

Ops Planning for Time-Of-Flight

<u>Plan by Shutdown:</u>	
Run-8:	~5 Trays
Run-9:	~85 Trays
Run-10:	120 Trays

All items below

- concern installation of the new full TOF system.
- are 'Priority 3' (important task leading to improved quality of physics production/analysis) if not 'Priority 4'

Tray Installation

Need 2 fixtures:

TPC Support (needed before Run-10), mostly designed (scheblein)

Tray Insertion (needed before Run-9), Llope will design, Schebs consultant?

Padrazo/Asselta *et al.* - consultants re: removal of CTB & CTB cabling

Tray installation and connections by TOF Group

STSG needed to clear physical obstructions and replace after installation

Water System

to be provided by STSG (historically Lebedev and Soja). Requirements are "light" existing 'taps' only on East. Run-8 likely to include trays on East and West full system needed before Run-9

Gas System

Leonid *et al.* will complete system this fall, and determine what STSG support, if any, is needed. Identify location of East and West gas mixing panels (before Run-9)

LV/HV & Racks

Installation of Supplies & LV cables by Padrazo/Asselta *et al.* Cable is already on-site.

HV box location to be defined Sept 5-6, 2007 (Vahe, Danny,)

Installation of HV boxes by STSG (need 3 before Run-8, the remaining seven before Run-9)



W.J. Llope (presented by J. Schambach)
STAR Operations Workshop
BNL August 21, 2007

BACKUP SLIDE

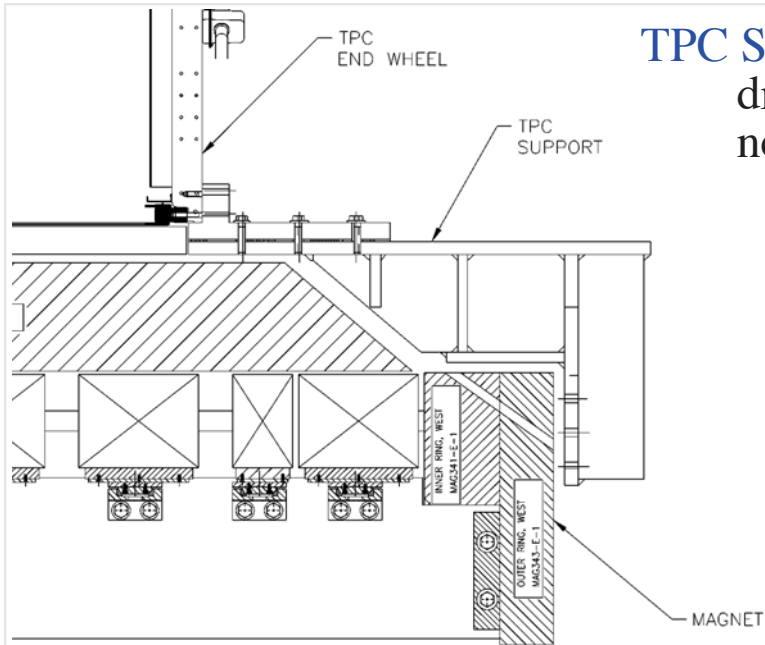
Installation Fixtures

TPC support fixture

(needed to hold TPC when support arm removed for trays at 3 and 9 o'clock)

Tray insertion fixture

(support tray weight, line up an external TPC rail to slide trays into STAR)



