

**Draft Modification Report**  
**Modification Reference Number 0236 / 0236a**  
**Nationally Diversified Load Factors**

This draft Modification Report is made pursuant to Rule 8.9 of the Modification Rules and follows the format required under Rule 8.9.3.

**1. The Modification Proposal:**

The Network Code (section H4.3.3) lays down three Nationally Diversified Load Factors (NDLFs) for non-daily-metered loads, as follows:

0-2500 thms/yr (0-73.2 MWh/yr)	36%.
2500-25000 thms/yr (73.2-732 MWh/yr)	39%.
25000-75000 thms/yr (732-2196 MWh/yr)	43%.

Load factor estimates are generated each year from load analyses. The resulting NDM end user category (EUC) load factors within each of the three load bands are then scaled to the three factors above, on a national basis.

The three factors are the result of research dating from before the Network Code.

Transco have carried out annual analyses of NDM loads and profiles based on data recorder data for small loads and datalogger data for larger loads. The average results from the last three years show that the NDLF for the 0-2500 thms/yr band is approximately correct, but that the 39% and 43% assumed for the 2500-25000 thms/yr and 25000-75000 thms/yr bands are too high.

British Gas Trading put forward three possible alternatives for addressing this :

- a) updating the nationally diversified load factors to reflect the analysis performed since 1995.
- b) removal of the nationally diversified load factors, leaving each year's best estimates to stand unscaled, or
- c) some intermediate position

British Gas Trading recommended that the simplest option would be option b), leaving each year's best estimates to stand unscaled.

Removal of the Nationally Diversified Load Factors may lead to price volatility year on year, especially in the 25000-75000 thm/yr category. As an alternative, a proposal was put forward by Transco that each year the three nationally diversified load factors could be set to the average of the value used previously and the value estimated from the new analysis.

At the request of the Capacity workstream, the Demand Estimation Sub-Committee have carried out analysis to develop alternative values for the existing NDLFs. From the results of the analysis, the following revised values are proposed :

<b>Consumption Range</b>	<b>NDLF</b>
0-2500 thms/yr (0-73.2 MWh/yr)	36.5 %
2500-25000 thms/yr (73.2-732 MWh/yr)	34.0 %
25000-75000 thms/yr (732-2196 MWh/yr)	37.0 %

Further details on the analysis undertaken by the Demand Estimation Sub-Committee are attached. The charging impacts of these new values are also set out in the attached paper.

## **2. Transco's opinion:**

Removing the Nationally Diversified Load Factors and substituting the unscaled national average load factors from annual NDM analyses could lead to volatility in NDM supply point capacity bookings and also price volatility.

Setting the three nationally diversified load factors to the average of the value used previously and the value estimated from the new analyses would result in NDLFs changing from year to year, which in turn could also cause volatility.

Transco believes that the revised values of NDLFs developed by the Demand Estimation Sub-Committee are a better representation of the respective consumption ranges than the values of NDLFs currently in use.

The issues are :

should the current values be replaced ?

if so, should they be replaced in one step or on a phased basis ?

if phased, what phasing should be applied ?

how often should values of NDLFs be reviewed thereafter ?

Transco considers that the values developed by the Demand Estimation Sub-Committee are an appropriate target. A move to these new values in phases is proposed (to mitigate the commercial impacts on shippers adversely affected by the changes). Furthermore, Transco considers that the values of NDLFs should be reviewed at periodic intervals.

Specifically, Transco would propose that the following NDLF values should be adopted :

<b>Consumption Range</b>	<b>NDLF 1999/00</b>	<b>NDLF 2000/01</b>	<b>NDLF 2001/02</b>
0-2500 thms/yr (0-73.2 MWh/yr)	36.5 %	36.5%	36.5%
2500-25000 thms/yr (73.2-732 MWh/yr)	37.0 %	35%	34%
25000-75000 thms/yr (732-2196 MWh/yr)	41.0 %	39%	37%

The charging impacts of these restricted values are as set out in the attached paper.

No later than two years after adoption of the full revised values, the Demand Estimation Sub-Committee should be invited to investigate again whether the revised values of NDLFs are still applicable, and make proposals for any further modifications as may be required at that time.

### **3. Extent to which the proposed modification would better facilitate the relevant objectives:**

Based on the Demand Estimation Sub-Committee's work, maintaining the current NDLFs for the non-domestic NDM load bands could result in Shippers supplying the domestic sector attracting relatively high capacity based transportation charges. Implementation of the revised NDLFs would better facilitate the relevant objectives by increasing the cost reflectivity of transportation charges.

