GENERAL SAFETY INSTRUCTION GSI-M-1

LIFTING EQUIPMENT AND ACCESSORIES
1 INTRODUCTION

For the convenience of the reader, this General Safety Instruction uses the masculine gender only. However, its use shall be understood as referring to both genders unless the context clearly indicates a reference to one gender only.

1.1 Legal basis

In accordance with its intergovernmental status, the Organization establishes and updates Safety Rules to implement its Safety Policy.

This General Safety Instruction forms part of the CERN Safety Rules and is issued pursuant to the Staff Rules and Regulations and the CERN Safety Policy.

1.2 Purpose and scope

The purpose of this General Safety Instruction is to define the minimum Safety requirements applying to all lifting equipment and accessories belonging to or hired by CERN or the collaborating institutions, used or intended for use at CERN, and to all associated activities.

This General Safety Instruction does not apply to the following:

- the structures supporting lifting equipment;
- lifts, as defined in General Safety Instruction GSI-M-5 “Lifts”.

1.3 Definitions

For the purposes of this General Safety Instruction, the following definitions shall apply:

- **Applicable Laws**: all laws, treaties, rules, regulations and orders of any local, national or other authority having jurisdiction over a contractor or a collaborating institution.
- **Assembly and installation test of lifting equipment**: test to make sure that the lifting equipment is safely and securely assembled and installed, in compliance with the manufacturer’s instructions.
- **HSE Unit**: organic unit competent in matters of occupational health and safety and environmental protection.
- **Inspection of lifting accessories for suitability for use**: inspection to check:
  - that the accessory is suitable for the item of lifting equipment for which the user intends to use it and for the work to be performed, and that it is suitable with respect to the hazards to which workers are exposed;
  - that the intended operations are compatible with the conditions for use of the accessory as defined by the manufacturer.
- **Inspection of lifting equipment for suitability for use**: inspection to check:
  - that the lifting equipment is suitable for the work which the user intends to perform with it and with respect to the hazards to which workers are exposed;
  - that the intended operations are compatible with the conditions for use of the equipment as defined by the manufacturer.
- **Laws**: laws, rules, regulations, ordinances, prescriptions, directives, standards and procedures issued by a national or international authority other than CERN or by a professional association or standardisation body.
- **Lifting accessory**: component or item of equipment not attached to the lifting machinery, allowing the load to be held, which is placed between the machinery and the load or on the load itself, or which is intended to constitute an integral part of the load; slings and their components are also regarded as lifting accessories.
- **Lifting equipment**: machines, including those which rely directly on human power, and their equipment, operated by one or more operators who effect movements using service components over which they maintain control, of which at least one of the functions is to move a load consisting of goods or materials and, where relevant, one or more persons, involving a significant change in the height of the load while it is being moved, and where the load is not permanently attached to the equipment. A change in height corresponding to what is needed to lift the load off the floor in order to move it and where no hazard is likely to be generated in the event of failure of the load support is not considered as significant.
• **Lifting equipment or accessory liable to have major Safety implications:**

  lifting equipment or accessory:
  – not compliant with the applicable European directives, or
  – of a highly complex design, or
  – using reduced safety factors, or
  – requiring special conditions of use, or
  – using unconventional materials or manufacturing technologies, or
  – presenting a high-level hazard for people, the environment or other installations in the event of failure.

• **Major repair:**

  repair operation:
  – which affects the stability or structural behaviour of lifting equipment and accessories, or
  – which affects the operating mode of lifting equipment and accessories, or
  – which requires a review of the safety conditions.

• **Member of the Personnel:** CERN Members of the Personnel as defined by the CERN Staff Rules and Regulations. Members of the Personnel comprise both employed and associated Members of the Personnel.

• **Operating test of lifting equipment:**

  test consisting in:
  – using the lifting equipment, with or without its accessories, to move a test load into the most unfavourable positions, applying a force to the mechanical components corresponding to the maximum values of the capacity stated by the manufacturer;
  – verifying the operating efficiency:
    • of the brakes or equivalent devices designed to stop and then maintain the load or equipment in all positions;
    • of the systems designed to control the lowering of the loads;
    • of the systems limiting the movements of the lifting equipment and the load, such as motion limiters, derricking limiters, slewing limiters, anti-collision devices and fall protection devices;
  – triggering the load-moment limiters and overturning-moment limiters, where they exist, in order to check that they operate correctly at the values defined in the manufacturer’s instructions or, where no instructions exist, at values beyond the maximum operating load and at least 1.1 times the load or maximum moment.

• **Organic unit:** department or administratively assimilated unit and CERN Experiments.

• **Owning organic unit:** organic unit which owns an item of mechanical equipment or an accessory. If no owning organic unit can be identified, the organic unit which uses the item of equipment is deemed to be the owning organic unit; if the item of equipment is used by several organic units, one of these shall be designated as the owning organic unit.

