

FORM NAME

MANAGEMENT OF CHANGE

PAGE

Page 1 of 6

REVISION LETTER

11

## MANAGEMENT OF CHANGE CHECKLIST FORM

Date: 6/22/2023

Control Log #

## Type of Change Requested

- New (not currently in place)  Existing (change to something already in place)

## Category of Change Requested

- |  |  |
|--|--|
| <input type="checkbox"/> Facility/Land ( <i>Structure, Location, Equipment</i> )           | <input type="checkbox"/> Procedural ( <i>Operating, Mechanical, Lab</i> )                    |
| <input checked="" type="checkbox"/> Process ( <i>Equipment, Instrumentation, Systems</i> ) | <input type="checkbox"/> Environmental ( <i>Waste, Emissions</i> )                           |
| <input type="checkbox"/> Supply Chain ( <i>Materials, Products, Chemicals, Packaging</i> ) | <input type="checkbox"/> Resources ( <i>Organizational, Personnel, Schedules</i> )           |
| <input type="checkbox"/> Safety Systems  | <input type="checkbox"/> Product Changes ( <i>Gateway, Quality Testing, Specifications</i> ) |
|  | <input type="checkbox"/> Other   |

## Description of Change

This change involves the implementation of three 3D printers (Creality K1, Creality K2, and Anycubic Photon M3 Max) for manufacturing custom parts for seed processing equipment, including APL's and small treaters. The 3D printer will be used by the PR team to design and manufacture custom parts according to site needs. The project has already demonstrated savings in both part costs and time. HSE has determined that the current scope of the project is low risk.

To help identify potential HSES hazards complete MoC General Question Checklist on page 3.

To help identify potential QMS impacts complete Reliance document # 09235 NA-IM-FM-001 QMS MoC Checklist.

(*Summarize hazards/impacts*)

1. **Equipment Operation:** With the installation of the new APL equipment, there is a potential hazard related to its operation, especially if the operators are not properly trained to use it.
2. **Equipment Relocation:** Relocating all the existing equipment might disrupt existing safety measures or controls, increasing the risk of accidents. It could also impact the efficiency of operations.
3. **Space Utilization:** The new layout might affect space utilization and movement of personnel within the area, which could potentially lead to accidents if not properly managed.
4. **Interference with other systems:** The new equipment and layout might interfere with other systems or processes, leading to operational inefficiencies or safety risks.

## How will change be communicated?

- Email  Meeting  Verbal  Training  Other

## Specify what is to be communicated and who it must be communicated to (Internal and/or External Stake Holders)

The details of the equipment installation, relocation, new layout, potential hazards/impacts, mitigation strategies, and changes operational procedures should be communicated to all relevant internal departments, including Operations, Safety, Maintenance, Training, and Management.

## Items needing to be obtained, revised, or completed prior to implementing change

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Safety Data Sheets            | <input type="checkbox"/> Health Risk Assessments          | <input type="checkbox"/> Job Safety Analysis         |
| <input checked="" type="checkbox"/> Lockout Procedures | <input type="checkbox"/> Confined Space Assessment        | <input type="checkbox"/> Hot Work Permit             |
| <input checked="" type="checkbox"/> PPE Data Sheets    | <input type="checkbox"/> Waste Characterization           | <input type="checkbox"/> Regulatory Permit           |
| <input type="checkbox"/> Policy or Procedures          | <input type="checkbox"/> Training Materials/Documentation | <input type="checkbox"/> Operator/Maintenance Manual |
| <input type="checkbox"/> Other:                        |   |  |

FORM NAME

MANAGEMENT OF CHANGE

PAGE

Page 2 of 6

REVISION LETTER

11

**Implementation Plan (must address all items identified above)**

	Action	Responsible	Deadline	Complete
1.	Implement measures to address flash points and process temperatures.	CBRE		
2.	Identify possible failures that could result in temperatures above the flashpoint.	CBRE		
3.	Verify equipment conductivity and grounding/bonding.	CBRE		
4.	Verify seed treatment chemicals and obtain new Safety Data Sheets (SDS).	Operations		
5.	Review and update the Site Emergency Procedures to reflect the changes in equipment locations and ensure compliance with evacuation routes and safety protocols.	HSE		
6.	Development of new maintenance procedures and maintenance training.	Shop		
7.	Calibration			
8.				
9.				
10.				
11.				

