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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.*