Management of Change: Examples From Practice
By Fred A. Manuele

Fred A. Manuele, P.E., CSP, is president of Hazards Limited, which he formed after retiring from Marsh & McLennan where he was a managing director and manager of M&M Protection Consultants. His books include Advanced Safety Management: Focusing on Z10 and Serious Injury Prevention, On the Practice of Safety, Innovations in Safety Management: Addressing Career Knowledge Needs, and Heinrich Revisited: Truisms or Myths. A professional member of ASSE’s Northeastern Illinois Chapter and an ASSE Fellow, Manuele is a former board member of ASSE, NSC and BCSP.
Alpha Corporation

Pre-Job Planning and Safety Analysis Outline

1) Review the work to be done. Consider both productivity and safety:
   a) Break the job down into manageable tasks.
   b) How is each task to be done?
   c) In what order are tasks to be done?
   d) What equipment or materials are needed?
   e) Are any particular skills required?
2) Clearly assign responsibilities.
3) Who is to perform the pre-use of equipment tests?
4) Will the work require: a hot work permit; a confined entry permit, lockout/tagout (of what equipment or machinery), other?
5) Will it be necessary to barricade for clear work zones?
6) Will aerial lifts be required?
7) What personal protective equipment will be needed?
8) Will fall protection be required?
9) What are the hazards in each task? Consider:
   • Access
   • Chemicals
   • Conveyors
   • Dropping tools
   • Ducts
   • Electricity
   • Elevated loads
   • Explosion
   • Fall Hazards
   • Fire
   • Forklift trucks
   • Machine guarding
   • Moving equipment
   • Noise
   • Pressure
   • Sharp objects
   • Steam
   • Stored energy
   • Twisting, bending
   • Weather
   • Weight of objects
   • Welding
   • Work at depths
   • Work at heights
   • Worker position
   • Worker posture
10) Of the hazards identified, do any present severe risk of injury?
11) Develop hazard control measures, applying the Safety Decision Hierarchy.
   • Eliminate hazards and risks through system and work methods design and redesign
   • Reduce risks by substituting less hazardous methods or materials
   • Incorporate safety devices (fixed guards, interlocks)
   • Provide warning systems
   • Apply administrative controls (work methods, training, etc.)
   • Provide personal protective equipment
12) Is any special contingency planning necessary (people, procedures)?
13) What communication devices will be needed (two-way, hand signals)?
14) Review and test the communication system to notify the emergency team (phone number, responsibilities).
15) What are the workers to do if the work doesn’t go as planned?
16) Considering all of the foregoing, are the risks acceptable? If not, what action should be taken?

**Upon Job Completion**

17) Account for all personnel
18) Replace guards
19) Remove safety locks
20) Restore energy as appropriate
21) Remove barriers/devices to secure area
22) Account for tools
23) Turn in permits
24) Clean the area
25) Communicate to others affected that the job is done
26) Document all modifications to prints and appropriate files
All work done by our field crews involves change, whether for new system installations or modifications of existing systems. To assure that assignments are carried out efficiently and that our crew members are not in situations where the risks are unacceptable, the crew supervisor shall complete Form 1812 prior to the start of an assignment to assure adequate planning.

As the supervisor considers the work to be done, a discussion/briefing will be held with crew members to obtain their input and to assure that all crew members understand the assignment and their responsibilities. Crew members will be reminded that if hazardous situations arise or work conditions change substantially, they are encouraged to call a halt to the work and look out for other crew members. If that occurs, a new Form 1812 must be prepared.

Nearly all of our field assignments require several days for completion. Form 1812 will be reviewed at the start of each day for that day’s briefing on the work to be done.

Each crew member will have communication equipment and the phone numbers to be called in the event of an emergency.

Lindsey Wolfe
Division Manager
Form 1812: Field Work Review and Hazard Analysis

Daily, crew supervisors are to review the job plan with crew members, seeking their input, and whenever the scope of the job changes.

Beta Company Assigned Number: Job Description

<table>
<thead>
<tr>
<th>Job Location</th>
<th>Briefing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Time</td>
<td>Completion Time</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Cell Phone Number</td>
</tr>
</tbody>
</table>

Emergency Phone Numbers and Locations for This Job

Names of Crew Members

List Each Job Step, the Potential Hazards, and the Actions to be Taken to Achieve Acceptable Risk Levels.

1. 
2. 
3. 
4. 

Check Each Applicable Subject

<table>
<thead>
<tr>
<th>Housekeeping, trash removal</th>
<th>Clean up procedure and responsibility assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public exposure</td>
<td>Isolating work area, prevent public assess</td>
</tr>
<tr>
<td>Environment discharge potential</td>
<td>Assessment, permits, supervision</td>
</tr>
<tr>
<td>Capabilities of crew for work to be done</td>
<td>Call for special subject skill, additional training</td>
</tr>
<tr>
<td>Working at heights or while elevated</td>
<td>Fall protection, Ladder safety</td>
</tr>
<tr>
<td>Cranes, hoisting equipment</td>
<td>Certified personnel, conditions, pre-use inspection</td>
</tr>
<tr>
<td>Entering a confined space</td>
<td>Confined space permit, testing, trained crew</td>
</tr>
<tr>
<td>Welding, soldering, cutting</td>
<td>Hot work permit, supervisory controls</td>
</tr>
<tr>
<td>Machining, grinding, drilling, cutting</td>
<td>Guarding, health evaluation by industrial hygienist</td>
</tr>
<tr>
<td>Chemicals</td>
<td>MSDS, industrial hygienist counseling</td>
</tr>
<tr>
<td>Heavy or awkward lifting</td>
<td>Use of mechanical equipment, teamwork</td>
</tr>
<tr>
<td>Hazardous energy: electrical, hydraulic, pneumatic, thermal, chemical</td>
<td>Lockout/Tagout, personnel skills, knowledge of hazards, supervision</td>
</tr>
</tbody>
</table>

Crew has been reminded that if hazardous situations arise or work conditions change so that additional risks are encountered, the work must stop.

The work steps, sequentially, have been reviewed on the job site and discussed with the crew.

Supervisor’s Signature: Date: Phone:

Copy to Group Manager: Name: Date: Phone:
Gamma Corporation

Pre-Task Analysis

Completed form must be submitted and work must be authorized before activity is commenced

Submitted by __________________________ Date __________ Location ____________________

Description of work ________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

Commencement date _________________ Expected completion date __________________________

Permits, special skills and licenses: Work must not be commenced if required permits have not been received or if arrangements have not been made for the special skills and licenses required.

<table>
<thead>
<tr>
<th>Permits</th>
<th>Required</th>
<th>Received</th>
<th>Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confined space</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Electrical</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Combustion equipment</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Excavation</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Hot work</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Lifting-rigging</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Fire systems</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Will special skills be required  ____ Yes ____ No  ____ Yes ____ No
Will special licenses be needed  ____ Yes ____ No  ____ Yes ____ No

Check off each of the following that apply. Each checked subject is to be addressed in the pre-task planning.

____ Lockout/Tagout        ____ Pinch points    ____ Inadequate access   ____ Hot/cold/burns
____ Chemical exposure/spill | Electrical shock | ____ Sharp objects | ____ Excavations
| Elevated work | Fall from height | ____ Falling objects | ____ Particles in eye
| Lifting or rigging | Mobile equipment | ____ Manual lifting | ____ Lighting
| Fire/explosion | Ladder usage | ____ Confined space | ____ Radiation
| High noise levels | Scaffolding | ____ Inhalation hazard | ____ Heat stress
| Other | Other | ____ Other | ____ Other

Specify personal protective equipment needed __________________________________________

Specify special equipment needed if any ______________________________________________

If unexpected and unacceptable risks are encountered, it must be understood that work is to be stopped until the situation is resolved. This provision must be made clear in pre-job discussions and in employee briefings.
**Employee briefings.** Supervisors are to assure that all employees involved in the work are briefed on the order of and the procedures to be followed and of risks considered in the pre-job discussions.

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<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
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</table>

Additional space is provided for the briefings of personnel added after the work is commenced.

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<th>Name</th>
<th>Signature</th>
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<th>Name</th>
<th>Signature</th>
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</table>

**Notifications:** Names of persons to be notified before the work is commenced and after it is completed.

**Pre-work commencement**

**Names**

_______________________________
_______________________________
_______________________________

**Department**

_______________________________
_______________________________
_______________________________

**Upon completion**

**Names**

_______________________________
_______________________________
_______________________________

**Department**

_______________________________
_______________________________
_______________________________

**For emergencies encountered, list names and phone numbers of the people who should be notified.**

**Names**

_______________________________
_______________________________
_______________________________

**Department**

_______________________________
_______________________________
_______________________________

**Phone Number**

_______________________________
_______________________________
_______________________________

**Approval signatures**

Safety and environmental personnel, who are to assure that foreseeable hazards have been identified and risk control methods are appropriate

_______________________________ Date _____________
_______________________________
_______________________________

Manager with authority to approve the project

_______________________________

**Upon completion**

All personnel, tools and equipment accounted for ____ Yes ____ No

Operation successfully restored ____ Yes ____ No

**Signature:** Project initiator ________________________ Date _____________
Delta Corporation

Management of Change Policy and Procedure

This procedure is to provide a systematic approach for evaluating and addressing environmental, safety and health risks when changes are made at our facilities. It is applicable in all areas when changes are made with respect to, but not limited to, the following:

- Changes that affect the process or equipment
- Significant changes to operating or maintenance procedures
- Development and introduction of new products
- Addition of new raw materials or feedstock
- Significant changes to existing raw materials or feedstock.
- New business ventures
- Discontinuation of operations or processes
- Changes that result in new "stand alone" equipment or process modifications
- Changes affecting staffing – additions needed and as respects departing personnel
- Changes that affect the community, and environment situations as a result of facility expansion, modifications and/or new process sites
- Shutdown activities (e.g. annual maintenance shutdown, special shutdown to install new equipment, etc.)