TPC Support Fixture

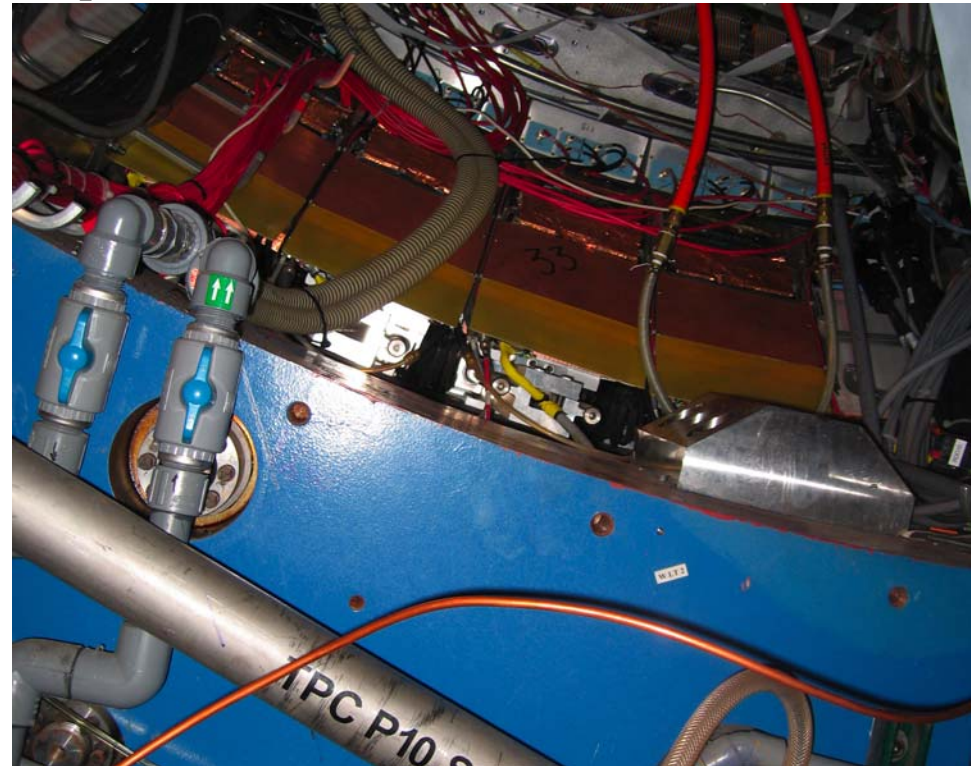
draft design exists (J. Scheblein)...

needed during shutdown before run-10 when tray "120" goes in...

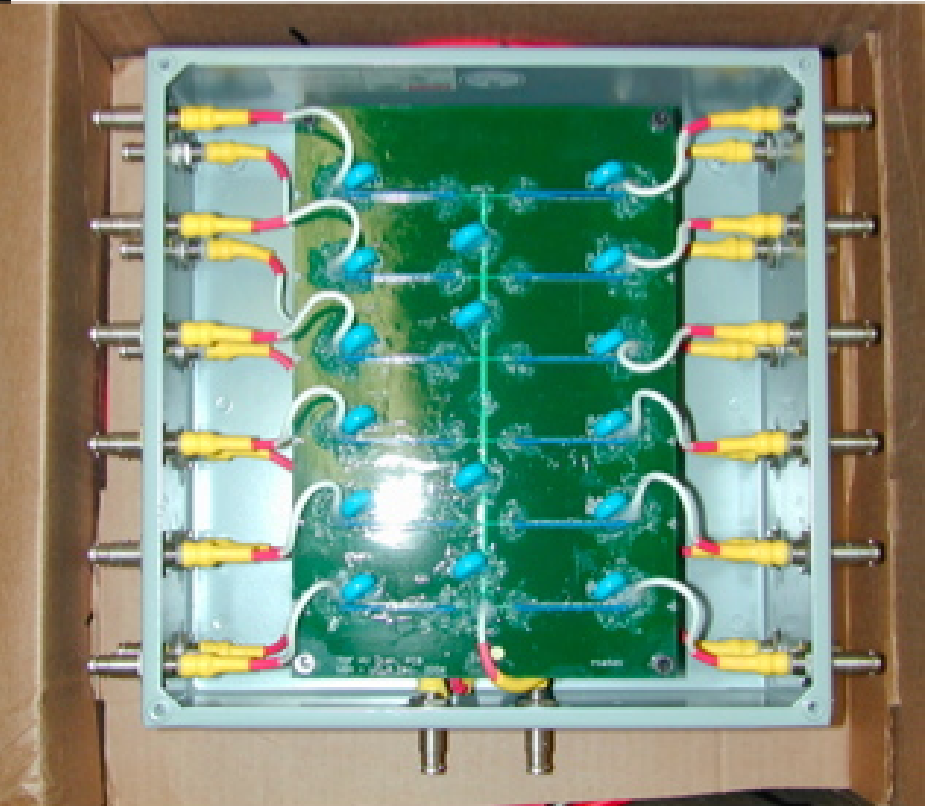
Tray Insertion Fixture

TPC rails exist at Rice

design light structure, mounts to TPC end-ring
holds tray on perfect plane to slide neatly into ☆
6-10 positions available, then move fixture
push to make available in ~5 months



