THE PGI PROCESS – PROCESS SAFETY

Inspection Area: _____Date: _____

Inspection Team Members	Name	Initials
Inspection Team Co-ordinator (from Process Safety)		
Area Operation Technician		
Other – ACE; Day Coordinator; JHSC; Leader; etc		
Other – ACE; Day Coordinator; JHSC; Leader; etc		
Other – ACE; Day Coordinator; JHSC; Leader; etc		

PGI Overview:

If you agreed to participate and now cannot attend due to scheduling conflicts, vacations, etc,, please find a qualified replacement and advise the PGI coordinator

The PGI team is made up of at least the first two people identified below:

1. PGI Co-ordinator (Process Safety Engineer – PSE)
2. Area Operator / Technician (qualified for that area)
3. Other Inspection Team Member(s) (people who can contribute to the success of the inspection) such as the Area Contact Engineer (ACE); Operations Day Coordinator; JHSC Representative; Leader; Responsible Care Team Member; Engineering / design engineers. etc

PGI Co-ordinator role:

- Before starting the area inspection:
  - Brief the team on the process (review this documentation)
  - Review previous Process Safety PGI's.
- Participate in the inspection, take notes and classify PGI information
- Agree any follow-up recommendations with appropriate personnel
- Record information in the audit tracking system.

Area Operation / Technician role:

- Participate in the area inspection
- Enter any notifications raised during the inspection

Other Inspection Team Member roles:

- Participate in the area inspection
- Take on appropriate recommendations raised during the inspection

The Process Safety PGI process:

The Process Safety PGI is in two parts:

1. The PSE goes to the area with the field operator to understand the boundaries and identify if there are: potential locations for under-insulation corrosion, electrically classified areas, Fire / smoke / gas detection systems, Sprinkler / deluge / gas suppressant systems, positive building pressure systems, safety system impairments, natural draft heater, and out of service equipment (see **underlined** items in checklist). The PSE then reviews the area in detail.
2. The PSE then goes back through the area with the Operations Coordinator, Field Operator and Area Contact Engineer clarifying / validating findings and answering any Process Safety concerns they raise

PROCESS SAFETY PGI

Identify each finding with Hazard Classification (A, B or C as appropriate) Scoring will deduct from 100%. (A-10, B-5, C-1)

A: Actual Spill		D: Containment or Drainage		H: Improper Work Practices	
1.1 Leak or spill on piping, insulation, equipment, or on the ground		4.1 Sewers not covered during hot work		8.1 Protective systems wrongly bypassed in field	
1.2 Hydrocarbon/Oil soaked paper / rags not in proper container for disposal		4.2 Covers left on chemical sewers when not required (i.e., no hot work permit in effect)		8.2 **Safety system impairment**: no documentation, lost or forgotten	
1.3 Gas detection not available or not working on likely leak sources – compressors, pumps, loading areas		4.3 Inadequate wall (or dyke) around tank (hole, crack, gap, open drain valve, or contains water so tank contents won't fit		8.3 **Natural draft heater** purge compromised (no buoyancy, reduced purge / no purge time)	
B: Weakened Containment Envelope		4.4 No effective emergency isolation on large / hazardous inventory		8.4 Not managing changing work situation hazard (e.g. oil leaks during hot work)	
2.1 Missing, wrong, or improperly installed flange bolts (# of exposed threads)		**E: Hoses**			
2.2 Available isolation is inadequate - will lead to spills during maintenance		5.1 Missing check valve at process end or Utility station end		**I: Loading / Unloading Facilities**	
2.3 Use of single seal pump in hazardous service		5.2 Non standard fittings (e.g. tubing could fail if stood on)		9.1 Deluge system outside test period / wrongly energized	
2.4 Signs of **under-insulation corrosion** (corrosion, algae, water dripping)		5.3 Potential failure due to sharp bend, traffic impact, exposure to heat or cuts		9.2 Drainage is compromised	
2.5 Significant corrosion on piping/ vessels/ equipment		**F: Supports**		9.3 **Gas detection systems** not working	
2.5 Bellows restrained on both ends or moves in two planes		6.1 Fireproofing missing or deteriorating in liquid spill areas		9.4 Excess flow valves are working	
2.6 Unprotected sight glass		6.2 Pipe spring out of range or not in service		9.5 System is not "top loading / unloading"	
2.7 Water dead leg potential during winter (e.g. from flushing)		**G: Buildings**		**J: Combustible Dust**	
2.8 Bellows PSV – plugged vent		7.1 Flammable / combustible material is vented inside a building		10.1 Significant dust build up (can't see surface paint colour)	
2.9 Liquid PSV vents not self draining		7.2 **Fire / smoke / gas detection** is not there or not working		10.2 Dust build up on hot equipment or piping	
2.10 Vent screens / flappers / weather caps defective		7.3 **Sprinkler / deluge / gas suppressant** not there or not working		10.3 Combustible dust settled on electrical equipment	
2.11 Temporary piping appears deficient (normal operation / project / turnaround)		7.4 Nitrogen can vent inside building (no protective measures)			
2.12 Incompatible materials can mix (e.g. acid / caustic)		7.5 UPS battery room not ventilated		**K: Out of Service Equipment**	
C: Ignition Sources		7.6 **Positive building pressure system** not working		11.1 Not identified in field (labelling less than adequate)	
3.1 Combustibles (incl. garbage) stored in area with hot process material		7.7 Combustibles present in deluge / pump / UPS / sub station / control rooms etc.		11.2 Equipment not in a tracking database	
3.2 Combustibles (e.g. scaffold planks) close to hot surface or pipe		7.8 Incompatible materials in chemical storages (e.g. acids with alkalis, oxidizers with flammables)		11.3 Inspection plan missing or not followed	
3.3 Metal drainage pails not grounded		7.9 Materials not properly separated so that a fire could flash over		11.4 Contains residual hazards (material / pressure)	
3.4 Use of plastic drainage pail (static charge)		7.10 Material stacking interferes with sprinkler coverage		11.5 Inadequate isolation (not disconnected / blinded)	
3.5 Electrical box / conduit not sealed or is cracked or is missing / has loose bolts		7.11 Cabinets with chemicals: flash point <100F not vented / FP> 100F not sealed		11.6 Utilites still connected (electrical, steam, hot oil, pneumatic, mechanical, etc)	
3.6 Temporary electrical equipment (e.g. comfort fans) in **classified area**		7.12 Combustible garbage containers (i.e. not metallic)		11.7 Deteriorated equipment (corrosion, leaks, insulation)	
3.7 Missing bonding/ grounding of equipment / motors / trucks / rail cars		7.13 Combustibles resting on hot surfaces		11.8 Poor protective systems (e.g Freeze / cathodic / chemical)	
3.8 Hydrocarbon/ oil soaked insulation on hot piping/equipment.					

