Safety Briefing for Test Beam Users

Last update: 02/02/2026

- There is NO physics result **worth risking** your or other persons' **health**, or even **life**!
- Life is **dangerous** enough, and there is no need to increase the **risk** of **harming** ourselves
- We do not like setups that are a test of the cleverness of co-workers, and especially of newcomers!

Responsibilities/1:

- A **Run Leader** must be designated for each experiment.
  - The Run Leader is formally identified during the **beam time application** process (this designation can be updated later if needed).
  - The Run Leader must **provide all required access and safety documentation** before arrival at the test beam facility.
  - The Run Leader acts as the **primary point of contact** with the **BTF and operators teams**.

Responsibilities/2:

- **B. Buonomo** is the designated **Safety Officer** for the BTF area.
- The **BTF staff member(s)** responsible for supporting your installation and run will:
  - Provide **safety instructions** for the test beam area
  - **Verify and enforce** compliance with safety rules
- **Fundamental Safety Rule (Rule #1):** Access to the test beam area is **strictly forbidden** to anyone who:
  - Is **not listed as authorized personnel**
  - Has **not attended the mandatory safety briefing**

Safety & Radio-protection office

- **LNF** provides **Safety** and **Radiation Protection** services for the entire Laboratory.
- These services are responsible for defining and enforcing the **general safety rules**, as described in the **"LNF General Safety Document."**
- In addition, **Safety Officers** are appointed for the **main installations and laboratories**.
- All assigned safety responsibilities must be **summarized on the Door Sheet**, which:
  - Must be **properly filled in**
  - Must be **posted next to the control room door**.

Fire or Accident

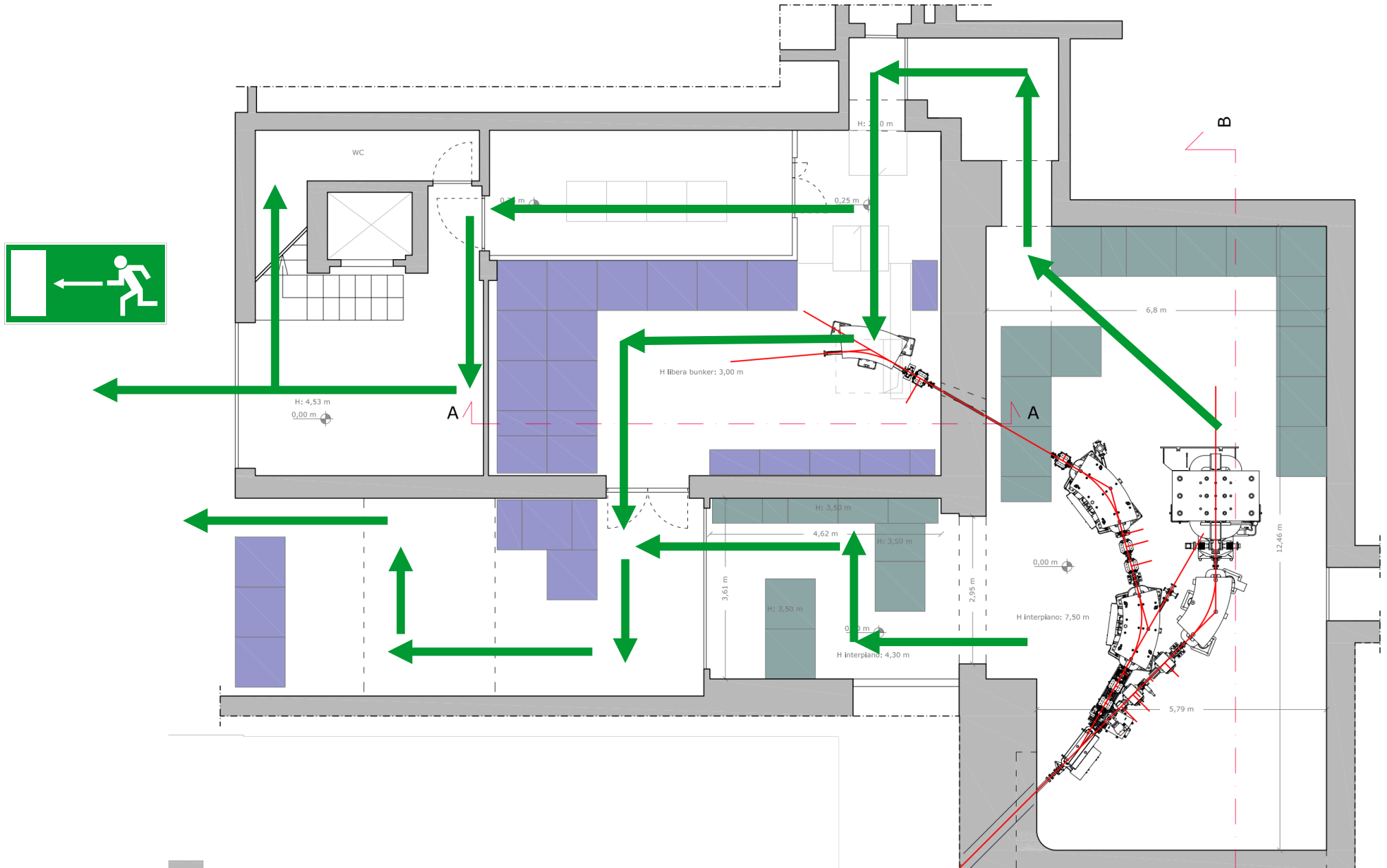
Call 5555 immediately.