### **4. The implications for Transco of implementing the Modification Proposal, including:**

#### **a) implications for the operation of the System:**

Transco is not aware of any implications for the operation of the System

#### **b) development and capital cost and operating cost implications:**

Transco is not aware of any development or capital cost implications.

#### **c) extent to which it is appropriate for Transco to recover the costs, and proposal for the most appropriate way for Transco to recover the costs:**

Not applicable.

d) **Analysis of the consequences (if any) this proposal would have on price regulation:**

Adopting the new proposed values for NDLFs would have an impact on transportation charges. NDLF values are used to estimate supply point and exit capacity bookings for loads in these bands and hence to estimate how much revenue the capacity charges will recover.

Transportation charges are set with a view to recovering a certain level of revenue. Any changes to the NDLF values could therefore affect the level of price change and also the average level of price change within a load band. This impact is assessed in the attached paper.

In summary, if NDLFs are changed to the proposed values, this would require transportation charges to be reduced by 0.4% on average in order to recover the same revenue. However the NDLF changes would give increases in the typical transportation charges for loads in the two bands above 73.2 MWh per annum. The phasing proposals set out in this modification report should mitigate the potential adverse affects of this.

5. **The consequence of implementing the Modification Proposal on the level of contractual risk to Transco under the Network Code as modified by the Modification Proposal:**

Transco is not aware of any consequences of implementing this proposal on the level of contractual risk.

6. **The development implications and other implications for computer systems of Transco and related computer systems of Users:**

Transco is not aware of any implications for computer systems. Nevertheless, the scaling of NDM EUC load factors would need to be done to the newly adopted NDLF values and the charging computations would need to use the newly adopted values of NDLFs

7. **The implications of implementing the Modification Proposal for Users:**

As discussed under section 4d, implementing the proposal could have an affect on transportation charges for Users.

8. **The implications of implementing the Modification Proposal for Terminal Operators, Consumers, Connected System Operators, Storage Operators, suppliers, producers and, any Non-Network Code Party:**

Implementing the Modification Proposal should reduce the potential cross-subsidy between non-domestic and domestic NDM customers

9. **Consequences on the legislative and regulatory obligations and contractual relationships of Transco and each User and Non-Network Code Party of implementing the Modification Proposal:**

Transco is not aware of any consequences.

10. **Analysis of any advantages or disadvantages of implementation of the Modification Proposal:**

Advantages :

Evidence from analysis for the period 1996 to 1998 has shown that the NDLFs for the 73.2 to 732 MWh/a and the 732 to 2196 MWh/a sectors are overstated. This suggests that a degree of cross subsidy may exist.

Implementation of this proposal would result in more reflective NDM load factors and therefore more cost reflective gas transportation charges and a more reflective gas allocation basis.

Disadvantages :

The changes may have adverse impacts on shippers' commercial arrangements already in place with end-consumers, in terms of increased non-domestic transportation charges. To mitigate these effects the proposal is for a phased change from the current NDLFs to the revised ones.

11. **Summary of the Representations (to the extent that the import of those representations are not reflected elsewhere in the Modification Report):**

This draft report is being issued for representations.

12. **The extent to which the implementation is required to enable Transco to facilitate compliance with safety or other legislation:**

Implementation is not required to facilitate compliance with safety or other legislation.

13. **The extent to which the implementation is required having regard to any proposed change in the methodology established under Standard Condition 3(5) of the statement; furnished by Transco under Standard Condition 3(1) of the Licence:**

Transco does not believe that implementation is required as a result of a methodology change.

14. **Programme of works required as a consequence of implementing the Modification Proposal:**

There are no modifications required to the UK-Link Systems and therefore a programme of works will not be required as a result of implementing this Modification Proposal.

15. **Proposed implementation timetable (inc timetable for any necessary information systems changes):**

It is proposed that the revised NDLFs should be adopted for application in the gas year 1999/2000. This would require the Modification Proposal to be implemented by the end of March 1999, in order to allow the revisions to be reflected in both the Pricing and Demand Estimation proposals, due to be published in May and June 1999.

16. **Recommendation concerning the implementation of the Modification Proposal:**

Transco proposes that if NDLFs are amended this should be implemented as set out in this draft modification report.

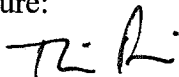
17. **Text :**

To be provided with the Final Modification Report, subject to Shipper Representations.

