IPS ★ ITCS

Industrial Performance Services

Industrial Tubular Catalyst Services

CRUST CHECK PROCEDURE

V:1 2022

Crust Check Procedure

January 2022

Crust Check

1. Confirm nitrogen purge is installed properly (with gauges to check pressure) and confirm gauge is reading correctly.

2. Open nitrogen purge approximately halfway. Log the backpressure. Shut nitrogen purge off. Read gauge. If pressure drops to zero within twenty seconds, the reactor is acceptable to start work. If gauge does not drop, then follow the next steps.

Crust is Present

1. Single Bed Reactor:
   a. Barricade off ladders and access to top deck.
   b. Open nitrogen purge, wide-open, for two hours and retest crust check. If crust check is confirmed by pressure drop to zero, it is okay to start work.
   c. If crust check fails, a blockage is suspected.

2. Multiple Bed Reactor:
   a. When possible, move nitrogen purge to quench to confirm which bed has the crust.
   b. Barricade off ladders and access to top deck.
   c. Open nitrogen purge, wide-open, for two hours and retest crust check. If crust check is confirmed by pressure drop to zero, it is acceptable to start work.
   d. If crust check fails, a blockage is suspected.

3. If bed is crusted, discuss alternatives with safety, maintenance and operations.
   a. If pressure has dropped, but not enough for entry, repeat nitrogen purge blowing.
   b. Route nitrogen purge so that it is not through the bed. Then try to dump small amount out of dump nozzle to see if bed moves.
   c. Begin vacuuming bed.

Competency Assessment

No.	Questionnaire	C/NYC
Q1		
A1		
Q2		
A2		
Q3		
A3		
Q4		
A4		
Q5		
A5		

Enclosed Attachments	
Risk Assessment	☑
Environmental Aspect and Impact	☑
Training and Competency	☑
Measure and Evaluation Tools	☑

Competency Checklist

To be filled out by Trainer and signed by Employee, Assessor and Supervisor before being returned to the HSEQT Manager for recording purposes.

Procedure	Competency	Date	Competent YES / NO	Employee Signature

(please tick appropriate box)

This employee is competent in performing the job. ☐

This employee has not attained the competency level. ☐ *

* *If the employee has not attained all competency levels, the General Manager must assess the action to be taken, provide an extension of training or alternative action as listed below.*

Alternate action to be taken : _____

Signed By Employee: _____ Date: _____

Trainer: _____ Date: _____

Assessor: _____ Date: _____

Regional Manager: _____ Date: _____

Environmental Aspects and Impacts

Identified Environmental Aspects and Impacts

The following table is a summary of the likely environmental aspects and impacts that may be identified during site inspections. The significance of each impact needs to be assessed using the Risk Assessment Model.

Activity	Aspect	Impact
Purchasing & Administrative Work	Consumption of goods	Conservation of natural resources
	Consumption of energy (eg. Electrical equipment and facilities)	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of waste (eg. Paper)	Consumption of space for waste disposal; Habitat loss
Climate Control	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of noise	Disturbance to community; Habitat loss
Cleaning of – offices / vehicles	Storage, use and release of chemicals	Contamination of air, water or soil; Risk to human health
Transport (Fleet vehicles / staff travel)	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Loss of habitat at all stages of generation; Light pollution
	Consumption of goods (eg. Oil)	Consumption of natural resources; Generation of waste; Habitat loss; Biodiversity impacts
	Generation of waste (eg. Oil)	Consumption of space for waste disposal; Potential contamination of water or soil; Habitat loss
	Exhaust emission	Release of greenhouse gases and atmospheric pollution
	Use of dangerous goods (eg. Batteries)	Potential contamination of air, water or soil; Risk to human health
	Generation of noise	Disturbance to community; Habitat degradation
Operations		

Risk Assessment // insert name here					
Step No: Logical sequence	**Sequence of Basic Job Steps documented in the Procedure, Work Instruction and project plans. Break down Job into steps.** Each step should be logical and accomplish a major task.	**Potential Safety & Environmental Hazards/Impacts at the site of the Job** Identify the actual and potential health and safety hazards and the environmental impacts associated with each step of the job.	**Risk Rating** Refer to the risk matrix or HSEQT.PRO. Risk Mgt	**Recommended Corrective Action or Procedure** ***Determine the corrective actions necessary to reduce the risk to as low as reasonably practical (ALARP) refer to HSEQ.PRO.Risk Mgt. The risk must be rediced or controlled to ALARP before work commences.*** Document who is responsible for implementing the controls to manage each hazard identified.	**Risk Rating** refer to the risk matrix or HSEQT.PRO.Risk Mgt
1.					
2.					
3.					
4.					
5.					

Risk Assessment Audit

Process: insert// **Procedure**: Insert //	Date:	Audited by :
	Location of Audit:	Area Mgr/Supervisor:

Item	Question	Evidence Sited	Comments	Conformance Score 0,3,5
1.				
2.				
3.				
4.				
5.				
6.				
7.				

AUDITOR'S SIGNATURE: SAFETY REP'S SIGNATURE:	CONFORMANCE SCORE: / 25 CONFORMANCE %:	0 – Non Conformance 3 – Continuous Improvement Opportunity 5 – Total Conformance