MEMORANDUM

Date: July 9, 2020
To: Distribution
From: Rolf Ent and Camille Ginsburg for the Nuclear Physics Experiment Scheduling Committee
Subject: Accelerator Schedule through December 2021

Schedule

Attached is the accelerator operations schedule through December 2021. It has also been posted at http://www.jlab.org/div_dept/physics_division/experiments/schedule.html. Access to the database format of the same schedule, as used by the beam accounting system, can be found at https://cebaf.jlab.org/btm/schedule .

The operations schedule is based on fiscal 2020 and expected 2021 funding. It may be subject to adjustments due to actual funding, the progress of repairs and maintenance tasks or developments related to the COVID-19 virus.

Since the last schedule was released, the "low-energy" (gradient of about one GeV/pass) run period scheduled for summer 2019 was successfully completed. Repair, maintenance and upgrade tasks for CEBAF were prioritized and staged to support a shorter down before the FY2020 run cycle started early December. The FY2020 run cycle was scheduled to end May 6, 2020 but, due to the MEDCON 6 condition created by the COVID-19 virus, beam operations had to be paused with six weeks of beam operations remaining in FY2020. This experiment schedule re-programs those six weeks.

During the down period, a completely refurbished C100 cryomodule was installed in the north linac to recover accelerating gradient lost during the spring 2019 run. The cryomodule taken out to make space for the new C100 was, in turn, used to replace the worst performing cryomodule in the north linac. In addition, one cryomodule which had been off was replaced with a spare. These improvements led to a modest energy gain in the north linac. Despite these efforts, the north linac cannot run above 1031 MeV with reasonable trip rate and heat load, and a reasonable confidence that we can keep a constant energy gain over the long run period. Other constraints, like the need to have good beam polarization at the various halls, required a machine configuration of 121-1031-1031 MeV for the injector, north and south linacs respectively. This configuration leads to a 5.5 pass energy of 11.4 GeV for the FY2020 run cycle.

As indicated earlier, medical conditions created by the propagation of the COVID-19 virus required pausing experiments with six weeks of beam operations still remaining in FY2020. Conditions have now subsided and this schedule envisions resuming the paused experiments around July 27, 2020, for six weeks, until September 7, 2020.

The remaining part of calendar year 2020 and early part of 2021 is dedicated to replacing one of the Central Helium Liquefier “cold boxes,” to installing new accelerating cryomodules and upgrading control systems to extend energy reach, to high priority maintenance tasks like replacement of leaking cryo-control valves and cryomodule seals damaged by radiation and, to implementing the first phase of an ongoing injector upgrade required by future experiments. These activities are scheduled to last until end of May, 2021. So, there are no experiments scheduled for this period.

For calendar year 2021, we expect 19 weeks of operations starting end of May. The schedule has one week of beam restore followed by seventeen weeks of beam operations for experiments. The schedule also shows one week of “schedule contingency” to be able to deal with unexpected small delays. This is important because the entire run cycle has been scheduled at lower, non-standard, energies per pass (1.82 GeV/pass and 1.96 GeV/pass) to be able to carry out measurements of longitudinal-transverse pion cross sections in Hall C. The impact on hall multiplicity of lower energy per pass has been reduced by scheduling at the same time other experiments that do not require the highest energy the machine can deliver. The experimental program of Hall D however will be affected by the choice. Operating at lower energy per pass in 2021 also provides some relief to the gradient recovery program of the lab.

The present schedule has Hall A completing experiment E12-12-004 (CREX) during calendar year 2020. This experiment uses parity violating electron scattering to measure the neutron radii of calcium. Installation of the Super Big Bite spectrometer and associated instrumentation will take place starting September 2020 for an anticipated start of the G_M^n (E12-09-019) and G_E^n-RP neutron form factor experiments in June 2021.

For the fall 2019 – winter 2020, Hall B took additional data for the Run Group B of experiments and performed short tests with nuclear targets to validate Monte Carlo simulations of neutron flux and test Silicon Vertex Tracker performances. BoNuS12 (Run Group F) followed but was paused shortly after start due to the COVID-19 conditions. The present schedule has Hall B completing the remaining six weeks of the BoNUS12 experiment between July and September 2020. During calendar year 2021, Hall B plans to acquire additional data on the heavy photon search (Run Group I) and to measure electron scattering cross sections from multiple nuclear targets to benchmark neutrino event selection, energy reconstruction and event generators (Run Group M).

Hall C did carry out measurements of the neutron spin asymmetry A1n in the valence quark region (E12-06-110) during fall 2019 – winter 2020 using a polarized ^{3}He target. Experiment E12-06-12, measurements of the neutron g_2 and d_2 structure functions at high Q^2, followed but it was paused shortly after starting due to worsening COVID-19 conditions. The present schedule has Hall C continuing this experiment in 2020. For 2021, Hall C plans measurements of longitudinal – transverse pion cross sections and of the charged pion form-factor at large Q^2 (E12-19-006). These pion measurements will complement the data taken during summer 2019 by experiments E12-06-101 and E12-07-105.