• **Safety File:** set of documents and data relating to the assessment of the Safety, at all stages of their life cycle, of installations, projects, facilities or CERN Experiments and the corresponding implementation measures and procedures as well as lessons learned.

• **User entity:** organic unit or contractor authorised to use an item of mechanical equipment belonging to or hired by CERN or a collaborating institution.

For other definitions please refer to section 1.3 of Safety Regulation SR-M “Mechanical equipment”.

### 1.4 CERN Safety Rules and Laws

This General Safety Instruction is supplemented by the documents listed below, where they exist:

• Safety Regulations (SR);
• General Safety Instructions (GSI);
• Specific Safety Instructions (SSI);

and by the relevant provisions of the following Laws:

• Arrêté du 2 mars 2004 relatif au carnet de maintenance des appareils de levage (France).
• Arrêté du 1er mars 2004 relatif aux vérifications des appareils et accessoires de levage (France).
MINIMUM SAFETY REQUIREMENTS RELATING TO THE LIFE CYCLE OF LIFTING EQUIPMENT AND ACCESSORIES

Pursuant to Safety Regulation “Mechanical equipment” (SR-M), the approval of the HSE Unit is required for each stage in the life cycle of an item of lifting equipment or an accessory liable to have major Safety implications. In case of doubt concerning the item’s classification as equipment liable to have major Safety implications, the HSE Unit shall decide.

2.1 Design

All new lifting equipment or accessories shall be designed in accordance with the applicable CERN Safety Rules and with Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006. The design of lifting equipment or accessories shall take account of the additional Safety requirements of the Specific Safety Instructions, where they exist.

2.2 Manufacture

All new lifting equipment or accessories shall be manufactured in accordance with the applicable Safety Rules and with Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006. The manufacture of lifting equipment or accessories shall take account of the additional Safety requirements of the Specific Safety Instructions, where they exist.

2.3 Procurement or arrival/presence on the CERN site

The organic unit in charge of the procurement or arrival on the CERN site of an item of lifting equipment or an accessory shall ensure that it is delivered with at least:

- CE marking;
- the following documents:
  - the instruction manual;
  - the EC declaration of conformity, except in the case of a hired item of equipment.

The documents shall be written in English or French or in both languages. The EC declaration of conformity and the instruction manual shall be archived in the Safety File. The organic unit owning an item of lifting equipment or an accessory already present on the CERN site when this General Safety Instruction comes into force shall ensure:

- that it complies with the applicable CERN Safety Rules and Laws (cf. Section 1.4);
- that all the necessary protective devices have been installed;
- that the Safety File has been established or updated.

The procurement or arrival/presence on the CERN site of an item of lifting equipment or an accessory shall take account of the additional Safety requirements of the Specific Safety Instructions, where they exist.
2.4 Installation
The organic unit owning an item of lifting equipment or an accessory shall install it or have it installed by a competent person in accordance with the manufacturer’s instructions.

Whenever an item of lifting equipment is to be installed, an assembly and installation test shall be performed by the CERN Safety Inspection Service, in compliance with the additional Safety requirements of the Specific Safety Instructions, where they exist.

2.5 Acceptance and commissioning
The acceptance and commissioning of an item of lifting equipment or an accessory shall be subject to:

- a check of the Safety File;
- a general check of the installation conditions (if applicable);
- a visual check;
- a check of the safety systems;
- an inspection for suitability for use;
- operating tests;
- a proof test in accordance with the following Laws: “Arrêté du 1er mars 2004” (France) and “Arrêté du 18 décembre 1992” (France);
- the additional Safety requirements of the Specific Safety Instructions, where they exist.

The owning organic unit shall inform the HSE unit whenever the above mentioned checks, inspections and tests are to be carried out. The HSE unit shall then decide whether the organic unit or the HSE unit shall carry them out.

Once the measures defined above have been performed successfully, the CERN Safety Inspection Service shall:

- allocate a CERN identification number to the item of lifting equipment or the accessory;
- draw up an acceptance report which shall be included in the Safety File;
- authorise commissioning.

Once the measures defined above have been successfully completed, the organic unit owning the item of lifting equipment or the accessory shall update the Safety File and declare that the item of equipment has been commissioned.

2.6 Use
Before an item of lifting equipment or an accessory is used for a given activity for the first time, the owning organic unit and the user entity concerned shall assess the risks associated with its use for the activity in question.

This assessment shall cover the item of lifting equipment or the accessory as well as the installation to which it belongs and any other equipment that could be affected by its use.

Except where the item of lifting equipment or the accessory has been hired, the owning organic unit shall place the following information on the lifting equipment or accessory or arrange for it to be placed:

- the identification number allocated by the CERN Safety Inspection Service;
- the relevant characteristics of the item of lifting equipment or the accessory, in English or French or in both languages;
- the appropriate configuration for safe use, if possible.