Management of Change Checklist Form J8865 has been developed to assist personnel in fulfilling their obligations.

If a significant change occurs with respect to key safety and health or environmental personnel, the matter will be reviewed by the S&H Manager and the Environmental Manager and a joint report including a risk assessment and their recommendations will be submitted to location management.

Bruce Wayne
President
Management of Change Checklist: Form J8865

Section 1.

Procedure Number: Issue Date: Revision Date: Expiration Date:

<table>
<thead>
<tr>
<th>Names of:</th>
<th>Originator</th>
<th>Department Manager</th>
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<tr>
<td></td>
<td>Location Manager</td>
<td>Group Director (if required)</td>
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</tbody>
</table>

Description of Change:

Basis for the Change: ______ Essential to Operation ______ Safety Improvement ______ Environmental Control ______ Quality ______ Fire Protection ______ Productivity ______ Other

A Check Mark Shall Be Entered for Each of the Following Items. For Items Marked “Action Needed”, Comments on Their Resolution Are to Be Made in Section 12. The Originator will have risk assessments made as necessary as the change proceeds.

<table>
<thead>
<tr>
<th>Section 2. Safety</th>
<th>Action Needed</th>
<th>No Action</th>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Machine Guarding</td>
<td></td>
<td>2.11 Exits/Access and Evacuation Plans</td>
<td></td>
<td></td>
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<tr>
<td>2.2 Lockout/Tagout</td>
<td></td>
<td>2.12 Emergency Response Planning/Training</td>
<td></td>
<td></td>
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<tr>
<td>2.3 Need for Agency Approvals</td>
<td></td>
<td>2.13 Signage</td>
<td></td>
<td></td>
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<tr>
<td>2.4 Fall Protection and Tie Off Points</td>
<td></td>
<td>2.14 Electrical Devices/Conductors/Disconnects</td>
<td></td>
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<tr>
<td>2.5 Confined Space Entry</td>
<td></td>
<td>2.15 Arc Flash Analysis</td>
<td></td>
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<tr>
<td>2.6 Contractor Safety</td>
<td></td>
<td>2.16 Single Line Drawing</td>
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<tr>
<td>2.7 Walking/Working Surfaces/Ladders</td>
<td></td>
<td>2.17 Safety Management System Changes</td>
<td></td>
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<tr>
<td>2.8 PPE Assessment/Certification</td>
<td></td>
<td>2.18 Job Safety Analysis</td>
<td></td>
<td></td>
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<tr>
<td>2.9 Powered Industrial Trucks</td>
<td></td>
<td>2.19 Mobile Equipment</td>
<td></td>
<td></td>
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<tr>
<td>2.10 Material Handling Equipment</td>
<td></td>
<td>2.20 Crane or Hoist Usage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 3. Ergonomics

| 3.1 Repetitive Motion | | 3.4 Vibration/Employee Exposure |               |
| 3.2 Handling Objects/over 50 lbs | | 3.5 Grip Strength over 20 lbs |               |
| 3.3 Awkward Body Motions | |               |               |

Section 4. Occupational Health

| 4.1 Industrial Hygiene Assessment | | 4.6 Personal Protective Equipment |               |
| 4.2 Exposure to New Materials | | 4.7 Medical Surveillance |               |
| 4.3 Emergency Shower/Eye Wash | | 4.8 MSDS for New Materials |               |
| 4.4 Radiation | | 4.9 Exposure Monitoring |               |
| 4.5 Noise Control | | 4.10 Warning Systems |               |

Section 5. Radiation Control

| 5.1 Permit or License | | 5.3 State or federal Reporting |               |
| 5.2 Inventory Status | | 5.4 Posting/Labeling Requirements |               |
### Section 6. Security/Property Loss Prevention

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Emergency Power Back-up Systems</td>
<td></td>
</tr>
<tr>
<td>6.3 Traffic, Roadways, Emergency Egress</td>
<td></td>
</tr>
<tr>
<td>6.4 Flammable and Hazardous Materials Storage and Handling</td>
<td></td>
</tr>
<tr>
<td>6.5 No Smoking signs in Appropriate Areas</td>
<td></td>
</tr>
<tr>
<td>6.6 Fire Resistant Structures, Firewalls, Construction or Processes Requiring Special Protection</td>
<td></td>
</tr>
<tr>
<td>6.7 Temporary Perimeter Security During Construction</td>
<td></td>
</tr>
<tr>
<td>6.8 Additional Permanent Perimeter Security Requirements</td>
<td></td>
</tr>
<tr>
<td>6.9 Explosion or Implosion Hazard Protection</td>
<td></td>
</tr>
<tr>
<td>6.10 Building Permits</td>
<td></td>
</tr>
<tr>
<td>6.11 Water Supply or Fire Protection Systems Extension</td>
<td></td>
</tr>
<tr>
<td>6.12 Special Startup/Shutdown Requirements</td>
<td></td>
</tr>
<tr>
<td>6.13 Seismic Evaluation</td>
<td></td>
</tr>
<tr>
<td>6.14 Property Insurance Company Standards and Necessary Review</td>
<td></td>
</tr>
</tbody>
</table>

### Section 7. Clean Air Regulations

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Will the changes being made impact on existing applications for and permits received?</td>
<td></td>
</tr>
<tr>
<td>7.2 Construction and Operating Permits Needed?</td>
<td></td>
</tr>
<tr>
<td>7.3 Will Emissions Controls Be Affected?</td>
<td></td>
</tr>
<tr>
<td>7.4 Revisions in Operations and Maintenance Plan?</td>
<td></td>
</tr>
<tr>
<td>7.5 Will EPA Industrial Boiler Maximum Control Technology (MACT) Be Affected?</td>
<td></td>
</tr>
<tr>
<td>7.6 Additional Monitoring Requirements?</td>
<td></td>
</tr>
<tr>
<td>7.7 EPA Risk Management Planning ((RMP) Impacted?</td>
<td></td>
</tr>
<tr>
<td>7.8 New Source Review (NSR) Applicability or Permitting?</td>
<td></td>
</tr>
<tr>
<td>7.9 Will EPA Prevention of Serious Deterioration (PSD) Rules Be Impacted</td>
<td></td>
</tr>
</tbody>
</table>

### Section 8. Spill Prevention and Community Planning

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1 Spill prevention control and counter-measures</td>
<td></td>
</tr>
<tr>
<td>8.2 Emergency response and coordination with community agencies</td>
<td></td>
</tr>
<tr>
<td>8.3 Toxic release inventory requirements</td>
<td></td>
</tr>
<tr>
<td>8.4 Hazardous chemical inventory / regulatory requirements</td>
<td></td>
</tr>
<tr>
<td>8.5 New chemicals or raw materials requiring regulatory notification</td>
<td></td>
</tr>
</tbody>
</table>

### Section 9. Clean Water Regulations/Potable Water

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1 Process Water Permitting</td>
<td></td>
</tr>
<tr>
<td>9.2 Storm Water Permitting</td>
<td></td>
</tr>
<tr>
<td>9.3 Storm Water Pollution Prevention</td>
<td></td>
</tr>
<tr>
<td>9.4 Wastewater Treatment System</td>
<td></td>
</tr>
<tr>
<td>9.5 Water System distribution</td>
<td></td>
</tr>
<tr>
<td>9.6 Back Flow Prevention/Potable Water</td>
<td></td>
</tr>
<tr>
<td>9.7 Land Disturbance Permit Required</td>
<td></td>
</tr>
<tr>
<td>9.8 Publicly Owned Treatment Works Requirements/Limitations</td>
<td></td>
</tr>
</tbody>
</table>

### Section 10. Solid and Hazardous Waste Regulations

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Generator Status Impacted</td>
<td></td>
</tr>
<tr>
<td>10.2 Accumulation and Storage Areas</td>
<td></td>
</tr>
<tr>
<td>10.3 New Waste Stream Created</td>
<td></td>
</tr>
<tr>
<td>10.4 Disposal Options</td>
<td></td>
</tr>
<tr>
<td>10.5 Waste Minimization Programs</td>
<td></td>
</tr>
<tr>
<td>10.6 Asbestos Exposure and Abatement</td>
<td></td>
</tr>
<tr>
<td>10.7 Empty Container Handling</td>
<td></td>
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<tr>
<td>10.8 Recycling and Reuse</td>
<td></td>
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<tr>
<td>10.9 Substitutions for toxic materials</td>
<td></td>
</tr>
<tr>
<td>10.10 Rag / Wipe Storage and Cleaning</td>
<td></td>
</tr>
<tr>
<td>10.11 Demolition Contamination &amp; Disposal</td>
<td></td>
</tr>
<tr>
<td>10.12 EPA Resource Conservation &amp; Recovery Act Regulations</td>
<td></td>
</tr>
</tbody>
</table>
Section 11. Environmental, Safety, and Health Management System

Action Needed

11.1 Will environmental, safety, or health work procedures be impacted? ___  ___
11.2 Are training materials adequate for this project? ___  ___
11.3 Will training be necessary for our employees and contractors for this project? ___  ___
11.4 After-project-completion, will additional training be necessary? ___  ___

Section 12. Action Item Tracking Instructions. Enter the section number where “Action Needed” was recorded, a brief description of the action to be taken, the name of the person to whom the action is assigned, expected completion date, and the signature of the person verifying completion of the action, and the date.

