**Survey 01 – 26 June 2014**

**Fan review study**

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| --- | --- |
| **Please fill in when returning the survey** | |
| **Name:** |  |
| **Organisation:** |  |
| **E-mail address:** |  |

**Introduction**

Since March 2011 the energy efficiency of fans > 125 W, when placed on the EU market (including when incorporated in products), is regulated through Regulation 327/2011. The energy efficiency requirements apply as of 2013 and 2015. Article 7 of that Regulation requires a revision of among others the ecodesign requirements, exemptions and allowance for dual purpose fans. In order to assist the European Commission in this review, a study is conducted of which stakeholder consultation is a crucial part.

This survey is part of that stakeholder consultation and allows you to express your experience with or your opinion on the following aspects of the review tasks:

- Task 1: the ecodesign requirements for fan types;

- Task 2: the number of exemptions / exclusions from scope;

- Task 3: the allowance for dual purpose fans;

- Task 4: possible requirements for "jet fans";

- Task 5: aspects related to market surveillance;

- Task 6: other issues (not final assemblies & calculation method; incorporated fans; tolerances; refurbished fans; box & roof fans).

**You are invited to fill in the next pages with your comments, opinions, and other observations you deem useful.**

Please return the completed survey **before 16 July 2014** to **r.van.den.boorn@vhk.nl** with subject 'Fanreview Survey 01'. Surveys received after this date cannot be taken into account in the review report due by late July (but may be considered in later reports).Stakeholders wishing to add data, pictures, diagrams, etc. may do so by inserting these in the file or as attachment in the e-mail to r.van.den.boorn@vhk.nl .

Please note that comments may be quoted in the public domain (i.e. in the draft reports) and that the identity of the sender or its affiliation may be disclosed, i.e. when it may serve a better understanding of the message. By returning this survey you agree to these conditions. If you want to remain fully anonymous, then please contact us directly.

Where we ask you to supply data or information that could be considered commercially sensitive (i.e. sales, costs data) we are willing to engage in a non-disclosure or confidentiality agreement. Please contact us directly if you wish to do so.

Kind regards, The Fanreview team

Martijn van Elburg & Roy van den Boorn

(26 June 2014)

**Task 1 - Energy efficiency requirements**

**Fan review study**

**Reduce number of requirements, alter fan efficiency slopes**

The fan regulation addresses six fan categories, two measurement categories (static, total), two power regimes (above/below 10 kW) resulting in 20 different possible calculations.

Can the efficiency requirements of fans be simplified? For instance by grouping fan categories into a single category, avoiding the two power slopes and/or the measurement categories? Please give your suggestions.

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| --- | --- |
| **Question** | **Reply** |
| Fan categories can be reduced namely by ... |  |
| The two measurement categories (static and total) can be avoided, namely by ... |  |
| The two power slopes (</> 10 kW) can be avoided, namely by ... |  |
| Other... |  |

**Task 2 - Exemptions**

**Fan review study**

The regulation has exemptions from scope or requirements at various levels. Certain exemptions from scope (Article 1, item 2) have been inserted in order to avoid regulatory overlap (such as the exemption of fans used in kitchen hoods and tumble driers). Other exemptions are rather universal for motor driven equipment and relate to extreme operating conditions (ATEX, etc.).

**Exemptions from scope, acc. Article 1.2**

Do you agree that the following 'integrated fans' mentioned in Article 1 item 2 should remain excluded? Please state your reason.

|  |  |
| --- | --- |
| **Question** | **Reply** |
| Fans on shared (main function) motor shaft < 3 kW should (not?) remain excluded because ... |  |
| Fans of washers / driers of < 3 kW input power should (not?) remain excluded because ... |  |
| Kitchen hood fans < 280 W should (not?) remain excluded because ... |  |
| Other remarks: | |

**Exemptions from scope, acc. Article 1.3**

Do you agree that fans in the following conditions or applications, mentioned in Article 1 item 3 should remain excluded? Please state your reason.

