# Best Practice Checklist for As-Build Documents – Type and Details

| Information type and depth of detail / as-built documents | | |
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| **No.** | **Minimum Requirements** | **Description** |
| **1** | Site information | • Location / map / GPS Coordinates<br>• Plant access / keys<br>• Access roads<br>• O&M building<br>• Spare parts storage / warehouse<br>• Site security information<br>• Rooftop condition and load requirements / restrictions (rooftop system only)<br>• Stakeholder list and contact information (for example, owner of the site, administration contacts, firefighters, sub-contractors / service providers, ...) |
| **2** | Project drawings | • Plant layout and general arrangement<br>• Cable routing drawings<br>• Cable list<br>• Cable schedule/ cable interconnection document<br>• Single line diagram<br>• Configuration of strings (string numbers, in order to identify where the strings are in relation to each connection box and inverter)<br>• Earthing / grounding system layout drawing<br>• Lightning protection system layout drawing (optional)<br>• Lighting system layout drawing (optional)<br>• Topographic drawing<br>• Grid access point schematic |
| **3** | Project studies | • Shading study / simulation<br>• Energy yield study / simulation<br>• Inverter sizing study |
| **4** | Studies according to national regulation requirements | • Voltage drop calculations<br>• Protection coordination study<br>• Short circuit study<br>• Grounding study<br>• Cable sizing calculations<br>• Lightning protection study |
| **5** | PV modules | • Datasheets<br>• Flash list with PV modules positioning on the field (reference to string numbers and positioning in the string)<br>• Warranties and certificates |
| **6** | Inverters | • O&M manual<br>• Commissioning report<br>• Warranties and certificates<br>• Factory Acceptance Test<br>• Inverter settings<br>• Dimensional drawings |
| **7** | Medium Voltage / Inverter Cabin | • Medium Voltage / inverter cabin layout and general arrangement drawing<br>• Medium Voltage / inverter cabin foundation drawing |

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| | | • Erection procedure<br>• Internal normal / emergency lighting layout drawing<br>• Fire detection and firefighting system layout drawing (if required)<br>• HVAC system layout drawing<br>• HVAC system installation and O&M manual<br>• HVAC study (according to national regulations)<br>• Earthing system layout drawing<br>• Cable list |
| **8** | MV/LV transformer | • O&M manual<br>• Commissioning report<br>• Factory Acceptance Test report<br>• Type Test reports<br>• Routine Test reports<br>• Warranties and certificates<br>• Dimensional drawing with parts list |
| **9** | Cables | • Datasheets<br>• Type and Routine test reports |
| **10** | LV & MV switchgear | • Single line diagram<br>• Switchgear wiring diagrams<br>• Equipment datasheets and manuals<br>• Factory Acceptance Test report<br>• Type Test reports<br>• Routine Test reports<br>• Dimensional drawings<br>• Warranties and certificates<br>• Protection relays settings (only for MV switchgear)<br>• Switching procedure (according to national regulations) (only for MV switchgear) |
| **11** | HV switchgear | • Single line diagram<br>• Steel structures assembly drawings<br>• HV switchyard general arrangement drawing<br>• HV equipment datasheets and manuals (CTs, VTs, circuit breakers, disconnectors, surge arresters, post insulators)<br>• Protection and metering single line diagram<br>• HV equipment type and routine test reports<br>• Interlock study<br>• Switching procedure (according to national regulations)<br>• Warranties and certificates |
| **12** | UPS and batteries | • Installation and O&M manual<br>• Commissioning report<br>• Warranties and certificates<br>• Datasheets<br>• Dimensional drawings |
| **13** | Mounting structure | • Mechanical assembly drawings<br>• Warranties and certificates<br>• Structural design calculation (rooftop systems only) |
| **14** | Trackers | • Mechanical assembly drawings<br>• Electrical schematic diagrams<br>• Block diagram |

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| | | • Equipment certificates, manuals and datasheets (motors, encoders)<br>• PLC list of inputs and outputs (I/O) by type (digital, analog or bus)<br>• Commissioning reports<br>• Warranties and certificates |
| **15** | Security, anti-intrusion and alarm system | • Security system layout / general arrangement drawing<br>• Security system block diagram<br>• Alarm system schematic diagram<br>• Equipment manuals and datasheets<br>• Access to security credentials (e.g. passwords, instructions, keys etc.)<br>• Warranties and certificates<br>• Service level agreement with security company (if applicable) |
| **16** | Monitoring / SCADA system | • Installation and O&M manual<br>• List of inputs by type (digital, analog or bus); I/O list includes e.g. sensor readings that are collected by data loggers<br>• Electrical schematic diagram<br>• Block diagram (including network addresses)<br>• Equipment datasheets |
| **17** | Plant controls | • Power plant control system description<br>• Control room (if applicable)<br>• Plant controls instructions<br>• Breaker control functionality (remote / on-site) and instructions<br>• List of inputs and outputs |
| **18** | Communication system | • Installation and O&M manual<br>• System internal communication<br>• External communication to monitoring system or operations center<br>• IP network plan<br>• Bus network plans |