

Life Saving Rules – Module 0

Module 0 - overview and explanation

English Version

Powering. Reliable. Future.

RWE



GOAL OF THIS TOOLBOX

- Get an understanding of the background of the Life Saving Rules
- Get basic knowledge of all 12 Life Saving Rules
- Have a discussion in your teams on how to apply the Life Saving Rules

BACKGROUND OF THIS TOOLBOX

The Life Saving Rules are derived from:

- Looking at benchmarking examples from other industries (Shell, BASF, Schiphol, Exxon, Sabic etc.)
- Analysis of high-risk-incidents within G-C. Over 80% of our serious incidents can be linked to these Life Saving Rules
- Including both occupational safety as well as process safety

These 12 LSR's for G-C sets a good basis for our safety performance and are the really important ones

These LSR therefor must be followed, always, everywhere and by everyone, with zero compromise



Life Saving Rules



I have ensured
I am working on a
safe system



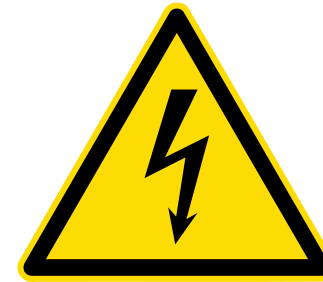
I work with a valid
work permit



I wear/use the
required additional
personal protective
equipment



I obtain authorisation
before overriding or
disabling safety-
related equipment



I comply with
the electrical
safety rules



I never put
myself under a
suspended load



I establish and
respect barriers
and exclusion
zones; I stay out
of the line of fire



I protect myself
against falling
and drowning



I only enter
a confined space
with authorisation



I drive, ride and
walk safely



I comply with
the rules for fire
and explosion
prevention



I am not under the
influence of
alcohol, drugs
or medicine

Short explanation per LSR (1)

1. I HAVE ENSURED I AM WORKING ON A SAFE SYSTEM

- Make sure isolation has been executed, secured, tagged and tested. Make sure this can not be reversed while working on a part of the system. Stop and reassess if the situation at the workplace changes or is different than expected. Never interfere with existing isolations
- Examples
 - HCl release because of incorrect isolations (Ibbenbüren, 2018)
 - Work on wrong plant leading to gas leak near miss (Didcot B, 2019)

2. I WORK WITH A VALID WORK PERMIT

- Work with a valid permit and apply POWRA. Risks and measures are discussed in advance. Permit should be discussed and understood between permit holder and permit issuer; proper agreements on the safe conditions should be made and executed. Stop before start, confirm risks are controlled and it is safe to start work. Stop and reassess if the situation at the workplace changes or is different than expected
- Examples
 - Work started on compressor without permit. Installation was being isolated. Near miss (Swentibold, 2019)
 - Replacing drain valve without permit, leading to no isolation and therefore release of hot water, near miss (Aberthaw, 2019)

3. I WEAR/USE THE REQUIRED ADDITIONAL PERSONAL PROTECTIVE EQUIPMENT

- Make use of the proper personal (additional) protective equipment applicable for the task and indicated in the work permit.
- Examples
 - Grinding incident (cut in face) (Amer, 2018)
 - Foreign body in left eye following grinding (Staythorpe, 2018)



Short explanation per LSR (2)

4. I OBTAIN AUTHORISATION BEFORE OVERRIDING OR DISABLING SAFETY-RELATED EQUIPMENT

- When not specifically authorised do not apply any overriding or disabling of safety-related systems. Do not remove or change safety devices or settings. If authorised, follow the correct procedure.
- Examples
 - Ruptured bellow GT outlet after override end-switches stack-valves in GT start program (CHP Enschede, 2011)

5. I COMPLY WITH THE ELECTRICAL SAFETY RULES

- Numerous incidents and even fatalities have happened within RWE when not following the electrical safety rules. Use the correct additional PPE and specific instructions.
- Examples
 - Generator heating still under voltage (Moerdijk, 2018)
 - Unit 1 generator fan & lighting circuits live (Staythorpe, 2018)

6. I NEVER PUT MYSELF UNDER A SUSPENDED LOAD

- Working with overhead and mobile cranes are high risk tasks requiring special arrangements. NEVER walk under a suspended load.
- Examples
 - Heavy bearing falling out of crane (Westfalen, 2018)
 - Swing check valve fallen over (Staythorpe, 2019)



Short explanation per LSR (3)

