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LIFE SAVING RULES

EXPLANATION GUIDE

EDITION #1.0

SETTING THE STANDARD IN OIL AND GAS SAFETY

ENERGY
SAFETY
CANADA

ABOUT ENERGY SAFETY CANADA

Energy Safety Canada is the national safety association for the oil and gas industry. We develop and support common industry safety standards, deliver effective learning systems, share data analysis and safety expertise with workers and employers, and advocate for worker health and safety. Our goal is the same as industry's — zero injuries, zero incidents.

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INTRODUCTION

This Life Saving Rule Explanation Guide was developed by Energy Safety Canada and the Safety Standards Council member companies. It is to be reviewed in conjunction with Energy Safety Canada's Industry Accepted Standard on Life Saving Rules. This Industry Accepted Standard is a means of protecting the health and safety of the individual by significantly reducing the risk of injury associated with "rule confusion" between different companies by focusing on critical hazards and work activities.

Companies that use these rules agree to implement the rules in accordance with the guiding principles and terms and conditions outlined in the Industry Accepted Standard (and as may be amended from time to time by Energy Safety Canada).

THE LIFE SAVING RULES ARE BASED ON THE FOLLOWING GUIDING PRINCIPLES:

- Standardization: companies agree to adopt and not alter the rule's logos or descriptions
- Support: companies will support workers and supervisors in adoption, use and on-going management of the rules
- Accountability: companies acknowledge that any breach of the rules is unacceptable and will investigate infractions and take appropriate action when rules are violated
- Continuous Improvement: companies will monitor, report and evaluate their programs for improvement in safety performance
- Shared Learning: companies will report, share lessons learned and best practices through Energy Safety Canada

HEALTH AND SAFETY MANAGEMENT SYSTEM IMPLEMENTATION

It is important for companies implementing Life Saving Rules to integrate them into their Health and Safety Management System. Companies should ensure the following:

- Personnel on their worksites are authorized and required to intervene if they are in doubt about the safety of an activity
- Systems and processes are in place to collect data related to Life Saving Rule non-compliances and other safety related data (e.g., incident near misses) to monitor the effectiveness of the implementation of these Life Saving Rules

THIS EXPLANATION GUIDE PROVIDES:

- General guidance on the scope of the rule, where appropriate
- Roles and responsibilities in relation to various worksite parties
- Examples of violations
- List of related life saving rules



CONFINED SPACE

Obtain authorization before entering a confined space

- I confirm energy sources are isolated
- I confirm the atmosphere has been tested and is monitored
- I check and use my breathing apparatus when required
- I confirm there is an attendant standing by
- I confirm a rescue plan is in place
- I obtain authorization to enter

ADDITIONAL GUIDANCE:

- Energy sources may be pneumatic, hydraulic, mechanical, gravitational, chemical, electrical, nuclear, thermal or any other energy that could cause injury
- Entry into a confined space includes the worker's body entering the space or the worker's head crossing the plane of the confined space access

SUPERVISOR:

- I ensure confined spaces are identified and workers are competent
- I ensure a hazard assessment is conducted
- I ensure energy sources are isolated
- I ensure an adequate emergency rescue plan is in place

WORKER:

- I have the required training and knowledge to safely perform work
- I confirm the breathing apparatus is appropriate based on the work permit, hazard assessment or work procedure
- I confirm an attendant is standing by and I am authorized to enter

ATTENDANT:

- I have the required training and knowledge to safely perform work
- I control access to the confined space
- I conduct atmosphere testing and monitoring using appropriate equipment that includes, at a minimum,

combustible gas, oxygen, H₂S and carbon monoxide and may include, but not limited to, benzene and other hydrocarbons, sulphur dioxide etc. depending on the hazard assessment

- I understand how to initiate and notify rescue personnel and/or initiate an evacuation as necessary

EXAMPLE VIOLATIONS:

- The supervisor does not confirm energy sources are isolated prior to entry by a worker
- Testing and monitoring of the atmosphere is not conducted or confirmed prior to entry as per the work permit, hazard assessment or work procedure
- Breathing apparatus is not inspected prior to donning
- A confined space is entered without wearing the required breathing apparatus
- A confined space is entered without first obtaining authorization from the attendant
- A confined space is entered when no attendant is present
- A rescue plan is not in place

