Diagnostics Review
End Game …!

February 5/6, 2004

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The goal of the meeting

1. Identify where we are
2. Prioritize what we need
3. Recommend a path that's successful

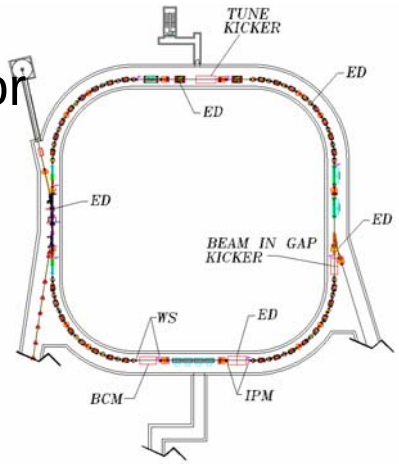
But:

- There are boundary conditions…
- Diagnostics has to stay in its budget….

Perception is not a good thing !

Diagnostics: Prioritization and Resources

- Main Systems under commissioning right now show very good progress:
  - Position Monitor
  - Current Monitor
  - Faraday Cup
  - Wire Scanners
  - Laser System
  - Loss Monitor
  - Neutron Monitor
  - BSMs



Detectors	Qty	Comments
BPM	44	dual plane
IPM	2	H+V
e-detector	5	ANL style
BLM	75	ion chamber
FBLM	12	PMT
BCM	1	
WCM	1	RF
Coh Tune	1	kick/PU
Incoh Tune	2	BTF, QMM
WS	2	H+V
BIG	1	kicker+PMT
Scraper	2	H+V

The Tracking Sheet

Peter Cameron **Diagnostics Equipment Tracking Sheet** **1-Oct-03** **all dollars are burdened**

System	Area	Item	Q'ty	Quantity delivered	CDR date	PDR date	FDR date	Proto Date	First Article Date	Pur reqs written	Production date	Delivered to OR	BAC labor [K$]	BAC Material [K$]	Expensed Labor [K$]	Expensed Material [K$]	end of FY03 balance	% complete
BPM													1,642	2,643	1,540	2,250	495	75
	all	PUEs	100	35		May-99	Dec-00			Feb-02	Jun-00	Jan-03						
	Ring/RTBT	baseband AFE			Dec-00	Aug-02	Mar-03	Dec-02	May-03	Sep-03								
	Ring/RTBT	400MHz AFE			Dec-00	Aug-02	Mar-03		Jul-03									
	Ring/RTBT	BNL PCI interface			Dec-00	Aug-02	Mar-03		Jul-03	Sep-03								
	Ring/RTBT	complete PC/IFE			Dec-00	Aug-02	Mar-03			Sep-03								
IPM					Dec-00	Aug-02	Mar-03						1,057	931	760	830	398	75
	Ring	vacuum chambers	2							Sep-03	Oct-03							
	Ring	detector inserts	2							Sep-03	Oct-03							
	Ring	analog electronics	4							Sep-03								
	Ring	digitizers	128							Sep-03								
	Ring	power supplies	4							Jun-03								
	Ring	magnets	2															
	Ring	electron detectors	5					Jan-01	Aug-03									
BLM					Dec-00	Aug-02	Mar-03						748	864	440	850	322	75
	all	connectors								Jul-03								
	all	ion chambers	295	4					May-01	Sep-03		May-03						
	all	IC AFE (rack mount module)	14	1						Sep-03		May-03						
	all	BLM digitizers, VME crate	14	1								May-03						
	all	MPS																
	all	ion chamber electronics	43	1								May-03						
	all	neutron detectors	30	3								May-03						
	all	neutron detector electronics																
	all	FBLM PMTs	20															
	all	FBLM digitizers								Sep-03								
	all	power supplies								Sep-03								
BCM					Dec-00	Aug-02	Mar-03						1014	1092	920	1,348	-162	80
	all	FBCM digitizers		2						Sep-03								
	HEBT	toroids/vacuum chambers	5	5						Jul-03		May-03						
	Ring	toroids/vacuum chambers	1	1						Jul-03								
	RTBT	toroids/vacuum chambers	4	4						Jul-03								
	all	baseband AFE	22		Dec-00	Aug-02	Mar-03	Jan-01	Jan-02	Sep-03		May-03						
	all	BNL PCI interface	22		Dec-00	Aug-02	Mar-03		Jul-03	Sep-03								
	all	complete PC/IFE	22		Dec-00	Aug-02	Mar-03			Sep-03		May-03						
Incoh tune					Dec-00	Aug-02	Mar-03						629	429	310	470	278	75
	Ring	resonant dipole kicker	1							Sep-03	Oct-03							
	Ring	kicker amplifier	1															
	Ring	resonant dipole pickup	1							Sep-03	Oct-03							
	Ring	IFE	2															
	Ring	resonant quadrupole kicker	1							Sep-03	Oct-03							
	Ring	kicker amplifier	1															
	Ring	resonant quadrupole pickup	1							Sep-03	Oct-03							
Wire Scanners													684	760	765	604	75	95
	HEBT	vacuum chambers	11	11								May-03						
	Ring	vacuum chambers	2															
	RTBT	vacuum chambers	5															
	Dump	vacuum chambers	3															
BIG/ coh tune					Dec-00	Aug-02	Mar-03						394	324	75	197	446	40
	Ring	1.5m kicker modules	3							Sep-03	Oct-03							
	Ring	pulser	4	0														
	Ring	AFE/digitizers/PC/software	2	0														
	Ring	gated PMT	3	0														
	Ring	PMT DAQ	3	0						Sep-03								

The Charge

- The goal of this Diagnostics Advisory Committee meeting is a little different than before. It is imperative for everybody at this point to understand where we stand relative to completion of the various systems, especially for the ones that we see critical to commissioning the ring and meeting the project completion and commissioning goals. It is essential that we follow a path that guarantees successful deployment of those systems that are required initially, while supporting phased deployment of systems that are required for high power operations. All of this has to be achieved within pretty strict boundaries of cost and schedule.

- Charge to the Committee
  - Comment on the commissioning and operations requirements for the Ring and transfer lines.
  - Comment on the feasibility of phased deployment at ORNL and assess risks to commissioning and operations goals. Advise on other/better strategies to meet the commissioning goals within the present limits of manpower and budget.
  - Comment on the diagnostics tracking sheet and the individual percent complete of each system. Assess the status of the various diagnostics systems.
  - Comment on the plan for completion of the diagnostics effort at BNL and assess remaining cost/schedule risk.
  - Identify action Items that must be addressed to mitigate unacceptable risks
  - Provide observations/recommendations to help the team refine deployment plans

Summary

- Thanks for coming and helping
- Looking forward to two very productive days