During fall 2019 – winter 2020, Hall D did study the decays of mesons and baryons to final states containing strange quarks (E12-12-002) using the newly added DIRC (Detection of Internally Reflected Cherenkov) particle detector. It will continue with those studies after resuming operations for six weeks in the period July – September 2020. For calendar year 2021, Hall D plans to perform a study of short-range correlations with real photons (E12-19-003) and of the η radiative decay width via the Primakoff effect (E12-10-011).

Figure 1 summarizes graphically the experiment schedule. Tables 1- 4 later in this memo, list those experiments that have been run to completion, partially run, scheduled for this run period and those yet to be scheduled in the "12 GeV era".

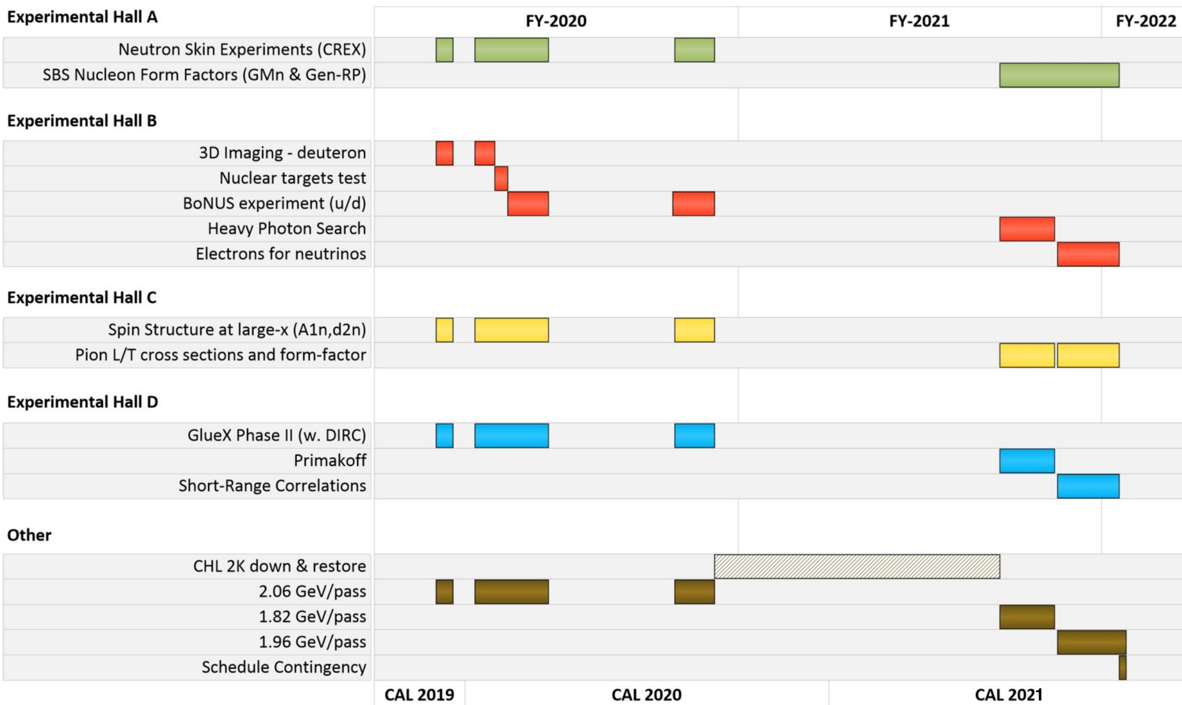

Figure 1 – Experiment schedule summary

On the schedule, each Physics Advisory Committee (PAC) day is mapped into two floor days. This factor of two accounts for Accelerator and hall efficiency due to system failures (not experiment overhead). It allows for 4 hours of beam-off time for maintenance. It also accounts for a total of up to 12 hours a week of scheduled beam studies and RF recovery. An additional 8 hours a week is allocated for beam tuning to support program changes, beam tuning to address beam quality issues and to restore beam operations for physics post beam studies/maintenance periods. The remaining 144 hours a week, 88 % of beam-on time, is scheduled as research.

The Jefferson Lab Nuclear Physics Experiment Scheduling Committee developed the schedule. Committee members are: Marco Battaglieri, Eugene Chudakov, Rolf Ent (Co-Chair), Camille Ginsburg (Co-Chair), Javier Gomez, Cynthia Keppel, Robert McKeown, Matt Poelker, Patrizia Rossi and, Mike Spata. The schedule has been reviewed and approved by the Director

Scheduling Status of Experiments

Table 1 - Completed Experiments

Experiment	Hall	Contact	Beam Req. Submitted
E12-06-102	D	C. Meyer	1-Aug-2014
E12-06-110	C	X. Zheng	30-May-2018
E12-07-108	A	B. Wojtsekhowski	20-Aug-2014
E12-09-002	C	K. Hafidi	2-Jul-2015
E12-09-017	C	R. Ent	2-Jul-2015
E12-10-002	C	S. Malace	21-Aug-2014
E12-10-103	A	G. Petratos	1-Sept-2014
E12-11-101	A	K. Paschke	28-Jul-2017
E12-11-106	B	A. Gasparian	22-Jun-2015
E12-14-011	A	L. Weinstein	24-Jun-2015
E12-14-012	A	C. Mariani	26-Jun-2015
E12-15-001	C	N. Sparveris	19-Jul-2017
E12-17-003	A	L. Tang	27-Jul-2017