Representations are now sought in respect of this Draft Report and prior to Transco finalising the Report.

Signed for and on behalf of Transco.

Signature:



**Tim Davis**  
**Manager, Network Code**

Date: 5/2/99

## **Modification Proposal 0236/236(A)**

### **Nationally Diversified Load Factors**

It was proposed that possible revised values to replace the current Nationally Diversified Load Factors (NDLFs) should be discussed at a technical level at the Demand Estimation Sub-Committee (DESC), with DESC asked to report back to the Capacity Workstream before the end of 1998.

This has now been done and this report and the attached Note on NDLFs constitute the outcome of those discussions.

Possible revised NDLFs and more specifically the attached note including specific conclusions were discussed at DESC meetings on 21st October and 25th November respectively.

Subsequent to the 25th November meeting, DESC members were requested to write in by Tuesday 8th December, with any comments that they wished to have appended to this submission to the Capacity Workstream. There were no such submissions received from DESC members. However, for information, an extract from the notes of the 25th November DESC meeting, covering the discussions that took place on NDLFs, is also attached.

Based on the analysis undertaken, the following values are referred back to the Capacity Workstream for further consideration as potential replacement values to the current NDLFs.

<b>Consumption Range</b>	<b>NDLF</b>
0 - 73.2 MWh pa	36.5%
73.2 - 732 MWh pa	34.0%
732 - 2196 MWh pa	37.0%

In principle, these figures or another set determined by the Capacity Workstream could be adopted as NDLFs for application in gas year 1999/2000 provided agreement is reached and Network Code modifications are completed by March 1999. This timing should allow the revisions to be reflected in both Pricing and Demand Estimation proposals due to be published in May and June 1999, respectively.

## **Note on average load factors and NDLFs**

### **Background**

At the DESC meeting on 21 October Transco gave a slide presentation on an analysis of "Small NDM" load factors with the intention of informing the debate on Nationally Diversified Load Factors (NDLFs). The Capacity Workstream has referred Network Code Modification 236/236a, which proposes a revision to the current values of NDLFs, to DESC for consideration. DESC is required to report back to the Capacity workstream by end 1998 with its view of the best estimates of national average load factors for the relevant small NDM consumption bands.

This note summarises and provides further explanation of the load factor material presented to DESC. Additional material not previously presented to DESC is also provided.

### **1. Current position**

The current values of the NDLFs are set out in section H of the Network Code as follows:

0-73.2 MWh pa:	36%
73.2-732 MWh pa:	39%
732-2196 MWh pa:	43%

The purpose of the NDLFs is to achieve consistency between the load factors used to estimate NDM supply point and LDZ capacity bookings, and the load factors assumed by Pricing in calculating the unit transportation capacity charges.

Estimates of national average load factors for each of these three consumption bands are now available from the NDM sample data analysis conducted and published in June 1996, 1997 and 1998. These estimates tend to suggest that the current NDLFs do not accurately represent the characteristics of demand in at least some of the consumption bands.

Note that estimates of load factor were also derived in June 1995 but these are not regarded as useful in the context of this current analysis because of the paucity of sample consumption data available at the time.

### **2. Estimates of load factors 1996 to 1998**

Estimates of national average load factors for each of the three consumption bands were presented to DESC, on three different bases.

The three bases were:

- i) unscaled national average
- ii) "large NDM" approach
- iii) unscaled national average with "WALP equivalent" AQs



Load factor is defined as the ratio of average daily demand to (1 in 20) peak day demand. The variation in the load factor estimates across the bases can be due to differences in either or both of these demand estimates.

In all three cases the calculation of the national average is made in the same way - that is a weighted average of individual EUC load factors, with the population aggregate AQs for each EUC providing the weights. More precisely, the averaging is applied to the reciprocals of the load factors.

All the load factor estimates referred to below are summarised in Appendix 1.

## **2.1 Unscaled national average**

This version of the average load factors is based on the "official" EUC load factors as published in the NDM profiling report each year, prior to their being scaled to the relevant NDLF.

The peak day estimate for each EUC is derived using the simulation methodology described elsewhere, applied to the EUC demand model. The average daily demand is based on the aggregate AQ ("Demand Estimation" basis) for the particular EUC sample, divided by 365. The "Demand Estimation" AQs are derived from actual recorded consumptions for the most recent 12 month period available at the time, corrected to seasonal normal conditions using the "LDZ degree day" approach. This is described in Appendix 2.