12.1 Planning / Action items that must be completed during the planning and design phase of the project.
12.2 Pre-Construction. Action items that must be completed prior to the construction phase of the project.
12.3 Pre-Start-Up. Action items that must be completed prior to the start-up phase of the project.
12.4 Normal Operation. Action items that must be completed when normal operations are commenced.

For each of the sub-parts 12.1 through 12.4 of Section 12, the following format applies.

<table>
<thead>
<tr>
<th>Sec. No.</th>
<th>Give a Brief But Adequate Description of the Action Needed</th>
<th>Responsible Person</th>
<th>Due Date</th>
<th>Signature, Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

Section 13. Approval Signatures and Dates

<table>
<thead>
<tr>
<th>Title</th>
<th>Signature</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>Initiator</td>
<td></td>
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<tr>
<td>Department Manager</td>
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<tr>
<td>Location Manager</td>
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<tr>
<td>Group Director</td>
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<tr>
<td>Environmental Manager</td>
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<tr>
<td>Safety and Health Manager</td>
<td></td>
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</tbody>
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MOC Example 5

Epsilon Corporation

Management of change Pre-Screening Questionnaire (Form S8861)

Date: ____________________________  Change Originator ____________________________
Project Title: ____________________________  Project Location ____________________________

Description of Work

Instructions

Answer the following questions to determine if the full MOC process needs to be followed. If the answer to all of these questions is “No” then the MOC Checklist does not have to be completed. If the answer to any question is “Yes”, the MOC Checklist Form (S8862) and a Job Safety/Risk Assessment Form (S8864) must be completed.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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</table>

It is understood that additional pages may be necessary to describe changes of substance. For emphasis, it is stated again that a risk assessment determination shall be completed for all Yes answers. A signed MOC checklist, when necessary, is to be provided by the Change Originator to the MOC Coordinator and the ESH Manager.
Epsilon Corporation
Management of Change Checklist Form S8862

Change Originator _______________________________ Date Initiated ______________ Date Closed ______________

Change Type

_____ Permanent  _____ Temporary  _____ Days Required

_____ Emergency: To Prevent

_____ Injury  _____ Release  _____ Equipment Damage  _____ Process Shutdown

To Be Completed By Change Originator

Description of and Reason for the Change (Include possible process and ESH impacts of the work.)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Are drawings, sketches, revised procedures attached?  _____ Yes  _____ No  _____ Number of attachments

Complete the Following Checklist. Discuss with ESH, MOC Coordinator, Maintenance, Operations, and Engineering as needed, based on the level of risk. Attach additional information if the situation requires. Check Yes, No, or Unsure for each issue.

Y  N  U  Y  N  U

___ ___ ___ New or modified equipment  ___ ___ ___ Uses new chemical or creates chemical hazard

___ ___ ___ New or modified procedure  ___ ___ ___ Change in PPE requirements

___ ___ ___ New or modified facilities infrastructure  ___ ___ ___ Bypass of safety systems, alarms or safeguards

___ ___ ___ New or modified utilities  ___ ___ ___ Change of fire alarm settings required

___ ___ ___ Potential for process reverse flow  ___ ___ ___ Requires new JSA or risk assessment

___ ___ ___ Change in emergency exit routes  ___ ___ ___ Involves facility demolition, renovation or repair

___ ___ ___ Requires new or revised permits  ___ ___ ___ Results in modification or relocation of work area

___ ___ ___ Impairs Fire Protection Systems and requires insurance carrier notification  ___ ___ ___ May create tripping or ergonomics hazards

___ ___ ___ Other  ___ ___ ___ Requires insurance carrier notification and review

___ ___ ___ Other  ___ ___ ___ Other

Submit comments on all Yes answers and any other safety concerns. A risk assessment shall be completed for all Yes answers. Provide a copy of the signed off Checklist to the Epsilon Corporation MOC Coordinator and to ESH.

Type of Training Required for Epsilon Personnel and Contractors Performing the Work. A Record is to be Made of All Training Provided.

______________ Verbal  _______________ Hands on/demonstrated  _______ Written and documented
### Required Signatures/Approvals

<table>
<thead>
<tr>
<th>Change Originator</th>
<th>Date</th>
<th>MOC Coordinator</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESH Manager</td>
<td>Date</td>
<td>Facility Manager</td>
<td>Date</td>
</tr>
<tr>
<td>Other:</td>
<td>Date</td>
<td>Other</td>
<td>Date</td>
</tr>
</tbody>
</table>

### Items Required Before MOC Checklist is Considered Completed

**With Respect to the Project**
- _____ Work as described has been completed
- _____ Pre-startup ESH and project/task manager completion review and documentation

**Required training has been completed**
- _____ Operations
- _____ Maintenance
- _____ ESH

**Process Information Has Been Updated**
- _____ MSDS’s
- _____ Site engineering drawings, block diagrams, plans etc. have been updated
- _____ Piping/plumbing/process diagrams have been revised
- _____ Above and below ground utility changes have been documented
- _____ Insurance companies, municipalities and other authorities have been informed

**Procedures Have Been Updated**
- _____ Operating
- _____ Maintenance
- _____ ESH
- _____ Other
Zeta Corporation

Management of Change Policy and Procedure

This procedure is to provide a systematic approach for evaluating and addressing environmental, safety and health risks when changes are made at our facilities. It is applicable in all areas when changes are made with respect to, but not limited to, the following:

- Changes that affect the process or equipment
- Significant changes to operating or maintenance procedures
- Development and introduction of new products
- Addition of new raw materials or feedstock
- Significant changes to existing raw materials or feedstock.
- New business ventures
- Discontinuation of operations or processes
- Changes that result in new "stand alone" equipment or process modifications
- Changes affecting staffing – additions needed and as respects departing personnel
- Changes that affect the community, and environment situations as a result of facility expansion, modifications and/or new process sites
- Shutdown activities (e.g. annual maintenance shutdown, special shutdown to install new equipment, etc.)

Management of Change Checklist Form J8865 has been developed to assist personnel in fulfilling their obligations.

If a significant change occurs with respect to key safety and health or environmental personnel, the matter will be reviewed by the S&H Manager and the Environmental Manager and a joint report including a risk assessment and their recommendations will be submitted to location management.

Bruce Wayne
President
Management of Change Checklist: Form J8865

Section 1.
Procedure Number ___________ Issue Date ___________ Revision Date ___________ Expiration Date ___________
Names of: Originator ________________________ Department Manager ________________________
           Location Manager ________________________ Group Director (if required) _____________
Description of Change ____________________________________________________________________
                                                                                         
Basis for the Change: ______ Essential to Operation ______ Safety Improvement ______ Environmental Control ______ Quality ______ Fire Protection ______ Productivity ______ Other

A Check Mark Shall Be Entered for Each of the Following Items. For Items Marked “Action Needed”, Comments on Their Resolution Are to Be Made in Section 12. The Originator will have risk assessments made as necessary as the change proceeds.

<table>
<thead>
<tr>
<th>Section 2. Safety</th>
<th>Action Needed</th>
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<th>Action Needed</th>
<th>No Action</th>
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<tbody>
<tr>
<td>2.1 Machine Guarding</td>
<td>_____________</td>
<td>__________</td>
<td>2.11 Exits/Access and Evacuation Plans</td>
<td>__________</td>
</tr>
<tr>
<td>2.2 Lockout/Tagout</td>
<td>_____________</td>
<td>__________</td>
<td>2.12 Emergency Response Planning/Training</td>
<td>__________</td>
</tr>
<tr>
<td>2.3 Need for Agency Approvals</td>
<td>_____________</td>
<td>__________</td>
<td>2.13 Signage</td>
<td>__________</td>
</tr>
<tr>
<td>2.4 Fall Protection and Tie Off Points</td>
<td>_____________</td>
<td>__________</td>
<td>2.14 Electrical Devices/Conductors/Disconnects</td>
<td>__________</td>
</tr>
<tr>
<td>2.5 Confined Space Entry</td>
<td>_____________</td>
<td>__________</td>
<td>2.15 Arc Flash Analysis</td>
<td>__________</td>
</tr>
<tr>
<td>2.6 Contractor Safety</td>
<td>_____________</td>
<td>__________</td>
<td>2.16 Single Line Drawing</td>
<td>__________</td>
</tr>
<tr>
<td>2.7 Walking/Working Surfaces/Ladders</td>
<td>_____________</td>
<td>__________</td>
<td>2.17 Safety Management System Changes</td>
<td>__________</td>
</tr>
<tr>
<td>2.8 PPE Assessment/Certification</td>
<td>_____________</td>
<td>__________</td>
<td>2.18 Job Safety Analysis</td>
<td>__________</td>
</tr>
<tr>
<td>2.9 Powered Industrial Trucks</td>
<td>_____________</td>
<td>__________</td>
<td>2.19 Mobile Equipment</td>
<td>__________</td>
</tr>
<tr>
<td>2.10 Material Handling Equipment</td>
<td>_____________</td>
<td>__________</td>
<td>2.20 Crane or Hoist Usage</td>
<td>__________</td>
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</tbody>
</table>

