


Title: Code Grey – Air Exclusion (Button Down)	<input checked="" type="checkbox"/> Policy	<input checked="" type="checkbox"/> Procedure	<input type="checkbox"/> SOP
Category: General Sub-category: Emergency Plan	Distribution: Organization Wide		
Approved: President & CEO Signature: 	Approval Date:	April 1, 1998	
	Next Review Date:	Mar. 1, 2022	
	Reviewed/Revised Date:	Mar. 1, 2025	

CROSS REFERENCES: (EMER-90) Code Green, (EMER-100) Code Brown, (EMER-150) Lockdown Alert, (EMER-160) Emergency Management System

1. PURPOSE

Outline the actions to be taken when external air must be excluded from Thunder Bay Regional Health Sciences Centre (the Hospital) because of an external irritating toxic airborne substance. In extreme circumstances, the implementation of Code Green may precipitate from an initial Code Grey.

2. POLICY STATEMENT

In the event of a Code Grey – Air Exclusion, the Hospital will provide an Emergency Plan to address response to such an incident.

3. SCOPE

Applies to external irritating toxic airborne substances. It does not apply to internal release or generation of irritating substances – see Code Brown.

4. DEFINITIONS

HVAC:

Heating, Ventilation and Air Conditioning systems – the equipment and technology for environmental comfort and control.

Incident Manager:

The Senior Leader On-Call or Admin Coordinator (after hours 4pm-8am and weekends/holidays) is the initial Incident Manager in the event of a Code.

Precautionary:

If the situation is not imminent but does require a notification to staff to standby for anticipated instructions. Consider using for prolonged air quality risk level 1-8 (see appendix 2).

Receiver:

Staff member receiving the call warning of a situation involving a toxic airborne substance.

Stage 1: Partial Exclusion:

If the incident is contained or minor in nature and it can be anticipated that it can be handled by a partial response over a short period with limited and localized impact to Hospital operations.

Stage 2: Full Exclusion:

If the situation will have broader or longer impact to Hospital operations, a full exclusion will be required. Review the risks and benefits of a full Code Grey Exclusion, and consider only if all other measures are exhausted. Most Hospital operations will be shut down. Approval from the Senior Leader on Call is required.

5. PROCEDURE

For a response overview, see *Appendix 1: Code Grey Air Exclusion Response Algorithm*
If external toxic airborne substance may pose a hazard to staff/Hospital property:

5.1 ACTIVATION/ NOTIFICATION

- a. If a person happens upon or suspects there is a situation involving an external toxic airborne substance, the person is to remove themselves from harms-way (if applicable), preliminarily secure the area (if possible), and then report this to their Supervisor.
- b. When warning of a situation involving a toxic airborne substance is communicated to the Hospital from an external body, the staff member receiving the call (termed 'Receiver' herein) should complete the Code Grey Information Card. As much detail as possible should be provided, with specific emphasis on:
 - Substance(s) involved.
 - Urgency of action (time lines).
 - Contact for further information (person and telephone number).Upon completion of the Code Grey Information Card, the Receiver is to contact their Supervisor to discuss next steps.
- c. The Supervisor/Designate is to contact Switchboard, via ext. 55 and inform them of a potential Code Grey – Air Exclusion.
- d. Switchboard will then:
 - Alert all areas of the Hospital by making the overhead announcement: **“Code Grey, - Precautionary AIR EXCLUSION – please standby for further instructions”**. This announcement is to be repeated at one minute intervals for five minutes.
 - Contact the Senior Leader (SL) on Call during regular business hours (0800h-1600h Mon-Fri) or Administrative Coordinator after-hours (weekends & holidays; 1600h-0800h Mon-Fri).
- e. The Receiver should proceed to the Physical Plant, to hand off Information Card (Appendix 2) to the Building System Operator.