Table 2 - Partially Completed Experiments

Experiment	Hall	Contact	Beam Req. Submitted
Run Group A	B	L. Elouadrhiri	1-Jul-2015
Run Group B	B	S. Niccolai	31-Jul-2016
Run Group I	B	S. Stepanyan	27-Jul-2017
Run Group K	B	A. D'Angelo	13-Jul-2017
E12-06-101	C	G. Huber	1-Aug-2016
E12-06-107	C	D. Dutta	6-Aug-2014
E12-06-114	A	C. Hyde	6-Aug-2014
E12-07-105	C	T. Horn	1-Aug-2016
E12-09-011	C	T. Horn	2-Jul-2015
E12-10-003	C	W. Boeglin	6-Aug-2014
E12-10-008	C	D. Gaskell	6-Aug-2014
E12-10-009	A	B. Wojtsekhowski	27-Jul-2016
E12-10-011	D	A. Gasparian	1-Aug-2017
E12-11-008	LERF	P. Fisher	6-Jul-2015
E12-11-112	A	D. Higinbotham	30-Jul-2014
E12-12-002	D	M.Shepherd	23-May-2019
E12-12-004	A	K. Paschke	28-Jul-2017
E12-14-009	A	D. Higinbotham	29-Jun-2015
E12-16-007	C	Z.E. Meziani	27-Jul-2017

Table 3 - Scheduled Experiments

1 = TBD, passed ERR

2 = Pending ERR completion

3 = Pending results of nuclear target tests in CLAS12

Experiment	Hall	Contact	Beam Req. Submitted
Run Group F	B	S. Kuhn	28-Jul-2017
Run Group M	B	O. Hen	*3*
Run Group I	B	S. Stepanyan	27-Jul-2017
E12-06-121	C	B. Sawatzky	30-May-2018
E12-10-011	D	A. Gasparian	1-Aug-2017
E12-12-002	D	M.Shepherd	23-May-2019
E12-12-004	A	K. Paschke	28-Jul-2017
E12-19-003	D	O. Hen	*1*
E12-19-006	C	T. Horn & G. Huber	1-Aug-2016
E12-09-019	A	B. Wojtsekhowski	31-Jul-2017
E12-17-004	A	B. Sawatzky	*2*

Table 4 - New Experiments to be Scheduled

Note that partially completed experiments are also considered for re-scheduling

1 = TBD, passed ERR

2 = Pending ERR completion

3 = Pending results of nuclear target tests in CLAS12

Experiment	Hall	Contact	Beam Req. Submitted
Run Group C	B	S. Kuhn	*3*
Run Group D	B	L. El Fassi	*3*
Run Group L	B	Z. Meziani	*2*
E12-06-104	C	P. Bosted	15-Aug-2019
E12-06-105	C	J. Arrington	28-Jul-2017
E12-06-107	C	D. Dutta	19-Aug-2019
E12-13-003	D	C. Meyer	29-Jul-2016
E12-13-007	C	R. Ent	16-Aug-2019
E12-13-010	C	C. Muñoz Camacho	16-Aug-2019
E12-14-003	C	B. Wojtsekhowski	*1*
E12-14-005	C	D. Dutta	*1*

Supplementary Scheduling Information

Reminders

- On the schedule, daily status changes take place at the end of the owl shift (~ 7 AM) unless otherwise indicated.
- Operating one or more of Halls A, B and C at five passes together with Hall D at 5.5 passes requires a polarized gun laser frequency of 249.5 MHz for those halls. A laser frequency of 499 MHz can be used otherwise. For the same average beam current, the charge per micro-bunch when operating the laser at 249.5 MHz will be twice that of 499 MHz. For each hall, the energy, current, polarization column now also includes the laser frequency.

The Meaning of Priority on the Accelerator Schedule

Generally, the assignment of priority to a hall means that the identified hall will have the primary voice in decisions on beam quality and/or changes in operating conditions. We will do our best to deliver the beam conditions identified in the schedule for the priority hall. It will not, however, mean that the priority hall can demand changes in beam energy that would affect planned running in the other halls without the consent of the other halls. Of course, final authority for decisions about unplanned changes in machine operation will rest with the laboratory management.

The operation of more than one hall at Jefferson Lab substantively complicates the interaction between the experimenters and the accelerator operations group. It is in the interests of the entire physics community that the laboratory be as productive as possible. Therefore, we require that the run coordinators for all operating halls do their best to respond flexibly to the needs of experiments running in other halls. The run coordinators for all experiments either receiving beam or scheduled to receive beam that day should meet with the Program Deputy at 7:45 AM in the MCC on weekdays and at the Program Deputy's discretion on weekends.

To provide some guidance and order to the process of resolving the differing requirements of the running halls, we have assigned a "priority hall" for each day beam delivery has been scheduled. We outline here the meaning of priority and its effect on accelerator operations.

The priority hall has the right to:

- require a re-tune of the accelerator to take place immediately when beam quality is not acceptable
- insist that energy changes occur as scheduled
- obtain hall access as desired
- request that beam delivery interruptions for experiment-related operations which temporarily block normal beam delivery to all other halls take place as requested. Mott measurements of the beam polarization or pulsed operation for current monitor calibrations represent examples of such interruptions. Interruptions of this type require, at a minimum,

24 hours advance notification and coordination with the Program Deputy and the other halls.

