



# D0 Status Report

Bill Lee  
FNAL

All Experimenters' Meeting  
6 December 2010

# C4 Pump House





# Inside the C4 Pump House



6 December 2010

AEM

Bill Lee



# Significant Event – Frazil Ice

- Frazil Ice is a collection of needle shaped ice crystals that form in turbulent supercooled water.
  - Frazil Ice adheres to objects in the water and can be distributed to lower depths.
- D0 normally has to deal with frazil ice about once a year as the Main Ring Lake begins to freeze. The frazil ice will begin to clog the cooling water intake.
  - Our default solution is to turn our 30 HP pump off for about a half hour to allow the ice to clear.
- Frazil Ice occurred last Wednesday night, however, a 150 HP pump was also on due to work on the pipes elsewhere on site.
  - This caused the intake to be sealed with ice.
  - D0 was without cooling water for around 8 hours overnight.
    - Our thanks to the FESS team members and Pete Simon who worked long into the night to address the problem.



# Pumps



6 December 2010

AEM

Bill Lee



# Frazil Ice - Results

- With the cooling water off, D0 had to shed heat load.
  - The magnets and most of the detector was turned off.
  - Outside air was brought in to help cool.
  - Still our trigger framework tripped off.
- Thursday morning was spent recovering.
  - We had issues recovering a trigger framework power supply and a silicon interface board (IB) power supply.
    - In order to keep the IB power supply functional, we elected to turn off seven forward silicon sections.
      - An eight hour access would be needed to recover the supply.
    - Further complicated by problems with the Solenoid power supply.
- In all, it was over 17 hours until D0 could resume recording physics data.



# Data Taking

Delivered Lum (pb<sup>-1</sup>)    Recorded Lum (pb<sup>-1</sup>)    Efficiency (%)    Comment

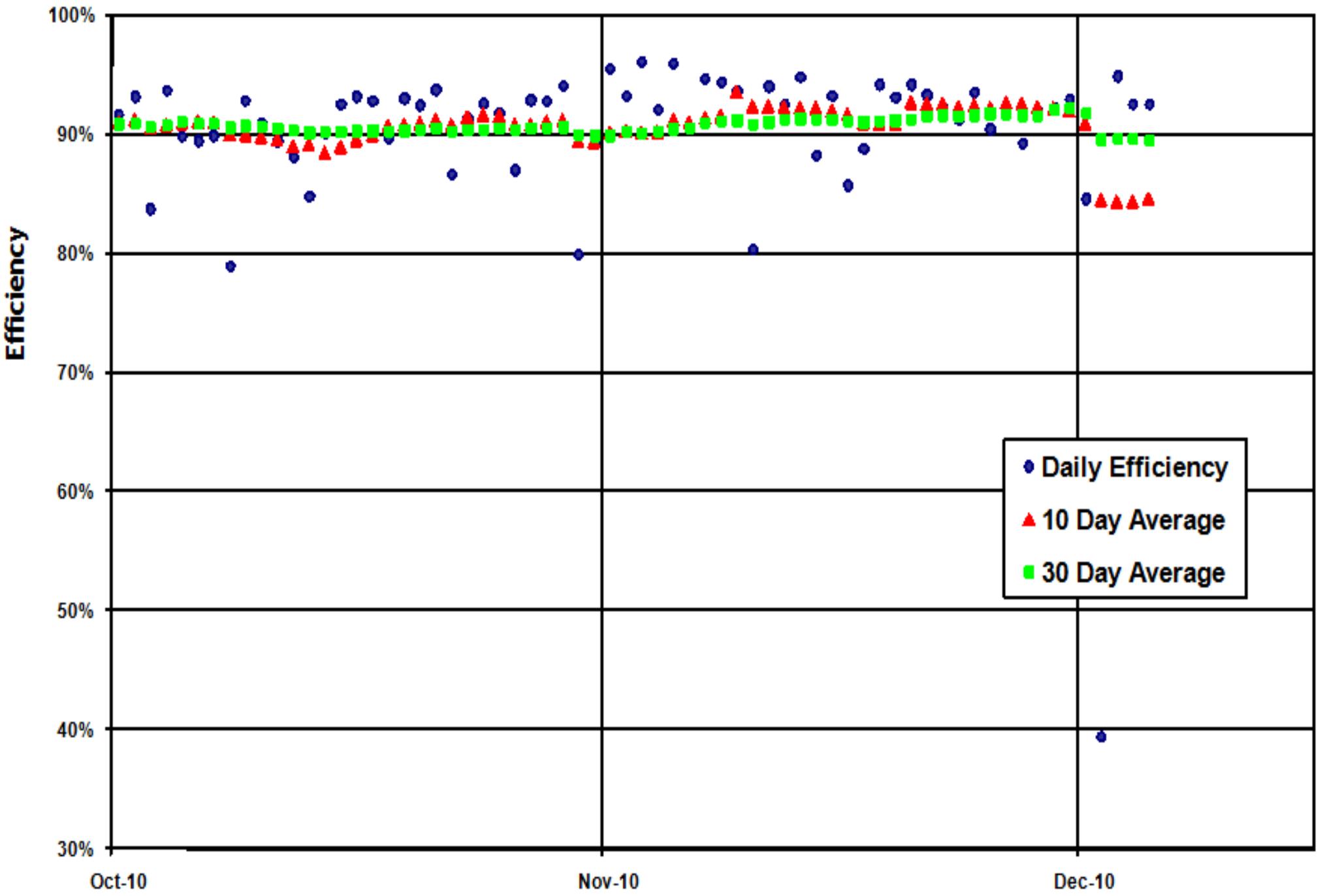
Delivered Lum (pb <sup>-1</sup> )	Recorded Lum (pb <sup>-1</sup> )	Efficiency (%)	Comment	
29 Nov	11.56	10.66	92	
30 Nov	6.56	6.10	93	Opportunistic Access to work on Calorimeter, Fiber Tracker, Silicon and Muon.
1 Dec	10.65	9.01	85	Loss of cooling water
2 Dec	10.50	4.14 (3.85)	39 (37)	Continued loss of cooling water. Solenoid Power Supply work.
3 Dec	3.79	3.60	95	Opportunistic access to recover some silicon and muon channels
4 Dec	10.68	9.89	93	
5 Dec	8.23	7.62	93	

<b>29 Nov – 5 Dec</b>	<b>62.0</b>	<b>51.0</b> <b>(50.7)</b>	<b>82</b> <b>(82)</b>	<b>(Data with full detector)</b>
-----------------------	-------------	------------------------------	--------------------------	----------------------------------



# Daily Data Taking Efficiency

1 October 2010 - 5 December 2010





# Run II Integrated Luminosity

19 April 2002 - 5 December 2010