|  |  |
| --- | --- |
| **Question** | **Reply** |
| ATEX Fans (as defined in Directive 94/9/EC) should (not?) remain excluded because ... |  |
| Fans for emergency use only (Council Directive 89/106/EC), should (not?) remain excluded because ... |  |
| Fans for extreme operating conditions only (gas >100°C, ambient >65°C, or <-40°C), should (not?) remain excluded because ... |  |
| Fans outside the Low Voltage Directive (>1000 VAC, or 1500 VDC) should (not?) remain excluded because ... |  |
| Fans intended for 'toxic, highly corrosive or flammable environments or in environments with abrasive substances', should (not?) remain excluded because ... |  |
| Toxic, corrosive, abrasive are not defined in the Regulation. What would be a proper definition for these terms? |  |
| Until 1 Jan 2015, replacement fans for fans placed on market before 1 Jan 2013, should (not?) remain excluded because ... |  |
| Other remarks: | |

**Exemptions from requirements, acc. Article 3, item 2a**

The 1st tier of minimum energy efficiency requirements applies only to **ventilation fans** and thus excludes fans in laundry and washer-driers > 3 kW electric input power, fans in indoor units of room AC (< 12 kW cooling power) and fans in ICT products fans. Should these fans (if above 125 W power) remain excluded / treated differently? Please state your reason.

|  |  |
| --- | --- |
| **Question** | **Reply** |
| Fans in laundry and washer-driers should (not?) remain excluded/treated differently because ... |  |
| Fans in indoor units of room airco, should (not?) remain excluded/treated differently because ... |  |
| Fans in ICT products, should (not?) remain excluded/treated differently because ... |  |
| Other remarks: | |

**Exemptions from requirements, acc. Article 3, item 4a/b/c**

The minimum energy efficiency requirements do not apply to the following fans: fans > 8000 rpm, with a specific ratio > 1.11 (Art 2.1: max 25 kJ/kg), non-gaseous substances. Should these fans (if above 125 W power) remain excluded? Please state your reason.

|  |  |
| --- | --- |
| **Question** | **Reply** |
| Fans > 8000 rpm should (not?) remain excluded because ... |  |
| Fans with a specific ratio > 1.11, should (not?) remain excluded because ... |  |
| Fans for non-gaseous substances, should (not?) remain excluded because ... |  |
| Other remarks: | |

**Information requirements apply to all fans (if within scope of Article 1)**

The information requirements apply to all fans within scope (so including fans for washer/driers <3kW, or above 8000 rpm, or for non-gaseous substances, etc.).

|  |  |
| --- | --- |
| **Question** | **Reply** |
| The information requirements should (not?) remain to apply to all fans within scope (no exemptions as currently the case) because ... |  |

**Task 3 - Dual use fans**

**Fan review study**

Requirements for 'dual use' fans are less strict as they are designed to operate for both ventilation and smoke evacuation. The introduction of allowances did open up a possible loophole as fans may be designated as dual-use, but used for ventilation only.

For the review study it is relevant to know whether the allowance for dual-use fans should remain. For this we need to assess their significance (sales, installed base, operating hours and related energy consumption), the current misuse (if any), the size of the allowance (if indeed needed), etc.

**Significance of dual-use fans**

In order to make an assessment of the effects on EU energy consumption and costs associated with use of dual-use fans, we need to describe the annual sales, installed base, average power, operating hours and efficiency.

For this purpose, please complete the following information. If so desired we can work under a NDA or confidentiality agreement.