- **Do NOT** directly call the **ambulance** or **fire brigade** yourself.
- If you are **disoriented or unsure how to proceed**, you can request assistance from:
  - **Accelerator Control Room** — Phone **2400**
  - **Main Door Surveillance** — Phone **2200**

General Safety rules (1)

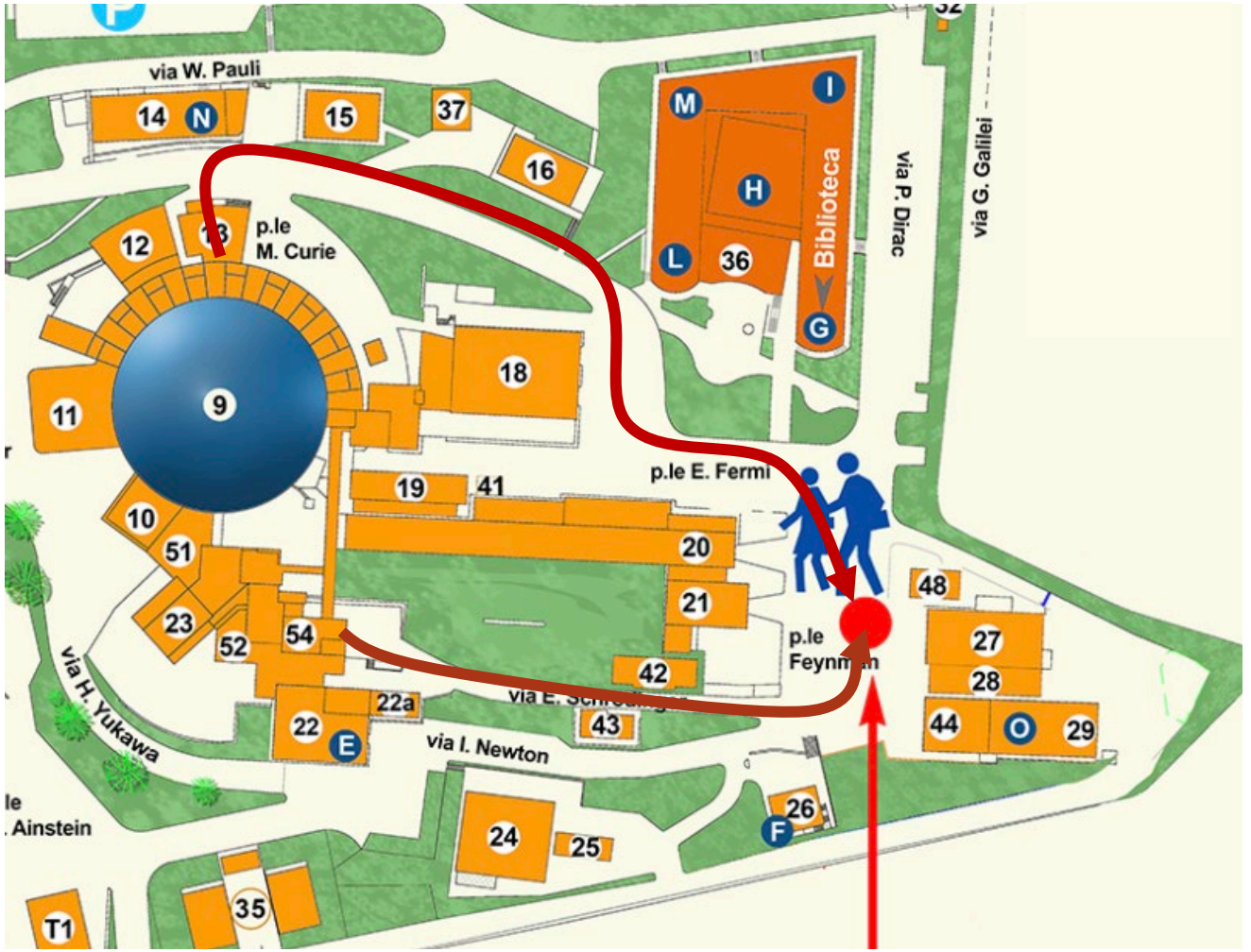
- Be aware of the **escape routes** at all times.
  - **Keep escape routes clear** — no obstructions allowed.
  - **Remove your trash** and keep the area tidy.
- **Do not enter or explore unauthorized areas**.
- **Always obey safety signs and warnings**.
- **Do not climb on walls** and **do not access restricted areas**.
- **Open fires are strictly forbidden** in the hall.
- **Pay attention to crane operations.**
  - When assisting during crane work, **wear a hard hat (safety helmet)**
  - **Stay clear of suspended or hanging loads**.

