



# BTeV Installation & Integration at C0 Workshop

**May 29 - 31, 2002**  
**Fermilab**  
**Batavia, Illinois**

**Day 1 Agenda (Part 1):**  
 Wednesday, May 29th 8:30AM - 12:30PM  
 Wilson Hall Race Track Conference Room (WH7N)  
 (Video available; contact Sheila Cisko {scisko@fnal.gov})  
 (Phone available; contact Ed Barsotti {barsotti@fnal.gov})

## Session 1 - Workshop Overview

Time	Topic	Presenter(s)
8:30 - 8:40AM	Introductory Remarks	Joel Butler
8:40 - 8:50AM	Workshop Goals & Agenda How is experiment installed, integrated, commissioned & maintained Completion of WBS 1.10; TDR Component Distributed Material	Ed Barsotti

## Session 2 - CDF & D0 Installation, Integration & Commissioning Experiences

Time	Topic	Presenter(s)
8:50 - 9:35AM	CDF & D0 Installation & Commissioning 'Experiences' - Mechanical, Gas, <i>etc.</i> Infrastructure & Detector Issues Alignment, Environment, Gas Safety, <i>Etc.</i>	Rob Roser
9:35 - 10:20AM	CDF & D0 Installation & Commissioning 'Experiences' - Electrical, Electronics Infrastructure & Detector Issues: Issues: Grounding, Cabling, Powering, Radiation, External & Detector Noise Sources, Electronics Shielding, Electronics Locations, Environment, Safety, <i>Etc.</i>	Marvin Johnson
10:20 - 10:35AM	BREAK	

## Session 3 - The BTeV Experiment & Related Information

Time	Topic	Presenter(s)
10:35 - 10:45AM	Overview of Distributed Drawings	Chuck Brown
10:45 - 11:10AM	One-Arm Experiment: Proposed Infrastructure & Detector System Components - Quantities, Component Locations, Cable Routings, <i>Etc.</i>	Dave Christian
11:10 - 11:30AM	Expected Collision Hall Radiation Levels Sources: Beam, beam-related backgrounds, & unusual occurrences ( <i>e.g.</i> , accident conditions) Along the z Axis & Radially from that Axis Neutron, Photon & Charged Particle Flux in all Areas Initially & Through the Lifetime of the Experiment Possible Shielding Needs for Electronics, <i>Etc.</i>	Andrei Uzunian
11:30 - 11:55AM	Design of the Experiment for Accessibility & Maintainability How are problems quickly repaired - detector by detector (Includes three inner Strip/Straw chambers & pixel detector) Experiment Maintenance Scenarios; Limited Access; Shielding Needs, <i>Etc.</i>	Harry Cheung
11:55 AM - 12:05PM	Expected Collision Hall Environment; Seasonal Variations	Peter Garbincius
12:05 - 12:20PM	Vertex Magnet Turn On/Off Issues & Alignment Stability Vertex Magnet Turn On/Off Issues Temperature Effects of Magnet Cycling on the Acquisition of Calibration Constants Magnet Trips & Ldi/dt Effects on Electronics Heating, Ventilation & Air Conditioning (HVAC) Requirements Is Alignment Monitoring Necessary?	Joe Howell
12:20 - 1:00PM	LUNCH BREAK	

**Day 1 Agenda (Part 2):**

Wednesday, May 29th 1:00PM - 6:00PM

Wilson Hall West Wing Conference Room (WH10NW)

(Video available {note new room; new video connection needed}; contact Sheila Cisko {scisko@fnal.gov})

**(Phone available;** contact Ed Barsotti {barsotti@fnal.gov})

1:00PM - 1:25PM	Alignment Methodology V-star, lasertracker & optical alignment technology Detector alignment fiducials Detector alignment fiducials Collision Hall coordinate system Alignment planning	B. Oshinowo
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**Session 4 - Infrastructure**

Time	Topic	Presenter(s)
1:25 - 1:50PM	Mechanical, Gas, <i>Etc.</i> Infrastructure (including lab safety standards for gas, <i>etc.</i> )	Joe Howell
1:50 - 2:15PM	Electrical, Electronics & Cabling Infrastructure (including lab safety standards)	Rick Hance

