



ENVIRONMENTAL ASPECTS OF STANDARDISATION

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1 Introduction

This document provides guidance on inclusion of environmental aspects in standardisation for EIGA members that participate in standardisation activities.

2 Scope and purpose

2.1 Scope

This document is intended for use by those working group (WG) experts involved in the preparation of international (CEN and ISO) standards and provides guidelines for inclusion and consideration of environmental aspects.

2.2 Purpose

EIGA members participate extensively in standardisations activities at ISO, CEN and other organisations. This guidance is to indicate when to do an environmental assessment, what sort of assessments to do, how detailed it should be and what practical tools are available for undertaking the assessment.

Using these tools, WG members can better decide in a transparent way whether all the environmental issues have been taken into account, if they are relevant or not and how these are weighted against other issues.

3 Definitions

4 Inclusion of environmental aspects in product standardisation

4.1 Background

The EU Commission communication COM 130/2003 (25.2.2004) 'Integration of Environmental Aspects into European Standardisation' highlighted the need to improve consideration of environmental issues in standardisation work.

This states that "*standardisation stakeholders should take the further steps needed to systematically integrate the relevant environmental aspects into European standards making. Therefore, those conditions needed for European standardisation to make a positive contribution to the protection of the environment merit closer attention*".

4.2 Inclusion of environmental aspects in product standardisation

4.2.1 Reasons for considering environmental issues in product standardisation

Significant Environmental aspects should be considered in standardisation activities because of the significant contribution this can make to **minimising environmental and life cycle impacts** of products (for example using less energy, less resources).

Conversely products designed without environmental considerations in mind may be difficult to recycle or dispose of at the end of their economic lives, which may lead to **product liability issues**.

In addition there is **European legislation** in place addressing the design and 'end of life' issues for

- Packaging and Packaging Waste (Directive 94/62)
- Waste Electrical and Electronic Equipment (WEEE) (Directive 2002/96/EC)

- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Directive 2002/95/EC)
- End-of-Life Vehicles (Directive 2000/53/EC)
- Batteries and Accumulators and Waste Batteries and Accumulators (Directive 2006/66/EC)
- Framework for the Setting of Ecodesign Requirements for Energy-using Products (Directive 2005/32/EC)

Whilst not aimed at the gas industry specifically there are products that we use, buy, sell or manufacture that are within the scope of some of this legislation.

4.2.2 Principles for inclusion of environmental issues in Product Standardisation

WG experts

- Need to consider and balance environmental issues as part of the overall decision, with no compromise to safety.
- Shall be aware of relevant environmental legislation that needs to be complied with (see EIGA Doc.106 *Environmental issues guide*)
- Shall balance environmental issues against operational considerations, operability, ease of replacement, ease of use, overall full life cost etc.

4.2.3 Environmental checklists and guides

Various standardisation organisations have already produced the following checklists and guides

1. CEN Guide 4 - Guide for the inclusion of environmental aspects in product standards
2. CEN Guidance - Consideration of environmental aspects in standards, includes a matrix checklist to help perform an initial environmental assessment
3. ISO Guide 64 - Guide for the inclusion of environmental aspects in product standards
4. ISO TR 14062 - Environmental management - Integrating environmental aspects into product design and development
5. IEC Guide 109 - Environmental aspects - Inclusion in electro-technical product standards
6. IEC Guide 113 - Materials declaration questionnaires - Basic guidelines

Examples of gas industry products assessed using CEN guide 4 are given in Appendix A.

4.3 EIGA guidelines for Experts on the inclusion of environmental aspects in product standardisation

EIGA recommends the following for WG experts involved in standardisation activities.

- ***Use the CEN checklist to identify relevant environmental issues to be considered.***
A full life cycle analysis or using more complex or sophisticated techniques are not generally required for gas industry related products.
- ***Apply the principles given in 4.2.2.***
- ***Review the product requirements against applicable legislation.***
- ***Develop guidelines for 'end-of-life' products.***
This is usually the step that is missed. Whilst this may not be a formal part of the standard, it is critical to consider this in terms of environmental and liability issues.

Appendix A: Examples

Instructions for completing CEN checklist

NOTE: The matrix provided in this Environmental Checklist particularly suits product standards. For standards other than product standards, it may be difficult or even not possible to use it. In such cases, the Environmental Checklist will contain just an explanation of the situation.

Complete the matrix in the following way:

1. Identify each environmental aspect relevant to the product without assessing its relationship to the draft standard.

Fill each box with "yes" (if there is an environmental aspect) or "no" (if there is no significant environmental aspect or if the box is not relevant).

2. For each box with a "yes", identify whether this environmental aspect can be addressed in the standard. Mark these boxes with three asterisks (***)

3. Write the number of the clauses of the standard where the environmental aspects are addressed, in the appropriate boxes.

4. Use the box "Comments" for providing any additional information. A short description of each environmental aspect (boxes filled with "yes") and how they are addressed (or why they are not) may be given here.