**PRA Determination** (if the change affects the following a risk assessment or PRA is likely required)

- Introduction/use of any new chemical depending upon the following characteristics such as: toxicity (acute or chronic), radioactivity, flammability, reactivity, oxidizing properties, and corrosivity.
- Use of equipment that: has hazardous exposed moving parts or performs a mechanical action on a material such as grinding, shredding, etc.
- Operations that result in: work at height above 6 feet, work in a confined space, hazardous work alone, routinely lifting heavy objects (greater than 50 lbs.), work in awkward positions, work in noisy environment, work that will be attempted without required energy control (lock out), or exposure to work in extreme hot or cold environments.
- Update or initiate a health risk assessment at this point.
- New waste streams.
- Any change or new installation requiring a capital expenditure of more than \$100,000 requires a formal Process Risk Assessment to be completed.
- Any change that impacts an existing process risk assessment
- Any change associated with GMO Handling &/ Regulated materials
- Any change that impacts Residual Impurities or Adventitious Presence

 PRA Required PRA Not Required**Change approval** (signature approves both the change and supporting activities identified above)

<input type="checkbox"/> Supervisor/Dept. Mgr.	Name: Ricardo Barnes	Date:
<input type="checkbox"/> HSE	Name: Eric Lugo	Date:
<input type="checkbox"/> Site Manager (if required)	Name: Liliana Sanchez	Date:
<input type="checkbox"/> QMS Manager (if required)	Name: Jinett Alvarado	Date:
<input type="checkbox"/> Other	Name: Daniel De Jesus	Date:
<input type="checkbox"/> Other	Name:	Date:
<input type="checkbox"/> Other	Name:	Date:

**All plan items addressed and complete** (verified and signed by requestor)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_

**HSES MOC General Question Checklist**

	YES	NO	NA	ACTION REQUIRED
<b>Toxicity</b>				
<b>Health Hazard Assessment</b>				
1. Are SDS's available and do you understand the health hazards of all starting chemicals and any chemicals substances and by products that may be generated by the process?			X	
2. Has substitution of less hazardous substances been considered and applied to reduce risk?			X	
3. Will hazards increase when creating a mixture (i.e. treatment mix)?		X		
<b>Health Risk Assessment</b>				
1. Have the amounts of all substances used in the task been identified?	X			
2. Have the dustiness or volatility of all substances been determined?	X			
3. Have the appropriate generic control measure(s) been identified (baseline measures, engineering, containment, HSE advice)?	X			
4. Has Industrial Hygiene been contacted and provided advice for uses of SHC D and E substances and other Hazard Categories where required by the Syngenta generic control strategy?		X		
<b>Health Risk Judgment</b>				
1. Can a clear risk judgment be made using qualitative information?	X			
2. Is additional information needed?		X		
3. Should exposure monitoring or surface contamination testing be completed based on IH advice?	X			
<b>Health Hazard Control</b>				
1. Have controls been selected according to the proper hierarchy (substitution [first] – engineering [second] – PPE [last])?	X			
2. Have necessary baseline controls (work procedures, personal hygiene, basic PPE) been implemented?	X			
3. Will respiratory protection or other special PPE be used that requires special qualification, i.e. medical approval and HSE support (training, fit testing)?		X		
4. Have Health Services and HSE been contacted for the necessary approval(s) and support?	X			

FORM NAME

PAGE

REVISION LETTER

MANAGEMENT OF CHANGE

Page 4 of 6

11

5.	If new technical (engineering) measures are required, has design and installation assistance been obtained from IH and Engineering?	X		
6.	Have the necessary engineering controls been installed and verified to operate correctly?	X		
7.	Have employees been trained in the hazards and controls?	X		
<b>Corrosivity</b>				
1.	Are materials of construction compatible with chemicals they may be exposed to?	X		
2.	Have you assured adequate separation of stored corrosives?	X		
<b>Flammability</b>				
1.	Are flash points identified and are process temperatures well below the flashpoints?			X
2.	Have you identified possible failures that could result in temperatures above the flashpoint?			X
3.	Is the equipment grounded and bonded?			X
4.	Are all process equipment holding or conveying flammable vapors identified?	X		
5.	Are electrical classifications suitable?	X		
6.	Are hot work procedures required?	X		
<b>Electrostatics (Dust)</b>				
1.	Are minimum ignition energy, minimum auto ignition energy and resistivity of combustible dusts known and the process designed accordingly?	X		
2.	Is equipment conductive and grounded/bonded?			X
3.	Are any non-conductive surfaces involved in the material conveying process?	X		
4.	Is the level of explosion control commensurate with the explosion risk i.e. relief device/inerting/explosion suppression/explosion resistant design needed?	X		
<b>Environmental Release</b>				
1.	Are all chemicals in the process and in storage identified in the air and water discharge permits? Are permit modifications needed?	X		
2.	Have you identified all ways that pressure can build up and is it adequately controlled?	X		
3.	Are relief valves at appropriate settings, calibrated, and maintained?	X		
4.	Are emergency procedures for a release to air, water, or soil written and understood?			X
5.	Is there adequate diking around liquid storage?			X
6.	Is there a need for secondary filtration prior to discharge?			X
<b>Disposal Issues</b>				
1.	Are wastes streams characterized and accepted by disposer?			X
2.	Are hazardous wastes identified and shipped for disposal using trucking companies approved for such activities?			X
3.	Are wastes minimized? Have recycling options been explored?			X
4.	Are wastes compacted?			X
<b>Potential Issues to Consider</b>				
<b>Process</b>				
1.	Do proposed changes significantly alter:			
a.	Pressure, Temperature, Flow, or capacity of materials or liquids and will these increase employee exposure or exceed equipment tolerances?		X	
b.	Size of hazardous material inventory?		X	
c.	Corrosivity?		X	
2.	Increase potential for backflow or cross contamination?		X	
3.	Introduce new chemicals to the process?		X	
4.	Require new Safety Data Sheets?			X
5.	Create any combination of the following, which are not already found to be acceptable in the plant and covered in existing engineering specs?			