Section 3. Ergonomics

<table>
<thead>
<tr>
<th>Section 4. Occupational Health</th>
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<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Repetitive Motion</td>
<td>_____________</td>
<td>__________</td>
<td>3.4 Vibration/Employee Exposure</td>
<td>__________</td>
</tr>
<tr>
<td>3.2 Handling Objects/over 50 lbs</td>
<td>_____________</td>
<td>__________</td>
<td>3.5 Grip Strength over 20 lbs</td>
<td>__________</td>
</tr>
<tr>
<td>3.3 Awkward Body Motions</td>
<td>_____________</td>
<td>__________</td>
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</table>

Section 4. Occupational Health

<table>
<thead>
<tr>
<th>Section 5. Radiation Control</th>
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<th>Action Needed</th>
<th>No Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Industrial Hygiene Assessment</td>
<td>___________</td>
<td>__________</td>
<td>4.6 Personal Protective Equipment</td>
<td>__________</td>
</tr>
<tr>
<td>4.2 Exposure to New Materials</td>
<td>___________</td>
<td>__________</td>
<td>4.7 Medical Surveillance</td>
<td>__________</td>
</tr>
<tr>
<td>4.3 Emergency Shower/Eye Wash</td>
<td>___________</td>
<td>__________</td>
<td>4.8 MSDS for New Materials</td>
<td>__________</td>
</tr>
<tr>
<td>4.4 Radiation</td>
<td>___________</td>
<td>__________</td>
<td>4.9 Exposure Monitoring</td>
<td>__________</td>
</tr>
<tr>
<td>4.5 Noise Control</td>
<td>___________</td>
<td>__________</td>
<td>4.10 Warning Systems</td>
<td>__________</td>
</tr>
</tbody>
</table>

Section 5. Radiation Control

| 5.1 Permit or License         | ___________ | __________| 5.3 State or federal Reporting | __________|
| 5.2 Inventory Status          | ___________ | __________| 5.4 Posting/Labeling Requirements | __________|
Section 6. Security/Property Loss Prevention

6.1 Emergency Power Back-up Systems
6.3 Traffic, Roadways, Emergency Egress
6.4 Flammable and Hazardous Materials Storage and Handling
6.5 No Smoking signs in Appropriate Areas
6.6 Fire Resistant Structures, Firewalls, Construction or Processes Requiring Special Protection
6.7 Temporary Perimeter Security During Construction
6.8 Additional Permanent Perimeter Security Requirements
6.9 Explosion or Implosion Hazard Protection
6.10 Building Permits
6.11 Water Supply or Fire Protection Systems Extension
6.12 Special Startup/Shutdown Requirements
6.13 Seismic Evaluation
6.14 Property Insurance Company Standards and Necessary Review

Section 7. Clean Air Regulations

7.1 Will the changes being made impact on existing applications for and permits received?
7.2 Construction and Operating Permits Needed?
7.3 Will Emissions Controls Be Affected?
7.4 Revisions in Operations and Maintenance Plan?
7.5 Will EPA Industrial Boiler Maximum Control Technology (MACT) Be Affected?
7.6 Additional Monitoring Requirements?
7.7 EPA Risk Management Planning ((RMP) Impacted?
7.8 New Source Review (NSR) Applicability or Permitting?
7.9 Will EPA Prevention of Serious Deterioration (PSD) Rules Be Impacted

Section 8. Spill Prevention and Community Planning

8.1 Spill prevention control and counter-measures
8.2 Emergency response and coordination with community agencies
8.3 Toxic release inventory requirements
8.4 Hazardous chemical inventory /regulatory requirements
8.5 New chemicals or raw materials requiring regulatory notification

Section 9. Clean Water Regulations/ Potable Water

9.1 Process Water Permitting
9.2 Storm Water Permitting
9.3 Storm Water Pollution Prevention
9.4 Wastewater Treatment System
9.5 Water System distribution
9.6 Back Flow Prevention/Potable Water
9.7 Land Disturbance Permit Required
9.8 Publicly Owned Treatment Works Requirements/Limitations

Section 10. Solid and Hazardous Waste Regulations

10.1 Generator Status Impacted
10.2 Accumulation and Storage Areas
10.3 New Waste Stream Created
10.4 Disposal Options
10.5 Waste Minimization Programs
10.6 Asbestos Exposure and Abatement
10.7 Empty Container Handling
10.8 Recycling and Reuse
10.9 Substitutions for toxic materials
10.10 Rag/Wipe Storage and Cleaning
10.11 Demolition Contamination & Disposal
10.12 EPA Resource Conservation & Recovery Act Regulations
Section 11. Environmental, Safety, and Health Management System

<table>
<thead>
<tr>
<th>Action Needed</th>
<th>Action Needed</th>
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<tbody>
<tr>
<td>11.1 Will environmental, safety, or health work procedures be impacted?</td>
<td>___ ___</td>
</tr>
<tr>
<td>11.2 Are training materials adequate for this project?</td>
<td>___ ___</td>
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<tr>
<td>11.3 Will training be necessary for our employees and contractors for this project?</td>
<td>___ ___</td>
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<tr>
<td>11.4 After-project-completion, will additional training be necessary?</td>
<td>___ ___</td>
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</table>

Section 12. Action Item Tracking Instructions. Enter the section number where “Action Needed” was recorded, a brief description of the action to be taken, the name of the person to whom the action is assigned, expected completion date, and the signature of the person verifying completion of the action, and the date.

12.1 Planning / Action items that must be completed during the planning and design phase of the project.
12.2 Pre-Construction. Action items that must be completed prior to the construction phase of the project.
12.3 Pre-Start-Up. Action items that must be completed prior to the start-up phase of the project.
12.4 Normal Operation. Action items that must be completed when normal operations are commenced.

For each of the sub-parts 12.1 through 12.4 of Section 12, the following format applies.

<table>
<thead>
<tr>
<th>Sec. No.</th>
<th>Give a Brief But Adequate Description of the Action Needed</th>
<th>Responsible Person</th>
<th>Due Date</th>
<th>Signature, Completion Date</th>
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Section 13. Approval Signatures and Dates

<table>
<thead>
<tr>
<th>Title</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>Initiator</td>
<td></td>
<td></td>
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<tr>
<td>Department Manager</td>
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<td></td>
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<tr>
<td>Location Manager</td>
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<tr>
<td>Group Director</td>
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<tr>
<td>Environmental Manager</td>
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<td></td>
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<tr>
<td>Safety and Health Manager</td>
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</table>
Managing change in any environment is difficult at best and at many times frustrating. Having a set of steps or procedures to follow can minimize the negative impact of any change. When reviewed and used by a group of knowledgeable individuals, this procedure will lessen this negative impact.

*Change Description* - The Management of Change (MOC) procedure starts by identifying the particular item that is to be changed. Often this is a change in equipment and the operating procedures that accompanies a new piece of equipment. It could also be a change in an operating procedure or a program change affecting several departments.

*Nature of Change* - Changes affect many different aspects of a business. In order to lessen the impact of change, a thorough understanding of the different aspects that may be affected has to be achieved. Questions must be answered such as: Does the change have an impact on the Environment? This simple question could be interpreted to mean several different things ranging from the effect to the land the facility occupies to effects on air, water or noise. Would these changes affect the facility's environmental operating permits? With the variety of potential impacts, a cross-section of employees must be involved in the MOC to assist in identifying all of the areas or items that may be affected. Each potential area of concern should be analyzed by the MOC review team.

*Checklists* – This MOC procedure includes a wide range of considerations and approvals to ensure that all aspects of the change are considered and addressed during the planning, implementation and operating stages of change.

George Smith
Manager
Management of Change Procedure

Initiator_________________________ Department ______________________ Date ________________

Part 1 – Description to Include

1. The change to be made and its location
2. Reason for the change
3. Technical basis for the change
4. Estimated time requirement

Part 2 – Change Effects

____ Employee safety  ____ Employee procedures  ____ Environment – air
____ Environment – water  ____ Environment – ground  ____ Productivity
____ Product quality  ____ Product safety  ____ Customer specifications
____ Other

Change May Require Revisions Of

____ Operating procedures  ____ Quality procedures  ____ Training content

Part 3 – Pre-modification Checklist

In preparing this checklist, a review is also to be made of the existing practices and conditions in the area where the change is to take place to determine whether any modifications need to be made. For each item given a “no” indication, a listing is to be attached to include a description of the modification needed, the person who is responsible for the improvement, and an expected completion date.

