Representation received by Email

0392 - Proposal to amend Annex A of the CSEP NExA table, by replacing the current version of the AQ table

Date: 19 October 2011

Organisation: Anthony Betts, Gas Design Engineer

Abstract:

I refer to your recent consultation document in relation to the reduction in NExA values.

You may be interested to consider that NExA tables are also used as a basis for the calculation of peak load demand for estate mains systems designs. This impacts on the CSEP peak connection load.

The NExA values are used in conjunction with published equations within IGEM design documents and are used in diversity load equations developed in the 1970's by research carried out on the relationship between annual consumption and the population group, to give a peak hourly demand. These equations were based on annual consumption figures and central heating boilers in use at the time. (Circa1970)

The relevant diversity equation relevant to new build housing estates is the "Post 1976 wet central heating" equation.

To my knowledge no new research has been conducted since the middle 1970's to further refine these equations in line with changing demand patterns.

Anecdotal evidence exists that peak hourly loading figures may in fact be higher at peak demand times despite the overall trend to a lower annual consumption, as a result of improved building insulation.

There is no research to support the widely held view that the increased use of instantaneous high load short duration boilers, are now affecting actual peak demands.

If you intend to further reduce NExA valuations you should consider the need to carry out further research on the validity of currently used formulae for the calculation of diversity and peak gas loads.

The only way to do this is by site data logging of loads to a known population group via a bulk metering and data logger installation.

You would need to carry this exercise out at a number of sample estates to validate your data. Taking data at six minute intervals.

We could get into a situation where estate mains designed using the new valuations may not be robust enough to meet instances where developments employing the use of "combination type" instantaneous boilers are a significant part of the users population group.

iGT's would need to give additional guidance on the validity of currently used software /equations to designing UIP's for gas networks if you intend to revise NExA downwards.

0392
Representation by Email
19 October 2011
Version 1.0
Page 2 of 2