

# Chemistry Division Resumption of Operations Plan (ROOP) from Minimum Safe Operations (“Min-Safe”)

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## **1. Resumption of Operations Plan (ROOP) Goals:**

- Protect Chemistry workers from exposure to SARS-CoV-2.
- Restart instruments and resume experimental work safely and in compliance with BNL Work Planning and Control (WP&C).
- Incrementally and methodically resume pre-Min-Safe staffing levels.

## 2. Exposure Protection Strategy Required Elements:

- On-Site Staffing Level Controls:
  - Continue enhanced telework levels, especially for computational work, data analysis and manuscript preparation.
  - Where possible, replace face-to-face meetings with communication by phone, video chat and email, even when all involved are on site.
  - Incrementally raise research group staffing levels in compliance with BNL metrics (**Table 1**).
  - Establish work-group schedules including alternating days or weeks, off-hours and weekend shifts to limit building occupancy.
  - Maintain work-group calendars to keep group on-site presence in compliance with **Table 1** limits.
  - Ensure group calendars are accessible to Division management to monitor compliance.
  - Prohibit active retiree return before Phase 3, with case-by-case Directorate Chief Operating Officer (DCOO) approval if required by Lab-level ROOP.
  
- Hygiene & Social Distancing Controls (see also **Appendix B**):
  - Observe face-covering, hand-washing, and social distancing in compliance with BNL and CDC guidelines.
  - Prohibit sharing of lab coats, safety glasses and phones.
  - Keep occupied single-occupancy office doors closed.
  - Prohibit congregating in hallways.
  - Clean keyboards, touchscreens, shared phones, glovebox (gloves and window) and other shared and common area surfaces before and after using.
  - Decrease lunchroom, conference room, and lobby area seating density consistent with six-foot social distance and post room occupancy limits consistent with BNL and NY State guidelines.
  - Limit elevator occupancy to one person.
  - Limit lavatory occupancy to one person.
  - Require sick workers to stay home and notify their supervisor and the Occupational Medicine Clinic (OMC).
  - Request custodial services implement disinfection of and enhanced attention to cleaning door handles and knobs, handrails, common area surfaces, lavatory fixtures.
  
- Engineering & Facilities Controls & Postings
  - Prop open frequently-used laboratory and equipment chase doors where safe to do so.
  - Prop open lavatory doors where privacy is provided by building design.
  - Open lunchroom/lobby partition to enhance ventilation of space.
  - Remove excess lunchroom and seminar room seating to storage.
  - Increase spacing between lobby chairs.
  - Post couches and benches to preserve social distancing.
  - Establish and mark exclusion zones in main office with “do not stand” postings.

### **3. Exposure Protection Recommended Practices:**

- Always refrain from touching your face—resist the urge to adjust your face covering.
- Use hand sanitizer when hand washing is not possible or practical.
- Don't use common area phones.
- Disinfect smart phone surfaces daily.
- Wear (nitrile) gloves to touch door handles and operate electronic and other equipment knobs and handles (never use gloves that have been used to handle chemicals).

### **4. Safe Work-Restart Strategy Required Elements:**

- Restart of Division instrumentation and operations is not anticipated to require WP&C outside of normal WP&C.
- Perform ESH Operations walkdown of Division spaces prior to restart activities.
- Develop and implement additional WP&C in locations where the ESH Operations walkdown identifies the need.
- Provide ESH and technical support during normal hours of operation.
- Make available Laboratory standard guidelines for after-hours work and working alone.

### **5. Actions Required to Implement Exposure Protection and Safe Work-Restart:**

- A Division Activity Checklist (**Table 3**) will be implemented.

### **6. Supplies Required to Implement Exposure Protection and Safe Work-Restart:**

- Personal protective equipment (PPE):
  - An ample supply of nitrile gloves is needed for use both as PPE in the laboratory and for exposure protection during operation of electronic and other equipment.
- Face coverings:
  - All Division workers are required to wear them in public settings. All should find a mask that is wearable and provides reasonable protection to others from exposure to respiratory droplets.
  - The Laboratory is supplying an initial set of cloth coverings for all employees.
  - Disposable paper and surgical-style masks are available from the central warehouse. These should be reserved primarily for in-lab work with chemicals.
  - A limited stock of bandanas is available as backup.
- An adequate number and regularly maintained hand sanitizer stations.
- Surface sanitizer and paper towels (the Laboratory is stocking "Spray Nine" disinfectant).
- Isopropyl alcohol or other disinfecting wipes or liquid for cleaning shared work surfaces.

## 7. New Engineering Controls Required to Implement Exposure Protection and Safe Work-Restart:

- Foot-pulls for lavatory doors where privacy is not possible with doors propped open.
- Hand sanitizer stations at major entrances (front, rear and two side entrances, minimum) and at two places in the core on all floors. Ideally the building should be supplied with 10 stations at minimum.

## 8. Special Concerns Raised by Group Leaders During the Planning:

- That students and postdocs who are classified as Guests but function as staff in roles critical to Chemistry scientific programs be granted access in the earliest Phases.
  - This concern was raised to the Directorate Chief Operating Officer who confirmed that access would be granted to “resident local guests” beginning with Phase 1B.
- That staff density should be considered, not purely FTEs.
  - To address this concern, we have received approval from the Directorate Chief Operating Officer to implement Shift Full-Time Equivalent (SFTE) as defined in **Table 1**.