These interruptions shall be limited by a sum rule - the total time lost to the non-priority hall(s) due to such requests shall not exceed 2.5 hours in any 24-hour period. It is, of course, highly preferred that these measurements be scheduled at the morning meeting of the run coordinators whenever possible, and coordinated between halls whenever possible.

When the priority hall has requested a re-tune, if the re-tune degrades a previously acceptable beam for one of the other, lower priority running halls, then the re-tune shall continue until the beam is acceptable to both the priority hall and the other running halls that had acceptable beam at the time the re-tune began.

Non-priority halls can:

- require that a retune of the accelerator take place within 2.5 hours of the desired time (it will nominally occur at the earliest convenient break in the priority hall's schedule)
- require access to the hall within 1 hour of the desired time (again, it will nominally occur at the earliest convenient break in the priority hall's schedule)
- request that beam delivery interruptions for experiment-related operations which temporarily block normal beam delivery to all other halls occur within 2.5 hours of the desired time. Interruptions of this type require, at a minimum, 24 hours advance notification and coordination with the Program Deputy and the other halls.

The ability of non-priority halls to request retunes and accesses shall be limited by a sum rule - the total time lost to the priority hall due to such requests shall not exceed 2.5 hours in any 24-hour period. (To facilitate more extended tuning associated with complex beam delivery, with the agreement of the run coordinators for all operating halls, the sum rule may be applied over a period as long as three days, so long as the average impact is less than 2.5 hours/day.) In the event that two non-priority halls are running, the 2.5 hours shall be split evenly between them in the absence of mutual agreement on a different split.

All Halls:

Can negotiate with other halls, and with the Accelerator and Physics Division for changes in scheduled energy changes (either direction).

Initial Tune-up of New Beams:

Normally one and one half shifts (12 hours) is set aside for tune-up whenever a new beam setup is being tuned (for unusual beam setups more time may be scheduled explicitly for tuning at the discretion of the scheduling committee). It is understood that beam tune-ups shall *always* be done in the order that the accelerator operations group believes will minimize the *total* time needed to tune *all* scheduled beams (i.e., the "priority hall" beam is not necessarily tuned first). In the event that obtaining the new beam setup requires more than the scheduled time, the Accelerator Program Deputy is authorized to spend up to one additional shift of tuning in an effort to deliver all scheduled beams instead of just the "priority hall" beam

Maintenance/Beam Studies. Accelerator Division may request up to sixteen hours per week. Users will be consulted in deciding how these sixteen hours per week are placed on the calendar, i.e. five shorter or three long blocks of time.

Accomplishments and Expectations

Accelerator

The beam energy as measured by the 1st and 2nd Arcs has not agreed with the energy derived by the electron spin precession and the Hall-A 9th dipole measurements at the 0.25% level. A cross calibration was performed during facility development that consisted of sending beam through to Arc2 and Hall-A with the South linac off. This enabled Arc1, Arc2 and Hall-A string to measure the same beam. Having proper energy calibration enabled the Wien filter angle to be set within 3.3 degrees of optimal for CREX. Beam energy is about 150 ppm higher than intended.

CEBAF 4-hall beam delivery is now routine: the hardware is working well and the new injector and separator configuration to enable 4-hall operations are well understood. This capability has some constraints that are described at the end of this section.

The highest-impact beam studies performed in late 2018 focused on the testing of developments that reduce the time required for accelerator setup and tuning. New tools have been tested that enable the automated collection of optics data. The tools enabled machine setup in November 2019, after the long shutdown which included cryomodule moves, within one week. Beam (x,y) emittances and beam sizes were within a factor of two of design, a significant improvement over previous experience. This reduced or eliminated the time needed to match individual hall lines.

During the painful low energy setup for HPS in Hall B summer 2019 it was discovered that the 5A/s slew rate that was used on all quadrupoles did not provide reproducible focusing on quadrupoles with 20A power supplies. The slew rate was reduced to 1 A/s on these 200+ supplies and focusing stability was much improved in all areas where they exist. In particular, Hall D photon spot size was stable throughout December 2019 whereas it had required near-daily tuning in previous runs.

Each end-station has an Accelerator Physicists Experimental Liaison (APEL) that serves to aid the Nuclear Physicists in beam related issues during all phases of an experiment, proposals, commissioning, operating and analysis. The APELs with input from the end-station scientist, injector, and diagnostics have developed a beam parameter table for the 12 GeV era (JLAB-TN-18-022). Experiments requiring more stringent beam parameters should consult the APEL of the end-station in question. What is not in this document is that there are additional constraints that need to be applied during the scheduling process. Most of these constraints derive from the new 4-hall system and are as follows:

- 4-hall operations requires at least one of the original halls (ABC) to receive 5th pass beam.
    - It is strongly preferred that the original halls be A or C. Coupling B-D, while possible, places additional constraint on B & D currents.
    - Any of the original halls receiving 5th pass beam concurrently with Hall-D will receive beam with a 249.5 MHz repetition rate.
    - 499 MHz repetition rate is available when a hall is receiving pass 1-4 beam.

- Hall-D must be at 249.5 MHz repetition rate whenever an original hall is simultaneously receiving 5th pass beam.
- Hall-D can only receive 499 MHz beam when only two of the original halls are receiving beam on the lower passes (1-4).