Positive Observations:

Workplace inspection findings will be documented and given a hazard classification. The hazard classification will help determine the priority of the item. Inspections start with 100% and adjust appropriately with hazard level

Class A Risk = (-10) High potential to cause an injury or accident--requires immediate action to address.
Class B Risk = (-5) Serious concern or hazard which could result in incident or injury if not addressed.
Class C Risk = (-1) Minor equipment repairs, minor hazards easily corrected, minor housekeeping.

#	Hazard or sub-standard condition requiring action	Hazard Class	Recommendation or follow-up	Assigned to	Completion Date

Scoring is based on a total possible score of 100. Start at 100 and deduct points according to the following table.

Category	Maximum Possible Score	Deductions	Net Score
Previous Inspection	25	▪ Deduct 25 points if the inspection was not completed. ▪ Deduct 5 points for if the previous inspection was not completed within one week of its scheduled date.	
Previous Inspection Action Items	25	▪ Deduct 10 points for each previous Class A action item past targeted completion date. ▪ Deduct 5 points for each previous Class B action item past targeted completion date. ▪ Deduct 1 point for each previous Class C action item past targeted completion date.	
Inspection Report Checklist	50	▪ Deduct 10 points for each Class A hazard identified. ▪ Deduct 5 points for each Class B hazard identified. ▪ Deduct 1 points for each Class C hazard identified.	

Total Possible Score	Less Total Deductions	Net Score
100		

HAZARD LEVEL	DESCRIPTION	EXAMPLES	CORRECTIVE ACTION TIMING
"A" Hazard -10 points	High potential severity A condition or practice likely to cause permanent disability, loss of life, and / or extensive loss of structure, equipment or material.	- Barrier guard missing on rotating equipment. - Person working in a confined space that is not ventilated, with a gasoline motor running. - Uncontrolled spill or release - Air cylinder found empty in an SCBA pack - Unit Fire extinguisher found empty - Worker grinding no face shield - Worker at elevation >3m no fall protection - Office exit light out	Correct Immediately. No life threatening situations left unattended / resolved at least temporarily
"B" Hazard -5 points	Medium potential severity A condition or practice likely to cause serious injury or illness, resulting in temporary disability or property damage that is disruptive, but less severe than Class A.	- Slippery oil condition in a main aisle - Missing or illegible WHMIS or TDG labels - Scaffold GREEN tag out of re-certification date - No permit issued for work activity - Broken tread on a stairways - Area not cleaned up after maintenance activity	Correct within 2 weeks or as soon as practical. No life threatening situations left unattended / resolved at least temporarily. As determined by area work teams.
"C" Hazard -1 point	Low potential severity A condition or practice likely to cause minor, non-disabling injury or illness or non-disruptive property damage.	- A strong odour coming from cutting oil from lathe use - Poor lighting conditions in shop area - Spill kit improperly maintained or supplied - Small spills not cleaned up - Waste barrels not segregated from usable products - Working with no gloves - Full garbage cans - General litter in area - Inappropriate chairs - Poor office housekeeping	Correct within 3 months or soon as practical, as determined by area work teams.