



PM report July 1, 2009:

- **Meetings**

- FALC

- Quebec, July 12 – 13, 2009

- ILCSC

- Hamburg, August 19, 2009

- ALCPG09

- Albuquerque, Sept 29 – Oct 3, 2009

- CLIC 09

- CERN Oct 12-16, 2009

- Applications of High Intensity Proton Beams

- Fermilab Oct 19-21, 2009

- Accelerator Design and Integration meeting

- Sometime in November

- *TDP1 AAP Review – January 6-8, 2010*



This presentation:

- **R & D Plan**
- **AD I meeting**
 - Single tunnel
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 - Publication of joint report
- **SCRF industrialization**
- **'Association for Advanced Accelerators'...**
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Reports Due:

- **R & D Plan**

- Draft Release 4 to be submitted to EC for review today
- Release 4 due for draft distribution to FALC – Resource Group
- Rel 4 will have updated global resource tables.
- R & D Plan will include references to changes in plan; an historical, traceable, record
- R & D Plan will not include a compendium of completed work
- Resources must support baseline design development



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DESY Accelerator D / I meeting

- **PM summary distributed June 8, 2009**
 - http://ilc-edmsdirect.desy.de/ilc-edmsdirect/file.jsp?edmsid=D0000000*879845
- **Key points**
 - Low power option taken as given
 - No 'matrix' of Working Assumptions
 - Klystron 'cluster' analysis (late 2008) to be used as a model for cost comparison wrt RDR
 - both HLRF options (2a / 2b) to be studied for each of the 3 sample sites
 - Utility costs also evaluated for each sample site
- **2010 - : Baseline which includes 2 alternatives**
 - Allows flexibility; maintains solid cost basis



Single tunnel

- **Adoption of single tunnel for main linac:**
 - Review safety analysis in each region and consider solution(s) as required
 - The 'exec' summary of the above will be the 'definitive document' and will be used to support the single tunnel recommendation to AAP - ALCPG
 - Availability task force – access and equipment reliability/replacement time
 - Other area single-tunnel issues



ADI Timeline

- **SB2009 Working assumptions defined**
- **Criteria and recommendations to be developed and presented at ALCPG09**
- **Writing assignments ALCPG09**
- **Final Review November 2009**
- **Submission to Project Director late November 2009**

CFS meetings:

- **June 2 - CFS Internal Review of AD&I Meeting**
- **June 9 - CFS and Damping Ring w/S. Guiducci**
- **June 30 - CFS and Electron Source w/ A. Brachmann**
- **July 7 - CFS and Positron Source w/J. Clarke and N. Collomb**
- **July 14 - CFS and RTML w/N. Solyak**



ADI Action Items

CFS	3	Schedule WebEx meetings with responsible area contacts	Kuchler	done
	4	Prepare feedback questions for TAG group meetings (requirements)	Kuchler	
	5	Evaluate SB2009 requirements and generate cost differentials	Kucher, Garbincius	2008 Klystron cluster used as model
	6	Evaluate impact of both HLRF solutions on all three sample sites	Kuchler, Osborne, Enomoto	
	7	Compile/review safety solutions for single-tunnel	Kuchler, Osborne, Enomoto	

HLRF/CFS	8	Update DRFS single tunnel integration models to include utilities, services and other (non-RF) hardware	Enomoto, Fukuda	
	9	Consider possible DRFS tunnel solution with cryomodules supported from the floor	Enomoto, Fukuda	
	10	Identify/maximise common design features between both HLRF solutions	CFS + Fukuda, Adolphsen	

Management	26	Form availability task force and define plans/studies	PMs	
	27	Top-down re-evaluation and update of RDR risk register	PMs, Paterson	Will require iteration with TAG leaders and review of definition of risk quantification (including cost impact)



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CLIC / ILC 'exec' meeting

- **Clic / ILC timelines**
 - Is there a coherent 'joint strategy' to augment the 'joint statements' from 11/08
- **CERN resources for critical ILC activities**
 - Big 4:
 - CFS
 - Cryo
 - Mass production of cryo modules
 - Safety (emphasized by Cern DG)
- **Clic costing**



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DESY / JINR-GSPI

- **June 25 – 26, 2009 at DESY**
- **Geotechnical report**
 - Partial translation by Andrey Dudarev
 - <http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3646>
- **delegation of GSPI:**
 - Vasily KOZHANOV
 - Afanasy KRESTININ (Valery Sokolov came instead)
 - Evidently part of a very experienced team
- **delegation of JINR:**
 - Grigori SHIRKOV
 - Grigory TRUBNIKOV
 - Andrey DUDAREV
 - Ioulian BUDAGOV (senior scientist; did not come)