**- please give your estimate of the products of the company you represent and an indication of the EU market share of your company, or;**

**- give your estimate of the overall EU market.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **dual-use fan type** | **typical application** | **sales (units/yr)** | **power @ BEP (W)** | **efficiency (%)** | **measurement category** | **average street price (EUR)** | **lifetime (yr)** | **average operating hours (hrs/yr)** |
| example: axial | buildings |  | eg. 5 kW | e.g. 40 | A/B/C/D static or total | 250 EUR | 15 yr | 8760 hrs |
|  |  |  |  |  |  |  |  |  |
| add rows if needed |  |  |  |  |  |  |  |  |

**Definition of dual-use**

A fan labelled as 'dual use' may comply with less strict requirements. Does the definition for 'dual-use' sufficiently exclude possible abuse? Should "dual use" be defined differently to avoid use of loopholes?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| The definition should (not?) be modified, taking into account ... |  |
| Other remarks: | |

**Level of allowance for dual-use**

The allowance was set for a 10%/5% reduction (1st and 2nd tier). Should these allowances be re-evaluated? What size should the (revised) allowance be? Should it be dependent on other factors (size, power, flow, etc.)?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| The definition should (not?) be modified, taking into account ... |  |
| Other remarks: | |

**Task 3 - Jet fans**

**Fan review study**

As 'Jet fans' meet the generic fan type description, they are in principle covered by Regulation 327/2011. Jet fans however are designed to deliver *thrust*, and do not produce pressure as defined by the Fan Regulation. Therefore the efficiency of a Jet Fan would be calculated as zero and would fail to meet the minimum efficiency criteria as they currently stand.

**Significance of jet fans**

In order to make an assessment of the effects on EU energy consumption and costs associated with use of jet fans, we need to describe the annual sales, installed base, average power, operating hours and efficiency.

For this purpose, please complete the following information. If so desired we can work under a NDA or confidentiality agreement.

**- please give your estimate of the sales of the company you represent and an indication of the EU market share of your company, or;**

**- give your estimate of the overall EU market.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Jet fan type** | **typical application** | **Sales (units/yr)** | **power @ BEP (W)** | **efficiency (%)** | **measurement category** | **average street price (EUR)** | **lifetime (yr)** | **average operating hours (hrs/yr)** |
| tube-axial | tunnels |  |  |  |  |  |  |  |
| induction (centrifugal inside) | parkings |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| add rows if needed |  |  |  |  |  |  |  |  |

**Definition of jet fan**

The consideration (inclusion) of jet fans in a revised fan regulation would require a definition. What aspects should this definition address (that allows differentiation of jet fans from other fans)?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| The definition of jet fans should (not?) take into account ... |  |
| Other remarks: | |

**Overlap with dual-use**

Certain jet fans may also designed as **dual use** (for instance in tunnel ventilation). How should an allowance for dual-use jet fans be addressed? Same as for other types of fans (simple reduction of requirements)?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| Dual-use jet fans should be considered by taking into account ... |  |
| Other remarks: | |

**Task 5 – Market surveillance**

**Fan review study**

As any other regulation under the Ecodesign Directive, the manufacturer is responsible for showing a declaration of conformity and affixing the CE marking, and market surveillance authorities of Member States are responsible for enforcement of the regulations.

So far, stakeholders have stated to experience a lack of market surveillance, allowing fans that are not in conformity to be placed on the market.

The Commission seeks information on the size of the problem, and whether the revised regulation would need a different approach for market surveillance (within the boundaries of the framework Directive).

**Size of the problem**

Have you had any experience with market surveillance (or the lack of it) and would you care to elaborate?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| My experience with market surveillance is ... |  |
| Suggestions for improvement.... |  |
| Other remarks: | |

**Revised approach to market surveillance**

What are your thoughts on a different approach as regards market surveillance and would you care to elaborate?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| My thoughts on a different approach to market surveillance is ... |  |
| Other remarks: | |

**Task 6 – Other issues**

**Fan review study**

This task is added in order to address some issues which were not mentioned in the review article or evident from the Fan Regulation FAQ document. These issues cover the following aspects:

- Not final assemblies & calculation method for total efficiency;

- Fans incorporated into products;

- Tolerances for verification purposes (by market surveillance);

- Refurbished fans & spare parts;

- Box & roof fans.

**Non-final assemblies & calculation method**

The current regulation also covers fans placed on the market as **not final assemblies.** Here we address the possibility of multiple 'manufacturers' involved in producing and placing on the market a fan that is able to convert electric energy into fan gas power (i.e. an impeller manufacturer, a motor manufacturer, a transmission manufacturer, and a fan assembler that puts these components together).

