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Committee on Trade

Working Party on Regulatory Cooperation and Standardization Policies

Twentieth session
Geneva, 1-3 November 2010
Item 6 (b) of the provisional agenda
Regulatory cooperation, Sectoral projects

Progress report on the sectoral initiative on earth-moving machinery

Note by the secretariat[1]

Summary

Excavators, bulldozers and other earth-moving machinery need to be safe in order to protect workers from potential hazards. ISO standards have long been used in this sector as the basis for national standards and as the technical requirements for complying with regulations. However, more countries are adding regulatory requirements as well as requirements for repeated testing and lengthy conformity assessment procedures, thereby adding unnecessary cost and time delays.

In 2003, the Working Party set up a sectoral initiative to reduce technical barriers to trade in this sector while preserving safety and reliability of equipment. In 2004, the Working Party adopted a first model regulatory framework, which was revised in 2009. Currently the project is developing a model certificate of conformity that, if broadly adopted, would simplify the exchange of data between the producers, the third-party certifiers and the authorities of exporting and importing countries.

The progress report is submitted to the Working Party for discussion and for noting.

1 At its eighteenth session, the Working Party asked the secretariat to provide annual updates on the work of all the sectoral initiatives (ECE/TRADE/C/WP.6/2008/18, para. 63).

I. Project objective and key deliverables

1. In order to protect workers from potentially serious hazards, machinery such as excavators, dozers and other earth-moving machinery needs to respect strict safety requirements as safe as possible. Both industry and Governments have been actively developing and implementing best practice and international standards, especially in the context of the Technical Committee 127 of the International Organization for Standardization (ISO/TC 127).

2. ISO standards have long been used as the basis for technical regulations in all major markets. However, more countries are adding regulatory requirements, as well as requirements for repeated testing and lengthy conformity assessment procedures, which inflate prices with no real gain in safety and quality of the traded equipment.

3. In 2003 the Working Party set up a Sectoral Initiative to reduce technical barriers to trade in this sector while preserving safety and reliability of equipment traded internationally. The Working Party approved the first version of the Common Regulatory Objectives (CROs) for the safety requirements of earth-moving machinery in 2004 and a revised version in 2009.

II. Current status of project

4. Since 2004, an international team has been promoting the general principles of the project in China, Russia, India and parts of South America. It has been doing so both by promoting the adoption of the ISO/TC 127 standards as national standards and by recommending that countries use standards as the basis for technical regulations. Since most countries generally adopt the ISO/TC 127 standards as their national standards, the CROs were broadly considered as acceptable.

5. The compliance clause in the CROs of 2004 allowed for conformity assessment only through the use of a supplier declaration of conformity (SdoC). This, however, failed to meet the requirements of some of the developing countries, where SDoC is not considered a suitable tool for this sector.

6. The CROs were therefore revised and they now allow for manufacturers to avail themselves of the services of external certifiers. This encourages the manufacturer and the third party to work within a stable framework, so that testing that has already been done by the manufacturer can be used by the third party, within specific guidelines. The end goal of the process should be to build capacity at the manufacturer's premises, so that ultimately the SDoC becomes the alternative of choice.

7. A revised version of the CROs - approved by the Working Party at its annual session in 2009 (see ECE/TRADE/C/WP .6/2009/19, para. 36) - is reproduced as an annex to the present document.

III. Project meetings and/or conference calls held in 2010

8. The Earth-Moving Machinery Task Force exchanged information informally by email throughout 2010.

IV. Progress in 2010 and deliverables for the annual sessions

9. The Project is developing a model certificate of conformity based on best practice in this and other sectors. If broadly adopted, the model certificate would simplify the exchange of data between the producers, the third-party certifiers and the authorities of exporting and importing countries. At the 2010 annual session, a general global certificate will be presented that can be used to certify conformity to regulations and standards, to confirm country of origin and date of manufacture, and to certify quality as well as other specific customer needs for compliance.

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Annex

Sectoral initiative on earth-moving machinery safety

Approved Common Regulatory Objectives (CROs)

1. Introduction

1. The earth-moving machine industry has been a global industry for many years and ISO standards have been developed to address safety risks in compliance with widely shared technical requirements.

2. ISO/TC 127 was formed in 1968 with an objective to develop a complete set of standards to address the safety and commercial needs for Earth-Moving Machines. Over 100 standards for earth-moving machines have been published and new standards are continually being developed to address new technology and new types of Earth-Moving Machines.

