



Lock-Out, Tag-Out, Try-Out (LOTOTO)

LOTOTO is a simple and effective safety procedure that ensures that dangerous machines and energy sources are properly shut off and not unexpectedly started up before the completion of maintenance or servicing work.

We have learnt from incidents within the industry, that giving employees and contractors as much information and guidance on the risks involved when operating heavy machinery and the types of energy to be protected against, is critical.

As such, applying LOTOTO (Lock-Out - Tag-Out - Try-Out) which is a safety procedure for isolating equipment to ensure maintenance and cleaning can be undertaken safely has the potential to significantly reduce risks and improve the safety of workers.



Why is LOTOTO important?

Equipment operated in the aggregates industry has the potential to cause harm if not operated or isolated correctly. Moreover, a large proportion of accidents at work happen during maintenance work.

LOTOTO is an effective method that has been continuously developed in recent years so that accidents and incidents in production is mitigated and eliminated. Therefore, 9 steps have to be followed.





What do Employers have to do? How to apply LOTOTO?

Here are the **9 steps** that have to be taken to ensure a proper application of LOTOTO:

1 **Prepare**

One responsible person has to be put in charge and he must make sure that the appropriate procedure is implemented correctly.

2 **Notify**

ALL employees affected by the maintenance work must be notified and informed about how long the procedure will take.

3 **Turnoff / Shutdown**

The responsible for LOTOTO must turn off or shut down all equipment.

4 **Isolation**

All primary as well as secondary sources of energy must be shut down and physical barriers must be put in place to avoid their utilization.

5 **Apply Locks and Tags**

The principle on which the application of locks should be based on is the following: One Lock, One Person, One Energy Source.

6 **Zero Energy State**

All stored energy must be released from the equipment and tests made to ensure the equipment has been de-energized.

7 **Tryout**

Attempt to operate the equipment by its normal operating controls to ensure the equipment will not operate.

8 **Perform Task**

Complete the task as per the risk assessment and safe working practice requirements.

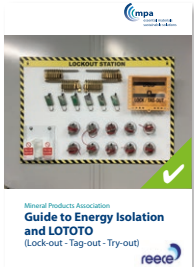
9 **Make safe, inspect and restore**

The responsible person has the duty to inspect the area and restore all equipment and energy sources to their functional state.



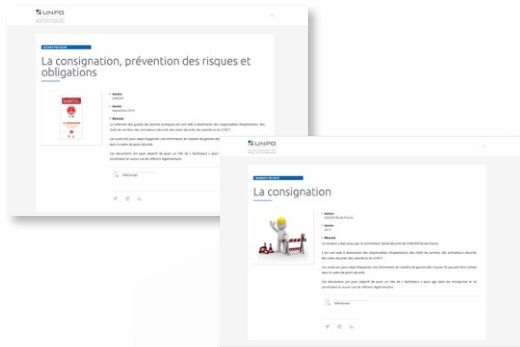
EXAMPLES

National Examples (non exhaustive list):



- **MPA, UK:**
'Guide to Energy Isolation and LOTOTO'
https://www.safequarry.com/hotTopics/MPA_Energy%20Iso%20%20LOTOTO%2032pg%20Handbook%20V8%20Final%20Print%20Copy.pdf
Safequarry.com

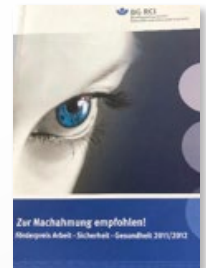
- **UNPG, France:**
<http://plateforme-unpg.fr/mediatheque/fiche/37>
<http://plateforme-unpg.fr/mediatheque/fiche/81>
Our French colleagues use a series of safety procedures that fall under the LOTOTO procedure, especially thought for maintenance works.



- **FdA, Spain:**
'Prevención de Riesgos Laborales en Trabajos de Mantenimiento en Canteras, Graveras y Plantas de Tratamiento de Aridos' – ANEFA
In Spain, the above-mentioned document comprises a series of safety measures and the LOTOTO procedure is included here as well.



- **MIRO, Germany:**
'Zur Nachahmung empfohlen!'
Our German partners are using a guide that incorporates safety measures and procedures for a variety of situations and actions. Such a guide is printed every few years in partnership with other industries.



- **FEDIEX, Belgium:**
Fediex is regularly organising roundtables and discussions on this topic within the Committee on Health and Safety.
- **ANEPLA, Italy:**
In Italy, the LOTOTO procedure is vastly used during maintenance work.

Other safety procedures

LOTOTO is not yet the standard safety procedure in the industry, being a relatively newer development. There are simpler versions that are used, such as LOTO, but also more complex procedures that are used for larger equipment or in big quarries.



Find out more

EU-OSHA

EU-OSHA organised a seminar on safe maintenance work, and the details could be found here: <https://osha.europa.eu/en/tools-and-publications/seminars/healthy-workplaces-summit-on-safe-maintenance>



Magazine 12 has been entirely dedicated to the issue of safe maintenance work, you can find all details here: <https://osha.europa.eu/en/tools-and-publications/publications/magazine/magazine12/view>



EU law

Directive: 92/104/EEC of 3 December 1992 on the minimum requirements for improving the safety and health protection of workers in surface and underground mineral-extracting industries (twelfth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC): <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01992L0104-20070627> (23 languages).

Directive: 2009/104/EC of the European Parliament and of the Council of 16 September 2009 concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0104> (23 languages).

Framework Directive: 89/391/EEC Council Directive of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01989L0391-20081211> (23 languages).

Directive: 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work (ninth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01992L0058-20140325> (23 languages).

Directive: 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace (third individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01989L0656-20070627> (23 languages).

Directive: 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0042> (23 languages).

Directive: 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32003L0088> (23 languages).