Adrian said 10 days for OPC-N2 to be shipped from Alphasense, should be here in 2-3 weeks

Talked about usefulness of Alphasense SO2 sensors- group agreed we didn't want at this stage as there is no guarantee SO2 will still be present in the atmosphere.

Adrian will confirm order this Monday - to be shipped to Maan's office

Craig?? was introduced to the project, a good contact if we have questions relating to the UAV itself.

Ryan

What size sample would a chem lab typically want?

-Fraction of mg but the more the better obviously - should do some calcs to estimate time required in air and ash collected assuming 1-2mg/m^3

-Could possibly collect samples on surface of UAV although fine filter would be better

Craig stressed importance of modelling to choose battery capacity - need to think about optimization of size of battery vs mass vs range vs sensor space. Also antenna placement important so that different radio signals do not interfere.

Adrian highlighted the need for contacting the CAA regarding rules that apply to the project

-Don’t want the UAV dropping out of the sky

-Do we need a killswitch redundancy?

-Do we need a parachute etc?

Jamie

- Sensor test chamber was discussed

-All agreed a bit bigger could be better

-Using nitrogen gas to agitate is problematic due to pressurizing chamber and having to cart nitrogen bottles around.

-Probably use small low speed cheap fan housed inside for portability/sealing – closed loop, not pressurizing.

-The low ash levels should be able to be measured using nano lab scales

Parth

Talked about electrostatic sensors

- Probably need to look at research to optimize placement of probe

- Identified need to measure out and test under expected ash mass loading conditions

- Measure inherent electrostatic properties of ash or create a triboelectric effect?

Other ash/dust sensors were discussed

Maan said that "Sam" from NIWA in chch had used the cheap ones, we should contact him to see where they source them from/if we can buy from them

Initial/short term goal for project is to have UAV flying around and able to transmit data on level of particulates in air to a ground station.