Risk Calculator

Activity: _____ Hazard: _____

_____ _____

Reference # _____ _____

Analysis of Exsisting Risk/Incident

Potential Failure Mode(s) or Root Causes:	Controls in Place:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Contingency in Place:

_____

_____

_____

_____

_____

Risk Rating:

Probability = _____ + _____ = _____ + _____ = _____

(Exposure) Table 1 | (Injury History) Table 2 | 2 | (Barrier Effectiveness) Table 3

Consequences = _____ + _____ = _____

(Incident Severity) Table 4 | (Contingency) Table 5

Risk = _____ + _____ = _____

(Probability) | (Consequence)

Table 1 - Exposure

Numeric Value	Exposure (How long the work activity is performed per employee)
1	1 hour / year (< 1% of time)
2	20 hours / year (1% of time, or 5 minutes / day)
3	40 hours / year (2% of time, or 1 week / year, or 1 hour / day)
4	200 hours per year (10% of time, 5 weeks / year, or 2 hours / day)
5	>200 hours / year (>10 % of the time)

Table 2 - Injury History

Numeric Value	Injury History (Consider the past 5 years)
1	No knowledge of this type of incident happening in this organization or in a similar facility elsewhere
2	Has occurred in a similar facility elsewhere
3	Has occurred in this organization but not this division
4	Has occurred at least once in this division
5	Has occurred at this facility

Table 3 – Barrier Effectiveness

Numeric Value	Barrier Effectiveness	Levels of controls in place
-2	High	- Hazard is eliminated at the source through design or engineering/substitution
-1	Superior	- Hazard is minimized by substituting with less hazardous material/process - High level barriers are in place - Hazard exposure is continuously monitored - Barriers are covered by a thorough maintenance / inspection program - Practices include redundancy to verify tasks / confirm status - Standard design conventions are used to minimize human error
0	Average	- Hazards are enclosed or guarded at the source - Hazard exposure is periodically monitored - Operating limits are known and proceduralized, available, communicated and current
1	Low	- Proper use of warning devices, signage, labels - Appropriate worker selection - Hazard awareness - Demonstrated competency in control of hazards
2	Very Low	- Control by low level barriers like PPE - PPE/barriers are inventoried, tested and/or calibrated, and results recorded

Table 4 – Incident Severity

Rating	Incident severity	Impact to Property/ process	Numeric Value
Negligible	- No medical attention	No equipment damage	1
Minor	- Some injury including medical attentions	< $5000	2
Moderate	- Lost time injury < 40 days - Critical injury less serious	$5000 – $100k	3
Serious	- Critical injuries more serious - Lost time injury > 40 days	$100k – $1M	4
Catastrophic	- Fatality	> $1M	5

Table 5 - Contingency Planning

Rating	Contingency Planning (capacity to mitigate impact)	Numeric Value
Highly Effective	- Notification process to ensure early detection - Response material is appropriate, accessible, maintained - Response/notification procedures are appropriate, maintained, communicated - Responders are competent, available and known to all workers	-1
Inadequate	- Notification/response process missing key elements to be effective - Time between incident and injury is too short to allow mitigating action	0

Analysis of Improved Controls

Potential Failure Modes or Root Causes	Inproved Controls to Address Failure Mode:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Inproved Contingency in Place:

_____

_____

_____

_____

_____

Risk Rating:

Probability = _____ + _____ = _____ + _____ = _____

(Exposure) Table 1 | (Injury History) Table 2 | 2 | (Barrier Effectiveness) Table 3

Consequences = _____ + _____ = _____

(Incident Severity) Table 4 | (Contingency) Table 5

Risk = _____ + _____ = _____

(Probability) | (Consequence)

Implementation and Monitors

Responsible Person	Target Date	Date Complete	Monitoring Dates	Initial
_____	_____	_____	_____	_____

Risk Assessor(s) Date:

_____

_____

Approved by: Date

_____ _____