Purpose

This paper sets out the background to the current discussions around the timing of cut-over from the current NDM Demand Attribution processes (used in day-ahead Gas Nominations and after-the-day Gas Allocations) to the new Demand Allocation arrangements as identified within the Project Nexus Requirements Definition exercise, which will be implemented within the UKLink Replacement Project. It goes on to set out the issues involved and the key considerations and makes a final recommendation for an approach to cut-over.

For the purpose of this note Unidentified Gas is gas consumed in an LDZ which cannot be attributed to a live meter point. Under the current regime this can only be estimated and the Allocation of Unidentified Gas processes seek to re-apportion a fixed annual quantity of energy between sectors.

Background

The Project Nexus Business Requirements contain a number of key changes, with further knock-on implications:

- An aspiration for universal Meter Point Reconciliation,

    which means that:

- the current Reconciliation by Difference arrangements no longer apply;

    and

- it is no longer sustainable to expect the Smaller Supply Point sector to bear all the risks and rewards of Unidentified Gas (UG); so

- a new approach to distributing UG is required, and

- the chosen approach is a universal smear of UG to all Supply Points on the basis of their recorded consumption for the Gas Day.

The current NDM Nomination/Allocation algorithm does not support a universal sharing of UG; because

- it is a top-down allocation process, designed to account for all NDM energy, where NDM energy is the balancing figure; but

- NDM energy will no longer be the balancing figure; instead

- UG will be determined by comparing total DM and NDM demand to LDZ consumption, net of Shrinkage

    which means that

- A new means of estimating NDM Demand without reference to total LDZ Consumption is required.

DESC identified a slight amendment to the current NDM Apportionment formula, which would allow it to operate bottom-up to estimate NDM Demand, as an initial solution to the requirement for a new NDM Algorithm.

The new NDM Demand Estimation formula will:

- Use current ALPs (Annual Load Profiles) plus

- A new format of DAF (Daily Adjustment Factor), although based on the current NDM End User Category (EUC) Demand Models; and

- A new form of Weather Correction Factor, using actual weather data and having no reference to any version of Seasonal Normal Demand.
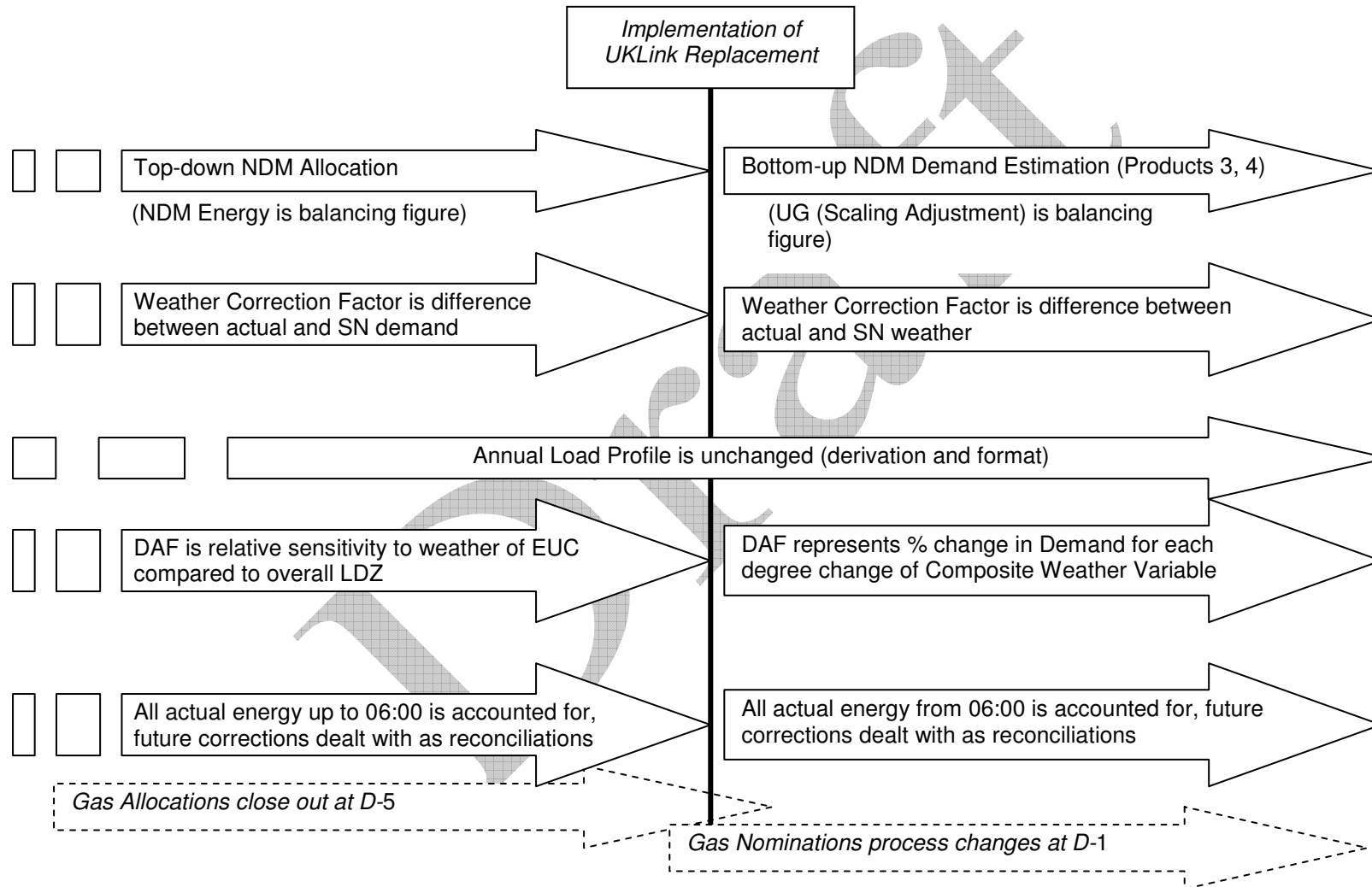
The Issue