7. I ESTABLISH AND RESPECT BARRIERS AND EXCLUSION ZONES; I STAY OUT OF THE LINE OF FIRE

- Respect barriers and exclusion zones and stay out of areas where things could drop, you might fall, things can hit you, unexpected energy release can occur etc. Check the workplace if there is a risk of falling objects.
- Examples
 - 250 kg door falls on an employee (Moerdijk, 2018)
 - Manually trying to stop pallet with valve from falling from Manitou reach truck (Inesco, 2018)

8. I PROTECT MYSELF AGAINST FALLING AND DROWNING

- Prevent falling from heights or falling into the water or similar. Check the possibility of installing a fixed barrier; check the possibility of using a scaffold; never change anything to existing fall barriers e.g. scaffolds and gratings. Use the correct fall protection equipment.
- Examples
 - Fall from scaffold leading to disablement (Amer, 2009)
 - Machinist Working on GT Casing Half Joint Not Clipped On (Staythorpe, 2018)

9. I ONLY ENTER A CONFINED SPACE WITH AUTHORISATION

- Confirm with the attendant that the confined space can be entered. Make sure atmosphere has been tested and is regularly monitored. Think about proper communication. Confirm that a rescue plan is available.
- Examples
 - High CO levels in hedge of ship (Eemshaven, 2015)
 - Confined space guard not aware of how many people in confined space (Eemshaven, 2019)



Short explanation per LSR (4)

10.1 DRIVE, RIDE AND WALK SAFELY

- Always use the seatbelt; do not hold a mobile phone while driving. Hold the handrail on the stairs. Move consciously
- Examples
 - Not wearing safety belt in bobcat, driver bumps with head against cabin (Eemshaven, 2018)
 - Stumbling in a public walking area broken shoulder (Essen, 2018)

11.1 COMPLY WITH THE RULES FOR FIRE AND EXPLOSION PREVENTION

- Only allow Ex-equipment inside Ex-zones; Special permit when welding, burning or grinding; have an appropriate fire extinguisher at hand
- Examples
 - Dust explosion (Amer, 2014)
 - Explosion coal mill (Westfalen, 2015)

12.1 AM NOT UNDER INFLUENCE OF ALCOHOL, DRUGS OR MEDICINE

- No alcohol, no drugs, be aware of using medicine that restrict performing your task
- Examples
 - Numerous findings of empty beer cans on site during overhaul (Eemshaven, 2018)
 - Numerous findings of empty beer cans on site (Amer, 2019)





DISCUSS IN YOUR TEAMS

- How can you assure you have enough knowledge on the LSR's?
- How do you deal with the LSR's in practice?
 - High quality of work preparation
 - High quality of risk analysis
 - Consequent execution that follows the procedures
 - How to apply LSR's in non-operational environments
- Do we compliment each other when the right example is being set?
- How can we address each other, no matter who they are, when a LSR is not being followed?
- How can we engage and inform our contractors?
- What agreements can we make to achieve the above?



EXPLANATORY NOTE

- “That means:“ binding rule that needs to be obeyed.
- “Take your responsibility, also discuss on:“ Points out the personal responsibility of the employee



Life Saving Rules



INTERVENE OR STOP THE WORK IF A LIFE SAVING RULE IS NOT BEING FOLLOWED

- Take time for safety
- Have you done everything possible to minimise risk?
- Stop before **you start**:
Do a Last-Minute **Point Of Work Risk Assessment (POWRA)**
- Always stay alert while working
- Stop working when conditions or behaviour become unsafe – no excuses
- Stay out of the line of fire
- Report incidents so we can all learn
- RWE encourages everybody to speak up if in doubt

I have ensured I am working on a safe system



THAT MEANS:

- I have been explained about the isolations that protect me from danger
- I have asked the supervisor or person in charge that hazardous energy sources have been isolated, secured, tagged and tested
- I will stop before start, confirm risks are controlled and it is safe to start work
- I will stop and reassess if the situation at the workplace change or are different than expected
- I will never interfere with existing isolations

TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- What additional measures need to be in place in testing situations
- In case of doubt I should always ask RWE to prove isolations



I work with a valid work permit



THAT MEANS:

- I will know in advance how we are going to do our work. Risks and measures are discussed in advance
- I will confirm if a permit is required, discussed and valid
- I understand the work permit and I will follow it
- I will stop before start, confirm risks are controlled and it is safe to start work
- I will stop and reassess if the situation at the workplace change or are different than expected

TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Am I competent, fit and prepared to do the work as planned



I wear/use the required additional personal protective equipment



THAT MEANS:

- I know and use the required additional PPE as prescribed in the work permit or work instruction
- I know and use the prescribed PPE according to the local signs
- I regularly check the condition of my PPE
- I hold others accountable for not wearing/using their prescribed PPE



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- I know and use the standard prescribed personal protective equipment (PPE)
- The effectiveness of the PPE in your specific situation
- Am I instructed on how the PPE is intended to be applied



I obtain authorisation before overriding or disabling safety -related equipment



THAT MEANS:

- When I am not specifically authorised I will not apply any overriding or disabling of safety-related systems
- If authorised, I know and I follow the correct procedure including documenting and notifying all involved parties when applying an override or disabling of safety-related systems



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- When safety measures are bypassed, overridden or removed, determine whether temporary precautions are necessary to ensure a comparable safety level
- How can you return to normal operations as soon as possible?



