Installation and Operational Qualification Protocol

(Reference: SOP ____)

| Project Nam | е | | F | Project Number | |
|--------------|------------|--------------|-------------|-----------------|--|
| Equipment | | | Serial Numb | | |
| Manufacturer | | | r | Model Number | |
| Process Line | e/Location | | F | Protocol number | |
| | | | | | |
| | | | | | |
| | WRITTEN B | Y: | | REVIEWED BY: | |
| Name: | | | | | |
| Position | | | | | |
| Signature: | | | | | |
| Date: | | | | | |
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| | | | | | |
| | APPROVAL | TO EXECUTE: | | | |
| Name: | | | | | |
| Position: | | | | | |
| Signature: | | | | | |
| Date: | | | | | |
| | | | | | |
| | | | | | |
| | PROTOCOL | COMPLETION A | PPROVA | L: | |
| Name: | | | | | |
| Position: | | | | | |
| Signature: | | | | | |
| Date: | | | | | |

1 OBJECTIVE

The objective of this protocol is to define the Installation Qualification (IQ) and Operational Qualification (OQ) requirements and acceptance criteria for the [insert system name and plant number] which will be located in the [insert area, packaging or manufacturing] at site [insert site name]. IQ/OQ is required as [insert brief description as to why required, e.g. as it is new equipment.

Successful completion of this protocol will provide a high degree of assurance that the equipment has been installed and operates in accordance with the site requirements, specifications and manufacturers recommendations and is in compliance with cGMP and site policies.

Installation and Operational Qualification Protocol (Reference: SOP _____)

Appendix [Insert Appendix No]

Test 001: Verification of Installed Equipment

| 1. | Ob | jective |
|----|----|---------|
| | | |

The objective of this test is:

- 1. To verify that equipment is uniquely identified and installed in accordance with site and manufacturers' recommendations
- 2. To verify that equipment is scheduled for preventative maintenance
- 3. To ensure that the equipment installed is documented for change control / revalidation purposes

2. Procedure

Inspect the installed equipment and record details of all major process equipment as required below. Verification of installed components may be achieved by visual inspection or approved documentation / drawings. If a document or drawing is used it must be referenced.

3. Acceptance Criteria

All equipment must be uniquely identified and installed in accordance with site and manufacturers' recommendations. All major equipment items should be included for preventative maintenance

| Equipment Description | | Installed | Initial & Date |
|---------------------------------|--------------------|-----------|----------------|
| [Insert Equipment Name. If sub- | Manufacturer | | |
| systems include | Model | | |
| one row for each sub system] | Serial number | | |
| Sub system; | Plant No | | |
| | Maintenance log No | | |
| [Insert Equipment Name. If sub- | Manufacturer | | |
| systems include | Model | | |
| one row for each sub system] | Serial number | | |
| Sub System] | Plant No | | |
| | Maintenance log No | | |

Comments:

| All Acceptance Criteria Met (yes/no): | Initial/Date | | | | |
|--|--------------|--|--|--|--|
| Report all deviations/further actions in Appendix [insert Deviation appendix no] | | | | | |
| (Deviation ref) | | | | | |
| Page 5 of 18 | Date: | | | | |
| Reviewed By: | | | | | |
| | | | | | |

Installation and Operational Qualification Protocol

(Reference: SOP ____)

Appendix [Insert Appendix No]

Test 005: Verification of Computer System Software

1. Objective

The objective of this test is:

- 1. To verify that all computer system Operating Software and Application Software integrated with the system is uniquely identified and installed in accordance with site and manufacturers' recommendations.
- 2. To ensure that the software components of the installation are documented for change control/re-validation purposes.

2. Procedure

Inspect the installed software and record details. Verification of installed components may be achieved by visual inspection or approved documentation / drawings. If a document or drawing is used it must be referenced.

3. Acceptance Criteria

- 1. All software must be uniquely identified and installed in accordance with site and manufacturers' recommendations.
- 2. A backup copy of the software must be available.

| Sc | oftware Description | Installed | Initial & Date |
|----------------------|--------------------------------|-----------|----------------|
| [Insert system name] | Operating Software name | | |
| | Operating Software version | | |
| | Application Software name | | |
| | Application Software version | | |
| | Application Software Developer | | |
| | Location of backup | | |

Comments:

| All Acceptance Criteria Met (yes/no): | Initial/Date |
|--|--------------|
| Report all deviations/further actions in Appendix [insert Deviation appendix no] | |
| (Deviation ref) | |
| Page 9 of 18 | Date: |
| Reviewed By: | |
| | |

Installation and Operational Qualification Protocol

(Reference: SOP ____)

Appendix [Insert Appendix No]

Test Ref: 010: Verification of Safety

1. Objective

The objective of this test is to verify that EHS are notified that qualification of the system is being undertaken and a safety audit if required can be performed.

2. Procedure

Contact the EHS representative and determine if a safety audit is required prior to performing any OQ testing If required enter the estimated completion date for the audit. It is the responsibility of EHS to complete this test and to ensure that the equipment is safe for operational qualification and for use.

3. Acceptance Criteria

The need for a safety audit has been established prior to OQ and if required a safety audit has been conducted by EHS and the equipment is deemed suitable for routine use.

| Test # | Test Procedure | Actual | Initial & Date |
|-----------|---|-----------------|----------------|
| 1 | Determine if a safety audit is required | Audit required? | |
| 2 | Enter the estimated completion date for the safety audit if required | | |
| 3 | Document if the system is considered safe for operational qualification | | |

Comments:

| All Acceptance Criteria Met (yes/no): | Initial/Date |
|--|--------------|
| Report all deviations/further actions in Appendix [insert Deviation appendix no] | |
| (Deviation ref) | |
| Page 14 of 18 | Date: |
| Reviewed By: | |
| | |

Installation and Operational Qualification Protocol (Reference: SOP _____)

APPENDIX [Insert Appendix No] - DEVIATION LOG AND REPORT

| DEVIATION REPORT NO.: | | | | | | | | |
|---|---------------------------|-----------------------|--------------------|-----------|-----|--------------|-------|-----------|
| TEST SCRIPT | / TEST PROC | EDURE #: | | | | | | |
| 1. DEVIAT | 1. DEVIATION DESCRIPTION: | | | | | | | |
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| | | | | | | | | |
| | | | | | | Initial / | Date_ | |
| Circle Classification | Critical Deviation | Non- | Circle | Yes | No | Deviation # | COMN | IITMENT # |
| Classification | Deviation | Critical Deviation | Change Required | Change # | | | | |
| 2. RESOL | UTION (attac | h anv re-test | | s sheet): | | | | |
| | orrorr (acces | , | | | | | | |
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| Baselutian Ca | malated 9 D | ovietien Bess | luadi (uaa/na | ` | l n | itial / Data | | |
| Resolution Co | impleted & Di | eviation Neso | iveu. (yes/iio | / | | itial / Date | | |
| 3. JUSTIF | ICATION FOR | R ACCEPTAN | CE OF DEVIA | TION: | | | | |
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| | | | | | | | | |
| Justification Completed & Deviation Accepted: (yes/no) Initial / Date | | | | | | | | |
| Justilication | zompieteu & i | | | | | | Date_ | |
| | | | rint/Type Nam | 16 | | Signature | | Date |
| Approved By: | (System Own | ner) | | | | | | |
| Approved By: | (Validation) | | | | | | | |
| Approved By: | (Quality | | | | | | | |
| Assurance) | | | | | | | | |