HV Dist. Boxes



BACKUP SLIDE

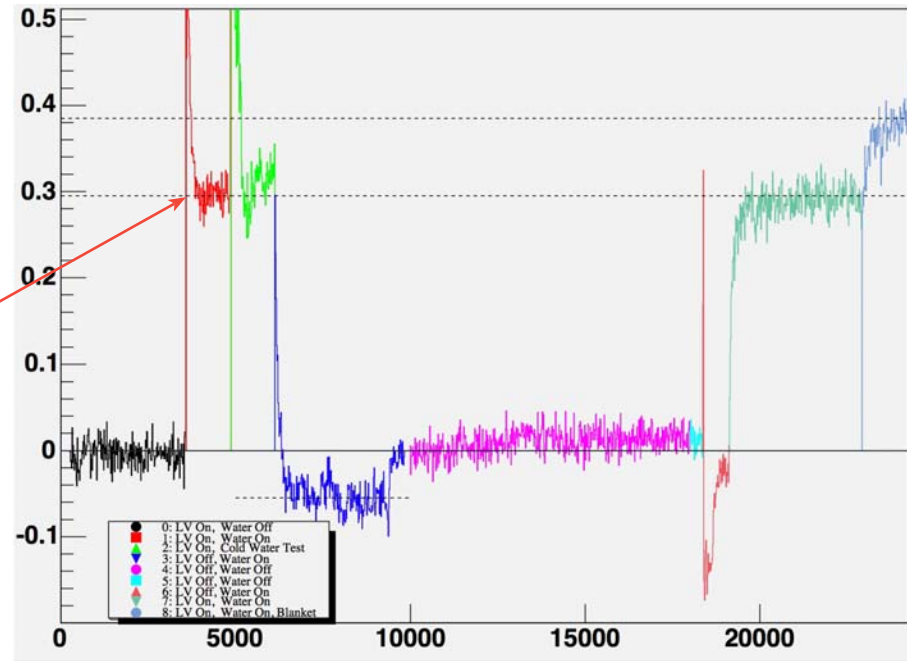
Water System -- copper water loop running between TINO & TDIG

Power tests of TOFr5

140W total
square loop + shims
perforated tray cover

water $T_{\text{input}} \sim 31$ deg C
flow rate ~ 1.36 Gpm
water $\Delta T \sim 0.295$ deg C

$P(\text{water}) \sim 105$ W
 $P(\text{radiative}) \sim 35$ W
 $P(\text{convective}) < 1$ W



