

Von: Victor R Kuchler kuchler@fnal.gov 
Betreff: Investigation of Vertical Shafts for the Asian Region Detector Hall
Datum: 4. Februar 2014 15:30
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Marco, Karsten and Klaus,

Based on our discussions at LCWS13 in Tokyo last November, Atsushi has asked his consultant company (JPower) to formalize their study of the possibility of using vertical Shafts for the Kita-Kami site. This study is to provide the necessary information for the resolution of the issue for vertical vs horizontal access for the Asian Detector Hall. JPower will provide a presentation of their work at the regular CFS meeting on Tuesday, February 25th, at our usual meeting time of 7:00 am, Central Standard Time (GMT -06:00). I would like to invite you to join us at this meeting, along with any other detector representatives you feel should be there. We really need to resolve this issue once and for all before we can finalize the Asian Detector Hall design as well as the overall project schedule. I understand that you will be meeting tomorrow by video, so I wanted to get this information to you prior to that meeting. I will also try to contact each of you by phone so that we can discuss what is happening in a little more detail. Just to make sure I have the correct phone numbers, could each of you (Marco, Karsten and Klaus) send me your number again.

Also I have attached the criteria that was given to ARUP when they did the work for the European Region Detector Hall. ARUP has been given a contract to review the work that JPower has done for the Asian Detector Hall and will use the same criteria that they were given for the European Study (attached). Please check to make sure that the criteria still is correct. Also the ARUP work cannot really proceed until the access issue is resolved, so time is of the essence. The CFS group has been asked to provide a site specific and comprehensive construction schedule for the Asian site before the May meeting at Fermilab, which puts more time pressure on us to resolve this issue. I look forward to your help in getting an answer at the meeting on February 25th. Please let me know if you will be able to attend. I will send out the FUZE information prior to the meeting date.

Thanks Everyone,
Vic

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**Key requirement and specifications for the European Region: Linear Collider
Interaction Region Design Studies**

The following table outlines the key minimum functional requirements and engineering

specifications that were established for the machine platform design and movement system design studies. These were established for the European Region: Linear Collider Interaction Region Design Studies. Review of Interaction Region Cavern Layout Design.

	Requirement	Engineering Specification
1	Maximum Detector Weight	15000 tons
2	Movement duration	5 hours
3	Speed	> 1 mm/s
4	Number of movements	10/year
5	Limit of acceleration	0.05m/s ²
6	Maintenance allowances On Beam	2m
7	Maintenance allowances Off Beam	6m
8	Positioning relative to beam	± 1mm
9	Slab Vibration	20Hz (First mode); 16Hz (Further modes)
10	Static deformation of platform	limited to ±2mm
11	Layout configuration	"Z" – CLIC.CE-1.1700.0001.G
12	Ground Conditions	CERN - Molasse Basin
13	Machine platform footprint	20 x 20m
14	Min. Distance between Detectors	15m
15	Magnetic field at top of platform	<1,000 gauss
16	Operating Temperature Range	20°C ±2°C
17	Platform Movement System	Rollers or Air Pad