

The use of harmonised standards in support of the Machinery Directive: a view from a Member State competent authority
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Introduction

The *Swedish Work Environment Authority* was established 2001 by a fusion of the *Swedish National Board of Occupational Safety and Health* and the *Labour Inspectorate* which were composed by 10 separate authorities.

This authority is issuing the legislation based on the Machinery Directive and is responsible for the market surveillance related to the Directive.

Experts from the authority participate in great extent in the standardisation at National, European and International level.

The authority gives economic support to the Swedish standardisation body for safety related standard projects linked to European Directives such as the Machinery Directive.

The situation before the Machinery Directive

At the time when Sweden only had national legislation and no Machinery Directive, the Swedish legislation on occupational safety and health consisted of provisions and general recommendations issued by the Swedish National Board of Occupational Safety and Health.

In the machinery sector we had general provisions for machinery as a basis. In addition to these provisions we had specific rules (provisions and/or general recommendations) for certain types of machines. The legislation did not cover all types of machines with specific provisions and general recommendations but covered those where the authority considered that specific provisions and general recommendations were necessary e.g. for presses, cranes, industrial trucks and chain saws. However the authority had lack of resources to produce the specific provisions and to keep the legislation updated. For example the authority considered provisions and general recommendations for woodworking machinery as necessary but had not enough resources to produce them.

The situation with the Machinery Directive

General

With the Machinery Directive, supported by harmonised standards, we have better possibility to have a more complete set of specifications and can allocate resources to participation in the European standardisation. The Swedish Government allocates financial resources for participation of the authority in the standardisation at European level. In addition to this the Nordic Authorities get financial support from the Nordic Ministry Council.

Market surveillance is important in the practical implementation of the Machinery Directive. Interventions by the authorities can lead to severe consequences for the manufacturers. Therefore the authorities must be very careful. Specifications to support the essential health and safety requirements in Annex I of the Machinery Directive, i.e. harmonised standards, are important documents.

The Swedish Work Environment Authority consequently seeks advice in harmonised standards before intervention.

The manufacturers use standards as guiding documents in the design and construction. However small and medium size manufacturers in Sweden have expressed their concern that many standards are not translated to Swedish. Translation requires money and human resources and we have in Sweden given priority to translation of A- and B-standards (according to the CEN classification).

When we are talking money I will also focus on the fact that standards are expensive in comparison with the regulation issued by the authority. C-standards refer in great extent to other standards e.g. A- and B-standards. This might lead to a situation where the manufacturer will buy the standard explicitly dedicated to his specific product but not all the standards which are referred to in the normative references.

A-standards

The A-standards are widely known by the manufacturers and give a good support to the Machinery Directive for a relatively small cost and constraint. The Swedish Work Environment Authority has given highest priority to participation in the TC:s and WG:s working with such standards.

The A-standards are very important, in particular for the designing of machines for which no C-standard exist.

B-standards

Type B 1 standards on particular aspects (e.g. safety distances, surface temperatures and noise), are normally easy to use. However the some standards are no so easy to use:

EN 294 "Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs" is not so easy to use as there are more than one set of table in that standard. The choice of table depends of the risk assessment. However the risk assessment differs from person to person. My opinion based on experiences is that such a standard should not contain more than one set of table if the meaning of "presumption of conformity" for such a standard shall be unambiguous.

EN 954-1 "Safety related parts of control systems - Part 1: General principles for design" is a standard which have caused confusion and much discussion. My experience is that C-standard makers have severe difficulties to refer to this standard correctly as the categories are not hierarchical.

Type B 2 standards on safety related devices (e.g. two hand controls, interlocking devices, pressure sensitive devices and guards) are difficult to use alone. In particular "EN 574 Safety of machinery – Two-hand control devices – Functional aspects – Principles for design" is a standard which in my opinion has caused problems. The standard defines three types of two-hand control devices. In addition to this one of the types is divided in three "subtypes".

For a manufacturer of a complete machine it is not self evident how to make a correct choice. The authorities in the Member States have the same problem and this might lead to a not uniform application of the Directive.

My personal opinion is that the *type B 2 standards* are "supporting harmonised standards" and this should be more clear to avoid misunderstanding.

C-standards

The great number of C-standards are of good help for the manufacturers as well as for the authorities.

A small country like Sweden did not have resources to produce and "keep alive" specific provisions for different types of machines. It was only possible to cover the most frequently used machines where the potential risks were significant.

With the European C-standards supporting the Machinery Directive we have got a more complete set of specifications and my experience is that safety of machinery have increased due to that.

Practical aspects

Work with standardisation

As a standard "de facto" is a part of the legislation it is of great interest for the authorities to participate in technical committees and working groups. The resources my authority has spent for participation in the standardisation have given a very good result. The experiences from work with legislation have been useful for the work with standardisation.

Many standards are now under revision because they are "old" or because standard projects are started in ISO/IEC. We must then ask ourselves "Do we have resources to participate in the revision?" Participation requires money, knowledge and time. A key element here is "proportionality", how much added value do we get from a revision? I would say that most of the standards are of very high quality and that a revision is not necessary.

Availability of standards

The authority uses standards in the daily work. It is therefore important to have easy access to the standards.

The Swedish Work Environment Authority has a practical solution to have easy access to standards. Every officer has a "basic set of standards" including the most frequently used A- and B-standards and can also buy standards on line via his own computer when he needs one

Understanding of the content in standards

To know that a specific standard exist is the first step to use the correct standard, the second is to understand the content.

In my division the experts participate in standardisation at TC-level and WG-level and we discuss technical problems and standards at the coffee table almost every day. The benefit from this is that the group of officers has a good knowledge of existing standards and the content. It is also well known for everybody who has participated in the work of the European technical committee/working group so we know who we should ask. The experts at the Central Supervision Department are available as an expert resource for the inspectors all over the country.

Conclusion

Harmonised standards supporting the Machinery Directive contribute to better health and safety.

Problems related to standardisation are small compared with the benefit from the standardisation.

In particular the small countries have got significant benefits from the standards.