RELATED LIFE SAVING RULES:

- Work Authorization
- Energy Isolation
- Line of Fire
- Bypassing Safety Controls
- Hot Work
- Fit for Duty



WORKING AT HEIGHT

Protect yourself against a fall when working at height

- I inspect my fall protection equipment before use
- I secure tools and work materials to prevent dropped objects
- I tie off 100% to approved anchor points while outside a protected area

ADDITIONAL GUIDANCE:

- Protected areas may include stairs with handrails, man lifts and approved scaffolds
- Approved anchor points are those that are capable of safely withstanding the potential impact forces applied and meet or exceed any other applicable regulatory requirements

SUPERVISOR:

- I ensure a fall protection plan is in place that identifies fall protection equipment including fall restraint, fall arrest, approved anchor points and a rescue plan
- I ensure workers are competent to use fall protection equipment

WORKER:

- I have the required training and knowledge to safely perform work
- I ensure that safe guards, barriers or safety nets are in place
- I ensure that anchor points and fall protection equipment are inspected and in good condition prior to use
- I use only approved anchor points
- I verify that clearances below the work area are sufficient if an arrested fall occurs
- I secure hand tools and work materials to prevent dropped objects
- I am always tied off when at height outside a protected area

EXAMPLE VIOLATIONS:

- A fall protection plan is not present
- Fall protection equipment is used by someone who has not been deemed competent in fall protection
- Fall protection equipment is not inspected prior to use or the equipment is used when deficiencies are identified
- Equipment is used as a tie off that is not an approved anchor point
- Fall protection is not used when working at height outside a protected area
- Fall protection is used that does not offer sufficient clearance if an arrested fall occurs
- Fall protection is used but no rescue plan is in place
- Hand tools and materials are not secured while working above an area where workers may be present

RELATED LIFE SAVING RULES:

- Work Authorization
- Line of Fire
- Fit for Duty



WORK AUTHORIZATION

Work with a valid permit when required

- I have confirmed if a permit is required
- I am authorized to perform the work
- I understand the permit
- I have confirmed that hazards are controlled and it is safe to start
- I stop and reassess if conditions change

ADDITIONAL GUIDANCE:

- Changing conditions may include:
- Changes in what was originally planned and captured on the permit
- Changes in work environment
- Changes in equipment
- Changes in process or operating parameters
- Changes in personnel

SUPERVISOR:

- I ensure the need for a work permit is understood by workers and it is safe to proceed
- I stop and reassess if conditions change
- I confirm the work is complete, and the work permit is signed off

PERMIT ISSUER:

- I have the required training and knowledge to safely issue work permits
- I ensure the work permit is specific to the work being planned
- I ensure adequate systems and equipment are in place for effective communication
- I ensure that any simultaneous operation which may impact the work on this permit, or if the work may impact the work of others, is identified, controlled and communicated

WORKER:

- I have the required training and knowledge to safely perform work
- I understand and follow the work permit
- I confirm hazards are controlled as stated on the work permit and that it is safe to start work
- I stop and reassess if conditions change

EXAMPLE VIOLATIONS:

- Work is started without confirming whether a work permit is required
- Simultaneous operations are not addressed in the work permit resulting in an incident
- Work is conducted outside of the scope of the work permit
- Hazard controls identified in the work permit are not implemented
- A significant change occurs and is identified, but it is not brought to the supervisor's and/or permit issuer's attention

RELATED LIFE SAVING RULES:

- Confined Space
- Energy Isolation
- Bypassing Safety Controls
- Hot Work
- Fit for Duty



ENERGY ISOLATION

Verify isolation and zero energy before work begins

- I have identified all energy sources
- I confirm that hazardous energy sources have been isolated, locked, and tagged
- I have checked there is zero energy and tested for residual or stored energy

ADDITIONAL GUIDANCE:

- Energy sources may be pneumatic, hydraulic, mechanical, gravitational, chemical, electrical, nuclear, thermal or any other energy that could cause injury
- For energy isolation to be an effective barrier, the energy must be turned off, locked out and tagged
- Specified life-protection equipment such as respiratory protection, electrical arc-flash protection, chemical-resistant gloves and suits protect you from certain types of hazardous energy
- Testing for residual or stored energy may involve measuring pipeline pressure, gas detection, electricity and radiation measurements, etc.