5.2 MANAGEMENT OF CODE GREY AIR EXCLUSION:

- a. Building System Operator (BSO) and Security Roamer are to respond immediately to the Physical Plant and review the information pertaining to this Code to evaluate and confirm the status of the Code. The BSO will receive and review the information pertaining to the Code from the Receiver.
- b. BSO, or a Designate to contact Senior Leader on call (via Switchboard) or Admin Coordinator (after hours) to provide an update. Senior Leader on Call or Admin Coordinator is to contact Switchboard via **55** to update them of the scope of the Code – and confirm Precautionary, Stage 1 (partial) or Stage 2 (full exclusion *must be approved by Senior Leader on Call).
- c. Switchboard will then:
 - Alert all areas of the Hospital by making the overhead announcement: **“Code Grey, - AIR EXCLUSION - CONFIRMED (Precautionary, Stage 1, or Stage 2)”**. This announcement is to be repeated at one minute intervals for five minutes. Follow actions as outlined in Section 6 roles and responsibilities.
- d. Maintenance, overseen by the Incident Manager, will coordinate the response to the Code as appropriate. Security will assist as directed.
- e. The Incident Manager may activate the Hospital Command Centre (HCC) in the Executive Boardroom or alternate HCC or set up a virtual HCC (teleconference) (see SL on Call binder or HCC resources for the HCC teleconference number) to coordinate with activated IMS roles as required. See EMER-160.
- f. If evacuation in part or in whole is required, an assessment will be made and Code Green initiated as appropriate – see Code Green – by the Incident Manager.

5.3 RESTRICTION OF ENTRANCE AND EXIT

- a. Following the confirmation of a Precautionary, Stage 1 or Stage 2 Code Grey, visitor and patient entrance to and exit from the Hospital will be restricted to the Main Entrance (revolving door) and Emergency Department; staff can enter via these entrances via card swipe at the main east and west entrances. Staff are not to enter or exit by any other door.
- b. The Incident Manager may consult with Maintenance and Security to determine which doors should remain closed based on the location of the air toxin and prevailing winds. See Appendix 3 for maps.
- c. Consider activating a partial or full lockdown. See EMER-150 Lockdown Alert.

5.4 DEACTIVATION AND RECOVERY:

- a. When Maintenance is able to confirm that the situation is no longer a threat, the Incident Manager via Switchboard will instruct Switchboard to announce: “CODE GREY ALL CLEAR”.
- b. Once “all clear” has been announced, Maintenance to reactivate the HVAC systems.
- c. Maintenance to restart the Medical Air and Building Systems if applicable and/or when requested.
- d. When services are restored, Maintenance to review equipment operation to ensure that all equipment returned to normal operations conditions.

6. ROLES AND RESPONSIBILITIES

Department	Precautionary	Stage 1	Stage 2
INCIDENT MANAGER Senior Leader on Call or Administrative Coordinator (after hours)	<ol style="list-style-type: none"> 1. Direct Switchboard to announce Code Grey- Confirmed (Precautionary, Stage 1 or Stage 2). 2. Provide input and direction to staff on site in response to this code. 3. Discuss with clinical operations to determine impact and provide direction (see appendix 6). 4. Provide direction to outpatient areas. 5. Communicate with other management as required. Consider entry/exit restrictions and provide direction to Security. 6. Activate Hospital Command Centre and Incident Management System (IMS) roles if required. See EMER-160 for details. 7. For prolonged air quality issues such as smoke from forest fires, see Appendix 2. 		
SWITCHBOARD	<ol style="list-style-type: none"> 1. Alert all areas of the Hospital by making the overhead announcement: “Code Grey, - Precautionary AIR EXCLUSION – please standby for further instructions. This announcement is to be repeated at one minute intervals for five minutes. 2. Contact Senior Leader on Call or Admin Coordinator (after hours) 3. Alert all areas of the Hospital by making the overhead announcement: “Code Grey, - AIR EXCLUSION - CONFIRMED (Precautionary, Stage 1, or Stage 2)”. This announcement is to be repeated at one minute intervals for five minutes. 		
MAINTENANCE	<ol style="list-style-type: none"> 1. Building System Operator to report to Physical Plant. 2. Update Senior Leader on Call via Switchboard or 	<ol style="list-style-type: none"> 1. Discuss and implement selective shut-off intake fans or start-up exhaust fans as the situation warrants. 	<ol style="list-style-type: none"> 1. Actions must be approved by Senior Leader on Call. Shut off HVAC systems (intake/exhaust) and ancillary systems by

