

UNIDENTIFIED GAS

# Impact Assessment of LDZ Level UIG Factors

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 Customer: Xoserve Holywell Park  
 Customer contact: Fiona Cottam Ashby Road  
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Prepared by: Verified by: Approved by:

Andy Gordon  
Senior Consultant

Clive Whitehand  
Head of Section

[Name]  
[title]

Tony Perchard  
Principal Consultant

[Name]  
[title]

[Name]  
[title]

[Name]  
[title]

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## 1 INTRODUCTION

This document provides an assessment of the viability and merits of introducing LDZ level UIG factors to the Allocation of Unidentified Gas process to provide improved granularity compared to the national level factors currently in place.

It considers the level of data and calculations currently used, and the changes that would be required for the AUGGE to generate LDZ level factors. Consideration is also given to the impact on industry participants including the CDSP and code parties.

An assessment of the implementation of LDZ level factors is also given.

## 2 SUMMARY OF CALCULATIONS

### 2.1 Existing Calculations

The existing Unidentified Gas calculations use some data split by LDZ, and at present these are aggregated to the national level for factor calculation. Where this is the case, the update required is to extend the factor calculation methodology to use the LDZ-by-LDZ information and to create 13 sets of factors, one per LDZ.

For other data there is currently no split by LDZ and so the underlying calculation methods will have to be updated to incorporate this split. The current level of granularity for each data type is shown in the table below. The table below shows data types that require changes to the calculation method to include a split by LDZ and are shown in red.

Data Type	Current Granularity	Comment
Consumption Method (total Unidentified Gas estimate)	LDZ	
Allocations	LDZ	
Corrections (Unique Sites, DM, LDZ)	LDZ	
Shipperless/Unregistered sites	LDZ / Product Class / EUC	
Consumer Meter Errors	LDZ / Product Class / EUC	
Detected Theft	LDZ / Product Class / EUC	
CSEPS	LDZ / Product Class / EUC	
Detected Theft	LDZ / Product Class / EUC	
Undetected Theft	Product Class / EUC	
Pressure Correction	National	
Temperature Correction	National	Currently set to zero
Balancing Factor	National	

## 2.2 Changes Required to Support LDZ Level Factors

Updating the factor calculations to work by LDZ and output 13 sets of factors is relatively straightforward, and this will cover the first 7 data types listed in the table above. The largest piece of work associated with this is carrying out the factor smoothing and Quality Assurance on 13 sets of factors instead of one.

The four data types where fundamental changes to calculations are required, and the issues associated with each, are listed below.

### **Undetected Theft**

The TRAS data supplied to the AUGE contains dummy MPRN, which can be used to query the LDZ for each theft from the asset data. The undetected theft analysis can therefore be updated to work on an LDZ by LDZ basis.

### **Pressure Correction**

Calculations are currently carried out at the aggregated national level, but the necessary data exists at the LDZ level. This analysis can therefore be updated to work on an LDZ by LDZ basis.

### **Temperature Correction**

The AUGE is currently carrying out analysis on the effect of meter temperature on UIG. This analysis is being done at LDZ level, but results will be aggregated to obtain the national effect. If required, the LDZ results would be available. The temperature analysis (at LDZ level) will be documented in the next AUG Statement.

### **Balancing Factor**

The ability to split the Balancing Factor by LDZ is a natural consequence of calculating all the other component parts of the analysis at this level.

## 3 INDUSTRY IMPACT

The three major industry players affected by a change to LDZ-level factors are the AUGE, the CDSP and code parties. The impact on each is summarised below.

### **AUGE**

The AUGE's calculation systems for Undetected Theft, Pressure Correction, Temperature Correction and the Balancing Factor will have to be updated to function at the LDZ level. Factor calculations will have to be updated to accept this new level of data and produce 13 sets of factors instead of one. Factor smoothing and quality assurance will have to be carried out on all 13 sets. We estimate that all the above will take a total of 20 FTE-days effort to initially implement and then up to a further 5 FTE-days effort per year thereafter to produce the larger set of factors and quality check. (The calculations/processing will mostly be automated, but there will be more data to validate and more factors to verify).

### **CDSP**

The CDSP will have to update their settlement system to hold 13 tables of factors instead of one, and to look up the correct factors for each LDZ during calculations. We understand the CDSP will need to carry out an impact assessment including a test phase for any subsequent implementation.

## Code Parties

A Network Code Modification would be required to amend the UIG factors table to include LDZ level factors, as the format is set out in UNC section E rather than in the "Framework for the Appointment of an AUGÉ" document. This will have to be proposed by a code party. Code parties may need to update their systems to account for LDZ level factors (e.g. modelling of portfolio costs etc). Feedback on potential changes will be requested.

## 4 UIG PROCESS IMPACT

It should be noted that total UIG is already apportioned at an LDZ level. However, the factors used to split the total UIG by EUC and product class are currently the same for all LDZs. Implementing different UIG factors by LDZ will allow the split of UIG between different EUCs and product classes to vary by LDZ but will not change the total amount of UIG in each LDZ.

The key impacts on the UIG calculation processes of changing to LDZ level factors are as follows:

- LDZ level factors will show differences in the pattern of factors from LDZ to LDZ. The key contributors to these differences will be:
  - Any differences in theft patterns between LDZs.
  - Differences in average gas temperature between LDZs.

We believe that the dominant effect will be temperature, and as such we recommend that LDZ level factors should only be used in conjunction with a non-zero temperature correction.


- A successful implementation of LDZ level factors will lead to a more accurate assignment of UIG to EUCs and Product Classes in each region of the country.
- There will be greater transparency in terms of where UIG arises from which may allow targeted effort to reduce UIG in these areas
- There may be commercial impacts on consumers if UIG costs are distributed regionally by suppliers.
- UIG is produced at an LDZ level, the LDZ factors will refine how that is distributed across product classes by LDZ but will not move UIG between LDZs.

## 5 CONCLUSIONS/RECOMMENDATIONS

From a technical perspective, we conclude that the calculation of UIG factors by LDZ is viable and relatively straightforward for the AUGÉ to implement.

LDZ level factors have the potential to provide a more accurate split of UIG by EUC and Product Class for each region of the country, but this benefit will only be realised in full if a non-zero temperature correction effect is also implemented. This is made feasible through DNV GL's access to the Gas Temperature Survey report GRTC R3895, and this is planned as part of the 2020/21 factor analysis.

CDSP system changes will be required in order to support LDZ level UIG factors.



The following recommendations are made:

- The CDSP should carry out an impact analysis to assess what changes will be required to their settlement system and the costs associated with this.
- Code parties should assess the potential impact on their systems and processes.
- The output of the Meter Temperature analysis by LDZ is required to determine whether the investment in moving to LDZ factors is justified
- The output of the Undetected theft analysis by LDZ is required to determine whether the investment in moving to LDZ factors is justified.
- This draft discussion paper should be published for review at an interim AUG Sub-committee meeting to capture any queries/feedback.



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