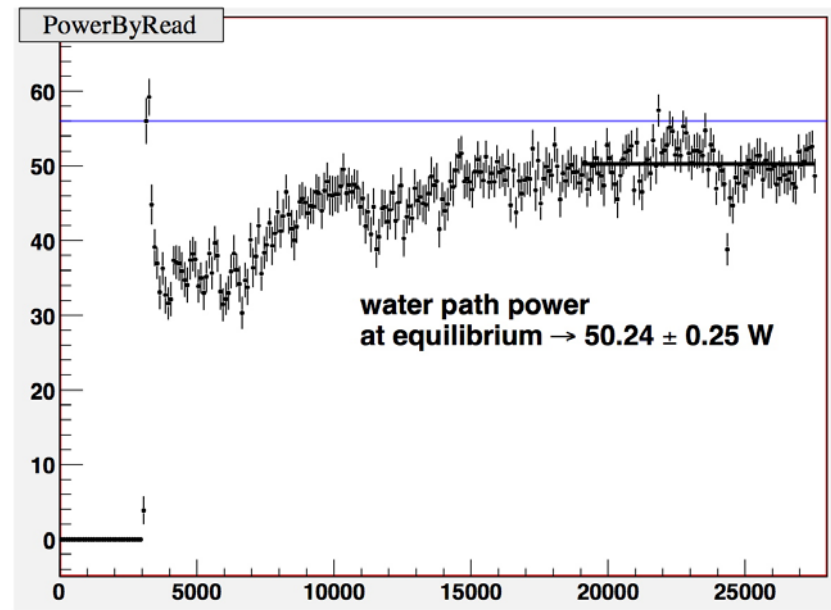
Power tests w/ early TDIG-Ds

55W total
rectangular loop + thinner shims
solid tray cover

water $T_{\text{input}} \sim 31$ deg C

$\Delta T \sim 0.07$ deg C

$P(\text{water}) \sim 50$ W



http://wjlllope.rice.edu/~TOF/TOFr5/Ttests/TOFr5_T_tests.htm

Need to repeat w/ fully configured TDIG-E's → improved ΔT → define $N(\text{trays})$ daisy-chained
Water test set-ups exist at both Rice and UT