## 9. Baseline Staffing Levels

- Restart and recovery staffing levels are based on group membership documented in **Table 4**.
- Infrequent Visitors were not included in our baseline count.
- Two Building 555 Occupants matrixed to Chemistry were not included.
- The SHS Representative matrixed to Chemistry was included at the normal operations level of 0.5 FTE.
- The group of approximately 10 Active Retirees were included as 2 FTEs. They will not be allowed into the Division until Phase 3A, and may require case-by-case DCOO according to Lab-level ROOP. The start dates for Phases 3A is yet to be announced.

## 10. Phase 2C Staffing Level Cap Space

- With the Phase 2 extension into Phase 2C, the 53-person staffing level cap may, on some days, not be reached.
- On such days, individual groups are permitted to exceed their ROOP Phase 2C limit by 2 persons, provided the Division as a whole remains under the total cap.
- To ensure that the Division remains under the cap, conscientious maintenance of the group calendars is essential. Read-only access to all Division calendars is at <https://teamup.com/ks5b2i7ebp4w2e85qz>.
- To facilitate planning, Division members should make every effort to enter their attendance into the calendars 1 week in advance.
- Each group retains the right to fully populate up to its own limit, and groups over their limit must yield the right of way.

**Table 1: Staffing Level Limits  
in Shift Full-Time Equivalents (SFTEs\*)**

BNL ROOP Phase:	1		2			3		
Chemistry ROOP Step:	1A	1B	2A	2B	2C	3A	3B	
Recovery Days:	1–14	15–32	33–48	49–TBA <sup>§</sup>		TBA	TBA	
Target Start Date:	June 4	June 18	July 6	July 22	Sept 28	TBA	TBA	
Staff On Site Guide:	EP (10%)	10–20%	15–30%	25–40%	2B + 9	35–60%	55–90%	100%
Group†								
AP	0.0	2.0	4.0	6.0	8.0	9.0	13.0	14.0
AR**	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
CAFP	0.0	2.0	2.5	3.0	4.0	5.0	9.0	12.0
CAS**	1.0	3.5	3.5	3.5	3.5	4.0	5.0	8.0
CRS	0.0	2.0	3.0	6.0	7.0	10.0	18.0	27.0
EES	0.0	2.0	2.5	3.0	3.0	5.0	6.0	6.0
EPIP	0.0	3.0	6.0	6.0	7.0	8.0	11.0	12.0
FMET	0.0	2.0	2.0	3.0	3.0	5.0	9.0	10.0
NIC	0.0	2.0	3.0	4.0	5.0	4.0	6.0	6.0
NNC	0.0	2.0	2.5	3.0	4.0	4.0	6.0	6.0
SDAN	0.0	2.0	2.5	3.0	4.0	5.0	9.0	10.0
SHS**	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
SEE	0.0	2.0	2.0	3.0	4.0	4.0	5.0	4.0
<b>Staff On Site (SFTEs)</b>	1.0	25.0	34.0	44.0	53.0	63.5	98.5	117.5
<b>Percent Staffing (%)</b>	0.9	21.3	28.9	37.4	45.1	54.0	83.8	100.0
<b>Average Research Group Staff Level</b>	0.00	2.10	3.00	4.00	4.90	5.90	9.20	10.70

\* SFTE = (total staff hours worked per 8-hour shift) / 8 hr. Two conditions must be met: (1) The SFTE will not exceed the limit permitted the group during any given shift and (2) the number of workers present at any given time may not exceed the group limit by more than 0.5.

§ To be announced.

† Work Group abbreviations are defined in **Table 2**.

\*\* Support Work Groups not counted in average group staff level calculation.

**Table 2: Chemistry Work Groups**

<b>Group</b>	<b>Abbreviation</b>	<b>Spokesperson</b>	<b>Other Leaders</b>	<b>Full Staffing Level</b>
Artificial Photosynthesis	AP	Fujita, Etsuko	—	14.0
Active Retirees	AR	—	—	2.0
Catalysis for Alternative Fuels Production	CAFP	Chen, Jingguang	—	12.0
Chemistry Administration & Support	CAS	Harris, Alex	—	8.0
Catalysis Reactivity & Structure	CRS	Rodriguez, Jose	—	27.0
Electrochemical Energy Storage	EES	Yang, Xiao-Qing	—	6.0
Electron & Photoinduced Processes	EPIP	Miller, John	Wishart, Jim	12.0
Functional Materials for Energy Technologies	FMET	Khalifah, Peter	—	10.0
Nanostructured Interfaces for Catalysis	NIC	White, Mike	—	6.0
Neutrino & Nuclear Chemistry	NNC	Yeh, Minfang	—	6.0
Structure and Dynamics of Applied Nanomaterials	SDAN	Frenkel, Anatoly	—	10.0
Safety & Health Services Support	SHS	McFadden, Ryan	—	0.5
Surface Electrochemistry & Electrocatalysis	SEE	Wang, Jia	—	4.0
<b>Total</b>				<b>117.5</b>