1. Lockout/Tagout
   a. Capable of accepting LO/TO devices
   b. Lockout points identified
   c. Machine specific procedures developed/updated
   d. Lockout points located near the operator
   e. Valves and controls within reaching distance

2. Machine Guarding
   a. Pinch points, shafts and moving parts guarded
   b. Do guards keep body parts out of danger area
   c. Are safety locks installed
   d. Interlocks prohibited from being bypassed
   e. Does connecting new equipment with other equipment create hazards

YES NO NA
3. Electrical Safety
   a. Are emergency stops readily accessible to operators
   b. Are emergency stops clearly marked
   c. Are controls, disconnects and breakers properly marked
   d. Are power cords hard wired and off the floor
   e. Is GFCI protection located in the area
   f. Is lighting in the work area adequate
   g. Are equipment voltages clearly marked

4. Ergonomics – Has equipment been evaluated for:
   a. Proper working height
   b. The need for ergonomic platform, chairs, etc.
   c. Excessive repetitive motion
   d. Can the equipment be easily adjusted by an operator

5. Fire and Emergency Protection
   a. Are fire extinguishers accessible and adequate
   b. Is the sprinkler system adequate and operational
   c. Were the alarm systems tested
   d. Is the evacuation system adequate and well marked

6. Personal Protective Equipment
   a. Will PPE ordinarily provided be adequate
   b. Are eyewashes and safety showers adequate
   c. Are eyewashes and safety showers properly placed

7. Chemicals
   a. Has a chemical process approval been obtained
   b. Have MSDS’s been obtained
   c. Has a chemical analysis been made regarding PPE
   d. Are chemicals free of carcinogen characteristics
   e. Are piping systems properly labeled
   f. Are chemicals properly stored and labeled

---

Part 4 – Pre-Modification Sign-offs

For changes that impact on operating procedures, productivity, staff capability, product quality, product safety, occupational safety, or the environment, the following sign-offs are required.

<table>
<thead>
<tr>
<th>Initials</th>
<th>Date</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Facility manager</td>
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<td></td>
<td></td>
<td>Engineering</td>
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<td></td>
<td></td>
<td>Human relations</td>
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<td>Quality control</td>
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<td>Sanitation</td>
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<td>EH&amp;S</td>
</tr>
</tbody>
</table>
### Part 5 – Post Modification

#### Upon completion

- a. Have all personnel accounted for
- b. Have all tools been removed
- c. Have prints and other files been modified
- d. Have affected personnel been notified of completion
- e. If site procedures need updating, has it been done
- f. If additional noise measurements are necessary, have they been taken
- g. If additional air monitoring is necessary, have arrangements been made
- h. If additional water monitoring is necessary, have arrangements been made

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
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<tbody>
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### Prior to Startup

<table>
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<tr>
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<th>Description</th>
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<td>Pre-startup Risk Assessment completed</td>
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<td>Additional training necessary was given</td>
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<td></td>
<td>Operational Job Safety Analysis completed</td>
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<td></td>
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<td></td>
<td>Action has been taken with respect to impacts identified</td>
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</table>

### Part 6 – Post Modification Approval, Prior to Startup

<table>
<thead>
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<th>Date</th>
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<tr>
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<td>Sanitation</td>
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### Part 7 – Post Startup – Within Thirty Days

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<td>Updating training materials completed</td>
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<td>Changes made in computer controls</td>
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<td>Operating specifications updated</td>
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<td>Customer specifications have been updated</td>
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<td>Other</td>
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<thead>
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</table>
MOC Example 8

Iota Corporation

Section I – Change Request and Tracking System Requirements

Change Review and Approval Procedure – Form 51521

Enter Assigned Request and Tracking Number __________ Date ______ Initiated By ________________

Change Location __________________ Department __________________

1. Description of Change/Project. Provide sufficient detail explaining the change. Include support documentation such as project scope, date of project activation, expected completion date, equipment, specifications, drawings, layouts, SDS, technical data sheets, and estimated cost, etc.

2. Type of Change/Modification: (Select ALL that apply)
   ___ Facility (addition, demolition, decommission)
   ___ Utilities (electric, air, water, sewer)
   ___ Facility Operational Status (add/remove shifts)
   ___ Equipment (add, remove, relocate, modify, replace)
   ___ Process (change, add, remove)
   ___ Chemical _____ alteration _____ new process
   ___ Other (could include product raw materials, packaging, etc.)

3. Review/Approve or Disapprove. Those who disapprove are to support their disapproval with comments.

   Initiator completes items 1 and 2 and submits to review group for preliminary approval or disapproval. If approved, the Initiator will continue and complete Form 51522. Changes costing in excess of $100,000 also require corporate review and approval.

   a. Facility ESH Leader Name ______ Date ______ Approve _____ Disapprove _____
   b. Facility Engineering Name ______ Date ______ Approve _____ Disapprove _____
   c. Facility Maintenance Leader Name ______ Date ______ Approve _____ Disapprove _____
   d. Facility Quality Name ______ Date ______ Approve _____ Disapprove _____
   e. Facility Purchasing Name ______ Date ______ Approve _____ Disapprove _____
   f. Facility Manager Name ______ Date ______ Approve _____ Disapprove _____
   g. Corporate ESH Name ______ Date ______ Approve _____ Disapprove _____
   h. Corporate Engineering Name ______ Date ______ Approve _____ Disapprove _____
   i. Corporate Finance Name ______ Date ______ Approve _____ Disapprove _____
   j. Division Executive Name ______ Date ______ Approve _____ Disapprove _____

Comments ________________________________________________________________

____________________________________________________________________

Page 22
A. Chemical and Raw Material Usage or Changes

1. Does the request require the increased use of currently used chemicals? __________ YES NO NA
2. Does the request require the use of new chemicals or materials? __________ YES NO NA
3. Does the chemical/raw material change request require modifications for
   a. Waste disposal and/or permitting?
   b. Safety and health management systems?
   c. Air emissions and/or permitting?
   d. Wastewater treatment?
   e. Spill Control and response?
   f. Emergency response systems?

B. Chemical and Raw Material Usage, Storage Locations, and Purchase

1. Does the request require additional usage/storage of chemicals and/or raw materials? __________ YES NO NA
2. Is the proposed storage location compatible with the chemicals and materials to be used? __________ YES NO NA
3. Will secondary containment be required? __________ YES NO NA
4. Will proposed storage requirements necessitate modification to:
   a. Spill control plans?
   b. Storm water permits or plans?
   c. Air emissions and/or permitting?
   d. Others?
5. Does the new chemical/raw material require an item number and commodity code for tracking purposes? __________ YES NO NA

C. Air Emission, Air Pollution Control, and HVAC Considerations

1. Does the request result in a change in air emissions? __________ YES NO NA
2. If yes, does the request require:
   a. A new air source permit?
   b. Modification of existing air permits?
   c. Additional air emission controls?
3. Will a new HVAC be required? __________ YES NO NA
4. Will modification of the existing HVAC system be necessary? __________ YES NO NA

D. Wastewater and Solid Waste. If the answer to any of the following is yes, complete form W1223.

1. Does the request generate a wastewater stream? __________ YES NO NA
2. Does the wastewater stream require modification of
   a. Existing wastewater discharge permits (or a new permit)? __________ YES NO NA
   b. The wastewater treatment or disposal method?
   c. The Secondary Containment System?
3. Will the wastewater stream require a new sump or lift station? __________ YES NO NA
4. Does the request generate a solid waste stream?
   If yes, does the solid waste stream require new of modification of existing Solid Waste Generator Status? __________ YES NO NA

E. Asbestos and Lead-Based Paint

1. Will the work cause disturbance of asbestos-containing material? __________ YES NO NA
2. Will the work cause disturbance of lead-based paint? __________ YES NO NA
F. Fire Protection Needs. Provide additional comment for each of the following that is applicant.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Will the work require addition or relocation of fire protection equipment?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If yes, indicate what is to be affected
- [ ] Fire walls
- [ ] Fire stops
- [ ] Fire extinguishers
- [ ] Fire doors
- [ ] Smoke vents
- [ ] Sprinkler system
- [ ] Foam suppression
- [ ] Monitoring equipment
- [ ] Special hazards needs

G. Utility Requirements. In the comments made for each yes answer, specify – new connection, relocation or disconnection.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Steam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Electrical</td>
<td></td>
<td></td>
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<tr>
<td>3. Compressed air</td>
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<tr>
<td>4. Water</td>
<td></td>
<td></td>
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<tr>
<td>5. Sewer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Communication/information technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

H. Electrical Hazards.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the request require additional permanent wiring?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are all power sources to be lockable?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is the electrical supply to be grounded with surge protection?</td>
<td></td>
<td></td>
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<tr>
<td>4. Will Arc Flash computations be necessary?</td>
<td></td>
<td></td>
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<tr>
<td>5. Will PPE be required with respect to Arc Flash?</td>
<td></td>
<td></td>
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<tr>
<td>6. Will new or modified equipment be labeled as per NFPA 70E?</td>
<td></td>
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</tbody>
</table>

I. Site Security

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Will modifications be necessary in the physical aspects of the security system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Will revisions be necessary in security procedures?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

J. Safety and Health Considerations. Will the request impact on any of the following?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ergonomic/Work station design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Machine guarding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lock/out</td>
<td></td>
<td></td>
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<tr>
<td>4. Confined space program</td>
<td></td>
<td></td>
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<tr>
<td>5. Pressure hazards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fall protection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Radiation sources</td>
<td></td>
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<td>8. Radiant heat sources</td>
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<tr>
<td>9. Noise sources</td>
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<td></td>
</tr>
<tr>
<td>10. Other occupational health hazards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

K. Training Requirements

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Will additional training of Epsilon personnel be necessary?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Will the work require contractor training or debriefing?</td>
<td></td>
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</tr>
</tbody>
</table>
### L. ISO 14001/EMS Considerations

1. Does the change require addition or change to the environmental aspect list?  
2. Does the change require modification to ISO 14001 policies and procedures?