SUPERVISOR:

- I confirm that isolation is in place and that no stored energy or other hazardous energy remains
- I ensure adequate systems, processes and equipment (e.g. locks, tags, etc.) have been used as per site requirements

WORKER:

- I have the required training and knowledge to safely perform work
- I confirm with my supervisor or the person in charge that isolations are in place and it is safe to start work
- I ensure life-protecting equipment is used as indicated
- I never remove a lock that is not mine without authorization

EXAMPLE VIOLATIONS:

- Energy sources are not identified on the work permit or hazard assessment
- Hazardous energy is not turned off, locked and/or tagged
- Life-protecting equipment indicated on the work permit, hazard assessment or work procedures is not worn
- Someone else's lock is removed without authorization
- Testing for residual or stored energy is not conducted as per the work permit, hazard assessment or work procedures
- Piping is opened without verifying the line is depressurized
- Gas detection alarms are ignored
- Electrical measurements are not conducted to verify the circuit is no longer live

RELATED LIFE SAVING RULES:

- Confined Space
- Work Authorization
- Line of Fire
- Bypassing Safety Controls
- Hot Work
- Fit for Duty



LINE OF FIRE

Keep yourself and others out of the line of fire

- I position myself to avoid:
 - Moving objects
 - Vehicles
 - Pressure releases
 - Dropped objects
- I establish and obey barriers and exclusion zones
- I take action to secure loose objects and report potential dropped objects

SUPERVISOR:

- I ensure I have identified and controlled all line of fire hazards and associated risks
- I ensure workers are competent in line of fire hazard assessment and control
- I ensure line of fire, barriers and exclusion zones are incorporated into work permits, hazard assessments and work procedures
- I correct any unsafe conditions where workers are in the line of fire as dictated by equipment design, and seek engineering support to remedy

WORKER:

- I have the required training and knowledge to safely perform work
- I position myself to avoid moving objects, vehicles, pressure releases and dropped objects
- I adhere to barriers and exclusion zones identified in work permits, hazard assessments and work procedures
- I identify any unsafe conditions where I am in the line of fire as dictated by equipment design and notify my supervisor
- I ensure my vehicle is secured (in park, emergency brake on, wheels chocked, etc. as appropriate) to prevent a line of fire hazard
- I secure hand tools and materials to prevent dropped objects

- I take action when I or someone else is in an unsafe position relative to line of fire or dropped object hazards
- I report to my supervisor potential line of fire and dropped object hazards

EXAMPLE VIOLATIONS:

- Line of fire hazards are not assessed and mitigated as part of the work permit, hazard assessment or work procedures
- Barriers and exclusion zones are ignored
- Sufficient remedial action is not taken when equipment design which puts personnel in the line of fire is identified
- Hand tools and other equipment are not secured to prevent dropped objects
- Action is not taken when line of fire or potential dropped objects are identified

RELATED LIFE SAVING RULES:

- Energy Isolation
- Work Authorization
- Bypassing Safety Controls
- Working at Height
- Safe Mechanical Lifting
- Driving
- Fit for Duty



BYPASSING SAFETY CONTROLS

Obtain authorization before overriding or disabling safety controls

- I understand and use safety-critical equipment and procedures which apply to my task
- I obtain authorization before:
 - Disabling or overriding safety equipment
 - Deviating from procedures
 - Crossing a barrier

ADDITIONAL GUIDANCE:

- Safety-critical equipment must work correctly to keep you safe
- Some examples of safety critical equipment include:
 - Isolation devices
 - Relief valves
 - Emergency shutdown devices (ESD)
 - Lock-out/tag-out devices
 - Fire and gas detection controls
 - Emergency breathing apparatus (SCBA)
 - In-vehicle monitoring systems
 - Electronic logging device (ELD)
- Safety critical procedures must be followed
- Drug and alcohol test equipment and procedures are defined as safety critical

SUPERVISOR:

- I ensure safety critical equipment and procedures are identified and communicated to workers
- I ensure workers are competent in the use and limitations of safety critical equipment and procedures
- I confirm all proper authorizations are obtained

WORKER:

- I have the required training and knowledge to safely perform work
- I obtain authorization from my supervisor or the person in charge if required to override or disable a safety critical control