The refurbished C100 cryomodule was the first to be installed, and met the expected gradient performance of 98 MeV, making it the highest performing cryomodule in CEBAF. The movement of four cryomodules during the long 2019 shutdown, as described above, required ten cryomodules to be warmed up to room temperature and cleanly backfilled to atmospheric pressure, because the cryomodule valves did not seal adequately to vacuum-isolate the four individually. The cryomodule adjacent to the slot in which the refurbished C100 was installed was partially degraded during the previous run, and partially degraded during the shutdown, in total almost canceling the gradient gain from that installation. Two vacuum leaks near the beginning of the North Linac further reduced useful gradient. Given the available gradient distribution in North and South linacs, a setup with Injector 121 MeV/c and both linacs at 1031 MeV/c was chosen for FY20. This setup was intended to produce $P^2 > 0.97$ of cathode value for both Halls B and C with Hall A (CREX, parity) fully longitudinal. Hall B P^2 is 0.963 of cathode, confirming that energy calibration is much better than in the past. Hall C polarization has not been measured yet. This setup has modest gradient margin in the North Linac and ample margin in the South, so the RF fault rate is acceptable and is expected to remain so through the end of the run, satisfying the experimenters' strong preference for stable running and stable machine parameters throughout the ongoing run. Ongoing CEBAF Performance Plan measures are addressing the gradient margin problem, and progress is expected during the 2020 long shutdown.

Hall A

Hall A ran a series of experiments using a tritium target in 2017 and 2018. In Spring 2019 the hall installed and ran the APEX experiment (E12-10-009), a search for a new gauge boson (A′) with sub-GeV mass that couples to ordinary matter. Installation and running of the PREX-II (E12-11-101) and CREX (E12-12-004) experiments followed in Summer and Fall 2019. These experiments utilize parity violating electron scattering to measure the neutron radii of lead and calcium and have important implications for nuclear structure including three neutron forces, atomic parity violation, and astrophysics. Following the completion of CREX in the Spring of 2020, installation for the SuperBigBite spectrometer program will follow. This multi-faceted program includes four measurements of the proton and neutron form factors, a semi-inclusive measurement aimed at transverse momentum distributions within the nucleon, and tagged measurements of pion and kaon structure functions. The plan is to start with elastic scattering measurements of the neutron magnetic and electric elastic form factors G_M^n (Experiment E12-09-019) and G_E^n-RP (Experiment E12-17-004).

Hall B

Run Group A, a collection of 13 individual proposals, continued taking data at 10.6 GeV beam energy and highly polarized electron beam starting from September 27 until November 26, 2018. A total charge of 111mC was accumulated. This run was followed by a short, opportunistic RGK data taking period for 3 individual proposals that ran at the beam energies of 7.5 GeV and 6.5 GeV, covering the remaining period of 18 calendar days until holiday break, and accumulated an integrated charge of 50mC. After the completion of short RGK, the BAND detector was re-installed in preparation for RGB. This run group serves 7 individual proposals, all using liquid deuterium as target material. During the 2019 Spring run of RGB two beam energies were used that differed by 4%, 10.6 GeV at the beginning of the run, and 10.2 GeV during the later part of the run. The change to the lower energy was related to accelerator issues that prevented a steady operation at the higher energy. During the lower energy part more stable beam was delivered to the experiment. The total accumulated charge during this run was 93mC and the ABUs are equivalent to 22.5 PAC days. Following RGB, a 21 days extension of RGA commenced, which was scheduled to (partially) compensate for lost beam time in the Fall of 2018. RGA completed the Spring run with a total of 13 ABU days and an accumulated charge of 61mC. Integrated over the entire 2018/2019 period, RGA has used the equivalent of 55 PAC days, corresponding to about 40% of the entire approved beam time of 139 days for RGA. The 2019 Summer schedule shows HPS scheduled for 63 days from June 17 through August 18 at 4.5 GeV beam energy. Following the Summer break, RGB was scheduled to continue data taking for another 48 days from November 1 through December 19 at the planned beam energy of 10.5 GeV. For 2020 another 10 PAC days are scheduled for RGB starting from Jan 10. At the end of the RGB run, a short test with nuclear targets has been scheduled to validate neutron flux estimates and verify CLAS12-CVT performances. At the beginning of February 2020, the BONUS12 tracking detector has been installed inside the CLAS12 solenoid magnet. Due to a hardware issue a second detector has been reinstalled in the first week of March. It only ran for few days before pausing for the COVID-19 emergency. BONUS12 has assigned a run period of 80 days. The experiment used 39 days from February 12 to March 24. The remaining 41 days are expected to run between July 27 to September 6 2020. This will cover the entire approved beam time of the experiment.

There are currently no plans of operating the accelerator for physics during the remainder of CY 2020. Candidates for the summer/fall operation in CY 2021 are: RGI with about 27 PAC days and the nuclear target RGM for 31 PAC days.

