

Principal Designer Duties

Problems identified with MS4 signals and gantries have highlighted the importance of effective management and coordination of the design phase.



The picture above shows two friction grip brackets (1 and 2), which hold an MS4 in place on a gantry leg. Concerns were raised regarding the design of this:

- No locking bolts, what torque they need to be at to ensure sufficient friction,
- Lack of resilience with a single bolt onto the MS4,
- Damage to the gantry frame / other fixings that have been cut or bent to fix them.

There were other friction brackets (3) to fix cover plates (4), filling gaps. These appeared to have been made-up out of parts with no due consideration of the design, installation or maintenance.

There appeared to be confusion over which design and/or design organisation was accountable for the issues identified. The main three organisations involved were the Principal Designer, gantry designer and the MS4 designer.

A designer had informally raised concern over the Principal Designer (PD) discharging their duties, however did not escalate this.

Lessons Learnt

- The Principal Designer (PD) duty is to **plan**, **manage** and **coordinate** design work
- A clear design phase plan should be in place, identifying package designers throughout the project
- Principal Designers should have full insight to all designs undertaken on their behalf
- Consultation and communication between the Principal Designer and all other designers is paramount
- Identify roles and responsibilities for preparing, communicating and reviewing designs
- Have a clear escalation process for raising concerns and challenges
- Review designs to ensure they consider how infrastructure and associated assets will be:
 - Installed safely
 - Maintained and operated safely
 - Have suitable redundancy to prevent catastrophic failure
- Ensure that Design Team Leads are familiar with CDM 2015
- Designers must be clear about any design assumptions made
- Any change to a design or specification of a component part must be raised with the Principal Designer and other designers involved in that package
- The implications of any changes must be considered, all shared with other designers and the Principal Contractor