3. Many national and regional regulations already use the technical requirements contained in the ISO/TC 127 standards to address the safety risks for Earth-Moving Machines. A good example is in the EU, where the EN 474 standard was developed to enable manufacturers to show that Earth-Moving Machines comply with the EU Machine Safety Directive (2006/42/EC). EN 474 addresses all significant risks for earth-moving machines and the technical requirements to minimize the risks are coming from 40 of the ISO/TC 127 standards.

4. During the Construction Equipment Joint Technical Liaison (JTLM) meeting in 2003 between the industry associations from Europe (CECE), the USA (AEM) and Japan (CEMA), it was decided to elaborate a CRO ("Common Regulatory Objective", as proposed by the mechanism of the UNECE "International Model") for Earth-Moving Machines within UNECE WP.6. It was also decided to establish a Working group to develop the proposal for the CRO on Earth-Moving Machines based on the ISO/TC 127 standards and an ISO version of EN 474, ISO 20474. The following were nominated as members of the JTLM working group:

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5. In November 2004, the first CROs for this sector were endorsed by the Working Party at its fourteenth session. The CROs incorporated the principal elements defined in the UNECE Recommendation L (ECE/TRADE/378), and the new ISO/TC 127 general safety standard (ISO 20474). The CROs covered safety for Earth-Moving Machines, but does not cover environmental noise, engine emissions and roading requirements, that are covered under general regulations that apply to many types of mobile machines.

6. In 2008 a need was recognized to improve the compliance clause to address the requirement for third party certification in developing countries where a trust of manufacturers for SDoC has not been achieved yet. The EMM CRO is being updated in 2009 to improve the compliance clause.

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7. This CRO applies to the design and construction of Earth-Moving Machines (machines as described in ISO 6165) and establishes essential Health and Safety requirements concerning the prevention of hazards to which workers can be exposed to while at work. This CRO specifies the general safety requirements for Earth-Moving Machines and deals with all significant hazards pertinent to Earth-Moving Machines, when used as intended and under the conditions foreseen by the manufacturer. This CRO specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards and hazardous situations for Earth-Moving Machines.

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8. Earth-Moving Machines must be constructed so that they can be used, adjusted, and maintained without putting persons at risk when these operations are carried out under the conditions foreseen by the manufacturer. Measures must be taken to minimize any risk of accident throughout the foreseeable lifetime of the machines, including the phases of assembly and dismantling.

9. The specific requirements to address all of the safety risks for Earth-Moving Machinery are covered in a single ISO/TC 127 general safety standard, ISO 20474:2008 Earth-Moving Machinery – Safety – General Requirements. ISO 20474 references over 40 other ISO standards for Earth-Moving Machines and provides general performance requirements to address the safety risks.

10. Machines that comply with the ISO 20474 standard for Earth-Moving Machines are presumed to comply with all of the safety requirements for Earth-Moving Machines. ISO 20474 defines performance criteria that lead to safe levels for the risks. Other solutions that provide equal to or better safety levels are acceptable, to allow for new technology or alternate options for addressing the safety risks.

4. Compliance clause

11. Compliance with this CRO shall be by Suppliers Declaration of Conformity (SDoC), as it is currently being done in the USA, the EU and Japan. In some countries where manufacturers are not prepared to do SDoC or are not trusted yet to do SDoC, the assistance of a third party may be necessary for conformity assessment. For these countries, the manufacturer can work with a Third-Party for Conformity Assessment. Conformity assessment testing that has already been done by the manufacturer can be used if the manufacturer has the following:

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9. The Project is developing a model certificate of conformity based on best practice in this and other sectors. If broadly adopted, the model certificate would simplify the exchange of data between the producers, the third-party certifiers and the authorities of exporting and importing countries. At the 2010 annual session, a general global certificate will be presented that can be used to certify conformity to regulations and standards, to confirm country of origin and date of manufacture, and to certify quality as well as other specific customer needs for compliance.

V. Responsibility for the continuation of the work

10. The Earth-Moving Machinery Project Task Force consists of the following people:

Stefan Nilsson (Sweden)

Dan Roley (United States of America) – Convener

Kenzo Tanaka (Japan)

VI. Role of the secretariat

11. The Task Force expects the secretariat to keep the website updated and to assist the Convener in maintaining and developing contacts with Governments to promote the project.

