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| --- | --- | --- | --- | --- |
| DESIGN CHECK LIST (DCL) - CBI | DPB No. |  | DMP: |  |
| Project Name: |  | Design Package: |  |
| Project No: |  | Date: |  | Signal Job No. |  | Revision: |  |
| **General Review** |
| **REQUIREMENT** | **DOCUMENTATION REQUIRED** | **ADEQUATELY DOCUMENTED** |
| **YES** | **NO** |
| General | Is submission complete – total number of pages | [ ]  | [ ]  |
| Is control page/version date to contents | [ ]  | [ ]  |
| CBI card file layout | Confirm layout, card types and is jumpering correct (if applicable) | [ ]  | [ ]  |
| CBI Power Supply etc. | Are power supply and port wiring complete and type approved. (This includes terminals, cables, connections and RS400)? | [ ]  | [ ]  |
| Maintainer workstation | If maintainer’s workstation is provided, check configuration, wiring and terminations. Ensure protocol/serial data converters are provided. | [ ]  | [ ]  |
| Opto isolator | Check that opto-isolators are on incoming links. Check also for external supply if required on the opto-isolator (if applicable) | [ ]  | [ ]  |
| Modems | Is modem type approved, correct type and correctly wired? | [ ]  | [ ]  |
| CBI card address/jumpering | Check CBI card address/jumpering is complete. | [ ]  | [ ]  |
| CBI Data Straps | If used, all data straps are identified, listed and added/removed from the data as required. | [ ]  | [ ]  |
| CBI Outputs | Are output terminals correctly associated to the output number? | [ ]  | [ ]  |
| Are slot/card numbers correct? | [ ]  | [ ]  |
| CBI Inputs | Are input terminals correctly associated to the input number? | [ ]  | [ ]  |
| Confirm correct immunisation module. Are slot/card numbers correct? | [ ]  | [ ]  |
| Are vital inputs double-cut? | [ ]  | [ ]  |
| Relays | Are diodes/snubbers provided where required? | [ ]  | [ ]  |
| Point detector inputs | Are left hand/right hand machine contacts correctly identified? | [ ]  | [ ]  |
| Is tail cable terminated directly on arrestor/immunisation module? | [ ]  | [ ]  |
| Points motor operating | Are left/right hand drive contacts correctly identified? | [ ]  | [ ]  |
| Points IR output | Are local tracks included in point IR? | [ ]  | [ ]  |
| Points EOL (Fortress key) input | Is symbol correct (not ESML) and ensure two contacts in series (if double-cut) | [ ]  | [ ]  |
| Audio tracks | Is Rx on a different power supply to Tx. Check for short intermediate tracks with same frequency either side. | [ ]  | [ ]  |
| Are connections that differentiate frequencies correct? | [ ]  | [ ]  |
| Confirm correct arrestor is used | [ ]  | [ ]  |
| Are cable connections correct? | [ ]  | [ ]  |
| Is there provision of separate power supplies for Up and Down tracks? | [ ]  | [ ]  |
| Jeumont Tracks | Is correct arrestor used? | [ ]  | [ ]  |
| Track PR’s | In cases of Jeumont with two receivers, R1 and R2 to be checked that they are in series to create PR. | [ ]  | [ ]  |
| Contact allocation | Is there consistency in allocations between similar circuits? | [ ]  | [ ]  |
| Track sticks | No shunt proving unless shunt is part of aspect sequence | [ ]  | [ ]  |
| Output cards in general-allocation | Is point contactor output on separate card to isolating relay output? | [ ]  | [ ]  |
| Switchboard | Confirm correct layout and identification of ratings of CBs | [ ]  | [ ]  |
| Power supply arrangement | Are all wiring sizes rated correctly? | [ ]  | [ ]  |
| CBs, isolating switches and transformers rated correctly | [ ]  | [ ]  |
| Is earthing in line with specs/guidelines? | [ ]  | [ ]  |
| CBI Power Supply | Is rating of AC/DC and DC/DC converters correct. N+1 arrangement? | [ ]  | [ ]  |
| Are there alarms for each channel? | [ ]  | [ ]  |
| Earth leakage detectors | Is a 120V AC, 12V DC and 50V DC ELD designed. Is 415V AC designed (if applicable)? | [ ]  | [ ]  |
| Are individual inputs into CBI utilised? | [ ]  | [ ]  |
| Earthing plan | Is proposal in line with standards (check earth stakes and connections between racks) | [ ]  | [ ]  |
| Relay rack | Is type approved equipment being used. (Spare capacity, segregations of clean/dirty wiring, sheath arrestors for all multi-core cables)? | [ ]  | [ ]  |
| Is track circuit equipment layout correct (heat constraints/location of power supplies)? | [ ]  | [ ]  |
| Tail cables | Is consistent use of cables applied (no mixing/composites)? | [ ]  | [ ]  |
| Sheath arrestors | Are all multicore cables provided with arrestors? | [ ]  | [ ]  |
| Contact analysis | Are relay types correct? | [ ]  | [ ]  |
| Are all back contacts clearly marked bold in underline in analysis? | [ ]  | [ ]  |
| ***I confirm that the required Check has been carried out and that any errors, omissions or inconsistencies have been corrected in the deliverable.*** |
| **ARTC ID No.** | **Name:** | **Signature:** | **Date:** |

**Guidance Note on use of this Form:**

**Who fills it in?**

* The relevant designer can use this form as a design aid.
* The relevant checkers can use this form as a checking aid.

**When is it used?**

* The designer can use this form as the design progresses or at the end of the design during their production check process to help ensure the integrity of their design.
* The checkers can use this form to help them during the checking process.

**What documents accompany it?**

* The relevant design that requires checking should accompany this form (where applicable).

**Explanation on completing key fields**

**DCL Identification**

* **Project No:** *The valid project number assigned.*
* **Project Name:** *The full project title/description*.
* **Signal Job No:** *The associated allocated signal engineering job number*.
* **DPB/DMP No:** *The relevant DBP and DMP numbers to the design that is being checked.*
* **Design Package:** *Brief description of the design to be checked.*

**General Review**

* **Requirement:** *Area of detailed design.*
* **Documentation Required:** *Specific details within the design (but not limited to) required to fulfil the requirement.*
* **Adequately Documented:** *Depending if the design is accurately detailed, then yes or no can be marked off.*