Preliminary list of Interfaces for the Power Distribution System for CTA North

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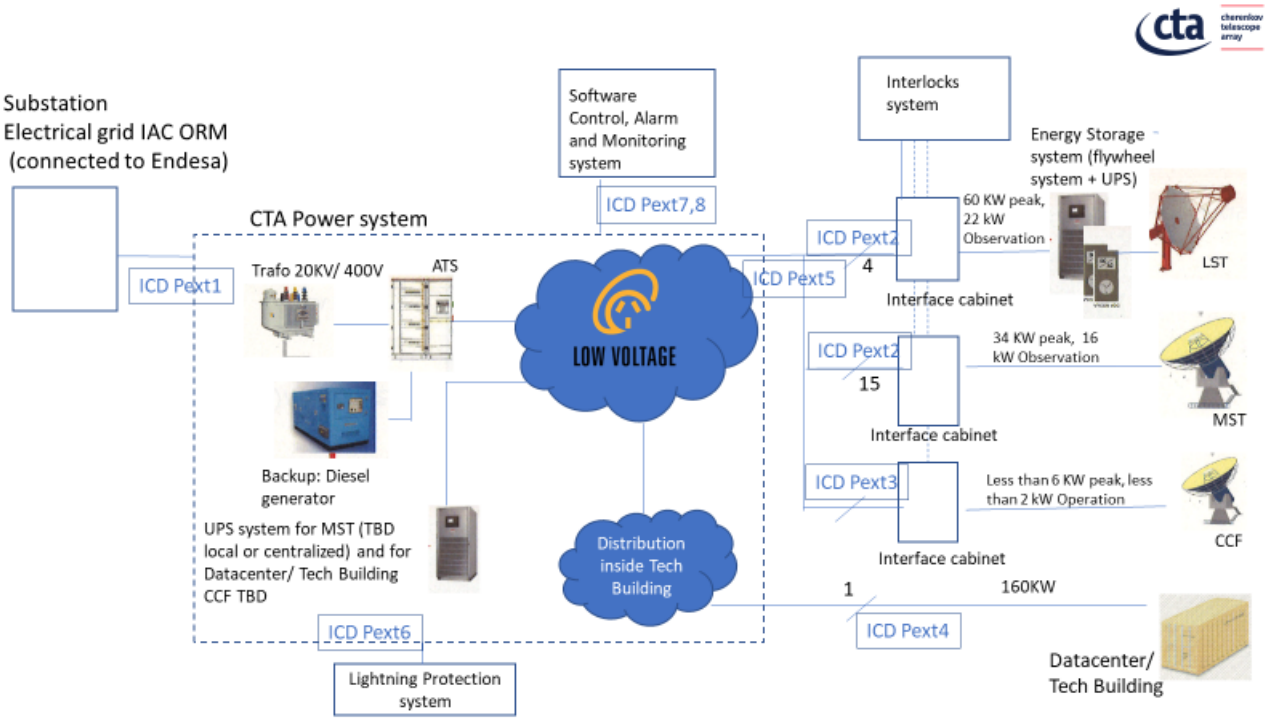
1 Introduction