### M. Facility Changes. Do any of the following apply?

1. Transfer of facility ownership  
2. New facility lease  
3. Purchase of a new facility  
4. Sublease of an existing facility  
5. Construction of a building addition

---

**Section III – Pre-Implementation Action Summary Form 51523**

**To Be Completed by Initiator: Indicate Topics for Which Action Is Necessary**

<table>
<thead>
<tr>
<th>Topic</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Chemical and Raw Material Usage or changes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Chemical and Raw Material Usage, Storage Locations, and Purchase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Air Emission, Air Pollution Control, and HVAC Considerations</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>D. Wastewater and Solid Waste</td>
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<tr>
<td>E. Asbestos and Lead-Based Paint</td>
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<tr>
<td>F. Fire Protection</td>
<td></td>
<td></td>
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<tr>
<td>G. Utility Requirements</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>H. Electrical Hazards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Site Security</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Safety and Health Considerations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. Training Requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. ISO 14001/EMS Considerations</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>M. Facility Changes</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>List of Applicable Topics</th>
<th>Person Responsible</th>
<th>Completion Date</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>
Pre-Implementation Actions Completed: Signatures Needed

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESH</td>
<td></td>
</tr>
<tr>
<td>Division Manager</td>
<td></td>
</tr>
<tr>
<td>Facility Manager</td>
<td></td>
</tr>
</tbody>
</table>

Section IV – Post Completion Actions – Form 51524
To be Completed By Initiator

<table>
<thead>
<tr>
<th>Subjects to Be Considered</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have all personnel been accounted for?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Have all tools been accounted for?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have documents, plans and drawings been updated as necessary?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Are post-closure environmental reports to governmental agencies necessary, and submitted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Are reports necessary to Fire Departments and Emergency Services necessary and submitted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Is notification to our property insurance company necessary and completed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Are revisions in our fire emergency plans necessary and completed?</td>
<td></td>
<td></td>
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<tr>
<td>8. Are revisions necessary in SOPs and completed?</td>
<td></td>
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<td></td>
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<tr>
<td>9. Is additional training necessary and completed?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10. Have 5S audits been completed?</td>
<td></td>
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<tr>
<td>11. Has a final walk-through been completed?</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Signatures

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator</td>
<td></td>
</tr>
<tr>
<td>ESH</td>
<td></td>
</tr>
<tr>
<td>Division Manager</td>
<td></td>
</tr>
<tr>
<td>Facility Manager</td>
<td></td>
</tr>
</tbody>
</table>
Kappa Products Corporation
Management of Change Standard: Doc No. IPC 4680
Issue and Effective Date: January 20, 2008

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   1.1 Purpose
   1.2 Scope
   1.3 Regulatory Requirements
   1.4 Types of Change
   1.5 Kappa Safety Statement
   1.6 Behavioral Requirements

2. Management of Change Standard

3. Requirements to Manage Change
   3.1 Management Process
      Technical Change
      Organizational Change
   3.2 Capability
      Technical Authorities
      Organizational Authorities
      Technical Change
   3.3 Change Identification
      Training
      Technical Change
      Organizational Change
   3.4 Risk Management
      Risk Assessment Matrix
   3.5 The Change Plan
      Equipment, Facilities and Process Procedures
      Communication
      Changes to the Plan
      Change Plan Sign-Off
   3.6 Documentation
      Technical Change
      Organizational Change
1 Introduction

1.1 Purpose
The purpose of this standard is to define Kappa’s minimum requirements for managing all permanent or temporary changes to organization, equipment, plant, materials, standards or procedures and changes associated with laws and regulations associated with activities of Iota and its Contractors.

1.2 Scope
This standard shall apply to all activities managed directly by Kappa and all work carried out by Kappa employees.

Where a contractor operates a facility dedicated to Kappa, the standard shall apply to:
- All Iota owned or controlled sites; and
- Non-Iota owned sites when referenced in the contract.

1.3 Regulatory Requirements
As required by Kappa’s Safety and Health Policy, the legal requirements at a specific location shall be met as a minimum. Where legal requirements are absent or are at a lower level than prescribed in this Standard, the requirements of this Standard shall be met as a minimum.

1.4 Types of Change
To manage changes effectively, two definitions of change are defined with clearly differing approval paths based on competence and risk.

- A Technical Change
- An Organizational Change

Technical Change

A Technical Change is an activity that results in the temporary or permanent alteration of a facility or plant. Some examples of Technical Changes follow.

- Any alteration to the original or subsequent design basis or any aspect of a facility
- Alteration to the physical configuration and operating conditions of the structure, systems or equipment
- The physical substitution of any item of equipment by an alternative not identical to the original, even the specification may be the same
- The amendment of any design parameter, limit or logic other than within the range specified by the design, even though an external change is not made
- The permanent removal from service of any safety system or item of equipment;
- The temporary or permanent addition of any item of structure or equipment
- Any alteration or addition to the use of structure, facility or equipment, other than that permitted by design
Any alteration of material specification
Any alteration of Hazardous Energy Classification boundaries
The rectification, repair or correction of any design defect, the presence of which did, or potentially could, affect the integrity of the Facility

Organizational Change

An Organizational Change is defined as any alteration to the organization or to the organizational activities defined by the applicable process/sub-process or standards that make up the Kappa Management System. The following are some examples.

Any change:
- That affects the resources required to implement Iota processes
- Of key positions as defined by Iota processes
- Of personnel affecting ‘safety critical’ positions
- Impacting on Iota defined processes or supporting standards
- In applicable legislative requirements

1.5 Iota Safety Statement

The following key requirements are set out in Kappa’s Safety Statement for Management of Change. Permanent or temporary changes to organization, equipment, plant, standards or procedures and changes associated with laws and regulations shall proceed only if:
- A risk assessment is undertaken to assess potential impacts of the change
- A plan that clearly specifies the timescale for the change and any control measures to be implemented from design to operating regarding
  - Equipment, facilities and processes
  - Procedures
  - Personnel competency, accountabilities and responsibilities
  - Documentation
  - Communication
- There is authorization of the plan by a person responsible for conception to completion
- The situation is re-assessed if circumstances change

1.6 Behavioral Requirements

For the mandatory requirements listed in the Standard, there are critical behaviors that personnel must adhere to. These behaviors are divided into 3 areas of responsibility.
- Everyone must learn and use the standards, procedures and rules which apply to then
- Supervisors must visit the worksite regularly to check conformance with the standards and ensure that their team has the skills, experience and training (competence) to complete their tasks
Managers must demonstrate through their actions their commitment to a safe workplace. They must regularly explain safety expectations and ensure that their personnel understand and conform with the standards.

2 Management of Change Standard

The Standard for the management of change incorporates elements of the Kappa Safety Statement and includes greater detail on the management of change process. The Management of Change Standard has six elements:

Element 1: Management Process
A management process shall be in place to ensure the effective control of change.

Element 2: Capability
The capability of the organization shall be structured and deployed so that roles, responsibilities and technical/management authorities are clearly defined and resources available to ensure effective change management.

Element 3: Change Identification
All Kappa personnel shall identify change and the requirement to apply the applicable change management process.

Element 4: Risk Management
A risk assessment shall be undertaken to assess the potential impacts of the change.

Element 5: The Change Plan
A plan shall be in place that specifies the controls to minimize risk, the resources required and the timescale for the change from design to operate.

Element 6: Documentation
Records shall be kept to demonstrate full compliance with this Standard.

3 Requirements to Manage Change

Element 1: Management Process
A management process shall be in place to ensure the effective control of the change.

Technical Change
1.1 The management system shall:
   a. Contain a documented process for the management of technical change, deviations and temporary operating procedures;
   b. Include reference to a technical authority system and assign responsibility to an authorized person, the Engineering Authority;
   c. Record the change and assess the risk of change in accordance with Element 4: Risk Management;
   d. Define the necessary evaluation and assurance required prior to implementing
the Change Plan (refer to “5. Change Plan”);

e. Define key interface requirements between functional divisions, and contractors; and

f. Define the auditing and review requirements for the change management system based on the risks of the proposed change.

Organizational Change

1.2 The process for the systematic management of organizational change shall include the following:

a. Implementation criteria and guidelines for the management of changes to personnel to help ensure that minimum levels of experience, knowledge and skill are maintained;

b. Communication requirements for the proposed change;

c. Reference to the management system;

d. Assigning a responsible person for approval of the organizational change;

e. Assessment of the risk of the change, particularly the changing of competencies and positions against the requirements of Corporate processes and sub-processes; and

f. A process for recording the change.

Element 2: Capability

The capability of the organization shall be structured and deployed so that roles, responsibilities and technical/management authorities are clearly defined and resources are available to ensure effective change management.

Technical Authorities

2.1 There shall be a technical authority system in place that assigns technical authority to individuals on the basis of competence.

2.2 The technical authority system shall define:

a. The technical authorities required for the approval and deviation of technical changes;

b. Supporting standards; and

c. Mandatory practices.

2.3 For sites and contracts under Iota management control, the technical authority system shall be in accordance with the "Kappa Standard: Technical Authority".

2.4 The technical authority system shall have an owner or custodian who is accountable for the maintenance and effectiveness of the system.

Organizational Authorities

2.5 Accountabilities and responsibilities for the management of organizational change shall be defined in all Iota Management System processes and sub processes as well as the management systems of contractors operating facilities on Iota’s behalf.
Technical Change
2.6 The Engineering Authority shall define the required approval level for any change that:
   a. Is new or unusual;
   b. Is not an established practice;
   c. Has a major (Category B+) risk implication for the Company;
      Has a potential implication to any stakeholder; and
   d. Has a potentially significant economic implication.