	<p>Admin Coordinator (after hours).</p> <p>3. Discuss air intake options with Incident Manager.</p>	<p>2. Contact Maintenance Supervisor on-call for assistance.</p>	<p>activating the Building Automation System “Code Grey Operational Sequence” via Field Panel #1. (see PP-711 – Code Grey Air Exclusion – Department Responsibilities for more information)</p>
SECURITY	<p>1. Roamer to report to Physical Plant.</p> <p>2. Discuss Exit/ Entrance restriction options with Incident Manager.</p>	<p>3. At the direction of the Incident Manger, implement entry and exit procedures as applicable.</p> <p>4. Provide Security and/or Fire Watch to the area in question if required.</p> <p>5. Assist Maintenance and external agencies as necessary.</p>	<p>1. Deactivate all automatic exit/entrance doors.</p> <p>2. Ensure and provide security on the Main Entrance and Emergency Department Entrance for visitors and patients.</p> <p>3. Check all of the exit doors to ensure they are closed and/or locked.</p> <p>4. Ensure signs are posted on external doors.</p> <p>5. Provide Security and/or Fire Watch to the area in question if required.</p> <p>6. Assist Maintenance and external agencies as necessary.</p>
OUTSIDE THE AREA (ALL DEPARTMENTS)	<p>Entrance to and exit from the Hospital may be restricted.</p> <p>Standby for further instructions.</p>	<p>1. All staff will return to their assigned departments, via the safest route via the stairs. Do not use the elevators. If unable to return, a call must be made to the department to check-in.</p> <p>2. Staff in all departments will identify staff, patients and visitors with special needs who may require assistance in the event of an escalation to Stage 2 or evacuation</p> <p>3. Staff shall inform patients and visitors of the situation.</p> <p>4. Staff shall not use the elevators.</p> <p>5. All staff will stand by in their department and</p>	<p>1. A staff member must put on the Vest and ensure instructions are carried out.</p> <p>2. The staff member wearing the vest will be responsible for conducting a head-count.</p> <p>3. Should the Code Grey increase in scope and evacuation becomes necessary, a Hospital wide evacuation alarm and corresponding message will occur (refer to Code Green: Evacuation).</p>

		<p>listen for further instructions. 6. Staff shall inform patients and visitors of the situation.</p>	
<p>EXTERNAL BUILDINGS 984 Oliver Rd, 1040 Oliver Rd, ICR discoveries</p>	<ul style="list-style-type: none"> • If there is an external irritating toxic airborne substances affecting external buildings, Contact Landlord. • If a Code Grey is called in the Hospital, anticipate a call from sister units for information sharing. 		

7. EDUCATION AND TRAINING:

Code Grey Air Exclusion training to occur at a frequency that is determined by the Emergency Preparedness Committee in consultation with the Code Grey Working Group and relevant stakeholders.

