



ZEPTO QUADRUPOLE FOR DLS	version: 1.0 date: 04 September 2020
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Meeting:	Motion control
Date:	04/09/20
Venue:	Zoom
Attachments:	1251-meng-prs-0017 Drive requirements v1.0
Attendees:	Alex Bainbridge (AB) Nick Krumpa (NK) Mike Lowe (ML) Lee Hudson (LH) Austen Rose (AR) Walter Tizzano (WT)
Apologies:	



Item	Action	Due
<p>NK presented overview of the quadrupole drive systems and motion control requirement.</p> <p>This prompted a verbal risk assessment to identify potential hazards during the quadrupole operation.</p> <p>Points raised;</p> <ul style="list-style-type: none"> - In the event of over travel of a magnet carriage, with too much drive current applied, irreversible mechanical damage will occur to the ballscrew and its mountings - End of travel switches allow for 1mm of mechanical over travel - DLS ID's are installed with power off emergency stops - The Geobric PLC can be used to regulate the behaviour of the motors - Software control limits can be changed by anyone with access and cannot considered a fool proof option - Fuses, installed in the rack, are an effective hardwired option to limit motor current - The 1mm/s travel speed is not considered a high velocity in relation to the drive controls and the magnetic field stability - The 50:1 drive gearing means the motor is running at top speed. It is permissible to reduce the travel speed - The location of magnet poles prevent the magnet carriages from making contact with the vacuum vessel <p>Other points</p> <ul style="list-style-type: none"> - ML requested a copy of the electrical drawings for the control rack - ML requested 1 day training at DLS on Geobric familiarisation - ML to be granted access to Geobric software license and manuals - The installation at DLS of the quadrupole has been postponed until next year <p>Action 1.1: Copy of rack drawings to be sent to ML/NK</p> <p>Action 1.2: Emergency stop to be added to the rack</p> <p>Action 1.3: Motor fuses to be installed into the rack</p> <p>Action 1.4: LH to organise Geobric training, manuals and license access with ML</p>	<p>AR</p> <p>AR</p> <p>LH</p> <p>LH</p>	<p>ASAP</p> <p>ASAP</p> <p>ASAP</p> <p>ASAP</p>