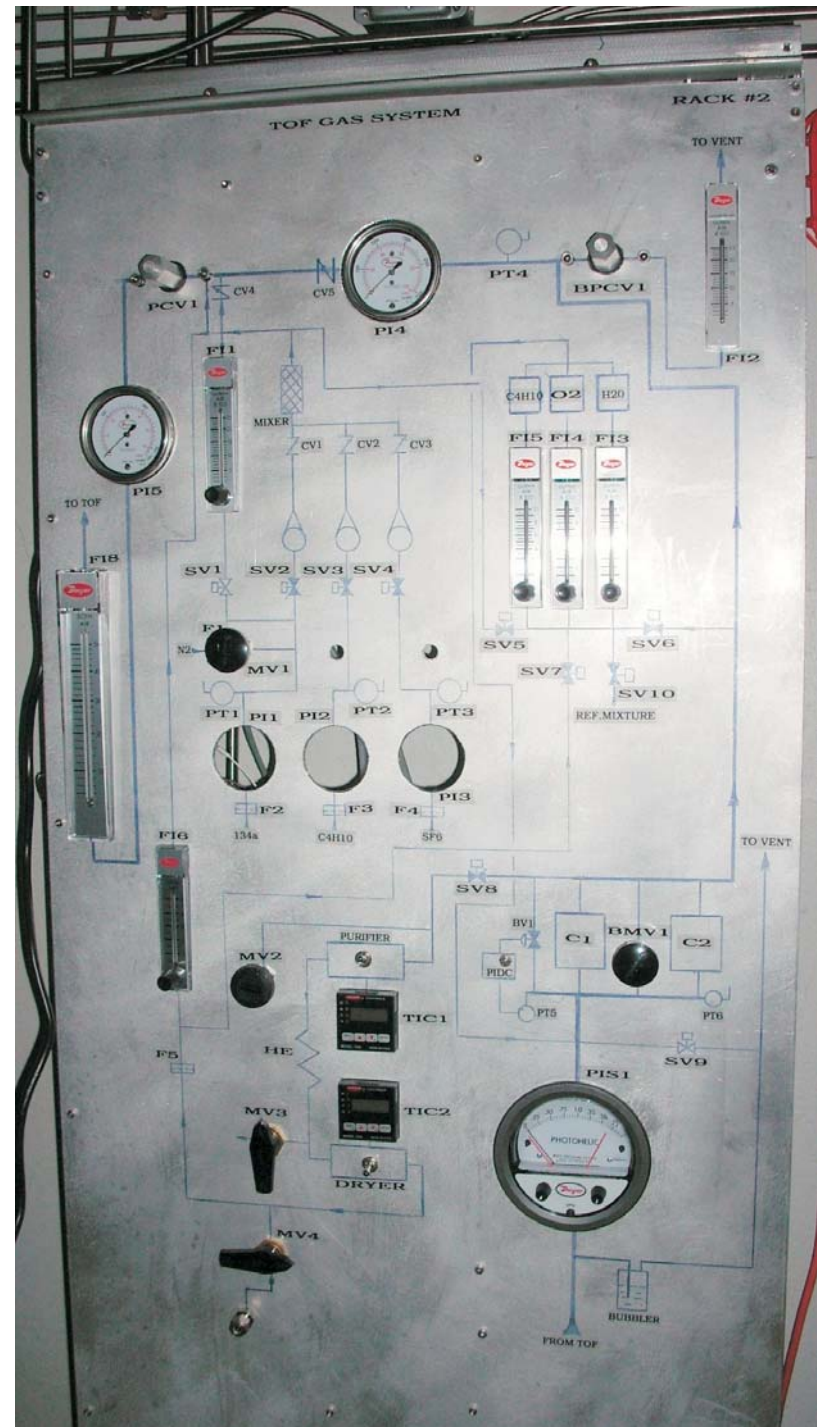
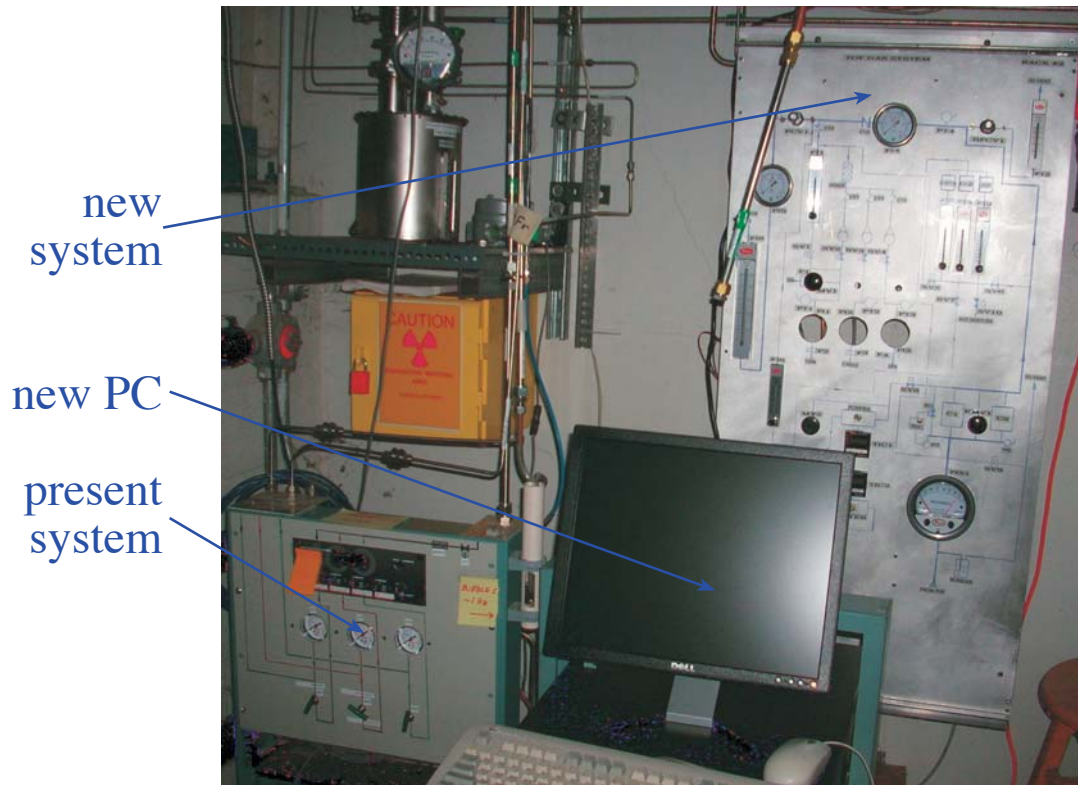
BACKUP SLIDE

Gas System (PNPI, Russia, BNL Contract #123090)

recirculate & remove O₂ and H₂O
reviewed April 2006

new control PC in place
new mixing panel in place
1" SS tubing to connect to ☆ located (not yet connected)

- to do:
- define distribution network on detector (4 trays in series)
 - define "splitter" locations
 - complete connections
 - special bubbler and oil vapor filter
 - install windows control code



new gas panel