# Minutes Lightning Protection Kick off Meeting

| Participants | | Participants |
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| Klaus Peter (KP) | | Carla Crovari (CC) – CTA PO |
| Heribert Girmendonk (HG) | | Steven Brown (SB) – CTA PO |
| Markus Garczarczyk (MG) - MST | | David Bristow (DB) – CTA PO |
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| **Chair** | David Bristow (DB) | |
| **Minutes** | David Bristow (DB) | |

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| **Location** | Heidelberg, MG via ezuce link |


**Summary**

Introductions from meeting attendees: For Ficthner, Volker Wiedemann (VW) Business Representative, Heribert Girmendonk (HG) Senior Project Manager and Lightning Protection Specialist, Klaus Peter (KP) Senior Project Manager and Lightning Protection Specialist.

Point of contact for the project team: for Fichtner KP to be single point of contact. DB nominated point of contact for CTA.

Attending the meeting for CTA PO, Carla Crovari (CC) Power Coordinator, Stephen Brown (SB) Civil Works Construction Manager, David Bristow (DB) Infrastructure Design Coordinator.

Attending via Ezuce link and representing the MST Team Markus Garczarczyk.

DB presented GA drawings and short introduction to the CTA-N project for HG and KP from Fichtner. Also explained to phasing of the project, main concepts and ongoing activities.

HG and KP explain that they have been briefed on the project from Manfred at Ficthner, who is in the final stages of completing the power concept study.

HG noted that there are already elements of the Lightning Protection system installed on the prototype foundation.

DB commented that Vektor plan – Lahmeyer had been commissioned to undertake a LP concept study.

MG comments, that he participated in the Lahmeyer LP study for CTA

LST do not have a design on how to implement the LP, however LST prototype foundation includes LP. The LP earth termination is missing from the LST structure. Lower structure steel, upper structures carbon fibre and aluminium. MG comments MST constructed from steel and aluminium.

HG also requires information and specification on the types of motors, LV cabinet and cabling. HG comments that how is the installation undertaken. Can we provide a description?

HG questions what happens if there is a drive motor failure and the LST is unable to return to the parking position? What is the time taken from the observing state to the parking position? See Action Point for JMM

MG comments that telescope only operate at night and in good weather conditions. Telescopes remain in parked position during daytime and poor weather conditions.

HG requested detailed drawings for LST and MST telescopes.

KP comments are there problems from Volcanic gases related to the caldera? MG comments that there has never been an issue with gases. The volcano is in-active

KP comments on the possibility of sea salt contamination? MG comments that this has not been an issue and has no influence/effect on the materials

HG comments on which standards are to be used for the design of the LP? ANSI or IEC standards. IEC standards are commonly used for European Project and ANSI for American project. See Action Points

HG comments on the subject of Step Voltage. There can be problems in step voltage networks with medium voltage and the distribution cables. CC comments that there is only low voltage distribution cabling across the site. CTA-N only has low voltage network, MV supply to the sub-station and LV only from the sub-station. LP study will make reference to Surge Arrestors.

HG comments that Surge Arrestors must be included in the sub-station design. HG and KP to coordinate with Manfred (Fichtner Power Engineer) to include specification in the power concept design.

**Action Points**

MG to provide 3D CAD model files of the MST Telescope

SB, DB to provide the following information and documents

- Infra TDR report
- MST TDR report
- LST TDR report
- Environmental Impact Conditions
- Earthing Resistance
- Soil Resisitivity
- Internal Standards ANSI (European) or IAC (American)
- Vektor Plan Study
- CTA drawings including Tech Building (including Materials Spec)
- Spec for LIDAR and CCF

KP to send specifications for Surge Arrestors
CC to provide information of the Container for the Datacentre (specifications)
CC to provide details of proposed Transformer House
CC confirm if all data cabling will be fibre (including weather stations)
CC provide Share point access for Klaus Peter from Fichtner.

DB to provide PDF of CTA order (see Marc)

JMM – provide information on the drive and parking.