Escape Routes



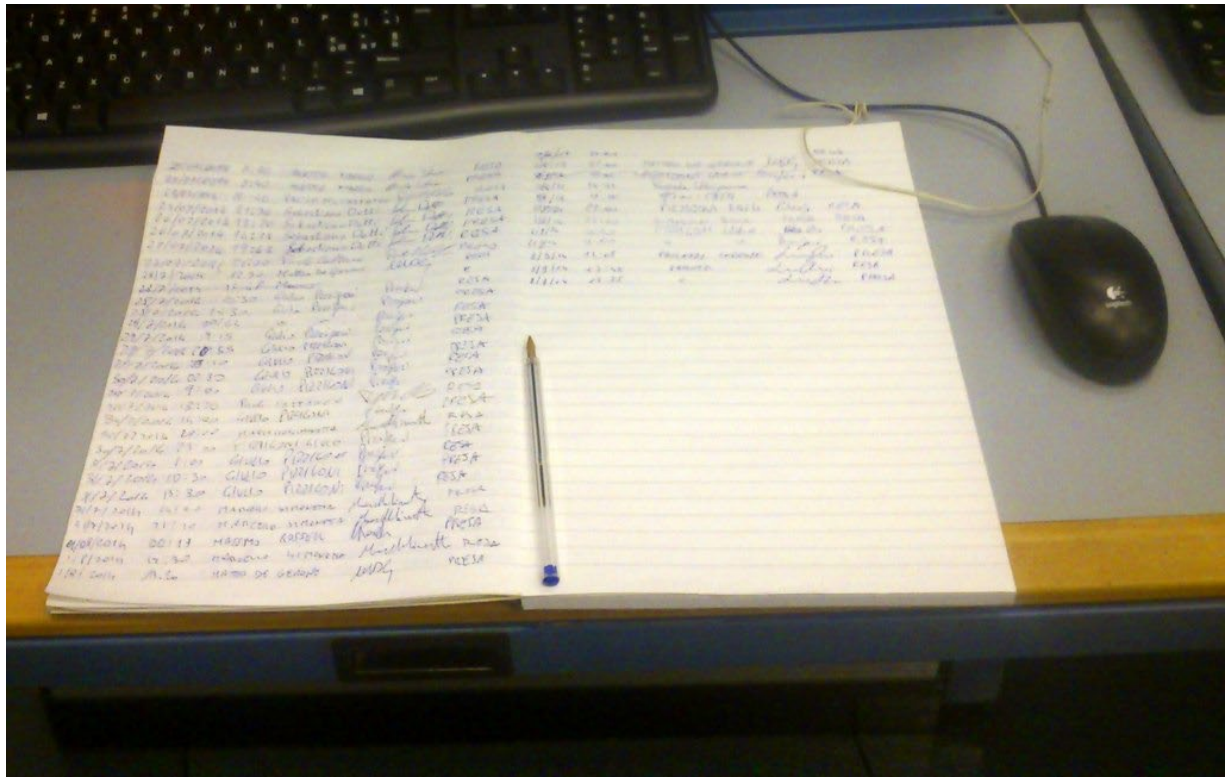
Assembly Points (1)

- In case of an **evacuation alarm**:
  - Proceed **immediately** to the **designated assembly point**, and
  - **Remain there** and **wait for further instructions** from authorized personnel.



Control Room

- BTF control room is hosted in Building 9
- The **BTF key** must be collected from the **DAΦNE Control Room**.
- **Sign the register** every time you:
- Take the key, and
- Return the key.



Authorized personnel

- **Only previously authorized personnel** are allowed to access the **BTF area**.
- **All participants must attend** the **mandatory safety briefing**.
- After the briefing, **all participants must sign the safety register** in the **BTF Control Room**.

