

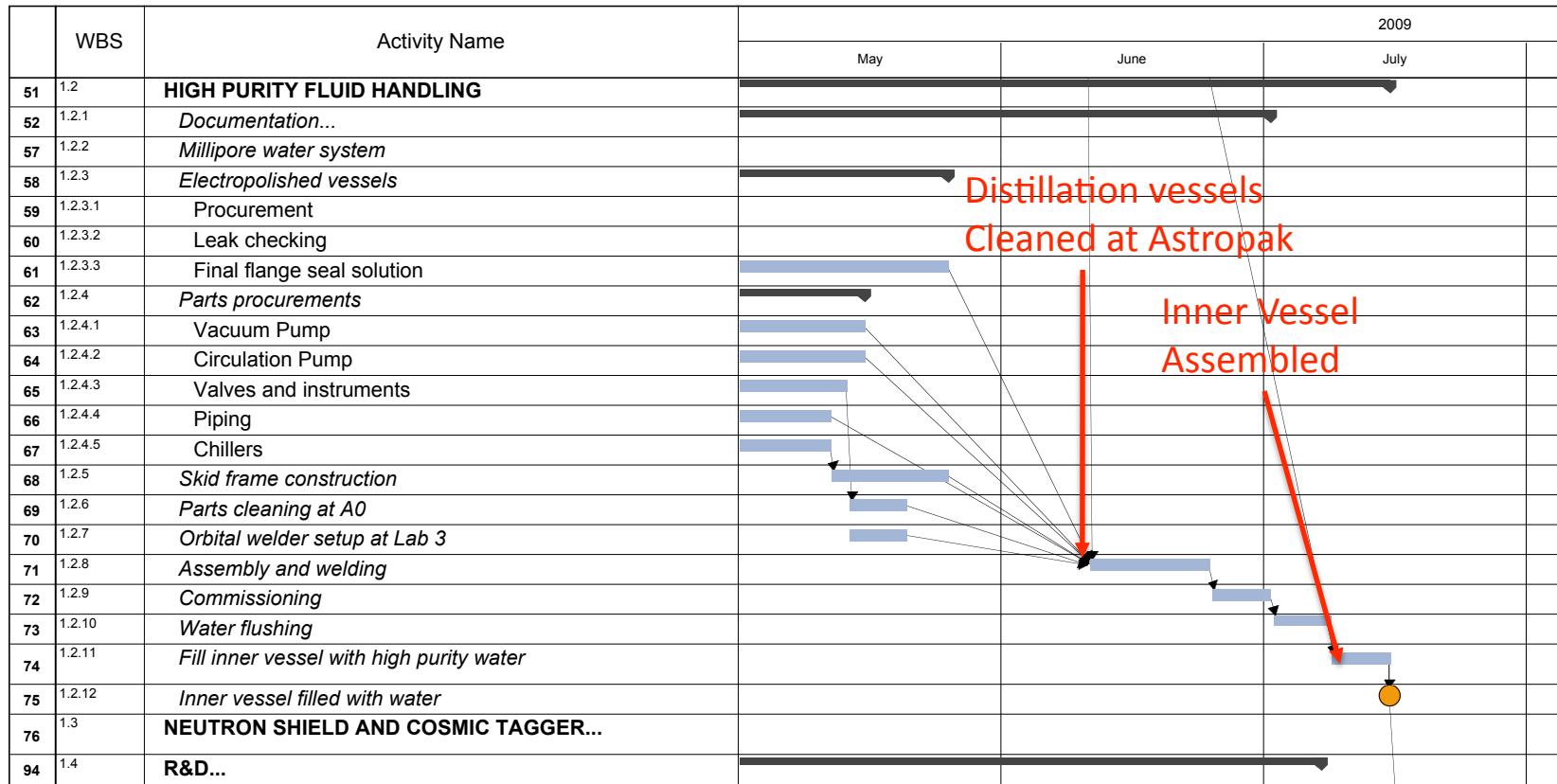
# Summary: Schedule and Milestones

Andrew Sonnenschein

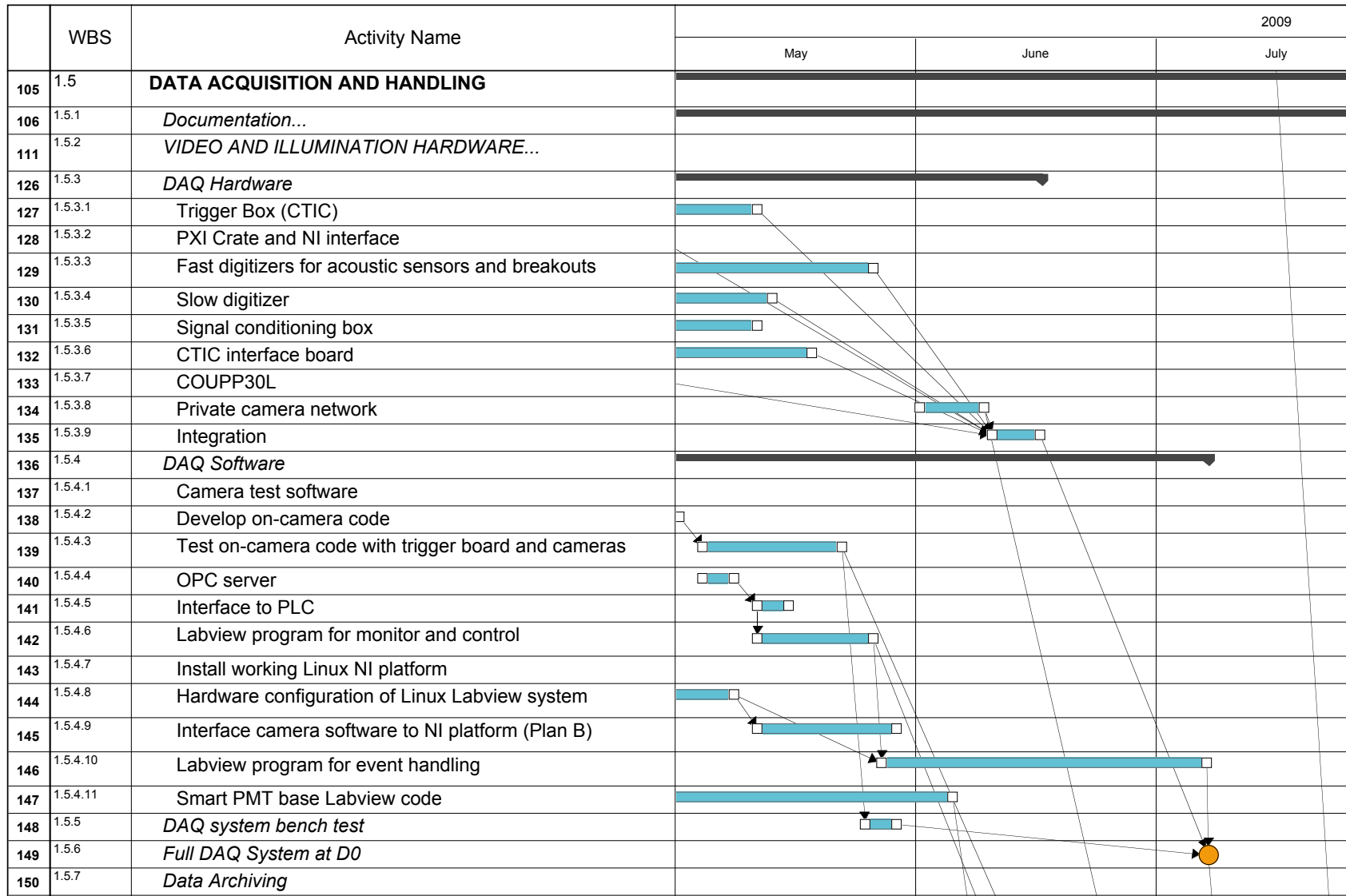
# WBS 1.1: Bubble Chamber

	WBS	Activity Name	2009		
			May	June	July
1	1	<b>COUPP-60 KG</b>			
2	1.1	<b>BUBBLE CHAMBER</b>		▼	
3	1.1.1	<i>Pressure vessel...</i>			
11	1.1.2	<i>Quartz to metal seal development...</i>			
14	1.1.3	<i>Control system...</i>			
22	1.1.4	<i>Hydraulics and piping...</i>			
27	1.1.5	<i>Quartz vessel...</i>			
31	1.1.6	<i>Expansion chamber</i>	▬		
32	1.1.6.1	Specifications			
33	1.1.6.2	Design			
34	1.1.6.3	Prototype			
35	1.1.6.4	High Purity Chamber	▬		
36	1.1.6.4.1	<i>Parts preparation</i>			
37	1.1.6.4.2	<i>welding and leak check</i>	▬		
38	1.1.6.4.3	<i>Assembly</i>	▬		
39	1.1.6.4.3.1	Make fixture to hold jar during assembly	▬		
40	1.1.6.4.3.2	Make restraint for bellows under vacuum and cleaning	▬		
41	1.1.6.4.3.3	Test assembly to prototype quartz	▬		
42	1.1.6.4.3.4	Packaging for shipment to Astropak	▬		
43	1.1.6.4.3.5	Cleaning at Astropak		▬	
44	1.1.6.4.3.6	Assemble Quartz to expansion chamber		▬	
45	1.1.6.4.3.7	Procure valves and instruments for HP inner vessel	▬		
46	1.1.6.4.3.8	Clean valves and instruments at A0		▬	
47	1.1.6.4.3.9	Assemble valves and instruments onto chamber		▬	
48	1.1.6.4.3.10	Leak check vessel assembly		▬	
49	1.1.6.4.3.11	Inner Vessel Assembly Complete		●	