I comply with the electrical safety rules



THAT MEANS:

- I guarantee proper isolation
- I secure against reversing the isolation
- I check/measure the absence of voltage
- I connect to earth and make a short circuit (HV)
- I shield equipment under voltage in the vicinity of the work place
- I use the correct additional PPE and specific instructions



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Am I working on the right system?
- Did I receive the proper authorisation?



I never put myself under a suspended load



THAT MEANS:

- I have ensured there is a lifting plan
- I can confirm that the equipment and load have been inspected and are fit for purpose
- I only operate equipment for which I am qualified to use
- I establish and respect barriers and exclusion zones
- I **NEVER** walk under a suspended load



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Are the weather conditions and position of the crane taken into account?
- Use a rope if a load needs to be guided



I establish and respect barriers and exclusion zones; I stay out of the line of fire



THAT MEANS:

- I establish barriers and exclusion zones where necessary
- I respect barriers and exclusion zones
- I always report dangerous, eg (potential) energy release, situations and immediately take action
- I check my workplace if it is in danger of falling objects



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- I keep myself and others out of the line of fire
 - I position myself in such a way avoiding:
 - ✓ Moving objects
 - ✓ Vehicles
 - ✓ Pressure/energy/chemical releases
 - ✓ Dropped objects
 - ✓ Entrapment by unshielded pinch points
 - Maintaining a well organised, safe and tidy workplace
 - Taking action to secure loose objects
 - Using the right tools/equipment and using them in the correct manner



I protect myself against falling and drowning



THAT MEANS:

- I check the possibility of installing a fixed barrier
- I check the possibility of using a scaffold
- I never change anything to existing fall barriers e.g. scaffolds and gratings
- I have agreed on what fall protection equipment to use, how to use it and I have agreed on a rescue plan e.g. to prevent hanging trauma
- I check equipment before using it
- I am always **“clipped-on”** when the use of fall protection equipment is required
- I respect the rules for the safe use of ladders



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- A jointly agreed best solution against the risks of falling given the specific circumstances
- The risks of falling during loading and unloading trucks e.g. climbing on trucks, transport and lifting equipment



I only enter a confined space with authorisation



THAT MEANS:

- I have an inventory of all risks identified
- I confirm the atmosphere has been tested and is regularly monitored
- I confirm with the supervisor or the person in charge of the work that it is safe to start work
- I confirm with the attendant that the confined space can be entered
- I follow the requirements of the work permit
- I confirm a rescue plan is organised

TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Approving and controlling access to a confined space
- Having appropriate means of communication between people inside the confined space and the attendant



I drive, ride and walk safely



THAT MEANS:

When driving a vehicle

- I always use the seatbelt
- I assure that everyone in the vehicle is wearing the seatbelt properly before starting to drive
- I do not hold a mobile phone or pager, send or read a text message
- I stay at or below the maximum allowable speed limit
- I do not participate in conference calls

When riding a bike

- I do not use a mobile phone
- I ensure the lights are working when it is dark

When walking

- I use the designated crossings
- I use the handrail on the stairs



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Moving consciously, not getting distracted and being aware of my surroundings e.g. slippery floors
- Minimising the use of hands-free equipment while driving



I comply with the rules for fire and explosion prevention



THAT MEANS:

- I respect the rules for Ex-zones, fire safety and smoking
- I use the proper anti-static clothing and tools
- I only allow Ex-equipment inside Ex-zones
- I know where the designated smoking areas are
- I have a special permit when welding, burning or grinding and I have an appropriate fire extinguisher at hand



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Being aware of the surroundings in which you are performing the work



I am not under the influence of alcohol, drugs or medicine



THAT MEANS:

- I will not use, keep, sell or distribute illegal drugs
- I will not be under influence of alcohol
- I won't work if I am not allowed to do my task due to medical reasons



TAKE YOUR RESPONSIBILITY, ALSO DISCUSS ON:

- Being fit enough for my task (mentally, physically, energy, distracted, stressed, etc.)
- If in doubt always check with your Supervisor



MISSION
ZERO₁⁰