a.	Process stream		X		
b.	Material of construction		X		
6.	Affect operability of overall system (stability, controllability)?		X		
7.	Require additional drains and bleeds?		X		
8.	Do the changes meet the NAFTA Engineering Standards for equipment and Design?	X			
9.	Is a PSSR (Pre-Startup Safety Review) required?	X			

**Safety Systems**

1.	Affect the purpose of a protective system? (Note here what the purpose of the protective system is to ensure there is agreement.)		X		
2.	Require additional trips or alarms?		X		
3.	Introduce changes that would not allow a trip system or individual trip elements to complete intended duty?		X		
4.	Require alteration of existing trip or alarm set points?		X		
5.	Require changes to trip testing procedure or frequency?		X		
6.	Call for trips to be disabled?		X		
7.	Affect the existing isolations (blinds, tags, disconnects, lockouts) used in creating Safe Work Procedures?		X		
8.	Do the proposed changes create the need for modification to the LOTO or confined space procedures?		X		

**Relief and Blowdown**

1.	Requires or affects relief systems		X		
2.	Introduce risk of exceeding design temperatures of equipment?		X		

**Area Hazards**

1.	Introduce a potential leak of flammable, toxic, or corrosive material?		X		
2.	Introduce a source of ignition? (Flame, direct heat, hot surface, mechanical sparks, chemical energy, vehicles, static electricity, electrical equipment.)		X		
3.	Increase fire and explosion hazards?		X		
4.	Are there :				
a.	Tripping		X		
b.	Noise		X		
c.	Temperature		X		
d.	Others		X		
5.	Increase the likelihood of personnel exposure during operation or maintenance?		X		
6.	Cause changes in quantity or composition of effluents?		X		
7.	Require update to Spill plans / Other HSE policies, procedures or plans?		X		
8.	Require changes in air/water/solid waste permits?		X		
9.	Require additional safety or emergency equipment (eyewash, shower, fire extinguisher, fire monitor, deluge system, etc.)?	X			X
10.	Require any changes to necessary PPE? (gloves, hearing protection, respiratory protection, etc.)		X		
11.	Impact the environment of working area, (e.g. dust, fume, smell, lighting, gases)?		X		
12.	Is adequate Machine and personnel guarding included in the changes	X			
13.	Does the change affect the area electrical classification? Existing Classification _____ New Classification _____		X		
14.	Is additional System Grounding required?		X		
15.	Is an analysis of ergonomic issues required?	X			
16.	Will the change affect the area lightning?		X		

**General**

1.	Significantly reduce accessibility or maintenance of system?		X		
----	--	--	---	--	--

FORM NAME

**MANAGEMENT OF CHANGE**

PAGE

**Page 6 of 6**

REVISION LETTER

**11**

2.	Does design provide adequate structural integrity? (Pipe support, equipment bases, hangers, etc.)	X			
3.	Alter the effect of a loss of utilities (Process water, potable water, compressed air, nitrogen, electricity, steam, gas)?		X		
4.	Require changes in the Site Emergency Procedures?	X			X
5.	Do Changes affect existing operating procedures?		X		
6.	Do Changes requires special instructions be written?		X		
7.	Do Changes require new maintenance procedures to be written?	X			X
8.	Are drawing changes needed?		X		
9.	Are there equipment files that need to be created or modified?		X		
10.	Are automation programming modifications needed?		X		
11.	Are any computer graphics modifications needed?		X		
12.	Do Changes require new decontamination instructions to be written?		X		
13.	Do Changes require changes or additions to PM or inspection schedules?		X		
14.	Do Changes require any production or maintenance training?	X			X