Contractors

- **Attendees from DESY**

- Holger Brehm (Steinfeld & Partner, Hamburg)
- Lindemar Hänisch (Deutsches Elektronen-Synchrotron DESY) ,
- Jens Mittag (GuD, Berlin)

- **From US:**

- Tracy Lundin (Hanson Engineering, Springfield IL)

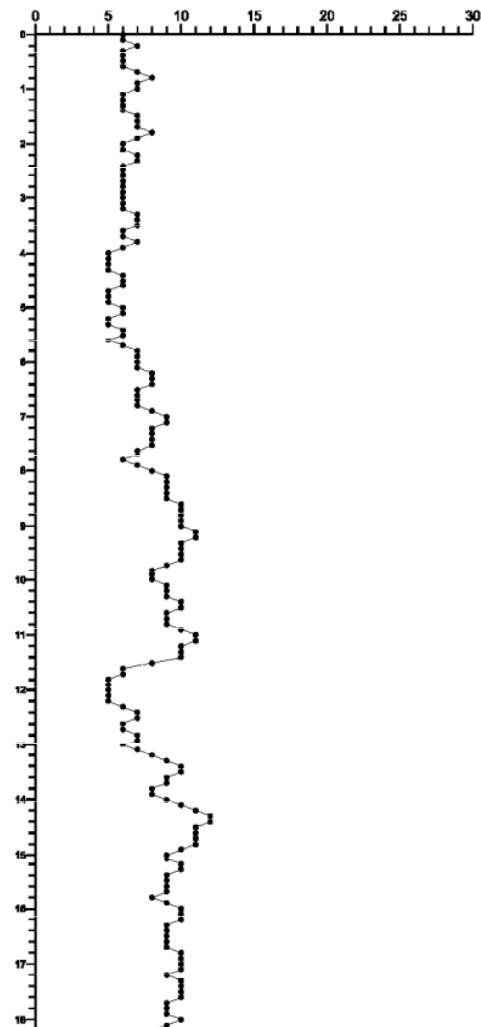
Начата : 16.10.08
Окончена : 18.10.08

Абс.отметка устья : 134.00 м
Общая глубина : 47.00 м



N слоя п/п	Геологический индекс	Глубина залегания слоя, м		Мощность, м	Абс. отметка подошвы слоя, м	Литологический разрез	Глубина отбора образцов	Наименование грунта	Сведения о воде	
		от	до						появление воды	устойчивый уровень
1	сVIII	0.00	2.00	2.00	132.00	(3)	2	Песок мелкий, средней плотности, малая степени водонасыщения, коричневый, с единичными включениями гравия кремнистых пород, в верхней части слоя с корнями травы		
2	сVIII	2.00	3.00	1.00	131.00	(4)	2	Песок гравелистый, средней плотности, средней степени водонасыщения, коричневый, серый	3.00	3.00
3	сVIII	3.00	5.50	2.50	128.50	(5)	4	Гравийный грунт из обломков изверженных и осадочных пород с заполнителем из песка крупного, серого, с редкими валунами кремнистых пород, насыщенный водой, в инт.4,3-4,5 м с маломощными прослоями суглинка желто-серого мощностью 2-5 см	5.00	5.60
4	сVIII ms	5.50	7.70	2.20	126.30	(6)	6	Суглинок легкий песчанистый, тугопластичный, красно-коричневый, с глыб.7,0 м темно-коричневый, известковистый, с включением гравия, гальки, щебня изверженных и осадочных пород до 10%	7.70	
5	сVIII ms	7.70	8.10	0.40	125.90	(8)	8	Песок средней крупности, средней плотности, насыщенный водой, известковистый, с маломощными прослоями суглинка мягкопластичного, темно-серого		
6	сVIII ms	8.10	10.20	2.10	123.80	(7)	10	Суглинок легкий песчанистый, полутвердый, темно-серый, зеленовато-коричневый, с включением дресвы, щебня, гравия изверженных и осадочных пород до 10-16%, местами до 30%, в инт.9,7-9,8 м прослой песка мелкого, глинистого, темно-серого	11.00	
7	сVIII ms	10.20	10.80	0.60	123.20	(9)	10	Суглинок тяжелый песчанистый, мягкопластичный, коричневато-серый, с включением гравия, гальки изверженных и осадочных пород до 10-15%, с гнездами и линзами песка мелкого до 30% от мощности слоя		
8	сVIII ms	10.80	11.00	0.20	123.00	(13)	12			
9	сVIII ch-ms	11.00	12.00	1.00	122.00	(11)	12	Суглинок легкий песчанистый, полутвердый, темно-серый, плотный		
10	сVIII ch-ms	12.00	13.00	1.00	121.00	(14)	14	Гравийный грунт из обломков осадочных и изверженных пород с заполнителем из песка пылеватого, насыщенного водой		
						(14)	16	Песок мелкий, средней плотности, насыщенный водой, темно-серый, серый, кварц-полевошпатовый, с единичными включениями гравия изверженных пород		
11	сVIII ch	13.00	18.00	5.00	116.00	(14)	18	Суглинок легкий, часто тяжелый песчанистый, тугопластичный, плотный, темно-серый, темно-коричневый, известковистый, с включением дресвы, щебня, гравия, гальки изверженных и осадочных пород до 10-15%	16.40	

