

Tools for step two:
DO

Assess and
understand
serious incident
and fatality risk



Serious incident and fatality prevention model

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WorkSafe Saskatchewan is an injury prevention and workplace safety partnership between the Saskatchewan Workers' Compensation Board (WCB) and the Ministry of Labour Relations and Workplace Safety. Through the partnership, both agencies offer programs and support that help employers and workers develop workplace safety and health programs.

The National Safety Council, SaskPower and subject matter experts from across industries supported the development of WorkSafe Saskatchewan's serious incident and fatality prevention model.

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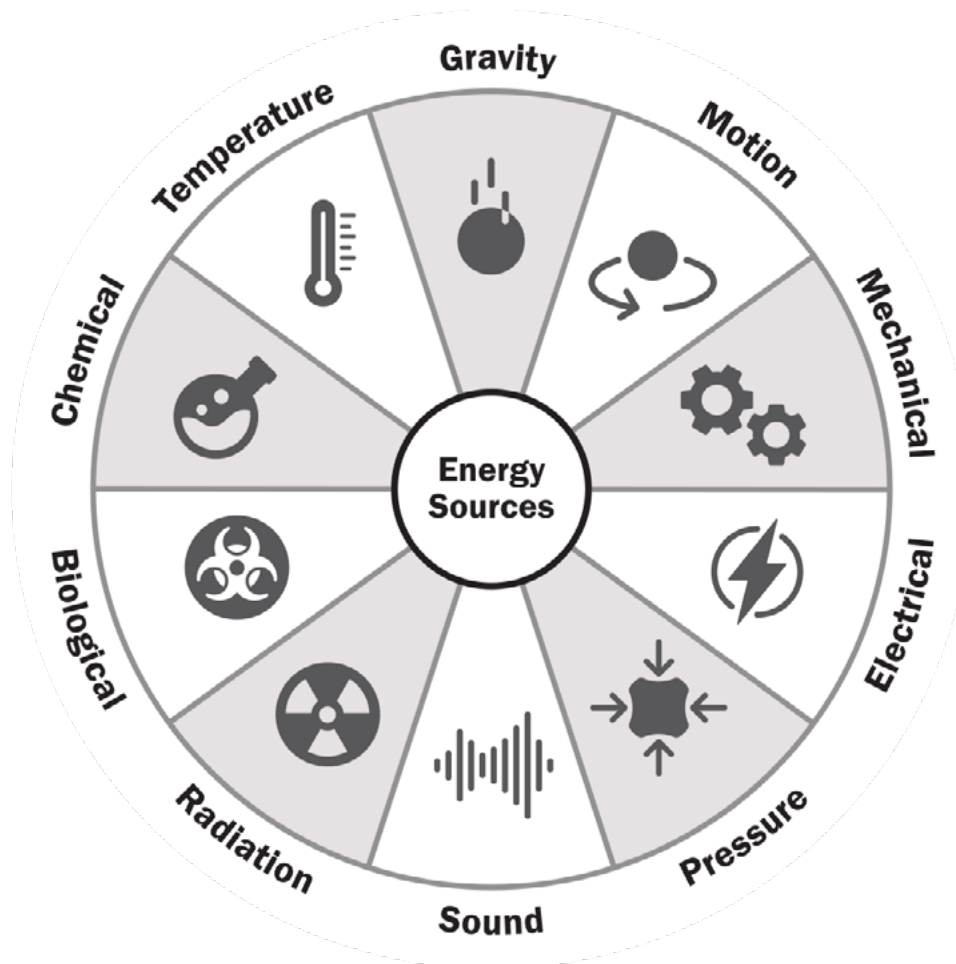
TOOL ONE

Identify potential serious incident and fatality hazards

Guidance:

Using information gathered in the PLAN: Leadership commitment and organizational readiness phase, identify which of the potential serious incident and fatality hazards exist across the organization. For prevention purposes, organizations should apply the serious incident and fatality prevention model to one hazard at a time.

Organizations may also consider using the energy wheel as a place to start in identifying potential serious incident and fatality hazards. However, it is important to address one specific potential hazard at a time.