**Table 3: Division Activity Checklist**

Activity	Target Timeline*	Responsible Person Name & Title
Confirm PPE for normal operations is in stock	2 weeks	Jim Anselmini Research Space Manager
Confirm face coverings available to comply with BNL social distancing requirements	2 weeks	Jim Anselmini Research Space Manager
Confirm isopropyl alcohol wipes (or similar disinfecting solution and wipes) are in stock adequate to clean shared work surfaces	2 weeks	Jim Anselmini Research Space Manager
Develop checklist for restart readiness walkdowns (see Appendix C)	2 weeks	Nick Camillone ESH Ops Coordinator
Develop list of personnel essential to recovery operations	2 weeks	Nick Camillone ESH Ops Coordinator
Chair meets with Group Leaders to review Division guidelines	2 weeks	Alex Harris Chair
Confirm essential personnel are approved for pre-restart access	1 week	Nick Camillone ESH Ops Coordinator
Confirm Group Leaders have met with personnel and planned recovery and restart operations and schedules (see Appendix A)	5 days	Alex Harris Chair
Conduct restart readiness walkdowns using restart readiness walkdowns (see Appendix C)	5 days	Nick Camillone ESH Ops Coordinator
Clean water coolers. Ensure water fountains and kitchenette sinks are flushed by FPM.	2 days	Jim Anselmini Research Space Manager

\* prior to Phase 1B of resumption of activities

**Table 4: Division Roster by Research or Administrative Group**

Count	Last Name	First Name	Life No.	Group Spokesperson / Supervisor	100%
<b>Infrequent Visitors (not included in Division total count)</b>					
	Evans	Cherice		Miller, John	
	Horne	Gregory		Wishart, Jim	
	Mani	Tomoyasu		Miller John	
	Mezyk	Stephen		Miller, John	
	Szalda	David		Fujita, Etsuko	
	Sears	Trevor		Harris, Alex	count as
	Badiei	Yosra		Fujita, Etsuko	0.0
<b>Local Resident Science-Mission-Critical Visitors (allowed access beginning with Phase 2)</b>					
	Chen-Wiegart	Yu-chen Karen		MSEE—Wishart, Jim	
	Lall-Ramnarine	Sharon		QCC/Yale collaboration—Wishart, Jim	
	Liu	Xiaoyang		MSEE—Wishart, Jim	
	Ronne	Arthur		MSEE—Wishart, Jim	
	Wang	Likun		SBU collaboration—Vukmirovic, Miomir	count as
	Yu	Lin-Chieh		MSEE—Wishart, Jim	0.0
<b>Non-Local Science-Mission-Critical Visitors (allowed access beginning with Phase 2B)</b>					
	Chang	Qiaowan		CAFP—Chen, Jingguang	count as
	Mencke	Austin		EPIP—Bird, Matthew	0.0
<b>Occupants not under Division controls</b>					
	Ostensen	Mary A		not under Division—Directorate	count as
	Howell	Stephen		not under Division—F&O	0.0
<b>AP: Artificial Photosynthesis</b>					
1	Abdulrahiman	Nijamudheen		Fujita, Etsuko	
2	Blakemore	James		Fujita, Etsuko	
3	Concepcion	Javier		Fujita, Etsuko	
4	Di Marco	Brian		Fujita, Etsuko	
5	Ertem	Mehmed		Fujita, Etsuko	
6	Faustino	Leandro		Fujita, Etsuko	
7	Fujita	Etsuko		Fujita, Etsuko	
8	Grills	David		Fujita, Etsuko	
9	Manbeck	Gerald		Fujita, Etsuko	
10	Neiva Sampaio	Renato		Fujita, Etsuko	
11	Peng	Yun		Fujita, Etsuko	
12	Polyansky	Dmitry		Fujita, Etsuko	
13	Wang	Lei		Fujita, Etsuko	
14	Zhang	Lei		Fujita, Etsuko	14

<b>AR: Active Retirees (included as 2 FTE in Division total count)</b>					
	Adzic	Radoslav		Retired	
	Cumming	James		Retired	
	Feldberg	Stephen		Retired	
	Hall	Gregory		Retired	
	Hanson	Jonathan		Retired	
	Holroyd	Richard		Retired	
	Lymar	Sergei		Retired	
	Muckerman	James		Retired	
	Newton	Marshall		Retired	
	Smalley	John		Retired	
15	Sutin	Norman		Retired	count as
16	Wang	Jia		Retired	2
<b>CAFP: Catalysis for Alternative Fuels Production</b>					
17	Chen	Jingguang		Chen, Jingguang	
18	Lee	Ji Hoon		Chen, Jingguang	
19	Liu	Yumeng		Chen, Jingguang	
20	Mao	Zhongtian		Chen, Jingguang — new hire (Phase 2B)	
21	Marinkovic	Nebojsa		Chen, Jingguang	
22	Nian	Yao		Chen, Jingguang	
23	Tian	Dong		Chen, Jingguang	
24	Tu	Chunyan		Chen, Jingguang	
25	Wang	Dong		Chen, Jingguang	
26	Wang	Yan		Chen, Jingguang	
27	Xie	Zhenhua		Chen, Jingguang	
28	Zhang	Cheng		Chen, Jingguang	12
<b>CAS: Chemistry Administration &amp; Support</b>					
29	Anselmini	James		Harris, Alex	
30	Camillone	Nicholas		Harris, Alex	
31	Convery	Kelly Anne		Harris, Alex	
32	Harris	Alex		Harris, Alex	
33	Hoogsteden	Jeffrey		Harris, Alex	
34	Kahanda	Mahendra		Harris, Alex	
35	Peters	Sarah		Harris, Alex	
36	Sallustio	Linda		Harris, Alex	8
<b>CRS: Catalysis Reactivity &amp; Structure</b>					
37	Betancourt De Leon	Luis		Rodriguez, Jose	
38	Deng	Kaixi		Rodriguez, Jose	
39	Guo	Haoyue		Rodriguez, Jose	
40	Hamlyn	Rebecca		Rodriguez, Jose	
41	Huang	Erwei		Rodriguez, Jose	
42	Jimenez	Juan		Rodriguez, Jose — new hire (Phase 2B)	
43	Kang	Jindong		Rodriguez, Jose	
44	Le	Thanh		Rodriguez, Jose	
45	Liao	Wenji		Rodriguez, Jose	