Hall C

In the spring of 2019, Hall C ran E12-16-007, a search for the LHCb charmed “pentaquark” using photoproduction of J/Psi at threshold, followed by E12-09-002, a search for charge symmetry violating quark distributions via measurement of the π^+/π^- ratio in semi-inclusive deep-inelastic scattering, and E12-09-011, a study of L-T separated exclusive Kaon electroproduction cross sections. For the summer 2019 run cycle, Hall C leveraged the unique beam energies available to facilitate the kinematic reach for longitudinal – transverse studies of pion electroproduction, with studies of the pion form factor (E12-06-101) and scaling in exclusive pion electroproduction

(E12-07-105). E12-15-001, a measurement of the proton's generalized polarizabilities in virtual Compton scattering followed. After the summer running, the standard cryotarget was replaced with a polarized Helium-3 target. Commissioning of this target started in late 2019 in early 2020 data was taken for E12-06-110, a measurement of the neutron spin asymmetry A1n in the valence quark region. A1n ran until mid-March when the configuration of the target was changed for E12-06-121, a measurement of the neutron g2 and d2 structure functions to access the neutron color polarizability. This experiment started commissioning but was shut down when the lab went to MEDCON6. E12-06-121 will resume and run for the duration of the summer 2020 run. During the long down, the standard target assembly will be re-installed and maintenance will be performed on the HMS spectrometer, replacing the quadrupole power supplies. In 2021 the Hall will run E12-19-006, a study of L-T separated pion electroproduction cross sections and measurement of the pion form factor to high Q2.

Hall D

During the Fall run of 2019 the commissioning of the DIRC detector was completed. In spring 2020 the GlueX-II experiment E12-12-002 (with the DIRC) has started data taking (52 calendar days used by April – about 24% of the total experiment). The DAQ system has been upgraded and ran reliably at about 80kHz event rate and 1.1 GB/s data rate. In summer 2020 the same experiment is scheduled to run for 6 weeks. During the fall 2020 – spring 2021 shutdown Hall D plans to do a part of the modifications to the downstream platform needed for the E12-13-008 (pion polarizability) experiment. The schedule for 2021 is to run E12-19-003 till completion, at 10.9 GeV, and E12-10-011 at 10.1 GeV for completion of the LHe target data taking. The current plan for 2022 is to run E12-10-011 to completion and E12-13-008 depending on the time scheduled.

July 2020 - December 2021 (v20200619.1)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	**Date**	**Weekday**		**Operations**	**Hall A**	**Hall A**	**Hall B**	**Hall B**	**Hall C**	**Hall C**	**Hall D**	**Hall D**	**Priority**	**Pass**	**Notes**
2			**(GeV/pass)**	**Status**	**Experiment**	GeV/µA/Pol/MHz	**Experiment**	**GeV/nA/Pol/MHz**	**Experiment**	GeV/µA/Pol/MHz	**Experiment**	**GeV/nA/Pol/MHz**	**Hall**	**A/B/C/D**	**Notes**
3	07/13/20	Monday	2.06	Restore											
4	07/14/20	Tuesday	2.06	Restore											
5	07/15/20	Wednesday	2.06	Restore											
6	07/16/20	Thursday	2.06	Restore											
7	07/17/20	Friday	2.06	Restore											
8	07/18/20	Saturday	2.06	Restore											
9	07/19/20	Sunday	2.06	Restore											
10	07/20/20	Monday	2.06	Restore											
11	07/21/20	Tuesday	2.06	Restore											
12	07/22/20	Wednesday	2.06	Restore											
13	07/23/20	Thursday	2.06	Restore											
14	07/24/20	Friday	2.06	Restore											
15	07/25/20	Saturday	2.06	Restore											
16	07/26/20	Sunday	2.06	Restore											
17	07/27/20	Monday	2.06	Physics			Run Group F	2.18/200/p/500	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	-/1/5/5.5	
18	07/28/20	Tuesday	2.06	Physics			Run Group F	2.18/200/p/500	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	-/1/5/5.5	
19	07/29/20	Wednesday	2.06	Physics			Run Group F	2.18/200/p/500	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	-/1/5/5.5	
20	07/30/20	Thursday	2.06	Physics			Run Group F	2.18/200/p/500	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	-/1/5/5.5	
21	07/31/20	Friday	2.06	Physics	E12-12-004	2.18/150/p/500	Pass change	10.4/200/p/500	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
22	08/01/20	Saturday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
23	08/02/20	Sunday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
24	08/03/20	Monday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
25	08/04/20	Tuesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
26	08/05/20	Wednesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
27	08/06/20	Thursday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
28	08/07/20	Friday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
29	08/08/20	Saturday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
30	08/09/20	Sunday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
31	08/10/20	Monday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	1/5/5/5.5	
32	08/11/20	Tuesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	1/5/5/5.5	
33	08/12/20	Wednesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	1/5/5/5.5	
34	08/13/20	Thursday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	B/A/D/C	1/5/5/5.5	
35	08/14/20	Friday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
36	08/15/20	Saturday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
37	08/16/20	Sunday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
38	08/17/20	Monday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
39	08/18/20	Tuesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
40	08/19/20	Wednesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
41	08/20/20	Thursday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	A/D/C/B	1/5/5/5.5	
42	08/21/20	Friday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
43	08/22/20	Saturday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
44	08/23/20	Sunday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
45	08/24/20	Monday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
46	08/25/20	Tuesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
47	08/26/20	Wednesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
48	08/27/20	Thursday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	D/C/B/A	1/5/5/5.5	
49	08/28/20	Friday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
50	08/29/20	Saturday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
51	08/30/20	Sunday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
52	08/31/20	Monday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
53	09/01/20	Tuesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
54	09/02/20	Wednesday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
55	09/03/20	Thursday	2.06	Physics	E12-12-004	2.18/150/p/500	Run Group F	10.4/200/p/250	E12-06-121	10.4/30/p/250	E12-12-002	11.4/350/-/250	C/B/A/D	1/5/5/5.5	
56	09/04/20	Friday	2.06	Physics			Run Group F	10.4/200/p/250	Pass change	2.18/30/p/500	E12-12-002	11.4/350/-/250	B/A/D/B	-/5/1/5.5	
57	09/05/20	Saturday	2.06	Physics			Run Group F	10.4/200/p/250	E12-06-121	2.18/30/p/500	E12-12-002	11.4/350/-/250	B/A/D/B	-/5/1/5.5	
58	09/06/20	Sunday	2.06	Physics			Run Group F	10.4/200/p/250	E12-06-121	2.18/30/p/500	E12-12-002	11.4/350/-/250	B/A/D/B	-/5/1/5.5	
59	09/07/20	Monday													Machine will remain off for the
60															remainder of calendar year 2020
61															to install a new CHL1
62				END ACCELERATOR OPERATIONS FOR 2020											2K stage ("cold box")
63															and perform preventive maintenance
64															of the North and South Linacs
65															
66															
67															
68															
69															
70															
71															
72															
73	05/31/21	Monday	1.82												
74	06/01/21	Tuesday	1.82												
75	06/02/21	Wednesday	1.82												
76	06/03/21	Thursday	1.82												
77	06/04/21	Friday	1.82												
78	06/05/21	Saturday	1.82												
79	06/06/21	Sunday	1.82												
80	06/07/21	Monday	1.82												
81	06/08/21	Tuesday	1.82												
82	06/09/21	Wednesday	1.82												
83	06/10/21	Thursday	1.82												
84	06/11/21	Friday	1.82												
85	06/12/21	Saturday	1.82												
86	06/13/21	Sunday	1.82												
87	06/14/21	Monday	1.82	Restore											
88	06/15/21	Tuesday	1.82	Restore											
89	06/16/21	Wednesday	1.82	Restore											
90	06/17/21	Thursday	1.82	Restore											
91	06/18/21	Friday	1.82	Restore											

