamental changes could be proposed, namely:-

1. an exclusion from the CEI component of the credit calculation for Interconnector BM Units.
2. the P2 alternative modification, extrapolating circa 21 days AEI to cover the remainder of the 29 day period by using the II information on metered volumes. AEI continues to be used for circa 21 days, CEI is used for the remainder but with CAQCE not based on CALF and GC/DC, but upon an extrapolation of the metered volumes seen during the AEI period.
3. an alternative to 3 and may be to extrapolate the trading charges.
4. the provision of credit cover through central industry indemnity insurance. The BSCCo to seek insurance cover against the risk of exposure to bad debts resulting from unpaid trading charges. This cost to be recharged to BSC Parties according to metered volumes or trading charges as a BSCCo charge.

Comment

Elexon have tried to analyse the impact of some of these proposals, but have been unable to recommend any particular approach for adoption. Paper ISG/27/309 refers. Elexon modelled the effect on the CEI calculation for Interconnector Users by looking at the following:

1. As per Option 1 above.
2. As per Option 1 combined with Option 5 above.

3. As per Option 1 but using the date range of Option 5 only.
4. As per Option 4.

Moreover they could not identify any advantage in any of the proposals when compared to the existing methodology. Their concern was that the proposals would result in high negative CEI for Interconnector Users and that in their view this would not adequately reflect the credit risk that IUs pose other BSC parties.

In contrast, from a User's perspective, each of the proposals above has some merit and if combined they could significantly ameleorate the difficulties that would, at the very least, avoid the necessity of having to appeal the CALF values using the current methodology. Furthermore, there needs to be an understanding of the risks posed by Interconnector Users, before any of the proposals can be dismissed.

Putting up letters of credit to cover the potential risks to the market is understood and accepted. The difficulty comes when the perceived risk, due to a particular method of calculation, is much higher than reality. The problem is then compounded when the methodology is such that the CEI value can go extremely high for trading conditions that are very likely to occur and can occur very quickly.

In Conclusion

The interconnector methodology is acknowledged as being flawed. It effectively pre-supposes that the Interconnector Users are a bad credit risk. It imposes unnecessary costs if the interconnector trading party is to cover the worst case scenario ie when it trades at a higher level during the last 7-10 days, as compared to the average trading volume over the whole of the corresponding season last year.

A new methodology is sought that might fairly reflect the risks imposed by the Interconnector User on the E&W market and the SSMG is asked to reflect on the possible options identified or on any other methodology that might be appropriate.

Should such a methodology be found then the SSMG is also asked to identify the best way forward and how it should be implemented, whether by changes to the CALF Guidelines or by raising a BSC modification.

Steve Drummond
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Appendix 1
Use of CALF and GC/DC in the Energy Indebtedness Calculation
The system parameter of Credit Assessment Load Factor (CALF), as described in section M.1.5 of the BSC, is central to the determination of a Trading Party's Energy Indebtedness. The amount of Credit Cover that a BSC Party is required to lodge to cover their Energy Indebtedness is calculated from a combination of Actual Energy Indebtedness (AEI) and Credited Energy Indebtedness (CEI), with the latter used for that portion of the 29 day period for which Interim Information Settlement Run data is not available. This calculation is prescribed in Section M, 'Credit Cover and Credit Default', of the BSC, and is briefly outlined below.

Credited Energy Indebtedness is calculated as:
$CEI_{pj} = - (\sum_{a,i} CAQCE_{iaj} - \sum_{a} QABC_{aj})$

With Credit Assessment Credited Energy Volume (CAQCE) for the Lead Energy Account for a Production BM Unit defined as:
$CAQCE_{iaj} = (SPD * BMCAEC_i) - \sum_{a} CAQCE_{iaj}$

With CAQCE for the Lead Energy Account for a Consumption BM Unit defined as:
$CAQCE_{iaj} = (SPD * BMCAIC_i) - \sum_{a} CAQCE_{iaj}$

With BM Unit Credit Assessment Export Capability (BMCAEC) defined as:
$BMCAEC_i = CALF_i * GC_i$

With BM Unit Credit Assessment Import Capability (BMCAIC) defined as:
$BMCAIC_i = CALF_i * DC_i$

With Generation Capacity (GC) defined as:
GC = G / SPD
Where G is the value of positive QM_{ij} notified under clause K 3.4.1(a) in relation to the relevant BSC Season.

With Demand Capacity (DC) defined as:
DC = D / SPD
Where D is the value of negative QM_{ij} notified under clause K 3.4.1(b) in relation to the relevant BSC Season.

A CALF value is determined for each BM Unit in relation to every BSC Season and the principles by which CALF values are calculated for each BM Unit are defined in the CALF Guidelines document, which is published on the ELEXON website.
The magnitude of BMCAEC or BMCAIC will be dependent on the CALF value calculated (using the GC/DC values of last year) and the magnitude of GC and DC values submitted for the current season.