A weakness of the LDZ degree day method is that it applies the same percentage weather correction (for any particular period) to each EUC. Insofar as small consumption customers tend to be more weather-sensitive than large consumption customers, this means that insufficient weather correction is applied to, for example, EUC bands 01 and 02. Thus, in a warm year, AQs for these EUCs will tend to be understated, and in a cold year overstated. The reverse holds for EUCs at the other end of the range.

The consequence of this is that variations - albeit quite small, second order variations - in (unscaled) load factors can arise simply because of variations in the severity of the weather, year on year. The scaling of load factors to NDLFs eliminates this effect (in the small NDM market) from the load factors used for charging purposes.

A more complete description of the calculation of small NDM load factors is given in Appendix 8 of the NDM profiling report.

## **2.2 "Large NDM" approach**

In this case small NDM EUC load factors have been calculated by applying the large NDM approach as specified in the Network Code.

Briefly, this approach uses estimates of the 1 in 20 peak day, and the average day demand by reference to the NDM profiling algorithm and the relevant EUC profiling parameters.

Thus, peak demand =  $AQ/365 * ALP\{1 + WCF_{pk} * DAF\}$

and average demand =  $AQ/365$

and therefore load factor =  $1/ALP\{1 + WCF_{pk} * DAF\}$

The  $WCF_{pk}$  term is determined by reference to estimates of LDZ 1 in 20 peak (maximum potential) demand and maximum seasonal normal demand as follows:

$$WCF_{pk} = (\text{Peak demand} - \text{SND})/\text{SND}$$

The day of maximum seasonal normal demand which is taken as the base in the calculation of  $WCF_{pk}$  falls on a weekday. For this reason the estimate of EUC peak demand generated also relates to (the same) weekday. For most EUCs this is appropriate, but since domestic demand shows a small increase at weekends, this approach could lead to a slight overstatement of the load factor (understatement of peak) for the 0-73.2 consumption band.

A more extensive description of this approach is given in Appendix 8 of the NDM profiling report.

### **2.3 Unscaled national average with "WALP equivalent" AQs**

In this case load factors have been calculated using the same simulated peak day estimates described in 2.1 above, but with average daily demands based on revised AQ estimates. Instead of the LDZ degree day adjustment, EUC-specific degree day values have been used as the basis of the weather correction. This method overcomes the disadvantage of the LDZ degree day approach by applying a more appropriate weather sensitivity to each EUC. This method of correction is close to the "WALP-based" system used by UK-Link for the annual AQ review.

This method reduces the volatility caused by variations in the severity of the weather from year to year and may therefore be regarded as a more suitable basis for judging the underlying "true" load factor of each EUC or load band.

## **3. Further estimates of load factors**

Following discussion at DESC, it was agreed that it would be helpful to generate further estimates of average load factor for each EUC, based on averaging the **EUC models** over the three years 1996 to 1998, and then to calculate national average load factors for each of the defined (for NDLF purposes) consumption bands.

Load factors have been derived on this basis, and on one further basis, the reason for which is explained below.

### **3.1 Smoothed EUC model basis**

In this exercise, the following form of EUC model has been used for convenience:

$$D = \text{SND} + \text{WSENS} * (\text{CWV} - \text{SNCWV})$$

The pattern of SNDs (seasonal normal demand) through the year is the basis of the ALPs for the EUC, and the WSENS (weather sensitivity term) is the slope coefficient from the linear regression model, and a component in the calculation of the DAFs for the EUC.

Essentially, the smoothed 3-year model was calculated by averaging the three SND profiles, and averaging the three weather sensitivity terms. This required the following steps:

- i) Each year's model projected onto the 1998/9 calendar (so that weekends and holidays aligned)
- ii) Each model's SNDs and WSENS values scaled to the same (1998) aggregate SND - ie annual demand
- iii) For each day number, average SND and WSENS values calculated
- iv) The parameters of the error term were also averaged (ie standard deviation of error term, and autocorrelation coefficient).

The peak day demand was estimated using the simulation methodology as in 2.1 and 2.3 above. The average daily demand was taken as simply the average of the SNDs.

### **3.2 Unscaled national average using average SND**

The use of average SND as the estimate of average daily demand in the smoothed model case described above, presents the possibility of a further variant of the unscaled national average load factors. Previous cases (2.1 and 2.3 above) used the simulation-based estimates of peak days, but with average daily demand based on the sample AQs.

The use of average SND has the advantage of not being affected by the accuracy of the weather correction. However, it is dependent on the quality of the modelling of demand throughout the year, including holidays and periods of "summer droop".