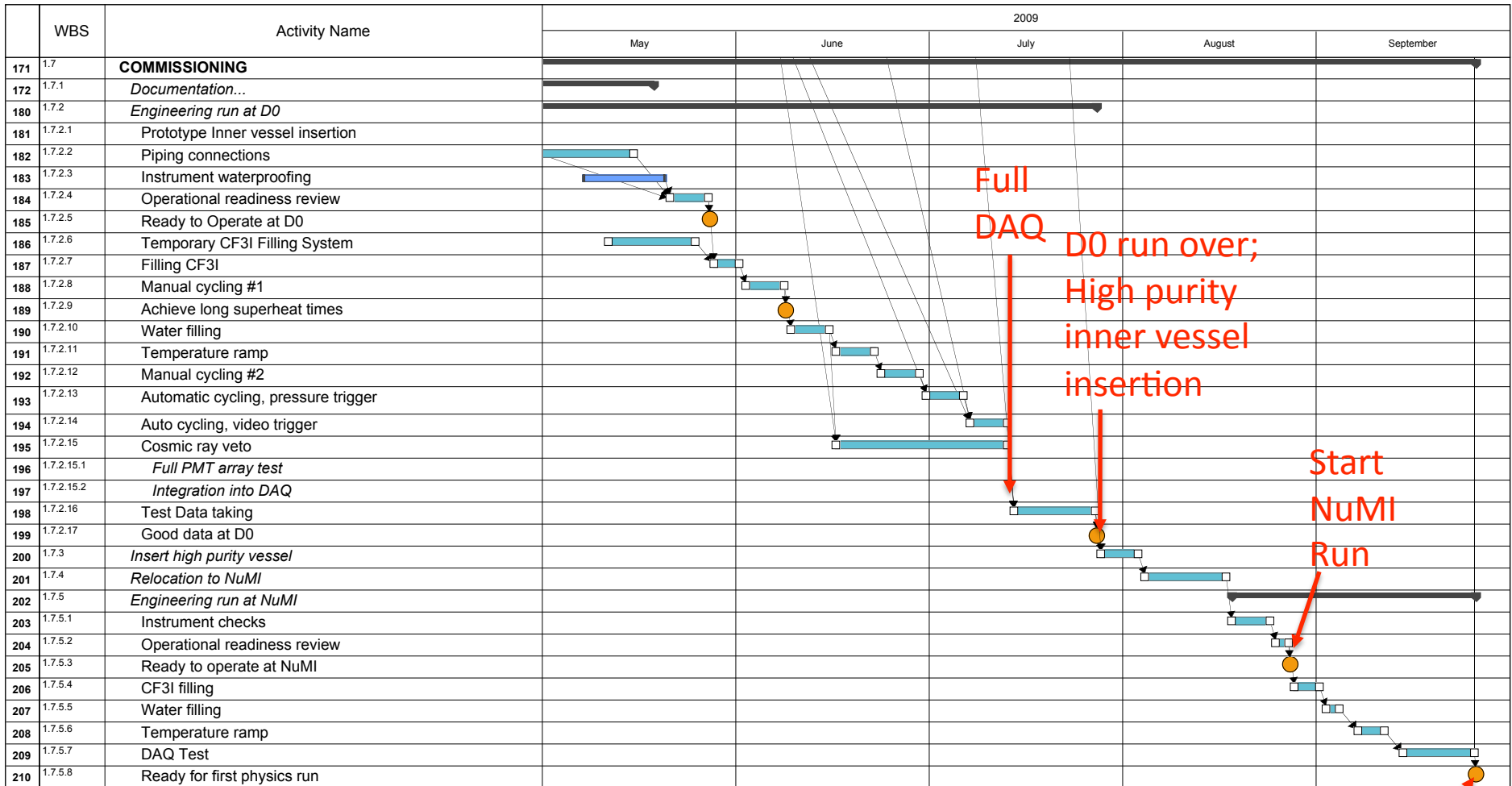
# WBS 1.2: High Purity Fluid Handling



# WBS 1.5: Data Acquisition



# WBS 1.7: Commissioning



End of WBS 1: Construction and Commissioning  
Start NuMI physics run

# Milestones for Fermilab Installation

- Ready to operate at D0, May 27
  - Requires operational readiness clearance.
  - Updated documentation and safety analysis.
- Achieve long expansion times, June 8
  - Demonstration of successful scaling of mechanical design from 2 kg -> 60 kg.
  - Mechanical system is working, quartz is clean, gas is pure
- Inner vessel assembly complete, June 23
  - Achieve leak-tight seal with new parts (already tested flange design)
  - Don't break high-purity vessel (6 mo setback)
- Full DAQ system at D0, July 7
  - Various DAQ integration issues and software
- Good data at D0, July 27
  - Functioning video trigger, bubble position reconstruction, muon veto
- Ready to operate at NuMI, August 27
  - Operational readiness clearance.
  - Safety issues similar to 2 kg device, but more CF3I, water tank
- Successful engineering run complete. Ready for physics, September 25
  - Successful use of high-purity fluid handling cart to fill detector.

# COUPP People at Fermilab FY09

## Scientists (8, 2.6 FTEs):

BRICE  
BROEMMELSIEK (AD)  
COOPER (CD)  
CRISLER  
HU (AD)  
RAMBERG  
SONNENSCHIN  
TSCHIRHART (CD)

## Engineers (10, 2.0 FTEs)

HANSEN  
SCHMITT  
MATULIK  
PUSHKA  
**RUCINSKI**  
SARYCHEV  
LINDENMEYER  
KIPER  
DEUERLING (CD)  
KWARCIANY (CD)

## Admin (1, 0.14 FTEs)

VOIRIN

## Computer Professional (1, 0.03 FTEs)

ZIMMERMAN

## Designer/Drafter (4, 0.23 FTEs)

CATALANELLO  
KINDELBERGER  
SCHELLPFEFFER  
TILLMAN

## Technicians (25, 3.5 FTEs)

BONIFAS (AD)  
MURANYI (AD)  