The question under consideration is whether it is feasible, workable and desirable to change from the current top-down NDM Demand Attribution processes to the future bottom-up NDM Demand Estimation process mid-Gas Year, i.e. on any date other than on 1st October YYYY (where YYYY is any given year).

Considerations

- Demand Attribution is a discrete calculation for each given Gas Day for both Gas Nominations and Gas Allocations

- NDM Algorithm parameters traditionally change on 1st October each year, to align with the start of the new Gas Year.

- It is custom and practice that ALPs for each EUC for each Gas Year add up to 365 (366 in a leap year) to ensure that the start point of Demand Attribution is equitable.

- Changes to ALPs mid-year are strongly discouraged, to ensure that Demand Attribution remains equitable (emergency mid-year changes have been made on at least one occasion)

    however

- Total AQ within an EUC can change throughout the Gas Year, and some EUCs will have no live AQ at certain times in a Gas Year; and

- ALPs will not need to change for the Day 1 solution; although

- DAFs will need to change for Day 1 but will still be derived from the same Demand Models; and

- There is no corresponding expectation that DAFs add up to 365 under the current arrangements, as they are specific to a single gas day:

    o they currently reflect relative sensitivity to weather compared to the total LDZ:

    o they can currently add up to far more than 365 (a very weather sensitive EUC) or add up to as little as 0 (a totally weather insensitive EUC); so

- There is no necessity to leave a set of DAFs in place for a whole Gas Year

The following illustration sets out the changes diagrammatically – please note that a detailed implementation plan is not yet available, as Xoserve is still finalising requirements with the industry, undertaking logical analysis and conducting a selection exercise to find a Design, Build and Implement partner.

Overview of timelines

Implementation of
UKLink Replacement

Top-down NDM Allocation

(NDM Energy is balancing figure)

Bottom-up NDM Demand Estimation (Products 3, 4)

(UG (Scaling Adjustment) is balancing figure)

Weather Correction Factor is difference between actual and SN demand

Weather Correction Factor is difference between actual and SN weather

Annual Load Profile is unchanged (derivation and format)

DAF is relative sensitivity to weather of EUC compared to overall LDZ

DAF represents % change in Demand for each degree change of Composite Weather Variable

All actual energy up to 06:00 is accounted for, future corrections dealt with as reconciliations

All actual energy from 06:00 is accounted for, future corrections dealt with as reconciliations

Gas Allocations close out at D-5

Gas Nominations process changes at D-1

Conclusion

Xoserve's provisional conclusion, prior to consulting DESC, is that there is no barrier in principle or practice to implementing the new Demand Estimation Algorithm mid-Gas Year.

Energy is allocated in isolation for a single Gas Day, without carryover to future days. As such, the apportionment/sharing methodology can be changed from one Gas Day to the next. Xoserve would need sufficient notice to prepare new DAFs to work under the new regime, publish to the Industry and update systems with the new values. We would anticipate this notice period to be a minimum of 3 to 4 months.

As the outcome of universal individual meter point reconciliation cannot be accurately estimated prior to the implementation of that functionality (due to lack of reads and differing validation rules in the future regime), it is not possible to anticipate the outcome of future calculations of UG. It is therefore not possible to model the impacts on this change on individual Shippers, End User Categories or meter points.