46	Lin	Wenlin		Rodriquez, Jose	
47	Liu	Ping		Rodriquez, Jose	
48	Liu	Zongyuan		Rodriquez, Jose	
49	Mahapatra	Mausumi		Rodriquez, Jose	
50	Moncada	Jorge		Rodriquez, Jose — new hire (Phase 2B)	
51	Orosco	Ivan		Rodriquez, Jose	
52	Rodriguez	Jose		Rodriquez, Jose	
53	Rosales	Rina		Rodriquez, Jose	
54	Rui	Ning		Rodriquez, Jose	
55	Senanayake	Sanjaya		Rodriquez, Jose	
56	Shi	Rui		Rodriquez, Jose	
57	Simonovis Santamaria	Juan Pablo		Rodriquez, Jose	
58	Taboada	Stephanie		Rodriquez, Jose—not currently on an ESR	
59	Tian	Yi		Rodriquez, Jose	
60	Vovchok	Dimitriy		Rodriquez, Jose	
61	Wang	Xuelong		Rodriquez, Jose	
62	Zhang	Feng		Rodriquez, Jose	
63	Zhang	Hong		Rodriquez, Jose	27
<b>EES: Electrochemical Energy Storage</b>					
64	Hu	Enyuan		Yang, Xiao-Qing	
65	Lin	Ruoqian		Yang, Xiao-Qing	
66	Shadike	Zulipiya		Yang, Xiao-Qing	
67	Tan	Sha		Yang, Xiao-Qing	
68	Wang	Qinchao		Yang, Xiao-Qing	
69	Yang	Xiao-Qing		Yang, Xiao-Qing	6
<b>EPIP: Electron &amp; Photoinduced Processes</b>					
70	Bird	Matthew		Miller, John	
71	Cook	Andrew		Miller, John	
72	Miller	John		Miller, John	
73	Oh	Seokjoon		Miller, John	
74	Cabelli	Diane C		Wishart, Jim	
75	Iwamatsu	Kazuhiro		Wishart, Jim	
76	Knudtson	Meghan		Wishart, Jim	
77	Layne	Bobby		Wishart, Jim	
78	Simerjeet	Gill		Wishart, Jim	
79	Sure	Jagadeesh		Wishart, Jim	
80	Wang	Furong		Wishart, Jim	
81	Wishart	James		Wishart, Jim	12
<b>FMET: Functional Materials for Energy Technologies</b>					
82	Corrao	Adam		Khalifah, Peter	
83	Cosby	Monty		Khalifah, Peter	
84	Denney	Jonathan		Khalifah, Peter—listed inactive in BTMS	
85	Khalifah	Peter		Khalifah, Peter	
86	Kinsley	John		Khalifah, Peter—not listed in an ESR	
87	Li	Zhuo		Khalifah, Peter	
88	Mattei	Gerard		Khalifah, Peter	

89	Wang	Yulong		Khalifah, Peter	
90	Wang	Yusu		Khalifah, Peter	
91	Zhang	Hongxing		Khalifah, Peter—not listed in an ESR	10
<b>NIC: Nanostructured Interfaces for Catalysis</b>					
92	Bonney	Matthew		White, Mike	
93	Ma	Yilin		White, Mike	
94	Serra	Brian		White, Mike	
95	Shi	Luolin		White, Mike	
96	Wang	Jason		White, Mike	
97	White	Michael G		White, Mike	6
<b>NNC: Neutrino &amp; Nuclear Chemistry</b>					
98	Camilo Reyes	Christopher		Yeh, Minfang	
99	Diaz Perez	Rayzeline		Yeh, Minfang	
100	Gokhale	Sasmit		Yeh, Minfang	
101	Hans	Sunej		Yeh, Minfang	
102	Rosero	Richard		Yeh, Minfang	
103	Yeh	Minfang		Yeh, Minfang	6
<b>SDAN: Structure and Dynamics of Applied Nanomaterials</b>					
104	Ebrahim	Amani		Frenkel, Anatoly	
105	Frenkel	Anatoly		Frenkel, Anatoly	
106	Li	Junying		Frenkel, Anatoly	
107	Li	Yuanyuan		Frenkel, Anatoly	
108	Liu	Yang		Frenkel, Anatoly—not currently on an ESR	
109	Marcella	Nicholas		Frenkel, Anatoly	
110	Plonka	Anna		Frenkel, Anatoly	
111	Tian	Yiyao		Frenkel, Anatoly	
112	Wang	Haodong		Frenkel, Anatoly	
113	Xiang	Shuting		Frenkel, Anatoly	10
<b>SHS: Safety &amp; Health Services Support</b>					
113.5	McFadden	Ryan		not under Division—SHSD; count under Harris	count as 0.5
<b>SEE: Surface Electrochemistry &amp; Electrocatalysis</b>					
114.5	Sasaki	Kotaro		Wang, Jia	
115.5	Song	Liang		Wang, Jia	
116.5	Vukmirovic	Miomir		Wang, Jia	
117.5	Zhao	Xueru		Wang, Jia	4
<b>Total</b>					
<b>117.5</b>					<b>117.5</b>