Annex

Sectoral initiative on earth-moving machinery safety

Approved Common Regulatory Objectives (CROs)

1. Introduction

1. The earth-moving machine industry has been a global industry for many years and ISO standards have been developed to address safety risks in compliance with widely shared technical requirements.

2. ISO/TC 127 was formed in 1968 with an objective to develop a complete set of standards to address the safety and commercial needs for Earth-Moving Machines. Over 100 standards for earth-moving machines have been published and new standards are continually being developed to address new technology and new types of Earth-Moving Machines.

3. Many national and regional regulations already use the technical requirements contained in the ISO/TC 127 standards to address the safety risks for Earth-Moving Machines. A good example is in the EU, where the EN 474 standard was developed to enable manufacturers to show that Earth-Moving Machines comply with the EU Machine Safety Directive (2006/42/EC). EN 474 addresses all significant risks for earth-moving machines and the technical requirements to minimize the risks are coming from 40 of the ISO/TC 127 standards.

4. During the Construction Equipment Joint Technical Liaison (JTLM) meeting in 2003 between the industry associations from Europe (CECE), the USA (AEM) and Japan (CEMA), it was decided to elaborate a CRO ("Common Regulatory Objective", as proposed by the mechanism of the UNECE "International Model") for Earth-Moving Machines within UNECE WP.6. It was also decided to establish a Working group to develop the proposal for the CRO on Earth-Moving Machines based on the ISO/TC 127 standards and an ISO version of EN 474, ISO 20474. The following were nominated as members of the JTLM working group:

(a) Stefan Nilsson, Volvo, representing CECE and the EU

(b) Dan Roley, Caterpillar, representing AEM and the USA

(c) Kenzo Tanaka, Komatsu, representing CEMA and Japan

5. In November 2004, the first CROs for this sector were endorsed by the Working Party at its fourteenth session. The CROs incorporated the principal elements defined in the UNECE Recommendation L (ECE/TRADE/378), and the new ISO/TC 127 general safety standard (ISO 20474). The CROs covered safety for Earth-Moving Machines, but does not cover environmental noise, engine emissions and roading requirements, that are covered under general regulations that apply to many types of mobile machines.

6. In 2008 a need was recognized to improve the compliance clause to address the requirement for third party certification in developing countries where a trust of manufacturers for SDoC has not been achieved yet. The EMM CRO is being updated in 2009 to improve the compliance clause.

2. Scope statement

7. This CRO applies to the design and construction of Earth-Moving Machines (machines as described in ISO 6165) and establishes essential Health and Safety requirements concerning the prevention of hazards to which workers can be exposed to while at work. This CRO specifies the general safety requirements for Earth-Moving Machines and deals with all significant hazards pertinent to Earth-Moving Machines, when used as intended and under the conditions foreseen by the manufacturer. This CRO specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards and hazardous situations for Earth-Moving Machines.

3. Machine requirements

8. Earth-Moving Machines must be constructed so that they can be used, adjusted, and maintained without putting persons at risk when these operations are carried out under the conditions foreseen by the manufacturer. Measures must be taken to minimize any risk of accident throughout the foreseeable lifetime of the machines, including the phases of assembly and dismantling.

9. The specific requirements to address all of the safety risks for Earth-Moving Machinery are covered in a single ISO/TC 127 general safety standard, ISO 20474:2008 Earth-Moving Machinery – Safety – General Requirements. ISO 20474 references over 40 other ISO standards for Earth-Moving Machines and provides general performance requirements to address the safety risks.

10. Machines that comply with the ISO 20474 standard for Earth-Moving Machines are presumed to comply with all of the safety requirements for Earth-Moving Machines. ISO 20474 defines performance criteria that lead to safe levels for the risks. Other solutions that provide equal to or better safety levels are acceptable, to allow for new technology or alternate options for addressing the safety risks.

4. Compliance clause

11. Compliance with this CRO shall be by Suppliers Declaration of Conformity (SDoC), as it is currently being done in the USA, the EU and Japan. In some countries where manufacturers are not prepared to do SDoC or are not trusted yet to do SDoC, the assistance of a third party may be necessary for conformity assessment. For these countries, the manufacturer can work with a Third-Party for Conformity Assessment. Conformity assessment testing that has already been done by the manufacturer can be used if the manufacturer has the following:

(a) A quality plan that is at least equivalent to ISO 9000;

(b) A documented conformity assessment process;

(c) A conformity assessment group to manage the conformity assessment;

(d) Access to conformity assessment facilities (internal or external).

