Client Meeting

**Location:** Celine’s Office, AITC, Mount Stromlo

**Time:** 13:00-14:00

## Attendees:

* Céline d'Orgeville
* Alex Stuchbery
* Jordan Davies
* Markus Dirnberger
* Samson Nilon
* Mark Blundell
* Gerard Kennedy

## Agenda:

* Further Toptica and OPSL requirements ✔
* Pro-Forma sent to Mark and Brady to be checked
* Poster template ✔
* Progress update: 120+ requirements, 15 conflicts
* ANU GSL - dimensions

## Meeting Notes

Mark

* Requirements
  + Will send Marshmallow document of weight specifications
  + 3±3 m^2 - define floors (entry, middle, observing floor)
  + Define door heights (2.5m height to the roof)
  + Constraint: only the rotating part of the telescope should be used
  + 1.5.3 Acceleration Spectral Density - update it
  + Telescope “dictates” “requires” terminology
  + Little removeable hatch in the observing floor is over the stairs - kind of useless to get things down through it
  + Floor definition paragraph
  + Can use a chain hoist (black & tackle) if other hatches exist
  + Crane is not that expensive ($500 per hour) (15 tonne articulated crane, for 2 tonne mirror they use 100 tonne crane)
  + Cannot use the crane, need to use an external one
  + Include sections of the model showing sections
  + OHS Carrying Limit - 15.9 kg per person
  + Dimensions of roof hatch - double check
  + Ventilation for heat sources, air quantity, maintenance
  + Chilled water supply? A the lab next door, but not plumbed to the observing level. Go through the cable wrap.
  + Celine: consider cooling system and part of the laser. Laser will require additional water supply for heat exchanger!
  + Humidity is an enemy of optics coatings
    - Have the requirements, not quite sure how to deal with it
    - Idea: the EOS breadboards in a small environmentally sealed box
    - Idea: tents for field hospitals, spray painting tents with HEPA filter and climate control, probably don’t mount on telescope because of residual pumping
    - Celine: possibly beyond scope to implement, but detail the requirements
  + Provisions for maintenance?
  + Other cooling systems are closed loop systems (deionised water, optishield plus)
  + Skymapper has helium paths that twist on axis!

Celine

* Add schematics of layouts and concepts will be much more powerful than writing
* Add them to the Appendix
* List of Figures? No need, better in text
* Discrepancies
  + Brochure takes priority
  + Note the specific differences/documents
* Create a new section: details of verification
  + Not a complete treatment, but these are some particularly tricky ones we have noticed
  + Otherwise that information will be lost/wasted
  + Deal with water pipes here!
* Poster
  + Need an architecture schematic of the system and subsystems
    - In block diagram form
    - Numbers refer to requirements
    - Top level-types (power, cooling, air, control, data, safety)
    - Then the two specific diagrams we have now
  + Conceptual design just locates things in space
* Hard power constraint for combining laser beams? Determine a number?
* Dump heat out of dome? Employ some filters.
  + What heat does the EOS laser produce? How much goes into the water?
  + Propose concepts to duct heat out
  + Maximum 100W output into ambient (~human body)
  + Calculation
    - Maximum power of EOS
    - Assume heat exchanger efficiency
    - Determine rough estimate of amount of heat we need to deal with
* The poster doesn’t say much
  + It’s a snapshot of the project
  + ½ of the poster is focused on context
  + POSTER SHOULD ADD VALUE TO THE CLIENT
* Handover
  + Presentation and Q&A up at Mount Stromlo
  + Once we know the date, we will give Celine notice
  + The week of the 29 May to 2 June
  + Elliott is on the colloquium committee
* 3D printing
  + Bit of a gimmick
  + Rather spend the time on real 3D models
  + Celine: why would you do it? To test a real design

## Next Steps

|  |  |
| --- | --- |
| **Task** | **Responsible** |
|  |  |
| Paragraph at start of requirements that defines floors | Alex (Diagram) |
| Measure door height limit |  |
| Contact Drew | Alex |
| Schematics for requirements | What of? (Gerard, Markus)  Desinging? (Alex) |
| Clean room | * ISO Class 7 -> 10000 Class * Add additional requirement: maintained when operating maintenance |
| Water cooling requirements | Gerard, Markus |
| Critical challenges of success (part of handover document) |  |
| High level schematic | Gerard |
|  |  |