**Appendix A:**  
**Chemistry Division Recovery from Minimum Safe Operations:**  
**Group Leader Pre-Restart Meeting Talking Points and Responsibilities Guidelines**

<b>Group Pre-Restart Meeting:</b>	<b>Overview</b>
<ul style="list-style-type: none"> <li>• purpose is to ensure group is prepared to restart safely with plans for             <ul style="list-style-type: none"> <li>— protection from SARS-CoV-2 exposure</li> <li>— resuming operations</li> </ul> </li> </ul>	
<b>Group Pre-Restart Meeting:</b>	<b>Protection from SARS-CoV-2 Exposure</b>
<ul style="list-style-type: none"> <li>• be aware the virus may be in your environment</li> <li>• follow CDC &amp; BNL recommendations (see Personnel Guidelines Reference Sheet)</li> <li>• if you experience symptoms, stay home and notify your supervisor</li> <li>• plan for social distancing (maintain six feet of separation)             <ul style="list-style-type: none"> <li>— rearrange workspaces using barriers or distance</li> <li>— plan work schedules to reduce overlap</li> </ul> </li> <li>• receive and discuss feedback from group members regarding virus protection plans</li> </ul>	
<b>Group Pre-Restart Meeting:</b>	<b>Resuming Operations</b>
<ul style="list-style-type: none"> <li>• ensure personnel training is current (including ESRs, SOPs, TQ-COVID)</li> <li>• review plans for restarting lab operations and equipment</li> <li>• receive and discuss feedback from group members regarding restart work planning</li> </ul>	
<b>Group Leader Responsibilities:</b>	
<ul style="list-style-type: none"> <li>• conduct group meeting including above talking points</li> <li>• review the training status of personnel</li> <li>• ensure a plan is in place to affect social distancing</li> <li>• ensure work planning &amp; control is in place to restart lab operations and equipment</li> <li>• walkdown work areas and equipment with personnel to finalize restart planning</li> </ul>	

**Appendix B:**  
**Chemistry Division Recovery from Minimum Safe Operations:**  
**Personnel Guidelines Reference Sheet**

**Be Aware:**

- the SARS-CoV-2 virus may be in your environment
- persons without symptoms may be able to spread the virus
- face coverings are not a substitute for social distancing
- operations at BNL may not return to pre-pandemic normal for many months

**Follow CDC and BNL Recommendations**

- clean your hands often
  - wash with soap & water for  $\geq 20$  sec
  - use  $>60\%$  ethanol or  $>70\%$  isopropanol sanitizer when soap & water not available
  - avoid touching your face
- maintain six feet of social distance when close contact is avoidable
- observe posted room occupancy limits
- wear a cloth face covering when six feet of social distance is difficult to maintain
- don't share lab coats, safety glasses, phones, etc.
- clean your personal work area and shared work surfaces before and after use
- stay home and notify your supervisor if you experience cough, shortness of breath, difficulty breathing or at least two of the following: fever, chills, repeated shaking with chills, muscle pain, headache, sore throat, new loss of taste smell

**Complete Restart Activities**

- meet with your supervisor and group members
  - understand your work group's plan for social distancing
  - carefully plan restart of lab operations and equipment
- ensure your training is up to date and documented (including ESRs, SOPs, TQ-COVID)
- obtain your supervisor's authorization to restart work

**Work Safely**

- start slowly—what came naturally before the hiatus may require extra thought
- be patient—some tasks may now take more time to complete
- be kind—minimize the impact of stressors by fostering collegiality

**Appendix C:**  
**Chemistry Division Recovery from Minimum Safe Operations:**  
**Restart Readiness Walkdown Checklist**

Room No.	Description	Work Planning & Control	Responsible Person(s)		Q1	Q2	Walkdown Date
			Name	Initials			
111	storage (LN2)	CO Operational Work Planning	J. Anselmini				
114	machine shop	CO Operational Work Planning; JRA28	J. Anselmini				
115 115B 115C	multi-purpose lab	CO-9-2; CO-9-4	J. Rodriguez; S. Senanayake				
1 <sup>st</sup> fl. W chase	service chase	N/R	M. White				
121	multi-purpose lab	CO-7-3	M. White				
123/5	multi-purpose lab	CO-7-5	M. White				
127	multi-purpose lab	CO-7-8; CO-7-4	M. White				
129	tech area (storage)	N/R	M. White				
1 <sup>st</sup> fl. E chase	service chase	N/R	J. Wishart; J. Miller				
LEAF: anteroom control room laser room	multi-purpose lab	CO-4-13B; CO-4-2; CO-4-9	J. Wishart; A. Cook				
LEAF: vault	accelerator facility	CO-4-13B; CO-4-9	J. Wishart; A. Cook				
161	chemical lab	CO-4-13; CO-4-9	J. Wishart; A. Cook				
163	multi-purpose lab	CO-4-2; CO-4-9A; CO-4-9	A. Cook; J. Wishart; B. Layne				
165	chemical lab	CO-4-13; CO-4-9	J. Wishart; A. Cook				
167	chemical lab	CO-4-13; CO-4-13A;	J. Wishart; A. Cook				