8. RELATED PRACTICES AND/OR LEGISLATIONS

OHA Code Planning

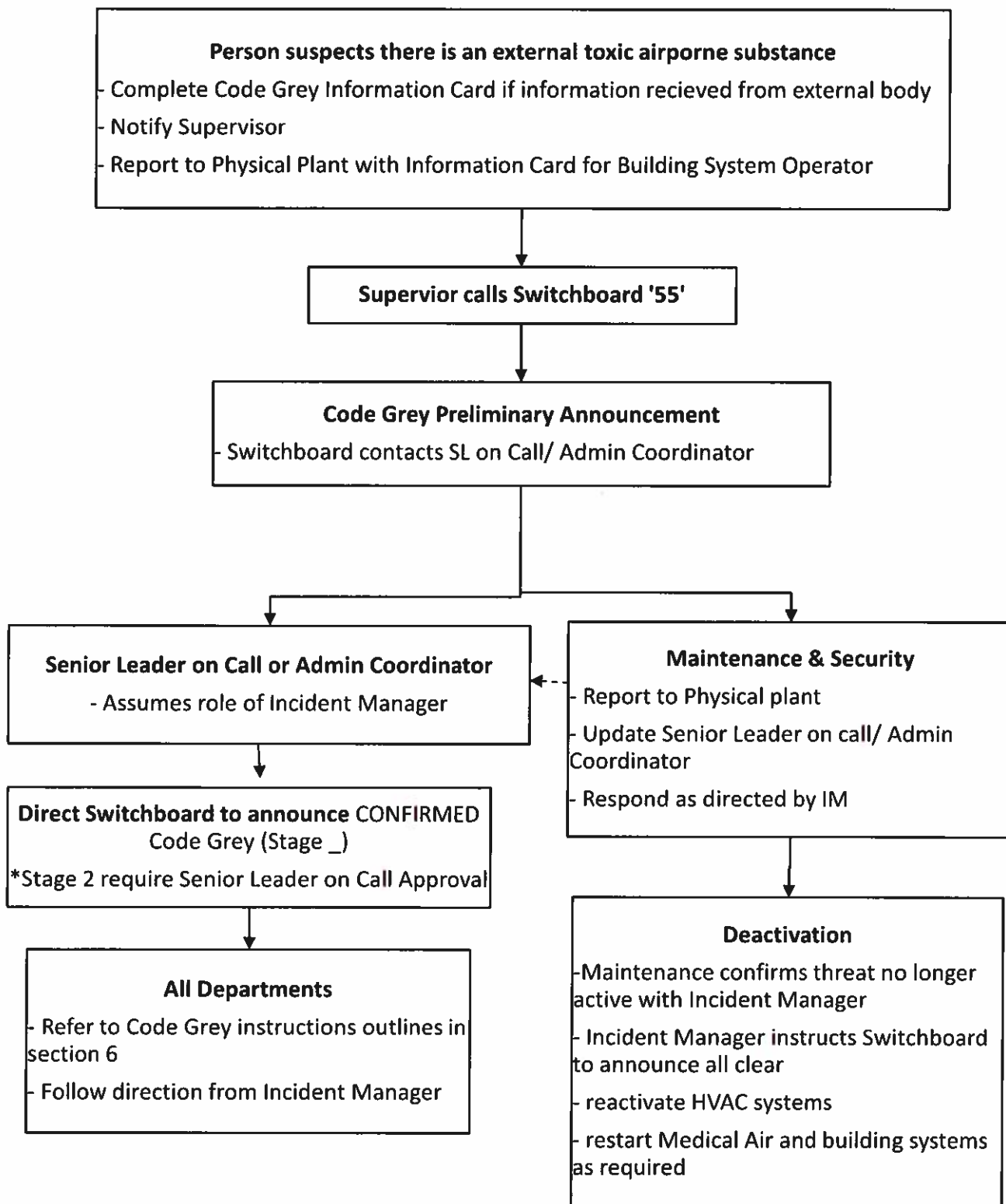
9. APPENDICIES

- Appendix 1: Code Grey Algorithm
- Appendix 2: Forest Fire/ Prolonged Air Quality Issues Response Guidelines
- Appendix 3: Entrance/Exit Maps
- Appendix 4: Code Grey Information Card
- Appendix 5: IMS Guide
- Appendix 6: Equipment Disruptions

10. REFERENCES

OHA

Appendix 1: Code Grey Algorithm



Appendix 2: Forest Fire/ Prolonged Air Quality Issues Response Guidelines

Resources:

Federal Index: (AQHI)

https://weather.gc.ca/airquality/pages/onaq-042_e.html

Provincial index:

<http://www.airqualityontario.com/aqhi/today.php?sites=63203>

IQ Air, using American Air Quality Index (AQI):

<https://www.iqair.com/ca/canada/ontario/thunder-bay/thunder-bay-s>

Blue Sky Canada Smoke Forecast (Pm2.5 Smoke Particulate):

<https://firesmoke.ca/>

PROCEDURE:

Based on the AQHI Risk levels being reached, sustained (guideline - for four hours), and without short-term relief anticipated (guideline - within 8 hours), the following actions should be reviewed by SLC/IM and implemented if warranted:

Low Risk (1-3)

- Monitor the situation regularly
- Review Code Grey policy

Moderate Risk (4-6)

- Monitor the situation and AQHI frequently
- Alert response team to the potential for a Code Grey response

Level 6

- Assess the need to reduce entrances into the Hospital
- Assess the ability to increase recirculated air within the Hospital
- Assess the need to recommend staff and patients to wear PPE
- Consider calling 'Code Grey – precautionary'

High Risk (7-10)

Level 7

- Monitor weather and evaluate wind direction
- Implement assessed items from Level 6 if warranted

Level 8

- Assess implementing Stage 1 Code Grey (i.e. selective shutdown of intakes or exhausts)
- Limit entrances into the Hospital based on wind patterns
- Reduce fresh air intake into the AHU's as possible
- Assess need to reduce clinical services and patient volumes in the building
- Assess ability for staff to work remotely
- Assess reduction of volunteers services, ECP, visitors, learners, etc.