WILCER (CD)  
BARGER  
BUTLER  
DANNER  
GREEN

## Technicians ctd.

LIPPERT  
**RUSCHMAN**  
TAHERI  
TWEED  
KORIENEK  
MARTIN  
FLORES  
SHOUN  
KUBINSKI  
GRADO  
HARDIN  
CARLSON  
MONTES  
WILSON  
TACCKI  
NEBEL  
FAGAN

# Help From Division and Lab Management

- Main issue has been keeping key people available:
  - Russ Rucinski-- has an engineering role and also manages most of the technicians (and also leads the D0 operations group).
  - Mark Ruschman– lead technician, now has unique expertise (and also works on CMS, CDMS...)
- We very much appreciate that PPD has put some of the best people in the mechanical department on this task.
  - Consequence of getting good people is that we risk competing demands on their time.
  - Please keep us in the loop when conflicting demands emerge.
- Schedule shows that Ruschman's contribution is on critical path through June and Rucinski into the fall.



# Summary

- COUPP-60 construction is nearing conclusion.
  - We are wrapping up final equipment purchases.
  - Assembly is in a fairly advanced stage.
- Focus is will soon be on commissioning at D0 and then at NuMI.
  - We hope to complete the “WBS 1: COUPP-60 Construction and Commissioning” subproject in September.
- We are collecting information that will be the basis for deep site selection.
  - This process should conclude with the collaborations’ site recommendation in July.
- We are making progress on adopting more of the formal tools of project management, especially the creation of a detailed WBS and schedule.
  - Preparation for this review has motivated the first steps.
  - Input from this committee will guide us as we prepare to meet expectations of Directorate and DOE (Director’s Review July 8, DOE review in September)