		CO-4-9					
169	chemical lab	CO-4-9	J. Miller				
171	chemical lab	CO-4-9	J. Miller				
173	chemical lab	CO-4-13; CO-4-3; CO-4-30; CO-4-9	J. Wishart; K. Sasaki; A. Cook				
176	multi-purpose lab	CO-4-2A; CO-4-9	J. Wishart; D. Grills; A. Cook				
177	accelerator facility	CO-4-2A; CO-4-9	J. Wishart; D. Grills; A. Cook				
203	multi-purpose lab	CO-1-4	M. Yeh				
204	multi-purpose lab	CO-1-4	M. Yeh				
205	multi-purpose lab	CO-1-14; CO-9-3	D. Grills; P. Khalifah				
206	ice machine, dry ice	CO Operational Work Planning	J. Anselmini				
212A/H	chemical lab	CO-1-4A; CO-1-4B	M. Yeh				
212B	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone				
212C	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone				
212E	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone				
212J	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone				
213 213A	tech area—shop	CO Operational Work Planning	J. Anselmini				
2 <sup>nd</sup> fl. W chase	service chase	N/R	J. Chen				
221	chemical lab	CO-9-2; CO-9-7	J. Rodriguez; J. Chen				
223	chemical lab	CO-9-4; CO-9-7	S. Senanayake; J. Chen; J. Rodriguez				

233	multi-purpose lab	CO-4-5	D. Grills; D. Polyansky				
235	electronics fab. area	CO-4-5	D. Grills; D. Polyansky				
245	chemical lab	CO-4-1; CO-4-28; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills				
247	chemical lab	CO-4-11	D. Polyansky; D. Grills				
249	chemical lab	CO-4-1; CO-4-22; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills				
255	chemical lab	CO-4-1; CO-4-1A; CO-4-28; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills				
304	multi-purpose lab	CO-MA-1.1 CO-MA-1B	M. Vukmirovic; K. Sasaki; J. Wang				
305	computer room	N/R	M. Kahanda				
307	ice machine	CO Operational Work Planning	J. Anselmini				
3 <sup>rd</sup> fl. W chase	service chase	N/R	J. Wang; A. Frenkel; P. Khalifah				
321	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki				
323	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki				
325	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki				
327	chemical lab	CO-MA-2; CO-MA-4	X.-Q. Yang				
329	chemical lab	CO-MA-2; CO-MA-3; CO-MA-5	X.-Q. Yang				
343	chemical lab	CO-4-19	P. Khalifah				

349	chemical lab	CO-9-9	A. Frenkel				
351	chemical lab	CO-9-9	A. Frenkel				
353	chemical lab	CO-9-9	A. Frenkel				
387	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh				
389	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh				
391	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh				
3 <sup>rd</sup> fl. E chase	service chase	N/R	M. Yeh				
loft	mech. equip. room	CO Operational Work Planning	J. Anselmini				

<b>Q1:</b>	Were any configuration changes made to transition to Minimum-Safe operations that now require special work planning and control to reverse prior to resumption of normal operations?
	<i>If yes, explain under A1 below and complete work planning and control prior to resuming normal operations.</i>
<b>Q2:</b>	Did the walkdown reveal any ESH issues that require attention prior to resumption of normal operations?
	<i>If yes, explain under A2 below and address ESH issues prior to resuming normal operations.</i>

*We certify that the above-listed spaces have been walked down and that the identified work planning and control and ESH action items listed below have been addressed prior to resuming normal operations from BNL COVID-19 Minimum-Safe status:*

**Jim Anselmini**

*Chemistry Division Research Space Manager*

*Signature*

*Date*

**Nick Camillone**

*Chemistry Division ESH Operations Coordinator*

*Signature*

*Date*

**Alex Harris**

*Chemistry Division Chair*

*Signature*

*Date*

	Identified Issue	Action Taken	Date Completed	Initials
<b>A1:</b>	Configuration changes made to transition to Minimum-Safe operations that now require special work planning and control to reverse, prior to resumption of normal operations:			
<b>A2:</b>	ESH issues revealed during the walkdown that require attention prior to resumption of normal operations:			

## Appendix D: Completed and Signed Restart Readiness Walkdown Checklist

### Appendix C: Chemistry Division Recovery from Minimum Safe Operations: Restart Readiness Walkdown Checklist

Room No.	Description	Work Planning & Control	Responsible Person(s)		Q1	Q2	Walkdown Date				
			Name	Initials							
111	storage (LN2)	CO Operational Work Planning	J. Anselmini	JA	no	no	6/16/20				
114	machine shop	CO Operational Work Planning; JRA28	J. Anselmini	JA	no	no	6/16/20				
115 115B ✓ 115C	multi-purpose lab	CO-9-2; CO-9-4	J. Rodriguez; S. Senanayake	JRS	no	no	6/9/20				
1 <sup>st</sup> fl. W chase ✓	service chase	N/R	M. White	MW	no	no	6/11/20				
121 ✓	multi-purpose lab	CO-7-3	M. White	MW	↓	↓	↓				
123/5 ✓	multi-purpose lab	CO-7-5	M. White	MW							
127 ✓	multi-purpose lab	CO-7-8; CO-7-4	M. White	MW							
129 ✓	tech area (storage)	N/R	M. White	MW							
1 <sup>st</sup> fl. E chase ✓	service chase	N/R	J. Wishart; J. Miller	JW				no	no	6/10/20	
LEAF: anteroom ✓ control room laser room	multi-purpose lab	CO-4-13B; CO-4-2; CO-4-9	J. Wishart; A. Cook	↓	↓	↓	↓				
LEAF: vault ✓	accelerator facility	CO-4-13B; CO-4-9	J. Wishart; A. Cook								
161 ✓	chemical lab	CO-4-13; CO-4-9	J. Wishart; A. Cook								
163 ✓	multi-purpose lab	CO-4-2; CO-4-9A; CO-4-9	A. Cook; J. Wishart; B. Layne								
165 ✓	chemical lab	CO-4-13; CO-4-9	J. Wishart; A. Cook								
167 ✓	chemical lab	CO-4-13; CO-4-13A;	J. Wishart; A. Cook					↓	↓	↓	↓