- I stop work and notify my supervisor if a procedural deviation is required
- I do not cross barriers or exclusion zones

EXAMPLE VIOLATIONS:

- Safety critical procedures are not followed
- Intentionally exceeding safe operating design limits for process equipment
- An ESD is bypassed without authorization
- Someone else's lock is removed without authorization
- Gas or fire detection are bypassed without authorization
- Gas detection is not worn or is not turned on as per the work permit, hazard assessment or work procedures
- Gas detection alarms are ignored
- Emergency SCBA is used for routine work
- Tampering of in-vehicle monitoring systems
- Defeating a drug or alcohol test
- A barrier or exclusion zone is ignored

RELATED LIFE SAVING RULES:

- Energy Isolation
- Work Authorization
- Line of Fire
- Driving
- Hot Work
- Fit for Duty



DRIVING

Follow safe driving rules

- I always wear a seatbelt
- I do not exceed the speed limit, and reduce my speed for road conditions
- I do not use phones or operate devices while driving
- I am fit, rested and fully alert while driving
- I follow journey management requirements

SUPERVISOR:

- I ensure workers are competent drivers for the environmental conditions anticipated with their work
- I ensure vehicles are fit for purpose and adequately maintained
- I ensure a journey management plan is created

DRIVER:

- I always wear a seatbelt and do not move the vehicle until all passengers have their seat belts on
- I do not speed and I reduce speed for the road conditions such as when there is traffic congestion, adverse weather, etc.
- I do not use electronic devices to send or receive communications while driving unless otherwise authorized
- I obey the rules of the road
- I ensure equipment and materials in the vehicle are secured so they are not a distraction or a line of fire hazard to the driver or passengers in the event of an incident
- I know when a journey management plan is required and follow that plan
- I conduct pre-trip inspections of the vehicle
- I take the required rest breaks and ensure I am fully alert (fit for duty) and working within the allowable hours of service
- I stop and reassess if conditions change, such as weather

EXAMPLE VIOLATIONS:

- A seat belt is not worn by the driver or a passenger while the vehicle is in motion
- The vehicle is traveling over the speed limit
- The driver uses an unauthorised electronic device while the vehicle is in motion
- The cab of a vehicle contains equipment or materials that are not secured
- The passengers in the vehicle are distracting the driver
- The journey management plan identifies unacceptable risk from extreme weather and the journey is conducted anyway
- The pre-trip inspection identifies an unacceptable vehicle condition, but the trip is conducted anyway
- The driver has exceeded the allowable hours of service
- Conditions change during the journey when an extreme weather storm moves in and the driver does not stop and reassess the journey

RELATED LIFE SAVING RULES:

- Line of Fire
- Bypassing Safety Controls
- Hot Work
- Fit for Duty



HOT WORK

Control flammables and ignition sources

- I identify and control ignition sources
- Before starting any hot work:
 - I confirm flammable material has been removed or isolated
 - I obtain authorization
- Before starting hot work in a hazardous area I confirm:
 - A gas test has been completed
 - Gas will be monitored continually

ADDITIONAL GUIDANCE:

- Ignition sources in relation to hot work may include welding, braising, cutting and any other activity that may generate an open flame or heat source
- Residual or stored energy in the form of trapped flammable gases and vapours may be present in equipment

SUPERVISOR:

- I ensure workers have and use a work permit as indicated by work procedures and/or site requirements
- I ensure workers are competent in the control of ignition sources, the management of fuel sources, and the use and limitations of combustible gas monitors
- I confirm that any simultaneous operation which may impact work is addressed in the work permit

WORKER:

- I have the required training and knowledge to safely perform work
- I obtain a work permit for hot work activities and obtain permission to bypass safety critical equipment such as flash detection (fire eyes)
- I identify and remove or isolate flammable materials such as gases, liquids and solids

- I conduct testing for residual or stored energy and only proceed with work when the energy is zero
- I conduct combustible gas testing prior to starting work and continually during the work
- I only smoke in designated areas

EXAMPLE VIOLATIONS:

- Welding sparks are not being controlled
- Flammable materials located below a pipe being cut with a torch are not removed or isolated
- Welding is conducted with no hot work permit being issued
- Trapped vapours have not been purged
- Combustible gas testing is not conducted prior to and during hot work activities
- Smoking outside of designated areas