The item of lifting equipment or the accessory shall be used in compliance with:

- the instruction manual;
- the additional Safety requirements as defined in the Specific Safety Instructions, where they exist;
- any additional instructions issued by the owning organic unit.

The user entity shall:

- ensure that the item of lifting equipment or the accessory is used safely in all conditions;
- draw up detailed operating procedures in compliance with the instruction manual and with the additional Safety requirements of the Specific Safety Instructions where they exist. These procedures shall be included in the Safety File;
• ensure that the persons under its responsibility\(^1\) using an item of lifting equipment or an accessory are properly qualified and trained in accordance with the additional Safety requirements of the Specific Instructions, where they exist.

The use of an item of lifting equipment or an accessory belonging to CERN or a collaborating institution is subject to prior authorisation by the owning organic unit.

An item of lifting equipment or an accessory shall not be operated beyond the values specified in the instruction manual and in the additional Safety requirements of the Specific Safety Instructions where they exist, nor if a malfunction is detected, nor if the date of the next periodic inspection has passed.

2.7 Periodic inspections

Lifting equipment and accessories shall be periodically inspected as defined in the additional Safety requirements of the Specific Safety Instructions, where they exist.

Except in the case of a hired item of lifting equipment or an accessory, the periodic inspections shall be performed by the CERN Safety Inspection Service, at the request of the owning organic unit. The user entity using an item of lifting equipment or an accessory, including hired equipment and accessories, shall be responsible for making sure that it has undergone a periodic inspection.

Any item of lifting equipment or accessory which fails a periodic inspection and cannot be repaired shall be decommissioned and dismantled without delay (cf. Section 2.10).

Periodic inspections shall be documented and the corresponding data archived in the Safety File.

2.8 Maintenance

The organic unit owning the item of lifting equipment or the accessory shall establish a maintenance schedule which guarantees the safety of users and operational safety, based on the manufacturer’s instructions or on the additional Safety requirements of the Specific Safety Instructions where they exist.

Maintenance operations shall be carried out, documented and included in the Safety File.

Where such lifting equipment or accessories have been hired, maintenance shall be the responsibility of the owner. The user entity using the item lifting equipment or the accessory shall be responsible for making sure that the maintenance operations have been performed.

2.9 Recommissioning

The organic unit owning an item of lifting equipment or an accessory shall recommission it in accordance with the Safety requirements laid down in section 2.5:

• after any major repair;
• after any modification that was not foreseen as part of the manufacturer’s original design;
• after it has remained idle for a long period such as to impair the initial safety conditions;
• after each event defined in the additional Safety requirements of the Specific Safety Instructions where they exist.

2.10 Decommissioning/dismantling

In the case of an item of lifting equipment or an accessory that is to be decommissioned and then recommissioned, the owning organic unit shall ensure that:

• the Safety File is archived;
• the HSE unit is informed, in particular if the item of lifting equipment or the accessory is subject to the Safety requirements for periodic inspections;
• the item of lifting equipment is drained of any fluids that could present a hazard;
• the item of lifting equipment or the accessory is made safe and access to it is restricted during the period when it is not in use;
• any non-conformity identified during the decommissioning process is recorded in the Safety File;
• the additional Safety requirements of the Specific Safety Instructions, where they exist, are complied with.

In the case of an item of lifting equipment or an accessory that is to be dismantled, the owning organic unit shall make sure that it cannot be re-used and that it is dismantled in compliance with the applicable CERN Safety Rules and Laws (cf. Section 1.4).

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\(^1\) In the case of associated Members of the Personnel, the employer shall certify that its personnel have the required qualifications and training.
3 SAFETY FILE

The organic unit owning the item of lifting equipment or the accessory shall establish a Safety File and update it. The Safety File shall include the following documents, where they exist:

- the risk assessments;
  - where this is supplied by the manufacturer, or
  - where the item of lifting equipment or the accessory is manufactured by CERN;
- the EC declaration of conformity in the case of an item of lifting equipment or an accessory manufactured or purchased after 1995;
- the instruction manual;
- the acceptance report;
- the declaration of commissioning;
- the periodic inspection schedule;
- the periodic inspection reports;
- the maintenance operation schedule;
- the maintenance operation reports;
- the documents relating to the design and performance of any repairs;
- the dismantling instructions;
- the identity of the owning organic unit.

The documents making up the Safety File shall be written in English or French or in both languages and shall be submitted to the HSE Unit if the latter so requests.

4 FINAL PROVISIONS

4.1 Replacement of existing documents

This General Safety Instruction (version 2), including the applicable CERN Safety Rules and Laws (cf. Section 1.4), cancels and replaces General Safety Instruction GSI-M1 “Standard lifting equipment”, (version 1).

4.2 Entry into force

This General Safety Instruction (version 2) enters into force upon its publication on the CERN website dedicated to the CERN Safety Rules: [https://www.cern.ch/safety-rules](https://www.cern.ch/safety-rules).