Интенсивность гамма-излучения грунтов I, мкР/час





Role of JINR – GSPI Study:

- **The most advanced shallow site study underway**
 - All other site studies involve deep rock
 - A kind of ‘neutral’ process
- **Comparison between deep and shallow sites will indicate substantial cost savings**
 - By evaluating a specific shallow sample site we are able make effective comparisons
 - Allows us to prioritize and define further studies



Goal for ILC-GDE / JINR-GSPI meeting

- **Review GSPI Preliminary Report**
- **Discuss geo-technical aspects of TALDOM area**
- **Summarize in a jointly authored report**
 - Sponsored by:
 - ILC – GDE
 - JINR
 - GSPI
 - EC 'ILC Hi-Grade' FP7 programme
 - DESY



Summary

- **Shallow site studies are *very important* for the ILC – GDE Conventional Facilities Technical Design Phase**
 - Cost.
 - Comparison and evaluation will lead to cost savings and design improvements
- **JINR – GSPI is the *most extensive* shallow site study undertaken in support of the ILC – GDE Reference Design**
 - No other specific shallow site study is presently planned



Summary

- **Site studies will facilitate the site selection process**
- **JINR effort is unique and will prove very useful in this complex task**
 - Preparation of joint report comes at a critical time: 2009 will see a recommendation to update the GDE Reference Design
- ***On behalf of the ILC Project Managers, We thank you very much and strongly encourage further collaborative efforts***



Schedule: (from Vic)

- **Vic's First Preliminary Descriptions - July 10**
- **G. Shirkov Soil Boring Report Release Agreement w/dist to V. Kuchler and M. Ross - July 10**
- **First Draft - July 31 (Including Translations in ILC doc)**
- **First Full Draft with Introduction and Summary - August 14**
- **First Edit - August 28**
- **Final Document - September 11**



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Industrialization and cost reduction

- **Re-visit previous effort, and update the cost-estimate for production**
 - Review the RDR cost estimate (based on TESLA)
 - Include recent R&D experience (industry/lab)
- **Encourage R&D Facilities for industrialization**
 - Develop cost-effective manufacturing, quality control and cost-reduction in cooperation with industry
- **Reflect the R&D progress for cost-reduction**
 - Baseline \Rightarrow Forming, EBW, assembly work...



Plan for R&D facilities and Preparation for Industrialization

- **Bench-mark R&D facility (pilot plant) to study cost-effective manufacturing**
 - Forming and preparation machining,
 - **Pre-surface treatment** and preparation,
 - **EBW** process with efficient automation,
 - **In-line Inspection** during fabrication process for quick-feedback,
- **R&D facilities to be sited at Laboratories**
 - Effort to seek for the most cost-efficient manufacturing with keeping information to be open,
 - Development to seek for a bench-mark, manufacturing facilities (design and/or itself can be applicable for the real production.
 - It is important for **industries to participate** to the program since Day-1. for planning.
- **We may discuss a possibility**
 - An **industrial meeting** to be held as a satellite meeting at the 1st **IPAC, Kyoto, May, 2010.**



Complementary Plans in Industrial R&D Priority

- **In Asia (KEK) and Europe (DESY)**
 - Priority for the nominal manufacturing process using EBW technology at both laboratory and Industrial production.
 - Encourage advanced R&D such as hydro-forming (w/o EBW process) in limited effort
 - Large grain sheet with multiple cutting may be in a parallel effort.
- **In Americas (FNAL according to B. Kephart)**
 - Priority for hydro-forming approach and others in Femilab leadership effort, in cooperation with American Institution
- **PM(SCRf) consideration**
 - It is important to encourage globally complementary R&D efforts
 - It is important to support the R&D program, positively, to each other.



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- **Routine accelerator technology presentations to industry groups**
 - Including CFS topics
- **CFS presentations on JPARC experience by**
 - Yoshioka
 - Miyahara
 - (in Japanese)
- **Have asked Akira to consider arranging related presentations to ILC GDE – CFS group**