Potential serious incident and fatality hazards checklist

Electrical energy

Mechanical energy (machinery and equipment)

Pressurized vessels (cylinders, tanks, pipes)

Falls from elevation

Falls on same level

Explosion and fire potential (chemical energy)

Crushing hazards (caught under or between objects)

Engulfment hazards

Suspended loads

Confined spaces or suffocation hazards

Highly toxic chemicals

Extreme heat and cold

Radiation

Motor vehicles

Lock out/tag out

Hazard communication

OTHER:

OTHER:

TOOL TWO

Baseline on-site assessment

Guidance:

Organizations should conduct a baseline on-site assessment when applying the serious incident and fatality prevention model to assess and analyze an identified serious incident and fatality hazard at a specific site or facility. The goal is to better understand the serious incident or fatality risks workers face, which should lead to more effective mitigation techniques and reduced risk.

Collect documentation according to the list in the initial PLAN step of the serious incident and fatality prevention model (See PLAN tools: Document review, pages 4-9).

Use the questions from the initial PLAN step of the serious incident and fatality prevention model (See PLAN tools: Feedback from key system partners, pages 26-34) to collect feedback from:

- » senior leadership
- » site management
- » safety and health professionals (corporate and onsite)
- » frontline supervisors
- » frontline workers
- » union stewards (if applicable)



TOOL THREE

Severity and controls risk matrix

Guidance:

Use the severity and controls risk matrix to rank the identified serious incident and fatality hazard based on the severity of the potential outcome and the strength of controls. Consider the highest level of controls currently in place to either prevent exposure or reduce the impact of exposure.

Prioritize serious incident and fatality hazards with a score of 10 or more in the next phase of the serious incident and fatality prevention model to reduce risk with a robust controls strategy.

Controls ranking descriptions

» Elimination controls:

- highly effective
- physically remove the hazard
- cannot be defeated by worker actions

» Administrative controls:

- somewhat ineffective
- isolate people from the hazard
- highly dependent on worker actions

» Substitution controls:

- generally effective
- replace the hazard
- can be defeated by worker actions

» Personal protective equipment controls:

- generally ineffective
- protect the worker
- very highly dependent on worker action

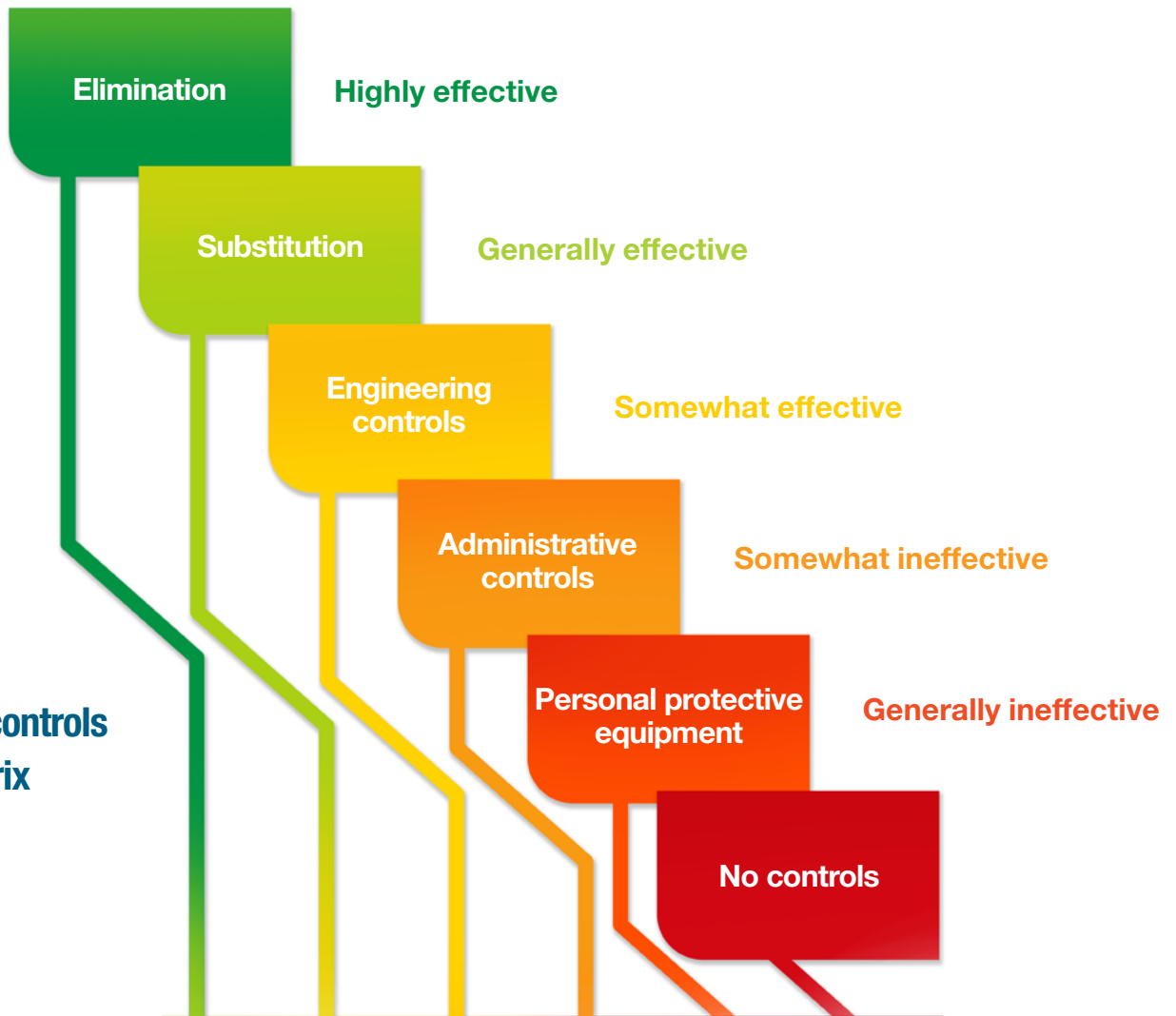
» Engineering controls:

- somewhat effective
- replace the hazard
- somewhat dependent on worker actions



**Note: Risk controls are most effective when they
CANNOT be defeated by worker actions.**

Controls ranking



Severity and controls risk matrix

Severity ranking

» Very high » Catastrophic	4	8	12	16	20	24
» High » Serious	3	6	9	12	15	18
» Moderate » Serious	2	4	6	8	4	12
» Low » Moderate	1	2	3	4	5	6

For additional guidance, see page 16 in the serious incident and fatality prevention model guidebook.

TOOL FOUR

Human and organizational performance-related serious incident and fatality analysis

Guidance:

Use the human and organizational performance-related serious incident and fatality analysis table to consider possible precursor situations that amplify serious incident and fatality risk. These precursor situations may require further attention and analysis for adequate control. Organizations can use these contributing factors—related to the work environment, individual capabilities, task demands and more—along with each hazard’s impact, probability and magnitude to support the rationale for prioritizing serious incident and fatality risk reduction.

If more than five of the human and organizational performance-related risk amplifiers are applicable, be sure to consider ways to mitigate or reduce the influence and impact. Also, be sure to include these factors when completing the serious incident and fatality hazard prioritization and rationale table (page 12).



Human and organizational performance-related serious incident and fatality analysis table

Cultural/ organizational attitudes and values	Management systems, policies and practices	Process conditions and task demands	Human factors/ behavioral	Impact or magnitude
High risk tolerance	Lack of goals or objectives for safety and health	Significant process upsets	Physical abilities are unmatched to job or task requirements	Level of risk identified
Low employee engagement	Low management accountability	Unexpected maintenance or repair is common	Physical or mental fatigue is common	Proximity to the hazard
Value for safety not demonstrated by senior leaders	Poor risk recognition training	Poor management of change	Workload contributes to worker burnout	Length of time exposed to hazard
Production is prioritized over safety	Inspections are not conducted regularly	Production pressures exist	High potential for distractions	Number of employees exposed
Substance abuse exists in the workplace	Poor communication of safety-critical information	Poor lighting or visibility	Pre-existing illness, injury or conditions	Personal protective equipment not in use
Personnel resources are not adequate	Potential for miscommunication	High noise or vibration in the work area	Financial strain common among workforce	Critical controls not verified
Safe behavior is not recognized by supervisors	Procedures or work instructions are not adequate	Schedule demands (24/7, rotating shifts, 12+ hours)	Deviations from procedures are common	Non-routine tasks common
Other:	Other:	Other:	Other:	Other:

Combine and calculate the human and organizational performance risk amplifier score:

TOOL FIVE

Serious incident and fatality hazard prioritization and rationale table

Guidance:

Using information from the baseline onsite assessment, the severity and controls risk matrix and the human and organizational performance-related serious incident and fatality analysis, complete the serious incident and fatality hazard prioritization and rationale table below to capture hazards to prioritize and their corresponding rationale. Organizations can use this information to report progress on their serious incident and fatality prevention strategy and to justify the resources needed to address the prioritized hazards.

Prioritized hazards	Rationale to share with senior leaders to prioritize serious incident and fatality prevention
1	
2	
3	
4	



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