Element 3: Change Identification
All Kappa personnel shall identify change and the requirement to apply the applicable change management process.

Training
3.1 Appropriate personnel shall be provided with the training or instruction necessary so that they can identify change and apply the applicable change management process.

Technical Change
3.2 Kappa and contractor processes shall include the ability for all personnel to be able to:
   a. Notify line management of an identified requirement for a change or a change to the documented technical status of a facility.
   b. Give feedback in all cases to the person who initiated the change proposal.

Organizational Change
3.3 Managers shall evaluate and effectively implement all personnel changes to ensure that appropriate levels of experience and competency are maintained. These shall include:
   a. Transfers
   b. Promotions
   c. Retirements
   d. Delegations
   e. Job assignment or re-assignment

Element 4: Risk Management
A risk assessment shall be undertaken to assess the potential impacts of the change.

4.1 All changes shall be assessed and ranked in accordance with the Kappa Corporate Risk Matrix.
4.2 For technical changes with a consequence rating of B or higher, all activities and schedules shall be shall be approved by a Technical Authority.

Element 5: The Change Plan
A plan shall be in place that specifies the controls to minimize risk, the resources required and the timescale for the change from design to operate.

Equipment, Facilities and Process
5.1 For change to equipment, facilities and process, the following key elements shall be included in the Change Plan.
   a. Change description
   b. Objective of the change
   c. Drivers for the change – Safety, Health, Production, or the Environment
d. Resource requirements, including competency

e. Statutory clearance requirements and any safety and health and environmental approvals/permits required

f. Capital and revenue costs

g. Hazard and risk identification and assessment to determine the risk rating and potential mitigation strategies

h. Requirements for closeout, including update to integrity critical documentation

i. Closeout assurance requirements

**Procedures**

5.2 For a proposed procedure change, the following key elements shall be included in the Change Plan.

a. Change description

b. Objective of change

c. Date for implementation or revised procedure

d. Identification of Iota Management System documentation in which the procedure is referenced

e. Identification of the user/s of the procedure

**Communication**

5.3 For all changes, a communication plan shall be prepared that:

a. Ensures that all stakeholders are aware of the change and the Change Plan

b. Is designed to provide adequate time for the management of related activities to inform affected personnel of the changes to be made

**Changes to the Plan**

5.4 Implementation of the change process shall include monitoring for the impact of any changes in circumstances

5.5 If circumstances change and modify the validity of the original Change Plan, a formal review shall be conducted that involves approving authority and the change initiator

**Change Plan Sign-Off**

5.6 Prior to signing-off the change initiative, the approving authority shall be satisfied that all activities outlined in the approved Change Plan have been satisfactorily completed and that the primary stakeholder/s has formally accepted the change.

**Element 6: Documentation**

Records shall be kept to demonstrate full compliance with this Standard.

6.1 Records kept shall include:

a. All data required by this Standard

b. Risk level change, and acceptance

c. Indication that the required updating for plans, drawings and procedures has been accomplished

d. Data on compliance with the performance indicators as outlined by Engineering Authorities

e. Information showing compliance with legislative obligations – regulations and permits

f. Sign-off indicating that the change initiated was accomplished as planned
Lambda Corporation

Management of Change Policy for Safety and Environmental Risks

1. Overview

This document outlines the requirements for Management of Change with respect to safety and environmental risks.

2. Purpose

2.1 To establish a process requiring early reviews of various business changes to diminish the probability of or prevent the occurrence of adverse effects that may impact the safety of associates, the public, equipment or facilities, and associated environmental aspects.

3. Scope

3.1 This policy applies to all domestic and international operations.

3.2 To address potential impact on safety or environmental issues when various changes outlined in this process are proposed, and the related management of those changes.

3.3 For reference only, various forms may be found in the Appendix Section 7.0. Others may be hyperlinked to other respective documents or Web pages as indicated in this document.

4. Definitions

4.1 Change Control - Mechanism or tool used by the organization to control identified changes in the organization.

4.2 Design for Environment (DfE) - An environmental review process for all products, packaging, and processes in the research and development phase—including all new and changed products.

4.3 Due Diligence - A pre-purchase/pre-lease or exit audit for acquisitions, divestitures, leases or joint ventures of all business related aspects and real estate property to ensure that potential liabilities are identified.
4.4 Environmental Impact Assessment (EIA) - a reference tool for Environmental Professionals conducting Environmental Impact Assessments of facility-related projects, new or modified equipment, new materials and new or modified processes being implemented at the location.

4.5 Ergonomic Job Analysis/Analyzer (EJA) - An analysis tool used to evaluate jobs and tasks to rate them by level of ergonomic risk.

4.6 MAP - (Management Action Plan) A tracking tool that incorporates items identified during an annual operating location self-assessment, or of issues identified during any of the risk assessments as listed in this policy.

4.7 Production Standards - The value of the production work that has been determined through methodical evaluation to be reasonably expected during an allotted time period.

4.8 Project Leader - The term project leader is used in the generic sense. If a person is assigned the responsibility to manage a project, that person in essence is a project leader.

4.9 S&IH - (Safety & Industrial Hygiene) A Lambda organization within the technical Resource Group (TRG).

5.0 Responsibilities

The responsibilities of the personnel required to administer the management of change process are listed as follows:

5.1 Environmental Professional Resources
EPR shall be responsible for conducting environmental assessments as needed. This includes, but may not be limited to an Environmental Impact Assessment.

5.2 S&IH Professional Resources
Maintains this policy and ensures its existence at the affected locations. S&IH shall be responsible for providing the technical resources to comply with the requirements of this policy. S&IH Professionals shall work with Environmental Professionals at the respective operating location to ensure compliance to applicable standards.

   5.2.1 A review of this policy shall be conducted during the annual self-assessment or whenever this policy fails to serve the purpose of its intent.

   5.2.2 Deficiencies noted in this policy shall be incorporated into the operating location MAP to ensure that corrective actions are tracked and completed.

5.3 Global Franchise Management Board Members
Shall ensure compliance with this standard for their respective organizations described in the scope of this document.
5.4 Line Management
Shall be responsible for ensuring that the requirements and procedures contained in this policy are implemented and adhered to within their respective departments.

5.5 Project Leader
Shall be responsible for ensuring that the S&IH Professionals and other appropriate members of management are informed of upcoming projects, and that any safety related issues are resolved prior to the project completion per the requirements of this policy.

6. Policy Statements

6.1 Due-Diligence Process
A Due-Diligence study of the prospective acquisition and divestitures shall be conducted to determine strengths and weaknesses of the business, and the impact on safety and environmental requirements.

6.2 Preliminary Environmental, Safety & Health Assessment Questionnaire
A Preliminary Environmental, Safety & Health Assessment Questionnaire shall be initiated during the project design/planning phase by the Project Leader and submitted to the primary S&IH Professional at the operating location.

The questionnaire will help ensure that the S&IH and Environmental professionals complete the appropriate risk assessment(s) and associated forms. Assessment information will be forwarded to the project leader for inclusion in the project plan. (See Form - Section 7.1 Appendix I Preliminary Environmental, Health & Safety Assessment Questionnaire.

6.2.1 Program Elements shall include the following:

6.2.1.1 What is the basis for the proposed change?

6.2.1.2 What is the time period for the change?

6.2.1.3 What assessments of the proposed change will be required?

6.2.1.4 From an Environmental, Health & Safety perspective, what are the "things to consider" when making the change?

6.2.1.5 What are the related Environmental, Health & Safety authorization requirements for the proposed change?

6.3 Design for Environment (DfE)
Each operating location shall develop and implement a Management system to ensure that the Design for Environment (DfE) Tool Assessment is performed and documented for all products, packaging, and processes in the research and development phase (all new and changed products).
6.4 Evaluating Change (Risk Assessment Guidelines) - Requirements
The respective S&IH and Environmental professionals shall work with those responsible for implementing the change to ensure that the appropriate assessments are completed and to determine what actions need to be taken during the design phase.

6.4.1 Changes in anyone of the following areas can have significant impact on the safety of associates, the public, the environment, equipment and facilities, and shall require one or more risk analyses to be conducted to determine needs early in the planning process. Identified needs shall be included in the operating location MAP to ensure that corrective actions are brought to closure.

6.4.1.1 New Process Product Development
Development of a new process or a product shall be reviewed for their potential impact on associates and the public relative to exposure, and safe handling of process components and equipment and products.

6.4.1.2 Facility (Construction/Renovation) Project
New facility construction and/or renovation to existing facilities shall be reviewed for their potential impact on life safety, environmental aspects, and other related needs prior to occupancy.

6.4.1.3 Capital Non-Capital Project
New capital projects shall be reviewed to ensure that safety or environmental issues are identified. While "replacement in kind" (purchase of like equipment) typically do not impact change, capital projects should be evaluated so that advances in safety or environmental technology, or changes in related regulations can be incorporated as part of the project. This includes the purchase of computers, other similar equipment, and/or workstations to ensure that the workstations that will be used with the computers and other similar equipment is appropriate for the job/office.

6.4.1.4 Existing Product Process Modification
Upgrades or modifications to current operating processes or products such as improvements based on technological advancements or safer chemical components shall be reviewed for their inherent risk and how the change may affect associates or existing systems, processes, and/or equipment.

6.4.1.5 External Manufacturing
A manufacturer of Lambda products or components shall be evaluated for appropriate compliance to safety and environmental standards. (See Forms - Section 7.3 Appendix III Safety & Industrial Hygiene External Manufacturing Checklist, and Section 7.4 Appendix IV Environmental External Manufacturing Checklist).