## **4. Conclusions**

Average load factors for each of the consumption bands 0-73.2, 73.2-732 and 732-2196 MWh pa have been calculated on five different bases. The results show a high degree of consistency with each other but significant differences, for two out of three consumption bands, from the current NDLFs. On this basis there is a strong case for the review of the NDLF values.

As to which set of figures is regarded as most reliable, it is suggested that of the three variants of unscaled national averages, the second and third are preferred (ie methods 2.3 and 3.2) because of the improved estimates of average demand on which they are based.

Comparing the average of these unscaled national average figures with the large NDM basis and the smoothed model basis gives the following:

	0-73.2	73.2-732	732-2196
Unscaled nat. av.	36.3%	34.0%	37.5%
Large NDM basis	37.4%	34.1%	37.7%
Smoothed model basis	36.3%	34.0%	36.5%

As noted above, there are grounds for believing that the estimate of load factor for the 0-73.2 MWh band, on the large NDM basis, may be overstated. If this one figure is set aside, the remaining figures yield the following overall averages, rounded to the nearest 0.5%:

	0-73.2	73.2-732	732-2196
Overall averages	36.5%	34.0%	37.0%

It is suggested that these figures are referred back to the Capacity workstream for further consideration. In principle, these figures or another set determined by the Capacity workstream could be adopted as NDLFs for application in gas year 1999/2000 provided agreement is reached and Network Code modifications are completed by March 1999. This timing should allow the revisions to be reflected in both Pricing and Demand Estimation proposals due to be published in May and June 1999.

## **Appendix 1**

### **Estimates of national average load factors on various bases**

#### **Unscaled national averages**

	<b>0-73.2 MWh</b>	<b>73.2-732 MWh</b>	<b>732-2196 MWh</b>
1996	36.4%	35.4%	41.2%
1997	36.5%	32.7%	35.6%
1998	34.7%	32.5%	34.7%
Average	35.9%	33.5%	37.2%

#### **Large NDM basis**

	<b>0-73.2 MWh</b>	<b>73.2-732 MWh</b>	<b>732-2196 MWh</b>
1996	37.7%	35.4%	41.2%
1997	37.1%	33.2%	36.3%
1998	37.5%	33.6%	35.6%
Average	37.4%	34.1%	37.7%

#### **Unscaled national averages - WALP AQ equivalent**

	<b>0-73.2 MWh</b>	<b>73.2-732 MWh</b>	<b>732-2196 MWh</b>
1996	36.6%	35.8%	41.2%
1997	36.7%	33.3%	35.8%
1998	35.8%	33.4%	35.1%
Average	36.4%	34.2%	37.4%

**Smoothed model basis**

	<b>0-73.2 MWh</b>	<b>73.2-732 MWh</b>	<b>732-2196 MWh</b>
Average	36.3%	34.0%	36.5%

**Unscaled national averages using average SND**

	<b>0-73.2 MWh</b>	<b>73.2-732 MWh</b>	<b>732-2196 MWh</b>
1996	36.8%	35.3%	41.2%
1997	36.3%	33.3%	36.5%
1998	35.8%	33.0%	35.0%
Average	36.3%	33.9%	37.6%

## **Summary of Discussion on NDLFs at the DESC Meeting**

**Held at 140 Tottenham Court Road London 25-11-98**

### Attendance :

Richard Robinson	Transco
Chris Burston	Transco
Simon Durk	Transco
David Musgrove	Transco
Cristina Butler	British Gas Trading
Graham Pratt	British Gas Trading
Matt Brilus	PowerGen/Kinetica
Eleanor Plant	Yorkshire Energy
Bruno Henri	Total Gas Marketing
Patrick Smart	Eastern
Alex Belcher	BP Gas
Ayesha Uvais	Ofgas

### Apologies :

Sharif Islam	Agas
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### **National Diversified Load Factors (NDLFs)**

Following discussion at the previous meeting Transco presented a note explaining the analysis of national average load factors. In addition to an explanation of the average load factors presented at the last meeting, two further estimates of averages were presented:

smoothed EUC model basis  
unscaled national average using average SND

Based on the analysis Transco proposed referring the following values back to the Capacity Workstream for further consideration.

0 - 73.2 MWh pa	36.5%
73.2 - 732 MWh pa	34.0%
732 - 2196 MWh pa	37.0%

Cristina Butler expressed concern that the Transco sample is biased to the lower consumption end, leading to an unrepresentative average AQ.