**Session 5 - Low & High-Voltage Power**

Time	Topic	Presenter(s)
2:15 - 2:45PM	Low-Voltage Power Issues in BTeV Power Distribution & Grounding The Need for Heat Load Estimates & V, I Estimates Locations - Detector by Detector Cable Routing; Cable Noise Pickup Linear & Switching Power Supplies Detector Noise Sensitivity vs. Supply Locations & Types Magnetic Fringe Field Effects on Power Supplies Radiation; Shielding <i>Etc.</i>	Claudio Rivetta (& Robert Downing)
2:45 - 3:10PM	High-Voltage Power Issues in BTeV Location: In or Outside of the Collision Hall; Near or a Distance Away from a Detector - Detector by Detector MTBF, Accessibility & Cable Costs vs. Detector Noise, Radiation & Additional Filtering at the Load Shielding Needs if in the Collision Hall - Near or a Distance Away from Detectors High Voltage, Its Cabling Safety & Safety Grounding Issues Reasons for More 'Ganging' & Less Supplies <i>Etc.</i>	Bob Downing (& Claudio Rivetta) (& Dave Christian)
3:10 - 3:25PM	BREAK	

**Session 6 - Installation & Schedule Information**

Time	Topic	Presenter(s)
3:25 - 4:25PM	Possible Installation Scenerio & Proposed Schedule - Detector by Detector Detector Sequencing; What Can or Cannot Be Built in the Collision Hall (WBS 1.1, WBS 1.8 & WBS 1.9 included) (Includes assembly space & its use not for initial assembly but some reassembly & staging) Cost Impacts on the Installation Schedule (Discussion is encouraged)	Joel Butler
4:25 - 4:40PM	Acceptable Collision Hall Cable Types & Cable Routing - Detectors, Triggers, Event Readout & Controls	Bob DeMaat
4:40 - 4:55PM	The Need for Scale Models Including Virtual Models - Cabling, Gas, Chambers, Octants, <i>Etc.</i>	Paul Sheldon or Med Webster
4:55 - 5:15PM	BREAK	



**Day 2 Agenda (Part 1):**

Thursday, May 30th 9:00AM - 1:00PM

Meeting Rooms Given Below

(Video available only in the Race Track Conference room; contact Sheila Cisko {scisko@fnal.gov})

**(Phone available** in all three rooms; contact Ed Barsotti {barsotti@fnal.gov})**Sessions 7, 8 & 10 - Breakout Working Sessions: Continued****Session 7 - Low & High-Voltage Power Implementation Issues**

Time	Topic	Rooms
9:00 - 10:30AM	Low & High-Voltage Power Implementation Issues Locations, radiation, noise radiation/noise immunity, grounding system, <i>etc.</i> Digital, mixed digital-analog systems Distribution system stability, reliability, granularity, modularity, <i>etc.</i>	
	<b>Rooms</b> Tracking (WBS 1.2, WBS 1.6 & WBS 1.7)  Particle ID (WBS 1.3, WBS 1.4 & WBS 1.5)  Triggers and Event Readout & Controls (DAQ) (WBS 1.8 & WBS 1.9)	Race Track (WH7N) Theory Conf. Rm (WH3NE) Board Room (WH5SW)
10:30 - 10:45AM	BREAK	

**Session 8 - Single, Intra & Overall System Testing Plans & Needs**

Time	Topic	Rooms
10:45AM - 1:00PM	Single-System, Intra-System & Overall System Testing Plans & Needs Single-System Plans & Needs (Infrastructure, Equipment, Schedule, <i>Etc.</i> ) Intra-System Plans & Needs (Infrastructure, Equipment, Schedule, <i>Etc.</i> ) Overall System Testing Plans & Needs (Infrastructure, Equipment, Schedule, <i>Etc.</i> ) Major Milestones	
	<b>Rooms</b> Tracking (WBS 1.2, WBS 1.6 & WBS 1.7)  Particle ID (WBS 1.3, WBS 1.4 & WBS 1.5)  Triggers and Event Readout & Controls (DAQ) (WBS 1.8 & WBS 1.9)	Race Track (WH7N) Theory Conf. Rm (WH3NE) Board Room (WH5SW)
1:00 - 1:45PM	LUNCH BREAK	

