**PRE-COMMISSIONING CHECKLIST**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Name: |  | Date: |  |
| Project Number: |  | **System name:** |  |
| Ref. Drawing & Documents: |  | **Plant no. / Location:** |  |

|  |  |  |
| --- | --- | --- |
|  | YES | NO |
| Check that time schedules enable the intended operation at the correct times. |  |  |
| Check the correct operation of the interlocks by individually switching interlocked items of plant. |  |  |
| Check all safety interlocks, e.g electro-thermal links and emergency knocks off buttons etc. |  |  |
| **To check control systems following checks as a minimum will be undertaken:** |
| Check the specified interlocking between different control systems, for example any interlocking between a fire detection system |  |  |
| Check that the specified temperature interlocks operate correctly, e.g low temperature frost protection. |  |  |
| Check for the correct sequencing control in response to varying inputs operates in the correct order and at the desired set points |  |  |
| Check for the correct control and operation on start-up and shutdown. Check that the defined restart routine operates correctly when power is reinstated |  |  |
| Check that controllers maintain settings information of the control approach for a defined duration when the energy of the mains is wasted. |  |  |
| Check that the condition of any volatile data protection system is regularly and automatically monitored. |  |  |
| Check that an alarm is raised on loss of data by any controller or other device and/or failure of the monitoring system. |  |  |
| Check that the control system operates correctly under generator standby and UPS power if applicable |  |  |
| Check that the control system will automatically return to normal action without operator intervention restoration of the mains electrical power supply |  |  |
| Check that any specified load shedding procedures operate correctly. |  |  |
| Checks on powered control machinery and circuits, including modifications for the proper functioning of security systems. |  |  |
| **General functional tests:** |
| The lamp test facility, if specified |  |  |
| Wiring interlocks by progressively energising or de-energising relay contacts, switches, timers etc in each circuit. Switches must be used to test that the system operates correctly in response to input signals. |  |  |
| All indicators and signals out of the panel, Safety interlocks must be checked in ‘manual’, ‘off’ and ‘auto’ switch modes |  |  |
| Frame size fuse or circuit breaker, sort of device journey and drawing configurations. |  |  |
| Correct labelling has been provided. |  |  |
| Trip the engine and make sure it de-energizes and lights up the travel sign. |  |  |
| Energize the starter / contactor by ' creating ' the control loop and guarantee that the driver is operating properly and that the outgoing terminals receive authority. |  |  |
| If the control panel is left on site for a long period then undertake adequate steps to ensure that it is protected from dirt, damage and moisture |  |  |
| Repeat the flash experiment before closing the primary isolator when the field wiring is full to the energy segment. |  |  |
| Check all fresh links in the board before the electricity is turned on and the interlocks are re-checked |  |  |
| Perform a complete panel test on-site if the panel has not been tested in the factory |  |  |
| **Undertake the following checks and tests on all wiring:** |
| Cable type as specified |  |  |
| Cable identified at both ends |  |  |
| Cable cores identified at both ends if not self numbered or colour coded |  |  |
| Cable management in accordance with the specification |  |  |
| Cable carrier/container in accordance with the specification (tray, basket, conduit/trunking etc) |  |  |
| Cables not damaged |  |  |
| Secure termination of wires (using ferrules) |  |  |
| Screening continuity |  |  |
| Correct polarity where applicable |  |  |
| Correct and secure termination |  |  |
| No short circuits line-to-line and line-to-earth |  |  |
| Separation of mains and signals cables |  |  |
| **The following on site communications network checks and tests will be undertaken:** |
| All network devices such as routers and bridges are installed correctly. |  |  |
| All control devices can be addressed over the communication network. |  |  |
| IT manager permission acquired? |  |  |
| All network data routing is correctly set up by the IT department including allocation of the appropriate TCP/IP addresses and default router addresses. |  |  |
| **Tests undertaken for Sensors:** |
| Correct location and orientation of the sensor |  |  |
| Type of sensor as specified |  |  |
| Sensor wired correctly |  |  |
| Confirm the sensor output indicated by the control system with the reading on the test instrument. |  |  |
| If a sensor is not linear over its working range, check the sensor at its normal working range at the upper, middle and lower points |  |  |
| **Tests for all field control devices:** |
| Type as specified |  |  |
| Size as specified |  |  |
| Enclosures as specified |  |  |
| Number and location (height, access) as specified |  |  |
| Identification by mnemonic labelling |  |  |
| Continuous power available and of an appropriate quality |  |  |
| Fuse correct type/spares if specified |  |  |
| Hardware configuration agrees with the specification |  |  |
| All printed circuit boards in place |  |  |
| All connection cables plugged in |  |  |
| Document wallet containing wiring diagram where appropriate, i.e when located in a control panel |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Installer:** |  | **Witnessed by:** |  |
| **Contractor** |  | **Signature & Date** |  |
| **Remark:** |