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		CO-4-9						↓
169 ✓	chemical lab	CO-4-9	J. Miller					6/10/20
171 ✓	chemical lab	CO-4-9	J. Miller					
173 ✓	chemical lab	CO-4-13; CO-4-3; CO-4-30; CO-4-9	J. Wishart; K. Sasaki; A. Cook					
176 ✓	multi-purpose lab	CO-4-2A; CO-4-9	J. Wishart; D. Grills; A. Cook					
177 ✓	accelerator facility	CO-4-2A; CO-4-9	J. Wishart; D. Grills; A. Cook	↓	↓	↓	↓	
203 ✓	multi-purpose lab	CO-1-4	M. Yeh	RR	no	no		6/10/20
204 ✓	multi-purpose lab	CO-1-4	M. Yeh	RR	no	no		6/10/20
205 ✓	multi-purpose lab	CO-1-14; CO-9-3	D. Grills; P. Khalifah	Del	no	no		6/9/20
206	ice machine, dry ice	CO Operational Work Planning	J. Anselmini	JA	no	no		6/16/20
212A/H ✓	chemical lab	CO-1-4A; CO-1-4B	M. Yeh	RR	no	no		6/10/20
212B	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone	JA	no	no		6/9/20
212C	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone	JA	no	no		6/9/20
212E	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone	JA	no	no		6/9/20
212J	storage—chemical	CO Operational Work Planning	J. Anselmini; N. Camillone	JA	no	no		6/9/20
213 213A	tech area—shop	CO Operational Work Planning	J. Anselmini	JA	no	no		6/16/20
2 <sup>nd</sup> fl. W chase	service chase	N/R	J. Chen	JA	no	no		6/9/20
221 ✓	chemical lab	CO-9-2; CO-9-7	J. Rodriguez; J. Chen	JA	no	no		6/9/20
223 ✓	chemical lab	CO-9-4; CO-9-7	S. Senanayake; J. Chen; J. Rodriguez	JA	no	no		6/9/20

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233 ✓	multi-purpose lab	CO-4-5	D. Grills; D. Polyansky	DBL	no	no	6/9/20
235 ✓	electronics fab. area	CO-4-5	D. Grills; D. Polyansky	DBL	no	no	
245 ✓	chemical lab	CO-4-1; CO-4-28; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills	DBL	no	no	
247 ✓	chemical lab	CO-4-11	D. Polyansky; D. Grills	DBL	no	no	
249 ✓	chemical lab	CO-4-1; CO-4-22; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills	DBL	no	no	
255 ✓	chemical lab	CO-4-1; CO-4-1A; CO-4-28; CO-4-6A	J. Concepcion; E. Fujita; D. Polyansky; D. Grills	DBL	↓	↓	↓
304 ✓	multi-purpose lab	CO-MA-1.1 CO-MA-1B	M. Vukmirovic; K. Sasaki; J. Wang	KS	no	no	6/10/20
305	computer room	N/R	M. Kahanda	DK	no	no	6/9/20
307	ice machine	CO Operational Work Planning	J. Anselmini	AN	no	no	6/15/20
3 <sup>rd</sup> fl. ✓ chase	service chase	N/R	J. Wang; A. Frenkel; P. Khalifah	DK	no	no	6/10/20
321 ✓	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki	KS	no	no	6/10/20
323 ✓	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki	KS	↓	↓	↓
325 ✓	chemical lab	CO-MA-1.1; CO-MA-1A	M. Vukmirovic; K. Sasaki	KS	↓	↓	↓
327 ✓	chemical lab	CO-MA-2; CO-MA-4	X.-Q. Yang	XY	no	no	6/9/20
329 ✓	chemical lab	CO-MA-2; CO-MA-3; CO-MA-5	X.-Q. Yang	XY	no	no	6/9/20
343	chemical lab	CO-4-19	P. Khalifah	DK	no	no	6/10/20

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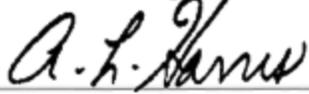
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349 ✓	chemical lab	CO-9-9	A. Frenkel	YL	no	no	6/10/20
351 ✓	chemical lab	CO-9-9	A. Frenkel	YL	↓	↓	↓
353 ✓	chemical lab	CO-9-9	A. Frenkel	YL	↓	↓	↓
387	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh	RR	no	no	6/10/20
389	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh	RR	↓	↓	↓
391	chemical lab	CO-1-4; CO-1-4A; CO-1-4B	M. Yeh	RR	↓	↓	↓
3 <sup>rd</sup> fl. E chase	service chase	N/R	M. Yeh	RR	no	no	6/10/20
loft	mech. equip. room	CO Operational Work Planning	J. Anselmini	JA	no	no	6/16/20