6.4.1.6 Methods or Procedures & Production Standards
Changes to production methods, procedures, or production standards, shall be reviewed for safety to ensure that the associate performing the work is not placed at risk. Documents relative to those methods or procedures, such as Job Safety Analysis
(JSA), shall be revised and communicated to affected associates. The evaluation shall include an Industrial Hygiene review if chemicals are used and an Ergonomic Job Analysis (EJA) if production standards have been modified.

6.4.1.7 Product or Equipment Transfer
Product and/or equipment transfer from one operating location to another can adversely impact the receiving location in a number of ways. It is imperative that the location transferring the product/equipment obtains the services of the safety and environmental professional(s) at the operating location receiving the product/equipment to communicate anticipated needs or modifications at the receiving location. Operating locations transferring equipment shall either ensure compliance of the equipment with applicable standards or communicate and document those deficiencies to the receiving location.

6.4.1.8 Business Acquisitions
New businesses introduced to the Lambda family of companies typically are not familiar with Lambda’s stringent safety or environmental requirements. It is therefore imperative to introduce the new business to Lambda requirements as early as possible after the acquisition.

6.4.1.9 Significant Downsizing/Hiring
In periods of significant downsizing or hiring, S&IH shall be included in management discussions in order to anticipate potential impact the change may have on the business.

6.4.1.10 Changes In Management
The attitudes, beliefs and values of management, particularly of top management, relative to safety and environmental issues, will set the standard for the operating location. New members of management who have been recruited from outside of PSI must become familiar with their role and responsibilities to obtain their support in achieving desired results. Likewise, those who have been promoted from within should reaffirm their support to the resolution of safety and environmental issues.

6.5 Conducting Risk Analysis - Assessment Formats
6.5.1 Safety Strategy Checklist
The S&IH professional shall complete the Safety Strategy Checklist for all projects associated with new process/product development, facility construction or renovations, and capital projects. Upon completion, this document shall be reviewed with the project leader to identify safety-related needs early in the process for inclusion in the Development Phase. (See Form - Section 7.2 Appendix II Safety Strategy Checklist).

6.5.2 Post Production Safety Qualification Operation Review
The S&IH Professional, who completed the EIQ safety review, shall complete this document, which is then kept on file in the Safety Department at the operating location. Observations noted during the original safety EIQ process shall be documented, and action scheduled for a re-review within 180 days from the date of the original safety EIQ. The S&IH Professional is responsible for ensuring that the post review occurs within the
prescribed time frame. Action items that have not been corrected are to be flagged as "repeat" observations, and communicated to the Qualification Coordinator for follow up.

6.5.3 Ergo Job Analysis/Analyzer (EJA)
This tool shall be used to ensure that modifications made to methods, procedures, or RE's do not pose an increased risk to the associate performing the job and/or task.

6.5.4 Environmental Impact Assessment
The Environmental Professional at the operating location where the modifications will be made, will include all environmental aspects of the modifications in the facility's assessment, and will use the results of the assessment to implement actions in accordance to the facility's Environmental Management System.

6.5.5 Due-Diligence
In the event of an acquisition, lease, joint venture or divestiture, an audit of the prospective business and real estate property shall be conducted by appropriate company individuals or a contracted third party. The purpose is to ensure that potential liabilities are identified prior to closure of contracts. The due-diligence report shall be generated by those individuals in order to develop a plan to bring the business under compliance of all Lambda guidelines within prescribed time frames from the date of the acquisition according to the level of requirement as listed in the Lambda Acquisition Guide.

6.5.6 Design for Environment (DfE)
The concept portion of this tool is to be completed during the Concept Stage of new product development. The design portion of this tool is to be completed during the Development Stage of new product development. It is the Project Team's responsibility to complete this tool for all new and changed products with the assistance and support of Environmental Professionals.

6.6 Procedure
6.6.1 At the beginning of the projects design/planning phase, the Project Leader will complete the Preliminary Environmental, Health & Safety Assessment Questionnaire (See Form - Section 7.1 Appendix D, and forward the completed form to the Environmental, Health & Safety Professionals located at the operating location that will be impacted by the change. If an Environmental, Health & Safety Professional is not physically located at the operating location, the completed Questionnaire shall be sent to the Environmental, Health & Safety Professional responsible for that location.

6.6.2 The Environmental, Health & Safety Professionals, as a minimum, shall contact the Project Leader to discuss the proposed project in order to ascertain the level of evaluation required for the project. Evaluations shall include, but are not limited to the types of checklists found in the Appendices of this policy.

6.6.3 Assessment information will be documented and forwarded to the Project Leader for inclusion in the project plan.
6.7 Training
Management shall be trained in the operating requirements of this policy to ensure its consistent application to business change.

Associates involved in operating a new process or technology, or whose safety would otherwise be affected by the change shall be informed of, and trained in, the change prior to its implementation. This training must be documented.

6.7.1 The associate training, at a minimum, shall include:

6.7.1.1 Overview of the changes that will affect them;

6.7.1.2 Any new or modified requirements governing those changes (i.e., personal protective equipment (PPE), chemicals, facility/area layout, evacuation routes, ergonomic related issues, machine guarding, etc.

6.7.1.3 A review of any procedures, i.e., operational and or safety, i.e., JSA's, process specifications, etc., that have been changed.

6.7.1.4 Introduction of any new procedures that are under development in order to gain input from those whom the changes shall affect most.

7. Appendices

7.1 Appendix I - Preliminary Environmental, Health & Safety Assessment Questionnaire

7.2 Appendix II - Safety Strategy Checklist (Not available)

7.3 Appendix III - Safety & Industrial Hygiene External Manufacturing Checklist (Not available)

7.4 Appendix IV - Environmental External Manufacturing Checklist (Not available)

7.5 Appendix V - Environmental Impact Assessment Checklist
Lambda Corporation

Preliminary Environmental, Health and Safety Assessment Questionnaire
Possibly Triggering a Safety Review
For Intra-Computer Access Enter—Lambda S&IF Appendix I

Project leader’s name and phone number ____________________________ Date ____________

Enter an “X” in each box that pertains to this project and send the form to S&IH. If an “X” is entered in any box, a Safety Review by S&IH and Environmental Professionals.

1. ___ Project includes purchase of new equipment, including computers and associated workstations.
2. ___ Modification or addition to the existing facility.

Change
3. ___ To the current energy sources (electric, hydraulic, pneumatic, etc.)
4. ___ To machine guarding or electrical safety systems.
5. ___ Involves the use of a new chemical.
6. ___ Involves the use of a biological agent.
7. ___ Affects person protective equipment requirements
8. ___ Results in increased noise, vibration, fumes, vapors, radiation, temperature, etc.
9. ___ Results in increased chemical storage requirements or increased chemical utilization.
10. ___ Affects manual material handling requirements (weight, force, frequency, container capacity).
11. ___ Affects exhaust system requirements.
12. ___ Impacts on Operators work stations, tools, equipment, etc.
13. ___ Impacts on production procedures, production output expectations, or work methods.
14. ___ Results in an increase or decrease of Operators.
15. ___ Results in greater risk to employees who are not operators.

Project Leader signature ________________________________

For Safety & IH Use Only

16. ___ Safety Assessment Required
17. ___ Ergonomics Job Analyzer Required
18. ___ No Further Required

Signature S&IH ____________________________ Date ____________
### Lambda Corporation

**Environmental Impact Assessment Checklist**

**For Intra Computer Access, Enter—Lambda S&IF Appendix V**

**Check All That Are Impacted**

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<tr>
<td>___ Impacts on facility potential to emit</td>
<td>___ FIFRA</td>
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<tr>
<td>___ Impacts on existing permits</td>
<td>___ TSCA</td>
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<tr>
<td>___ Requires permit applications</td>
<td>___ TRI</td>
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<tr>
<td>___ Implications – pollution control/MACT</td>
<td>___ CRTK</td>
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<td>___ Other</td>
<td>___ p Listed waste</td>
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<td>___ Risk Management/Planning</td>
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<td>___ Segregation</td>
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<tr>
<td>___ Requires permit applications</td>
<td>___ Collection</td>
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<tr>
<td>___ Affects treatment systems</td>
<td>___ Shipments/Generation rate</td>
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<td>___ Other</td>
<td>___ Storage</td>
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<td>___ Labeling</td>
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<tr>
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<td>___ Storage/Grounding</td>
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<td>___ Continuous sampling required</td>
<td>___ Segregation/Spill prevention</td>
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<td>___ Inventory</td>
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<td>___ MSDS needed</td>
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<td>___ Pharma/Controlled substances</td>
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<td>___ Emergency preparedness</td>
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<td>___ Plans/SPCC plan</td>
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<td>___ Sampling plans needed</td>
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<td>___ Noise</td>
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Environmental Impact Assessment Checklist – Continued

Facilities
___ PM/Calibrations
___ Water connections/Drains
___ Water conservation
___ Energy connections/Conservation
___ Ventilation connections
___ Drawings/Surveys
___ Other

EMS
___ Management Review
___ Commitment and Policy
___ Environmental Planning
___ Implementation and Operations
___ Training (RCRA, DOT)
___ Other

Environmental Action Plan

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Comments

Date of Action Plan Completion

Project Leader Sign-Off Date

Environmental Sign-Off Date