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
92	06/19/21	Saturday	1.82	Restore											
93	06/20/21	Sunday	1.82	Restore											
94	06/21/21	Monday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
95	06/22/21	Tuesday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
96	06/23/21	Wednesday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
97	06/24/21	Thursday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
98	06/25/21	Friday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	?/2/5/5.5	
99	06/26/21	Saturday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	?/2/5/5.5	
100	06/27/21	Sunday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	?/2/5/5.5	
101	06/28/21	Monday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	?/2/5/5.5	
102	06/29/21	Tuesday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	?/2/5/5.5	
103	06/30/21	Wednesday	1.82	Physics	SBS commissioning		Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	?/2/5/5.5	
104	07/01/21	Thursday	1.82	Physics	(3 weeks?)		Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
105	07/02/21	Friday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
106	07/03/21	Saturday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
107	07/04/21	Sunday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	?/2/5/5.5	
108	07/05/21	Monday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
109	07/06/21	Tuesday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
110	07/07/21	Wednesday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
111	07/08/21	Thursday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	?/2/5/5.5	
112	07/09/21	Friday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	?/2/5/5.5	
113	07/10/21	Saturday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	?/2/5/5.5	
114	07/11/21	Sunday	1.82	Physics			Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	?/2/5/5.5	
115	07/12/21	Monday	1.82	Physics	E12-09-019	7.3/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	4/2/5/5.5	
116	07/13/21	Tuesday	1.82	Physics	E12-09-019	7.3/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	4/2/5/5.5	
117	07/14/21	Wednesday	1.82	Physics	E12-09-019	7.3/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	4/2/5/5.5	
118	07/15/21	Thursday	1.82	Physics	E12-09-019	7.3/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	4/2/5/5.5	
119	07/16/21	Friday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
120	07/17/21	Saturday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
121	07/18/21	Sunday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
122	07/19/21	Monday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
123	07/20/21	Tuesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
124	07/21/21	Wednesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
125	07/22/21	Thursday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
126	07/23/21	Friday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
127	07/24/21	Saturday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
128	07/25/21	Sunday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
129	07/26/21	Monday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	C/B/A/D	5/2/5/5.5	
130	07/27/21	Tuesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
131	07/28/21	Wednesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
132	07/29/21	Thursday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
133	07/30/21	Friday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
134	07/31/21	Saturday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
135	08/01/21	Sunday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
136	08/02/21	Monday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	B/A/D/C	5/2/5/5.5	
137	08/03/21	Tuesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
138	08/04/21	Wednesday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
139	08/05/21	Thursday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
140	08/06/21	Friday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
141	08/07/21	Saturday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
142	08/08/21	Sunday	1.82	Physics	E12-09-019	9.2/40/-/500	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	5/2/5/5.5	
143	08/09/21	Monday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	A/D/C/B	-/2/5/5.5	
144	08/10/21	Tuesday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
145	08/11/21	Wednesday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
146	08/12/21	Thursday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
147	08/13/21	Friday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
148	08/14/21	Saturday	1.82	Physics	E12-09-019	Reconfigure	Run Group I	3.7/200/-/500	E12-19-006	9.2/70/-/250	E12-10-011	10.1/200/-/250	D/C/B/A	-/2/5/5.5	
149	08/15/21	Sunday		Reconfigure			Install Run Group M								
150	08/16/21	Monday		Reconfigure			Install Run Group M								
151	08/17/21	Tuesday		Reconfigure			Install Run Group M								
152	08/18/21	Wednesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
153	08/19/21	Thursday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
154	08/20/21	Friday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
155	08/21/21	Saturday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
156	08/22/21	Sunday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
157	08/23/21	Monday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
158	08/24/21	Tuesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
159	08/25/21	Wednesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
160	08/26/21	Thursday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