As the definition of a 'fan' may already start from the impeller only (the motor is not mandatory part) it is not so evident who is responsible for declaring conformity (impeller manufacturer or fan assembler, or both, or also the person incorporating the assembled fan in a product).

The fan regulation then applies a calculation method, that is based on default values for not yet known components (applied mainly by impeller manufacturers) although the fan assemblers should know the components, but maybe not the actual energy losses / conversion efficiencies of motors, drives, and other components.

What is your opinion on the inclusion of not final assemblies?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| In my opinion the not-final assembly fans should remain to be included / should be removed from the regulation, because ... |  |
| The calculation method for not final assemblies should (not?) be amended, taking into account ... |  |
| The fan regulation should apply to 'functional fans' only (able to convert electric energy into air power) and should take into account the actual application in the product (including modifications by fan integrators that affect energy performance), because... |  |
| Other remarks: | |

**Fans incorporated into products**

The Fan Regulation also applies to fans incorporated into products. This introduces certain issues:

Declaring conformity should be based on (harmonised) technical standards. If a fan is modified in one way or another (i.e. modifying the housing, bell mouth, or other components) by the final fan integrator then it is conceivable that its energy performance is different to a standard (catalogue) fan.

According the Blue Guide the person first placing the product on the market is responsible for declaring conformity. If the fan performance is affected, should this be considered a 'new' first placing on the market?

If the *final fan integrator* (not being a fan manufacturer himself) is responsible for declaring conformity, how should he/she assess the energy performance if he/she has no access to test facilities?

What is your opinion on the inclusion of incorporated fans?

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| --- | --- |
| **Question** | **Reply** |
| The fan regulation should (not?) remain to apply to fans incorporated into products, because ... |  |
| When verifying fan performance the actual application in the product should be taken into account (including modifications by fan integrators that affect energy performance), because... |  |
| Do you consider an application of a fan that affects its energy performance as a 'new' first placing on the market? |  |
| How would a *fan integrator* prepare a declaration of conformity if he/she has no test facilities? |  |
| Other remarks: | |

**Tolerances for verification purposes**

Some industry standards set tolerances for declaring fan performance. According to some stakeholders this means that tolerances in industry standards and in regulation 327/2011 can be added.

What are your thoughts on the tolerances to be applied by market surveillance when verifying conformity? Can tolerances be added? Are the tolerances wide or narrow enough?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| My thoughts on adding verification tolerances are ... |  |
| My thoughts on the level of verification tolerances are ... |  |
| Other remarks: | |

**Refurbished fans & spare parts**

Certain clients want their fans to be refurbished instead of replaced by new ones. This raises specific questions about 'placing on the market' (when does a refurbished fan become a new fan?) or regarding availability of spare parts.

Do you have experience with refurbished fans and market surveillance and would you care to elaborate?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| My comments regarding refurbished fans are ... |  |
| Other remarks: | |

**Box & roof fans**

Certain stakeholders have indicated a preference to include 'box & roof fans' in the scope of a revised Regulation. Currently these fans may be used for ventilation purposes (and are therefore probably covered under the forthcoming *Ventilation Products Regulation*) but also for process applications (often removal of heat, not ventilation). In either case the product incorporates a fan meeting the definition of 327/2011 and should carry a declaration of conformity according this regulation.

The double regulation is difficult to avoid as the *Ventilation Products Regulation* is very application-specific and based on 'specific fan power' whereas the fan Regulation 327/2011 is more generic and based on a best efficiency point. However, the measurement and calculation can be simplified if the fan regulation would allow testing of the total performance of box & roof fans 'as supplied' (including the housing etc.), so avoiding the need to remove the fan part for testing.

What is your opinion on a possible inclusion of a box & roof fan category and would you care to elaborate? What would be the advantages and/or disadvantages?

|  |  |
| --- | --- |
| **Question** | **Reply** |
| My opinion of including box & roof fans as a category in the fan regulation is ... |  |
| Other remarks: | |