

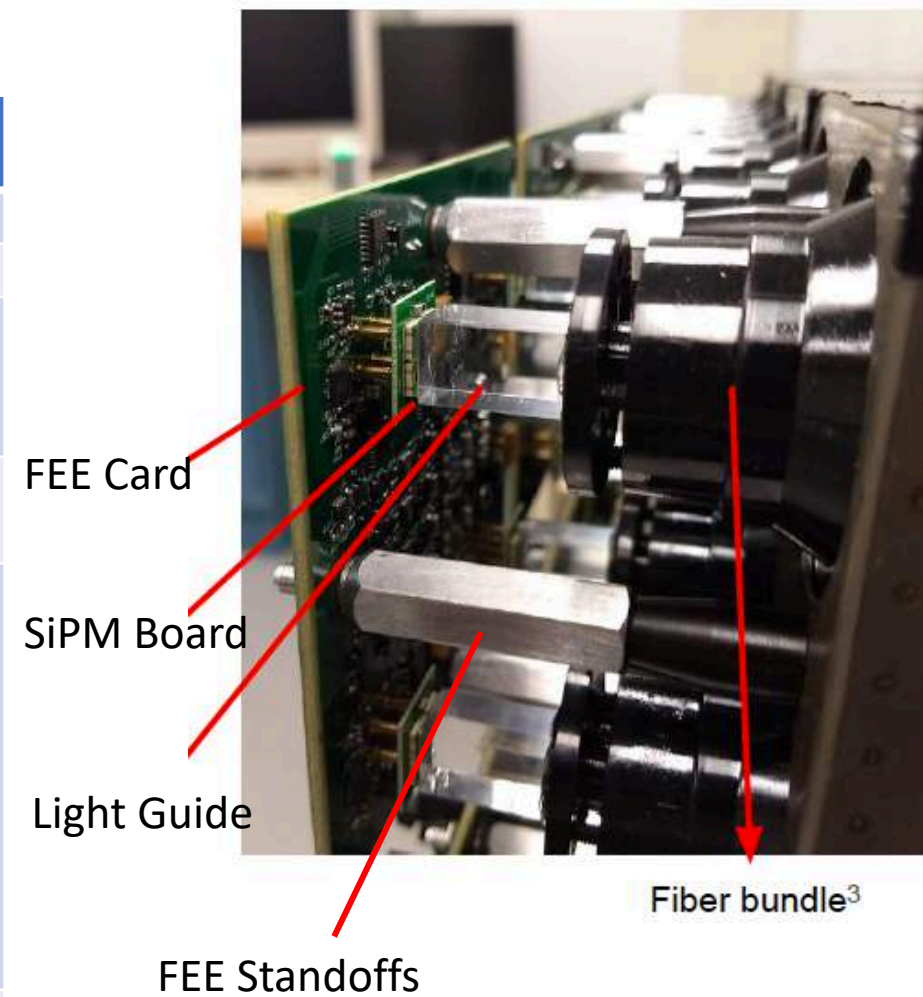
# FCS Production Status.

O.Tsai (UCLA), f2f meeting 07/21/2020

Electronics, Integration in separate talks by Gerard, Tonko, Tim and Rahul.

# ECaI

Item	Total needed + spares	In hand ready for installation	Projected Date to complete
SiPM Boards	1496 (+150)	(176) + 1000	Aug 1, 2020
FEE Standoffs	5984 (+598/2)	0	Sep 1, 2000 ?
Enclosure different small parts:			
Cable feedthrough	39	39	
Parts of enclosure (fans, angles for front cover, angle for base plate, bar to connect side covers)	----	0	Sep 1, 2000.
Alignment boards for gluing SiPM boards	3	1	Sep 1, 2020