Level 9

- Implement facility Lockdown to limit traffic into and out of the building
- Implement assess items from Level 8 if appropriate
- Assess need for high risk patient transfers

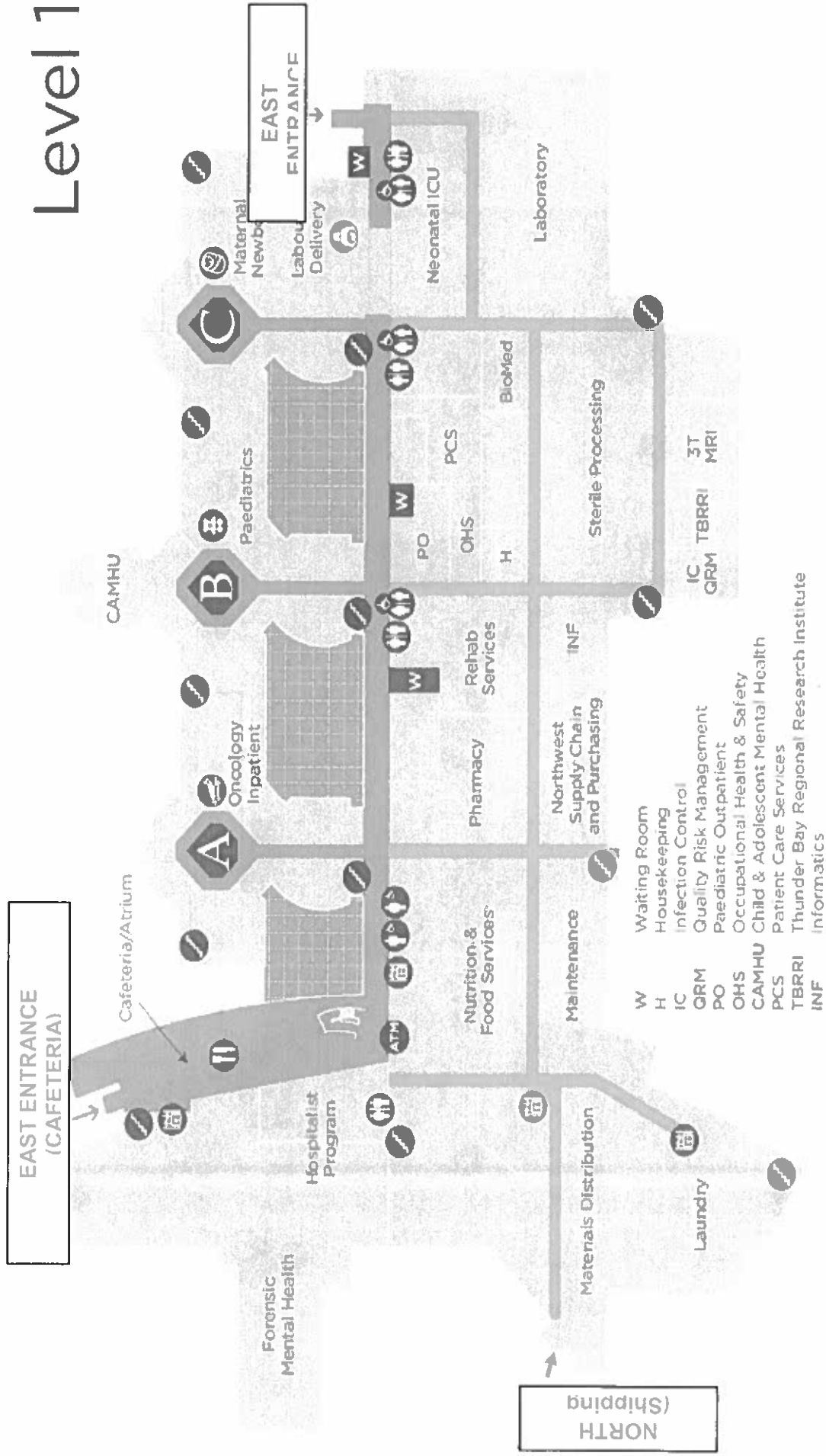
Level 10

- Assess Implementing Stage 2 Code Grey (i.e. all air in and out shutdown – this action would need to be time limited to allow for situation to pass or if planning to evacuate near-term)
- Assess need for Code Green