**Day 2 Agenda (Part 2):**

Thursday, May 30th 1:45PM - 2:15PM

Wilson Hall Race Track Conference Room (WH7N)

(Video available {new video connection needed for some}; contact Sheila Cisko {scisko@fnal.gov})

**(Phone available** {new video connection needed for some}; contact Ed Barsotti {barsotti@fnal.gov})**Session 9 - BTeV Project & Level 2 Subproject Management**

Time	Topic	Presenter(s)
1:45 - 2:00PM	Components/Template for Overall BTeV Project Management (WBS 1.11)	Joel Butler
2:00 - 2:15PM	Components/Template for Level 2 Subproject Project Management	Ed Barsotti

**Day 2 Agenda (Part 3):**

Thursday, May 30th 2:15 - 5:45PM

Meeting Rooms Given Below

(Video available only in the Race Track Conference room; contact Sheila Cisko {scisko@fnal.gov})

**(Phone available** in all three rooms; contact Ed Barsotti {barsotti@fnal.gov})

Sessions 7, 8 & 10 - Breakout Working Sessions: Continued		
Session 10 - Installation Plans, Needs & Schedule		
Time	Topic	Rooms
2:15 - 5:45PM	Installation Plan, Needs & Schedule Summary Including Major Milestones (includes installation issues between two or more detectors {e.g., Straws & Strips}) (includes installation, infrastructure, environmental, etc. needs) Major Milestones	
	<b>Rooms</b> Tracking (WBS 1.2, WBS 1.6 & WBS 1.7) (Joe Howell - moderator)  Particle ID (WBS 1.3, WBS 1.4 & WBS 1.5) (Chuck Brown - moderator)  Triggers and Event Readout & Controls (DAQ) (WBS 1.8 & WBS 1.9) (Peter Garbincius - moderator)	Race Track (WH7N) Req. Rm. (WH4NW) Board Room (WH5SW)
	(Note: WBS 1.8 & WBS 1.9 people should work with other groups when and if they have extra time)	
5:45PM	ADJOURN FOR THE DAY	
<b>Day 3 Agenda:</b> Friday, May 31st 8:00AM - 12:40PM Wilson Hall West Wing (WH10NW) (Video available; contact Sheila Cisko {scisko@fnal.gov}) (Phone available; contact Ed Barsotti {barsotti@fnal.gov})		
Session 11 - Wrap-Up Reports & Discussion		
8:00 - 8:15	Vertex Magnet, Beam Pipes & Toroid Magnets (WBS 1.1)	TBD
8:15 - 8:40AM	Tracking (WBS 1.2, WBS 1.6 & WBS 1.7)	TBD
8:40 - 9:05AM	Pixel Detector	TBD
9:05 - 9:30AM	Forward Tracking Straw Detector	TBD
	Forward Tracking Silicon Microstrip Detector	TBD
9:30 - 9:55AM	Particle ID (WBS 1.3, WBS 1.4 & WBS 1.5)	TBD
9:55 - 10:20AM	RICH Detector	TBD
10:20 - 10:45AM	EM Calorimeter Detector	TBD
	Muon Detector	TBD
10:45 - 11:00AM	BREAK	
11:00 - 11:25AM	Triggers and Event Readout & Controls (WBS 1.8 & WBS 1.9)	TBD
11:25 - 11:50AM	Muon & Pixel Level 1 Triggers	TBD
11:50AM - 12:15PM	Level 2/3 Trigger	TBD
	Event Readout & Controls	TBD
Session 12 Workshop Summary & Post-Workshop Work Schedule		
12:15 - 12:25PM	Schedule for Completion of Workshop Work - Reports & Plans, WBS 1.10 & WBS 1.10 TDR Component	Ed Barsotti
12:25 - 12:40PM	Workshop Summary	Sheldon Stone