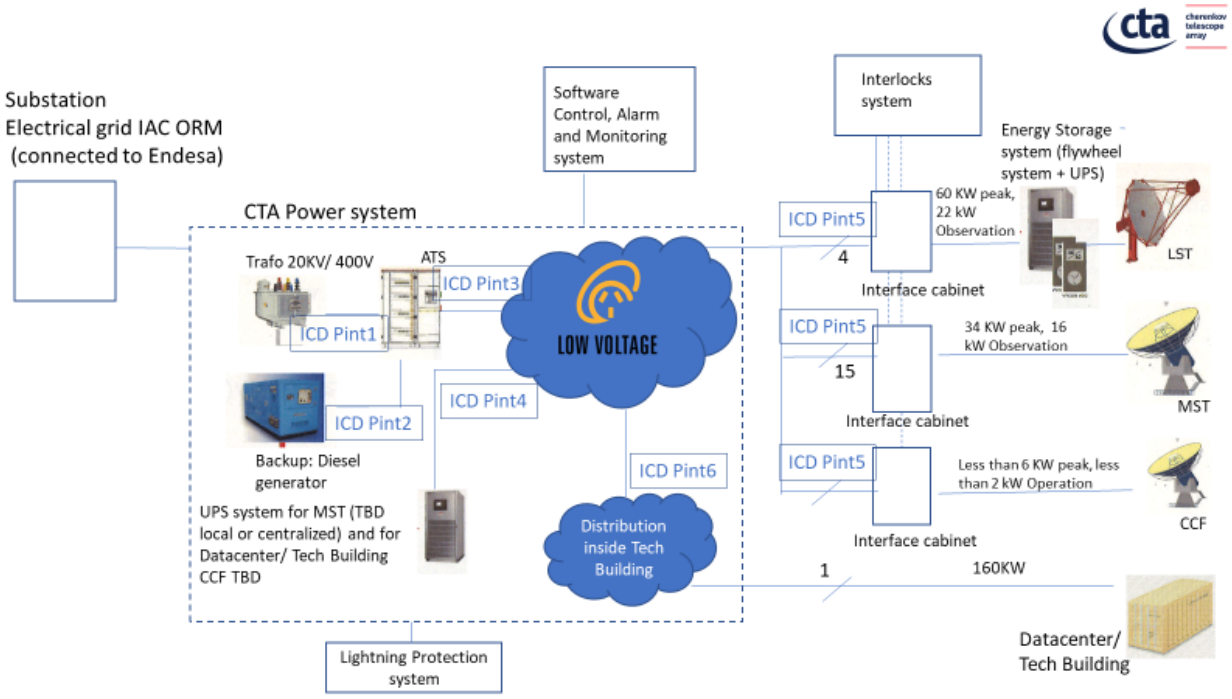
The objective of this document is to provide a preliminary list of the Interfaces identified, for the Power Distribution system for CTA North. It is expected for the following stage of Design to completely define the Interfaces, in a set of Interface Control Document (ICD), that will be complementary to the Requirements and Design documentation.
The description of the Interface shall be complete and clear, to ensure the correct design of each piece of hardware and software. These ICDs will also help in the definition of the boundaries of responsibility of the parties involved with each item involved.
ICDs shall include: written text with relevant tables and drawings, which completely defines each interface between two components; will follow the template defined for this purposes by CTAO, and will be compliant to the standards defined by CTAO in every case. As procedure for the creation of ICDs, normally will be created jointly by the persons responsible for designing each component involved in an interface.

2 Block Diagram for the Power Distribution system for CTA North

2.1 Block Diagram for the Power Distribution system for CTA-N with the external Interfaces



2.2 Block Diagram for the Power Distribution system for CTA-N with the internal Interfaces



3 Preliminary List of Interfaces

3.1. External to CTA Power distribution system

ICD Power#	Interface part #1	Interface part #2	Description	Responsible part	Responsible part	Type
ICDP ext1	Electrical grid	MV/LV transformer	Connection to electrical grid	J.Gmelch (IAC)	C.Crovari (CTAO)	electrical
ICDP ext2	Power lines	INFRA Interface cabinet (400VAC conn	Power supply to LST, MST telescopes, and devices in Interface cabinet	C.Crovari (CTAO)	M.Panter (CTAO)	electrical
ICDP ext3	Power lines	INFRA Interface cabinet (400VAC conn	Power supply to CCF instruments	C.Crovari	M.Panter	electrical
ICDP ext4	Power lines	Outlets in technical building	Power outlets inside technical building	C.Crovari	D.Bristow (CTAO	electrical
ICDP ext5	Cable ducts for Power	Trenches	Cable ducts to Array	C.Crovari	D.Bristow (CTAO	electrical
ICDP ext6	Electrical devices	Lightning protection system	Copper lines	C.Crovari	D.Bristow (CTAO	electrical
ICDP ext7	Electrical devices	CTA Control system (OES, SAS)	Control of Diesel Gen, UPS, etc	C.Crovari	I. Oya or G.Tosti?	data
ICDP ext8	Electrical devices	On site ITC Infra	fibers that connect the electrical devices to the central control system	C.Crovari (CTAO)	P.Wegner (DESY)	electrical

3.2. Internal to CTA Power distribution system

ICD Power#	Interface part #1	Interface part #2	Description	Type
ICDP int 1	MV/LV transformer	Automatic Transfer Switch (ATS)	connector	electrical
ICDP int 2	Diesel Generator	Automatic Transfer Switch (ATS)	connector	electrical
ICDP int 3	ATS	Power lines	connector	electrical
ICDP int 4	Power lines	UPS (to be defined if local in Interface cabinet or centralized system)	connector	electrical
ICDP int 5	Power lines	ATS in Interface cabinet	Only for Variant 2 and 3 where there is redundancy in power lines	electrical
ICDP int 6	Power lines	Electrical board in Technical building	connector	electrical