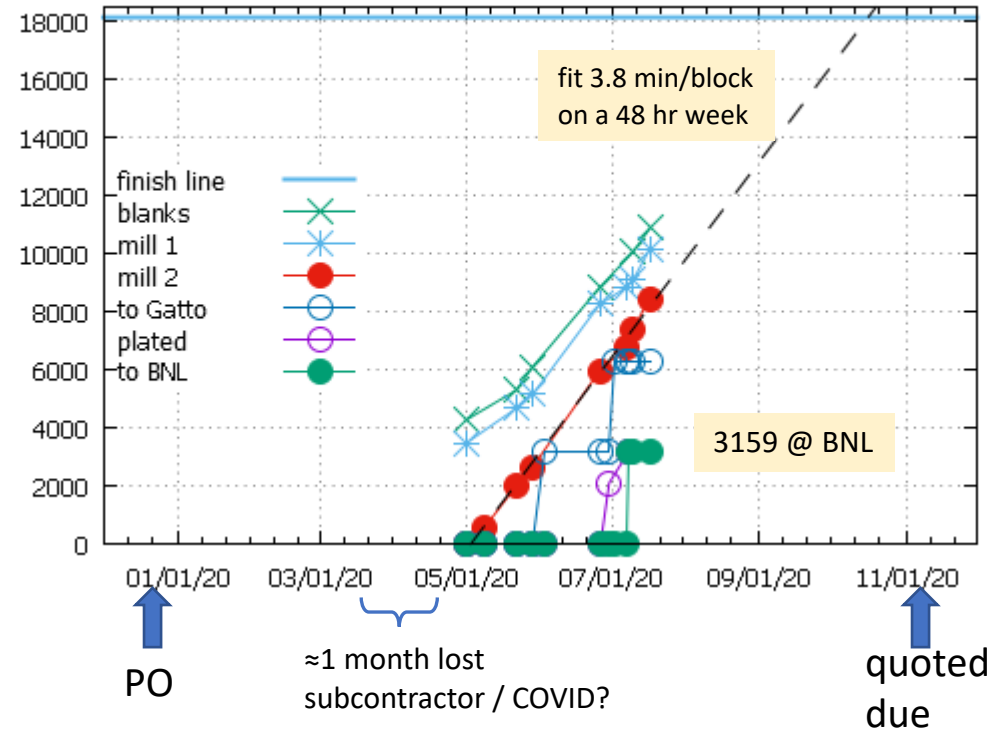
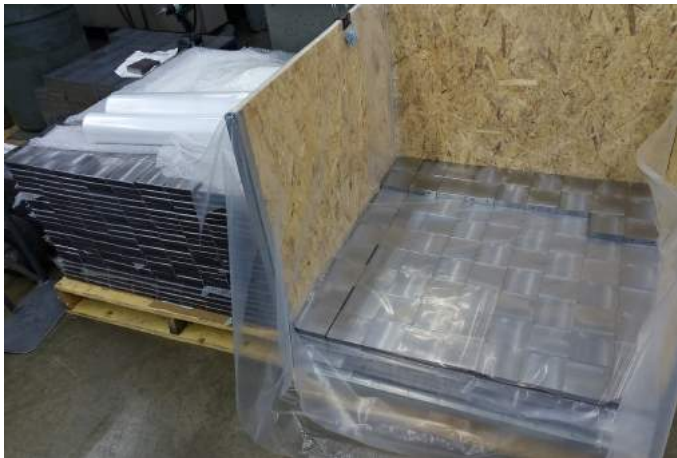
~ 400 boards left to do  
QA, de-paneling, calibration, packing

~ 1000 boards ready for installation

# HCal

Item	Total needed + spares	In hand ready for installation	Projected Date to complete
Absorber Blocks	18720+520	3739 (3159+580)	Nov 1, 2020*
Sc Tiles	18720	13834*	Sep 1, 2020*
WLS Plates	520+16	520+16 *	Sep 1, 2020*
SiPM boards	576+50	0	Sep 1, 2020
Reflector-Mask	576	280	Sep 1, 2020.
Master Plates small	41	41	
Master Plates large	240 (PO received by company 19/07)	0	Sep 1, 2020
Base Plates	6	6	
Enclosure (shell, fans etc.)	1	0	Oct 1, 2020
Cable Feedthrough	39	39	Sep 1, 2020
FEE interface plates	53	53	Sep 1, 2020
Dowel Pins	37440	~30k	Sep 1, 2020

# HCAL absorber blocks – IU / Chapman Lake Instrument / Gatto Industrial Plating



- machining on track despite fixture delay, COVID
- 1<sup>st</sup> plating lot very slow, 1 month, expected 1 week
  - we will know more after 2<sup>nd</sup> lot, now running
- Chapman Lake inspects 10% pre-plating
- 2 blocks (unplated) checked at IU – pass
- blocks now being checked at BNL – so far pass
- open issue: Do we really **need** the special blocks before the end? <- Yes. we need some of them on Oct. 1st

## Action items:

- Work with CL to produce fraction of special blocks by Oct. 1<sup>st</sup>.
- Order additional 520 H type blocks (Gerard caught it yesterday that we short on these, my fault)

# HCal. Scintillation tiles. Counting.

Sc Tiles – needed 36 tiles/tower x 520 towers = 18720

2019 Prototype – 576 tiles

2019 Pre-production 450 sheets – 1800 tiles -30 ~ 1770\*

2020 Ordered 4050 – 16200 tiles

2014 Tiles – 900 tiles (2.5 mm thick) planned to be used as last one/two tiles in HCal tower and spares.

## As of 20/07

ACU – 6493 in hand

2955 effectively ready for installation (some need bagging)

6 weeks to finish

Valpo – 6225 ready for installation

OSU – 3200 machining stage

UCLA – 20 samples from ACU and Valpo + 50 from EJ

Total 3mm : 18284 3mm tiles + 50 + 900 (2.5 mm)

Need 18200 (3 mm) + 520 (2.5 mm) . All accounted and we have spares.

## Summary:

1. Things are in a reasonably good shape to start installation in the fall.
2. Absorber plates still on critical path. We'll need to convince CL to produce special plates before they will finish all standard plates.
3. Schedule is tricky, assume there is no slack.

All universities did their best to adjust to COVID and to make sure we will have parts for assembly this fall.

Thanks everyone involved for a good job!