eurofuel
The European Heating Oil Association

Brussels, 11th Feb 2010

Eurofuel - Issues which still require resolution, subsequent to the 16.12.2009 Meeting of the Technical Working Group to address the technical functioning of the "EcoBoiler" model, related test points and revisions to the Implementing Measures - Eco Design (EuP) Lot 1 (Boilers) and Associated Lots

1. Introduction - Eurofuel Comments of 11.12.2009 Still Require Resolution

The points raised by Eurofuel, in its comments of 11th December 2009 sent to DG TREN, remain fully valid (both Part A and Part B), and still require addressing.

2. Additional Agenda Points Suggested by Eurofuel for Inclusion in Next "Mini-Working Group" Meeting of 23-24 February 2010

Eurofuel thanks DG TREN for organising a second meeting of the EuP Lot 1 "Mini-Working Group", set for 23-24 February 2010, and notes the draft agenda circulated earlier this month.

As invited by DG TREN, Eurofuel would like the following points also to be explicitly included on the agenda for 23-24 February, which in each case require prompt resolution, in order to progress the refinement of the "EcoBoiler" tool/ model, and - in parallel - the necessary revisions to the EuP Lot 1 Implementing Measure (IM) documents.

- **Input values for modelling non-modulating oil boilers;**
- Discussion of an effective and representative solution to **model compact combi-boilers, with regard to buffer issues;**
- **General point - Implementing Measures - Clarity, good scientific practice and transparency regarding references to "best practice" procedures or measuring techniques** - notably full referencing of standards referred to, and strict adherence to these standards;
- **Clarification: are "λ" value/ air-fuel mixture (AFM) inputs to the model required?** If not, then the AFM options should be removed from the GUI (user input) page of the model.

3. Bilateral DG TREN – Eurofuel Points for Potential Discussion Prior to 23-24 Feb Meeting

There are six points (A-F, below) that Eurofuel would like to raise with DG TREN, to ensure that both parties can make as much progress before the 23-24 Feb Meeting, and to set in motion actions that need to be pursued in the short- and medium-term.

A. Input efficiency values for a non-modulating oil boiler, and confusion/ updates needed in the IM Working Documents.

References:

- Eurofuel comments, 11.12.2009, Part B, Point 2
- Email E. Harris – S.Kolb, 25.01.2010 – with a suggested solution
- Draft OWI independent study comparing the efficiencies of modulating and non-modulating oil-fired and gas-fired boilers, submitted prior to 16th Dec 2009 EuP Lot 1 "Mini-Working Group" Meeting

Issues:

(i) Implementing Measure documents need correction/ cross-correlation, as noted in Eurofuel 11.12.2009 comments

(ii) A scientifically-valid methodology must be developed to deal with these non-modulating boilers, which can reflect ***realistic*** testing and findings regarding the behaviour and efficiencies of these types of boilers. **One large "extrapolated appliance efficiency" disparity of up to 8.6% is noted** in the E. Harris email of 25.01.2010, in which a potential solution to the problem is also outlined. Manufacturers' (or independent laboratories') measured reality must match (within reason bounds) the theoretical efficiency levels reflected by the "EcoBoiler" model. Present modelling inputs recommended by DG TREN/ its consultant, VHK do not achieve this, and a satisfactory solution to this problem is urgently required.

(iii) At the end of the Dec 16th Working Group Meeting, the Commission/ VHK proposed to input the efficiency values for test point 4 into the inputs for test point 3 to 1 for non-modulating oil boilers where the part load value is a cycling value. However, if the efficiency and test conditions for eta 4 are also input for eta 3 to 1, then the model produces a "division by zero" error message. This occurs as soon as all four "Tfos" values are input as 70 degrees C. What does DG TREN/ VHK suggest as a solution for the missing test point?

Potential action by the Commission:

- Please react to the above points. A draft solution would be very useful to discuss, and to work through, prior to the 23-24 Feb Meeting, in order to be able to "put this on the table" for all meeting participants to consider, in advance (i.e., to come to the meeting, prepared to comment).

B. Night Setback Modelling Issue.

References:

- Eurofuel comments, 11.12.2009, Part B, Point 5

Problems/ Issues:

(i) An error message is still present for all modelling attempts using **oil appliances**, even including the revised version of the "EcoBoiler" model issued 11.01.2010.

Potential action by the Commission:

- Please resolve the software "bug" as promptly as possible, to enable engineers and modellers in the oil heating industry to be able to provide feedback to the Nov 2009 and Jan 2010 version of the "EcoBoiler" models
- Please react to the above points, to enable a draft solution to be potentially discussed with Eurofuel's representatives in advance of the 23-24 Feb Meeting, in order to be able to "put this on the table" for all meeting participants to consider in advance of the meeting.

C. Buffer Issue.

Problems/ Issues:

(i) When the volume of the buffer is changed the system efficiency remains the same.

Potential action by the Commission:

- Please resolve the software "bug" as promptly as possible, to enable engineers and modellers in the oil heating industry to be able to provide feedback to the Nov 2009 and Jan 2010 version of the "EcoBoiler" models,
- Please react to the above points, to enable a draft solution to be potentially discussed with Eurofuel's representatives in advance of the 23-24 Feb Meeting, in order to be able to "put this on the table" for all meeting participants to consider in advance of the meeting.

D. "λ" Values for Oil Heating Appliances.

References:

- Eurofuel comments, 11.12.2009, Part B, Point 1

Problems/ Issues:

(i) The "**λ**" values which were included in the "EcoBoiler" model were gas-specific, and there seems to be a lack of exchange of information between oil heating experts and the Commission/ the Commission's contractor, VHK, on how to resolve this.

(ii) There are other values now incorporated into the "EcoBoiler" model, which are not recognisable as "**λ**" values. It would be extremely helpful to receive an

explanation of what these values represent, their derivation, and how they are to be utilised.

(iii) The "λ" value and air-fuel mixture (AFM) inputs to the model do not seem to be required. The amount of excess air in the flue gases will have been accounted for in the appliance efficiency input values. In the latest version of the model, when the input is changed from one AFM to another, there is no change in the system efficiency to at least 4 decimal places. For the reasons explained above, the AFM is not considered relevant to the boiler and does not currently have an effect. The AFM options should be removed from the GUI (user input) page of the model.

Potential action by the Commission:

- The AFM options should be removed from the GUI (user input) page of the model

E. "Best practice" references in Implementing Measure documents.

Please see Part 2 above, in this paper.

F. Controls "percentage points" allocations in "EcoBoiler" model.

Reference:

- As discussed at the 16th December 2009 EuP Mini-Working Group

Problems/ Issues:

(i) The system efficiency offsets of "+ %", or "- %" points allocated to the different controls for heating systems in the model are problematic, and should be scientifically validated.

Potential action by the Commission:

- The Commission should publish or make reference to the scientific data that would support the differences in system efficiency that are proposed in the Ecoboiler model when selecting the various controls.

4. Ongoing Procedure – Eurofuel's Members and Contact Details

Eurofuel looks forward to the response from DG TREN with regard to the above comments, and hopes that these points are useful in attempting to push forward the EuP Lot 1 process with rigour balanced with pragmatism.

For further information or clarification, please contact Michael Bennett (mbe@eurofuel.eu), Executive Director of Eurofuel, www.eurofuel.eu

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