5. Market surveillance and protection clause

12. Countries having agreed to the CRO are responsible for market surveillance within their territory. If a country finds machines claiming conformity with a CRO that do not actually conform to the requirements, the country may withdraw such a machine from its market.

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Working Party on Regulatory Cooperation and Standardization Policies

Twentieth session
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Item 6 (b) of the provisional agenda
Regulatory cooperation, Sectoral projects

Progress report on the sectoral initiative on earth-moving machinery

Note by the secretariat[1]

Summary

Excavators, bulldozers and other earth-moving machinery need to be safe in order to protect workers from potential hazards. ISO standards have long been used in this sector as the basis for national standards and as the technical requirements for complying with regulations. However, more countries are adding regulatory requirements as well as requirements for repeated testing and lengthy conformity assessment procedures, thereby adding unnecessary cost and time delays.

In 2003, the Working Party set up a sectoral initiative to reduce technical barriers to trade in this sector while preserving safety and reliability of equipment. In 2004, the Working Party adopted a first model regulatory framework, which was revised in 2009. Currently the project is developing a model certificate of conformity that, if broadly adopted, would simplify the exchange of data between the producers, the third-party certifiers and the authorities of exporting and importing countries.

The progress report is submitted to the Working Party for discussion and for noting.

1 At its eighteenth session, the Working Party asked the secretariat to provide annual updates on the work of all the sectoral initiatives (ECE/TRADE/C/WP.6/2008/18, para. 63).

I. Project objective and key deliverables

1. In order to protect workers from potentially serious hazards, machinery such as excavators, dozers and other earth-moving machinery needs to respect strict safety requirements as safe as possible. Both industry and Governments have been actively developing and implementing best practice and international standards, especially in the context of the Technical Committee 127 of the International Organization for Standardization (ISO/TC 127).

2. ISO standards have long been used as the basis for technical regulations in all major markets. However, more countries are adding regulatory requirements, as well as requirements for repeated testing and lengthy conformity assessment procedures, which inflate prices with no real gain in safety and quality of the traded equipment.

3. In 2003 the Working Party set up a Sectoral Initiative to reduce technical barriers to trade in this sector while preserving safety and reliability of equipment traded internationally. The Working Party approved the first version of the Common Regulatory Objectives (CROs) for the safety requirements of earth-moving machinery in 2004 and a revised version in 2009.

II. Current status of project

4. Since 2004, an international team has been promoting the general principles of the project in China, Russia, India and parts of South America. It has been doing so both by promoting the adoption of the ISO/TC 127 standards as national standards and by recommending that countries use standards as the basis for technical regulations. Since most countries generally adopt the ISO/TC 127 standards as their national standards, the CROs were broadly considered as acceptable.

5. The compliance clause in the CROs of 2004 allowed for conformity assessment only through the use of a supplier declaration of conformity (SdoC). This, however, failed to meet the requirements of some of the developing countries, where SDoC is not considered a suitable tool for this sector.

6. The CROs were therefore revised and they now allow for manufacturers to avail themselves of the services of external certifiers. This encourages the manufacturer and the third party to work within a stable framework, so that testing that has already been done by the manufacturer can be used by the third party, within specific guidelines. The end goal of the process should be to build capacity at the manufacturer's premises, so that ultimately the SDoC becomes the alternative of choice.

7. A revised version of the CROs - approved by the Working Party at its annual session in 2009 (see ECE/TRADE/C/WP .6/2009/19, para. 36) - is reproduced as an annex to the present document.

III. Project meetings and/or conference calls held in 2010

8. The Earth-Moving Machinery Task Force exchanged information informally by email throughout 2010.

IV. Progress in 2010 and deliverables for the annual sessions

9. The Project is developing a model certificate of conformity based on best practice in this and other sectors. If broadly adopted, the model certificate would simplify the exchange of data between the producers, the third-party certifiers and the authorities of exporting and importing countries. At the 2010 annual session, a general global certificate will be presented that can be used to certify conformity to regulations and standards, to confirm country of origin and date of manufacture, and to certify quality as well as other specific customer needs for compliance.

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