161	08/27/21	Friday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
162	08/28/21	Saturday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
163	08/29/21	Sunday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
164	08/30/21	Monday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
165	08/31/21	Tuesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
166	09/01/21	Wednesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
167	09/02/21	Thursday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
168	09/03/21	Friday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
169	09/04/21	Saturday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
170	09/05/21	Sunday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
171	09/06/21	Monday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
172	09/07/21	Tuesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	D/A/B/C	2/3/4/5.5	
173	09/08/21	Wednesday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
174	09/09/21	Thursday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
175	09/10/21	Friday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
176	09/11/21	Saturday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
177	09/12/21	Sunday	1.96	Physics	E12-09-019	4.0/40/-/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	2/3/4/5.5	
178	09/13/21	Monday	1.96	Physics		Reconfigure	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
179	09/14/21	Tuesday	1.96	Physics		Reconfigure	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
180	09/15/21	Wednesday	1.96	Physics		Reconfigure	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
181	09/16/21	Thursday	1.96	Physics		Reconfigure	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
182	09/17/21	Friday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
183	09/18/21	Saturday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
184	09/19/21	Sunday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	2/3/4/5.5	
185	09/20/21	Monday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
186	09/21/21	Tuesday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
187	09/22/21	Wednesday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
188	09/23/21	Thursday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
189	09/24/21	Friday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	8.0/70/-/500	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/4/5.5	
190	09/25/21	Saturday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	PASS CHANGE		E12-19-003	10.9/440/-/250	C/D/A/B	2/3/5/5.5	
191	09/26/21	Sunday	1.96	Physics	E12-17-004	4.0/40/p/500	Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	C/D/A/B	2/3/5/5.5	
192	09/27/21	Monday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
193	09/28/21	Tuesday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
194	09/29/21	Wednesday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
195	09/30/21	Thursday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
196	10/01/21	Friday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
197	10/02/21	Saturday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
198	10/03/21	Sunday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	D/A/B/C	-/3/5/5.5	
199	10/04/21	Monday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	A/B/C/D	-/3/5/5.5	
200	10/05/21	Tuesday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	A/B/C/D	-/3/5/5.5	
201	10/06/21	Wednesday	1.96	Physics	Sched. Contingency		Run Group M	6.0/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	A/B/C/D	-/3/5/5.5	
202	10/07/21	Thursday	1.96	Physics	Sched. Contingency		PASS CHANGE		E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	A/B/C/D	-/1/5/5.5	
203	10/08/21	Friday	1.96	Physics	Sched. Contingency		Run Group M	2.1/200/-/500	E12-19-006	9.9/70/-/250	E12-19-003	10.9/440/-/250	A/B/C/D	-/1/5/5.5	
204	10/09/21	Saturday	1.96	Physics	Sched. Contingency		Run Group M	2.1/200/-/500	PASS CHANGE		E12-19-003	10.9/440/-/250	A/B/C/D	-/1/3/5.5	
205	10/10/21	Sunday	1.96	Physics	Sched. Contingency		Run Group M	2.1/200/-/500	E12-19-006	6.0/70/-/500	E12-19-003	10.9/440/-/250	A/B/C/D	-/1/3/5.5	
206	10/11/21	Monday	1.96	Physics	Sched. Contingency		Run Group M	2.1/200/-/500	E12-19-006	6.0/70/-/500	E12-19-003	10.9/440/-/250	B/C/D/A	-/1/3/5.5	
207	10/12/21	Tuesday	1.96	Physics	Sched. Contingency		PASS CHANGE		Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
208	10/13/21	Wednesday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
209	10/14/21	Thursday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
210	10/15/21	Friday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
211	10/16/21	Saturday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
212	10/17/21	Sunday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
213	10/18/21	Monday	1.96	Physics	Sched. Contingency		Run Group M	4.0/200/-/500	Sched. Contingency		Sched. Contingency		B/C/D/A	-/2/-/-	
214	10/19/21	Tuesday	127 days (18.1 weeks)												
215	10/20/21	Wednesday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
216	10/21/21	Thursday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
217	10/22/21	Friday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
218	10/23/21	Saturday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
219	10/24/21	Sunday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
220	10/25/21	Monday	1.96	Sched. Contingency	Sched. Contingency		Sched. Contingency		Sched. Contingency		Sched. Contingency				
221	10/26/21	Tuesday	134 days (19.1 weeks)												
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