5. When assessing various environmental aspects during the life cycle of a product, it is essential to avoid shifting of the environmental burden from one life cycle phase to another, or from one medium to another.

Matrix for Valve and Pack design

Environmental aspects (Inputs and Outputs)		Product life-cycle			
		Production and Preproduction	Distribution (including packaging)	Use	End of life
		A	B	C	D
1	Resource use	Yes To be considered by Manufacturer	Yes Recyclable materials for packaging	EIGA *** No leaks (loss of product)	EIGA *** Too many materials economically not recyclable
2	Energy consumption	Yes To be considered by Manufacturer	EIGA See 1	No	No (indirect)
3	Emission to air	Yes To be considered by Manufacturer (Cleanliness)	No (indirect)	EIGA *** No leaks (loss of product)	No (indirect)
4	Emission to water	To be considered by Manufacturer (Cleanliness)	No	No	No (indirect)
5	Waste	Yes To be considered by Manufacturer	EIGA Easy to package Plastic and cardboard packaging Reuse/ recycling boxes Easy to reuse	No	EIGA *** Too many materials economically not recyclable
6	Noise	Yes To be considered by Manufacturer	No	No	No
7	Migration of hazardous substances (to the environment)	Legislation to cover use of hazardous materials (heavy metals) ***	No	EIGA *** Migration to the gas –(e.g. Food Directive)	No(indirect)
8	Impacts on soil	No	No	No	No
9	Risks to the environment from accidents or misuse	No	EIGA *** No leaks (loss of product) Drop testing (design for reasonably foreseeable accident)	EIGA *** No leaks (loss of product) Drop testing etc	No(indirect)
Comments: Indirect means there is an environmental impact (see ISO 14001 definition) *** means normally or could be considered as part of standards development EIGA means this issue is within the scope of EIGA standardisation activities					

Matrix for Testing and Retesting of Cylinders

Environmental aspects (Inputs and Outputs)		Product life-cycle			
		Production and Preproduction	Distribution (including packaging)	Use	End of life
		A	B	C	D
1	Resource use	NA	EIGA ***	EIGA *** Easy to repair Easy to reuse No leaks (loss of product) Use of water for retesting	EIGA *** Materials recyclable / easy to recycle
2	Energy consumption	Yes	EIGA See 1	Yes	No
3	Emission to air	Yes Disassembling of valves	No (indirect)	Yes EIGA *** (loss of product)	No
4	Emission to water	No	No	Yes (if the cylinder is contaminated anything)	No (indirect)
5	Waste	Yes valves	No	EIGA *** Easy to reuse	EIGA *** Not too many materials Easy to reuse Easily separated for recycling
6	Noise	Yes Cylinders with residual pressure	No	Yes Restamping cylinder	No
7	Migration of hazardous substances (to the environment)	Yes Cylinders with residual pressure	No	No	No(indirect)
8	Impacts on soil	No	No	No	No
9	Risks to the environment from accidents or misuse	Yes At not proper valve removing	No	No	No(indirect)
Comments: Indirect means there is an environmental impact (see ISO 14001 definition) *** means normally or could be considered as part of standards development EIGA means this issue is within the scope of EIGA standardisation activities					

Matrix for Cylinders

Environmental aspects (Inputs and Outputs)		Product life-cycle			
		Production and Preproduction	Distribution (including packaging)	Use	End of life
		A	B	C	D
1	Resource use	Yes To be considered by Manufacturer Time to re- testing	EIGA *** Light weight materials – fuel savings Lifetime of materials	EIGA *** Easy to reuse No leaks (loss of product)	EIGA *** Materials recyclable / easy to recycle
2	Energy consumption	Yes To be considered by Manufacturer	EIGA See 1	No	No (indirect)
3	Emission to air	Yes To be considered by Manufacturer (Cleanliness)	No (indirect)	EIGA *** Re filling and disposal of gas Retesting Re painting	No (indirect)
4	Emission to water	To be considered by Manufacturer (Cleanliness)	No (indirect)	EIGA *** Re filling Retesting Re painting	No (indirect)
5	Waste	Yes To be considered by Manufacturer	EIGA *** Reuse by design	EIGA *** Reuse by design	EIGA *** Not too many materials Easy to reuse Easily separated for recycling
6	Noise	Yes To be considered by Manufacturer	EIGA Cylinder movements	EIGA Cylinder movements	No
7	Migration of hazardous substances (to the environment)	Legislation to cover use of hazardous materials heavy metals) ***	No	EIGA *** Migration to the gas	No(indirect)
8	Impacts on soil	No	No	No	No
9	Risks to the environment from accidents or misuse	No	EIGA *** No leaks (loss of product) Testing (design for reasonably foreseeable accident)	EIGA *** No leaks (loss of product) Testing etc	No(indirect)
Comments: Indirect means there is an environmental impact (see ISO 14001 definition) *** means could be relevant to standards development in this area EIGA means this issue is within the scope of EIGA standardisation activities					