Very High Risk >10

- Review high risk patients which may need to be transferred out
- Determine need for partial or full Code Green

Appendix 3: Entry/ Exits



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Appendix 4: CODE GREY INFORMATION CARD

Receiver:	
Date:	
Time:	
Source of Call: <i>(i.e. MNR, OPP, etc.)</i>	
Name of Caller:	
Contact Number:	
Source of event:	
Type of air contamination:	
Likely duration of event:	
Wind direction and speed: <i>(if known / available)</i>	
Summary of event:	
Current mitigation strategies:	
Instructions for Hospital to execute:	
Admin Coordinator:	
Time Contacted: <i>(if applicable)</i>	
Senior Leader on-call:	
Time Contacted:	
Senior Leader on Call Hand-over Sign-off:	
Comments / Instructions:	

Appendix 5: CODE GREY AIR EXCLUSION INCIDENT MANAGEMENT GUIDE

INCIDENT MANAGER

Coordinate with Maintenance and Security to limit exposure and determine extent of equipment disruptions
Ensures relevant information is communicated to internal stakeholders and media.

CODE DEACTIVATION/RECOVERY:

Authorizes deactivation in consultation with Maintenance.
Coordinates recovery activities;
Schedules a formal debrief as soon as possible with appropriate personnel;

LIAISON OFFICER

Establish communication with all buildings with Hospital workers to notify them of the incident and potential evacuation plans as necessary;
Notify the Ontario Health of the incident;
Liaise with additional agencies as required.

SAFETY OFFICER

Ensure the safety of workers, patients & visitors;
Prepare and arrange crisis intervention support (recovery phase).

PUBLIC INFORMATION OFFICER

Establish a media centre in a safe and secluded location, as required;
Prepare and release information to stakeholders upon approval from Incident Manager;

OPERATIONS

Non-clinical:

Provide direction to Maintenance as per equipment shutdown protocols;
Oversee the coordination of the Reporting Centre;
Coordinate response activities of additional non-clinical support services (e.g. Environmental Services) as required.

Clinical:

Establish contact and provide direction to clinical areas;
Prepare and implement evacuation procedures upon Incident Manager approval;
Ensure continuation of patient care activities.

PLANNING

Establish operational periods, incident objectives and develop the Incident Action Plan in collaboration with Incident Manager
Provide regular situation updates to Hospital workers, patients and building occupants (response & recovery phase);
Prepare for crisis intervention support of patients/visitors/workers as needed;
Implement patient tracking procedures related to evacuation relocations (if appropriate);
Assess/recommend the need for additional workers to be called in to assist with evacuations (if appropriate);
Begin to develop a demobilization and recovery plan;
Collect and collate all response documentation;
Be prepared to develop after action report.

LOGISTICS (Security)

Provide direction to Security Services for ongoing entry/exit restrictions

Appendix 6: Equipment Disruptions

Partial or Full air exclusion may cause disruptions to equipment listed below. Ensure areas impacted are notified and have downtime procedures in place.

Disruption	Impact
HVAC Cooling and Heating	Cath Lab Service Computer Closets Elevator Closets All DI equipment that is air cooled(X-rays, CT etc.) IT Server room Pods
Negative Pressure/ Isolation rooms Room Exhaust	No air exchanges and loss of negative pressure
Ventilators	ED ICU NICU
Non-invasive Ventilation	ICU NICU Labour & Delivery
Anesthetic Machines	Operating Room Labour & Delivery
PFT Lab exhaust	Respiratory Services
ORs	Would Not Have required air exchanges for safe operations
Laundry dryers	Would lose air for dryer supply and exhaust
Linac Bunkers	Would lose main cooling for Linac Machines
Hot water	There would be no hot water throughout the building
Fume Hoods	Would lose air to all to Fume hoods in: Pharmacy Labs