Transco responded that the AQ difference was not important as both the average demand and the peak will be equally affected. Analysis of the "domestic" BGT and Transco samples presented at the previous meeting had produced very similar indicative load factors at

national level (Note: the figures, which were not quoted at the meeting, are 35.5% based on the British Gas Trading data and 35.9% using the Transco data).

Bruno Henri pointed out that analysis of the 0 - 2 MWh pa band revealed that the load factor in this band is much higher than for the rest of the domestic sample, and that if the Transco sample is biased towards lower AQs the "domestic" load factor based on the Transco sample would be expected to be overstated.

Ayesha Uvais suggested omitting the results for 1996 in calculating the averages, as these appear different from the following years.

Patrick Smart commented that given a sample of three values, excluding one value on the grounds of inconsistency was inadvisable.

Transco advised that the note would be sent to the capacity workstream, appended with any comments from members. Accordingly, members are asked to write in with any comments which they wish to have appended (by Tuesday 8th December).



## **EFFECT OF NDLFS ON TRANSPORTATION CHARGES**

### **Background**

In setting the transportation charges the current NDLF values are assumed, namely:

0-73.2 MWh pa:	36%
73.2-732 MWh pa:	39%
732-2196 MWh pa:	43%

These values are used to estimate the supply point and LDZ capacity bookings for loads in these bands, and hence to estimate how much revenue the capacity charges will recover.

Transportation charges are set with a view to recovering a certain level of revenue. Any changes to the NDLF values will therefore affect the overall level of price change and also the average level of price change within a load band.

### **Analysis**

In the following analysis the effect on the level of transportation charges, for the load band and overall, of changing any of the individual NDLFs has been identified. The analysis then illustrates the effect of changing all the NDLFs to new values.

For example, changing the domestic NDLF from 36% to 37% would reduce the capacity booking within this band and hence the amount recovered from a given level of capacity charge. This reduction, expressed as a percentage of the average transportation charge (including NTS, fixed and commodity charges) for loads within the band is 1%. Since revenue from domestic loads accounts for around three quarters of all transportation revenue this change would reduce total transportation revenue by 0.8% (to one decimal place). This NDLF change would thus require transportation charges to be set 0.8% higher on average to recover a set revenue level. The net effect of the change would be that domestic charges would be 0.2% lower and non-domestic charges 0.8% higher on average.

<b>Change</b>	<b>Direct change for load band</b>	<b>Overall Change</b>	<b>Net change for load band after adjusting for overall change</b>
<b>0 - 73.2 MWh</b>			
36% to 37%	-1.0%	-0.8%	-0.2%
36% to 36.5%	-0.5%	-0.4%	-0.1%
<b>73.2 - 732 MWh</b>			
39% to 38%	+1.2%	+0.1%	+1.1%
39% to 37%	+2.4%	+0.2%	+2.2%
39% to 34%	+6.6%	+0.5%	+6.1%

**732 - 2196 MWh**

43% to 42%	+1.2%	+0.05%	+1.15%
43% to 41%	+2.4%	+0.1%	+2.3%
43% to 37%	+7.8%	+0.3%	+7.5%

With changes to all three bands' NDLFs to values shown below:

**Case A: "Suggested Values"**

0-73.2:	36.5%	-0.5%	Overall	-0.9%
73.2-732:	34.0%	+6.6%	effect	+6.2%
732-2196:	37.0%	+7.8%	+0.4%	+7.4%

**Case B: "Restricted Values"**

0-73.2:	36.5%	-0.5%	Overall	-0.4%
73.2-732:	37.0%	+2.4%	effect	+2.5%
732-2196:	41.0%	+2.4%	-0.1%	+2.5%

**Conclusions**

If the NDLFs are changed to the "suggested" values in Case A this would require transportation charges to be reduced by 0.4% on average in order to recover the same revenue. However the NDLF changes would give large increases in the typical transportation charges for loads in the two bands above 73.2 MWh per annum.

This level of change might be considered to be too large unless it was implemented at a time when the overall level of prices was reduced for other reasons. To avoid this level of change at one time it might be better to restrict the amount of change in the NDLF for any load band to, say, 2% at any one time.

If this restriction were imposed the load factors might be changed to those shown in Case B. With these changes there would be a very small overall effect on revenue and the typical increase in the transportation charges for loads in the two bands above 73.2 MWh per annum would be around 2.5% (excluding any other price changes). If the sample data analysis continued to suggest that the load factors in these bands should be lower then further changes, within this restriction, could be implemented in following years.