

**UNECE Working Party on
Regulatory Cooperation and Standardization Policies (WP.6)
Sectoral Initiative on Earth-Moving Machinery Safety**

**COMMON REGULATORY OBJECTIVES (CRO)
REVISED PROPOSAL**

I. INTRODUCTION

1. The earth-moving machine industry has been a global industry for many years and ISO standards have been developed for the safety risks to promote global technical requirements. The ISO/TC 127 safety standards for Earth-Moving Machines can be used as the technical requirements for an UNECE “International Model for Technical Harmonization” (UNECE WP 6 Recommendation “L”) aimed at harmonizing technical regulations based upon international standards.
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:
 - i. Jan Mimer, Volvo, representing CECE and the EU
 - ii. Dan Roley, Caterpillar, representing AEM and the USA
 - iii. Kenzo Tanaka, Komatsu, representing CEMA and Japan

5. A CRO for Earth-Moving Machines is proposed, incorporating the principal elements defined in the UNECE Recommendations on Regulatory Cooperation and Standardization Policies, Recommendation L “International Model for Technical Harmonization” (in particular in Annex B) and the new ISO/TC 127 general safety standard (ISO 20474). The proposed CRO covers 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.

II. 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 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.

III. 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.

IV. 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)

V. MARKET SURVEILLANCE AND PROTECTION CLAUSE

2. 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.