RELATED LIFE SAVING RULES:

- Energy Isolation
- Work Authorization
- Line of Fire
- Bypassing Safety Controls
- Fit for Duty



SAFE MECHANICAL LIFTING

Plan lifting operations and control the area

- I confirm that the equipment and load have been inspected and are fit for purpose
- I only operate equipment that I am qualified to use
- I establish and obey barriers and exclusion zones
- I never walk under a suspended load

ADDITIONAL GUIDANCE:

- Safe mechanical lifting applies to equipment or loads that are lifted by mechanical means.
- A suspended load is an object that is temporarily lifted and hangs above the ground. This applies to equipment and loads that have not been designed for workers to be beneath it during operation.
- A lift plan identifies the weights and dimensions, how the lift will progress, communication requirements (signal personnel), weather and ground conditions, etc.
- Line of fire is a significant risk with overhead loads and moving equipment

SUPERVISOR:

- I ensure workers are competent to operate the mechanical lift
- I ensure a lift plan is in place and that workers follow the plan
- I ensure barriers and exclusion zones are established, communicated and adhered to by site personnel

WORKER:

- I have the required training and knowledge to safely perform work
- I ensure I am fit for duty
- I follow the lift plan
- I inspect the lifting equipment and adhere to all certification requirements
- I confirm the lift equipment is fit for purpose and I operate the lifting equipment below its working load limits

- I ensure line of fire hazards in relation to overhead power lines are identified, marked, and a safe distance is maintained
- I use tag lines to position suspended loads
- I adhere to barriers and exclusion zones

EXAMPLE VIOLATIONS:

- The lift operator is not competent to conduct the lift, but does so anyway
- The lift operator is not fit for duty, but conducts the lift anyway
- A lift is conducted without a lift plan
- The lift equipment and load are not inspected prior to the lift
- The lift is conducted with equipment that does not have the proper certifications
- A lift is conducted beyond its working load limits
- A safe distance is not maintained from overhead powerlines
- The load is positioned using worker's hands instead of tag lines, putting the workers under the suspended load
- Barriers and exclusion zones are not established

RELATED LIFE SAVING RULES:

- Work Authorization
- Line of Fire
- Driving
- Working at Height
- Fit for Duty



FIT FOR DUTY

Be in a state to perform work safely

- I will be physically and mentally in a state to perform my assigned duties
- I commit to not being under the influence of alcohol or drugs
- I will inform a supervisor immediately if I or a co-worker may be unfit for work

ADDITIONAL GUIDANCE:

- Workers or supervisors who are physically and mentally in a state to conduct their assigned duties are:
 - Physically capable of performing the duties (physical demands analysis)
 - Rested (not fatigued)
 - Mentally alert (mind on task)
 - Able to effectively communicate to their supervisor and co-workers
 - Not under the influence of drugs and alcohol

SUPERVISOR:

- I ensure I know how to recognize the signs of a worker who is not fit for duty
- I ensure I investigate and take action if I have reason to believe a worker may be unfit for work
- I ensure workers are physically capable of completing the assigned duties and have the necessary communication skills
- I ensure workers under my supervision are not subject to harassment or violence, as that may impact their fitness for work
- I ensure harassment or violence incidents are investigated and corrective action is taken

WORKER:

- I notify my employer of any medical condition that may influence my ability to perform work safely
- I notify my employer if I am using over-the-counter medications that may influence my ability to perform work safely
- I am not under the influence of legal or illegal drugs, alcohol, or substances that influence my ability to perform my assigned duties

- I do not participate in harassment or violence and I notify my supervisor if I observe these unacceptable behaviours
- I ensure any physical or mental limitations are identified and communicated to my supervisor for effective management
- I notify my supervisor if I or another co-worker may be unfit for work

EXAMPLE VIOLATIONS:

- A worker or supervisor participates in or knowingly condones workplace harassment
- A worker or supervisor fails a drug or alcohol test
- Using illegal drugs at site
- A worker or supervisor is taking prescription medication or over-the-counter medication that is likely to affect their performance and have not disclosed this to their employer
- An unfit worker is observed but not reported

RELATED LIFE SAVING RULES:

- Confined Space
- Energy Isolation
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- Hot Work
- Safe Mechanical Lifting

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