<b>Q1:</b>	Were any configuration changes made to transition to Minimum-Safe operations that now require special work planning and control to reverse prior to resumption of normal operations?
	<i>If yes, explain under A1 below and complete work planning and control prior to resuming normal operations.</i>
<b>Q2:</b>	Did the walkdown reveal any ESH issues that require attention prior to resumption of normal operations?
	<i>If yes, explain under A2 below and address ESH issues prior to resuming normal operations.</i>

We certify that the above-listed spaces have been walked down and that the identified work planning and control and ESH action items listed below have been addressed prior to resuming normal operations from BNL COVID-19 Minimum-Safe status:

Jim Anselmini Chemistry Division Research Space Manager	 Signature	6/16/20 Date
Nick Camillone Chemistry Division ESH Operations Coordinator	 Signature	6/17/20 Date
Alex Harris Chemistry Division Chair	 Signature	6/17/20 Date

Identified Issue	Action Taken	Date Completed	Initials
<b>A1:</b> Configuration changes made to transition to Minimum-Safe operations that now require special work planning and control to reverse, prior to resumption of normal operations:			
<b>A2:</b> ESH issues revealed during the walkdown that require attention prior to resumption of normal operations:			

## REVISION HISTORY

Revision	Date	Description
0	06/08/20	<ul style="list-style-type: none"> <li>original issue by N. Camillone</li> </ul>
1	07/13/20	<ul style="list-style-type: none"> <li>updated “Catalysis on the Nanoscale” group name to “Nanostructured Interfaces for Catalysis” and sorted tables to restore alphabetical order</li> <li>shifted Phase 2A, 2B, 3A, and 3B, onset dates 4 days later per Lab-wide rescheduling</li> <li>added accidentally omitted member to EPIP group (G. Simerjeet)</li> <li>added previously overlooked members to CRS group (T. Le, W. Li, R. Rosales, Y. Tian, H. Zhang)</li> <li>revised EPIP and CRS group member totals to 12 and 25, respectively, and, consequently, adjusted Division totals</li> <li>increased NIC group Phase 2B limit from 3.5 to 4.0</li> <li>added “Science-Mission-Critical Visitors” (Y.K. Chen-Wiegart, X. Liu, A. Ronne, L.-C. Yu) allowed access beginning with Phase 2 per DCOO approval for MSEE (Molten Salts in Extreme Environments)</li> <li>added Appendix D: completed and signed Appendix C</li> </ul> <p style="text-align: right;">— N. Camillone</p>
2	07/17/20	<ul style="list-style-type: none"> <li>shifted Phase 2B (and consequently Phases 3A and 3B) onset dates 2 days later per Lab-wide rescheduling</li> <li>corrected Day numbers in Table 1 (and reference to Day 71, now Day 77, for return of retirees) resulting from shift of Phase 2 onset from July 2 to 6 and Phase 2B onset to July 22</li> <li>deleted S.M. Bak (has moved to NSLS-II) from EES group; EES group total to 6; adjusted Division totals accordingly</li> <li>added mission-critical visitors L. Wang (SBU collaboration with SEE group) and S. Lall-Ramnarine (QCC/Yale collaboration with EPIP group) allowed access beginning with Phase 2 per DCOO approval</li> </ul> <p style="text-align: right;">— N. Camillone</p>
3	08/25/20	<ul style="list-style-type: none"> <li>re-labeled “Science-Mission-Critical Visitors” as “Local Resident Science-Mission-Critical Visitors”; all reside in the Long Island / NYC area</li> <li>added “Non-Local Science-Mission-Critical Visitors” (Q. Chang and A. Mencke) allowed access during Phase 2B per approved ROOP request form; visitors will follow applicable NYS and BNL quarantine rules prior to reporting on site</li> <li>corrected error in EES group total (now 6) in Table 1 to match Table 4</li> <li>added “Phase 2B’” which incorporates increased staff level limits for the following groups: CAFP, CRS, EPIP, NIC, NNC, SDAN, SEE: 1 additional each; and AP: 2 additional; thus, Phase 2B’ allows access for 9 additional staff above the Phase 2 limit; implementation of Phase 2B’ is pending BNL and DOE approval; start date is “TBA”</li> </ul> <p style="text-align: center;">— continued on page following —</p>

		<ul style="list-style-type: none"> <li>• changed the start dates for Phase 3 and its sub-Phases to “TBA”; likewise for the reference to return of retirees, p. 2 &amp; 4</li> <li>• updated symptoms listed in Personnel Guidelines Reference Sheet to be consistent with BNL Pre-Entry Screening Questions</li> </ul> <p style="text-align: right;">— N. Camillone</p>
4	09/25/20	<ul style="list-style-type: none"> <li>• moved J. Wang to retirees</li> <li>• added new hires, all approved by DOE for relocation exemption and by DCOO via ROOP request form: Z. Mao, J. Jimenez, J. Moncada</li> <li>• changed retiree return from onset Phase 3B to onset Phase 3A, include possible case-by-case DCOO approval required, to be consistent with Lab-level plan, p. 2 &amp; 4</li> <li>• for clarity, rename “Phase 2B’ ” as “Phase 2C”</li> <li>• included flexibility for individual groups to exceed group limit by 2 provided Division remains under 53-person cap, Section 10, p. 4</li> <li>• implementation of Phase C approved by BNL and DOE 9/24/20; Division start date set as 9/28/20</li> </ul> <p style="text-align: right;">— N. Camillone</p>