General Safety Rules (2)

- **Working alone is strictly forbidden.**
- Working alone is allowed **only** in the **DAΦNE Main Control Room**, and **only after prior authorization**.
- If you hear **abnormal noises** (e.g. whistling) or notice **unusual or hazardous situations**
  (water leaks or flooding, smoke, vapours, sparks, etc.):
- **Call 5555 immediately**.
- **Leave the hall** if conditions may pose a risk to personal safety.
- For further details, **refer to the LNF General Safety Documentation**.

Fire Emergency Procedures

- **Leave the hall immediately.**
- **Call 5555** as soon as you are in a safe location.

Accident / Medical Emergency

- If a person is **seriously injured or ill**, **call 5555 immediately**.
- Be prepared to clearly explain:
  - **Who** you are
  - **What** happened
  - **Where** the accident occurred
  - **When** it happened
  - Whether there is **immediate danger to life**
  - Briefly describe the situation (e.g. **severe bleeding**, **electrical injury**, **falls**, etc.).
- **Do NOT** directly call external emergency numbers (ambulance, fire brigade, police, etc.).
- The internal emergency service will contact you and **guide responders to Building 54**.
- **First aid supplies** are available in the experimental halls and DAΦNE Control Room.
- **Inform the Test Beam staff** about **any safety-incident**.

Emergency OFF

- **Emergency OFF buttons** are installed close to the search buttons in both experimental halls and in Control Room
- Use an **Emergency OFF button only in case of an emergency** to immediately stop operations and make the area safe.
- If one of this button is accidentally pushed:
  - Rotate clockwise to unlock the button
  - Call 2400 to inform about the fake accident

Translation / Rotation Stages and Trolley

Be careful — danger of crushing and squeezing.

•The **trolley is authorized for a maximum load handshaked with BTF staff**

- **Always** follow the **operations manual.**
- Secure all equipment firmly to the metal movable plate of the trolley.
- **Verify the full range** of trolley motion, both horizontal and vertical, before operation.
  - Check all cabling to avoid tension, damage, or entanglement.
  - Check for any mechanical interference during movement.
- **Do not place any load on the yellow safety band.**

Lead / Iron Bricks

- **Iron and lead bricks are heavy** — handle with care to avoid injury.
- **Lead is toxic** and must be handled with appropriate precautions.
- **Avoid hand-to-mouth contact** when working with lead.
- **Always wear protective gloves** when handling **lead bricks**.

Ladder and Elevated Access

- **Working on ladders is potentially dangerous** — use extreme caution.
- **Do NOT use damaged or broken ladders**.
- **Use ladders correctly**:
  - Set them at the **correct angle**
  - Place them on **solid, stable ground**
  - Keep **both feet on the ladder** at all times
- **Climbing on walls is strictly forbidden**.

There is really no reason for climbing there, isnt't it? So… don't do it!

Cabling and Trip Hazards

- **Always watch your step** and be aware of trip hazards.
- **Avoid running cables on the floor** whenever possible.
- If floor cabling is unavoidable:
  - **Secure cables with tape**
- **Do not obstruct access paths** to **search** and **emergency buttons**
- Keep cabling **as tidy and organized as possible**
- **Protect connectors** from damage and stress

Magnetic Field

- **Magnetic field warning signs** indicate areas with active magnets.
- **People with pacemakers are strictly forbidden** to enter the hall when magnets are **powered on**.
- **Switch magnets OFF** and place the **power supplies in stand-by**:
  - Before allowing access to people with pacemakers
  - When working with **magnetic or ferromagnetic tools**
- **Magnetic forces on tools can be very strong**, creating a serious risk of **crushing or trapping body parts**.
- **Do NOT touch or enter areas marked as electrical areas**.
- In case of **any problem or unsafe condition**, **inform the responsible experts and the Safety Officer immediately**.

Electrical Tools and Equipment

- **Only approved and suitable electrical equipment is permitted.**
  - All electrical equipment must have a valid annual safety inspection.
  - Respect the voltage limits of connectors (e.g. never apply high voltage to standard LEMO connectors).
  - Avoid extension cords, multi-plugs, and unsafe multiple connections.
- **Never leave plugs or connectors on the floor.**
- Take power only from designated outlet boxes — do not use the Blindo-bar.

High Voltage & Electrical Safety

- **Only approved and suitable equipment is permitted**.
- **Post warning signs** whenever required to indicate electrical or HV hazards.
- **Work on high-voltage (HV) or electrical systems is strictly forbidden while voltage is applied**.
- Always **switch off power** and ensure systems are in a **safe state** before intervention.

Hazardous materials

- **All hazardous materials must be declared in advance**.
- Hazardous materials must be **properly handled, clearly labeled, and safely stored**.
- **Chemicals and toxic materials are generally not permitted** in the **test beam area**.
- **All radioactive materials** brought to **LNF** must be **reported to the Radiation Safety Group**.
- **Material activation must be measured before** any **handling or transport**.

Gas System Safety (1)

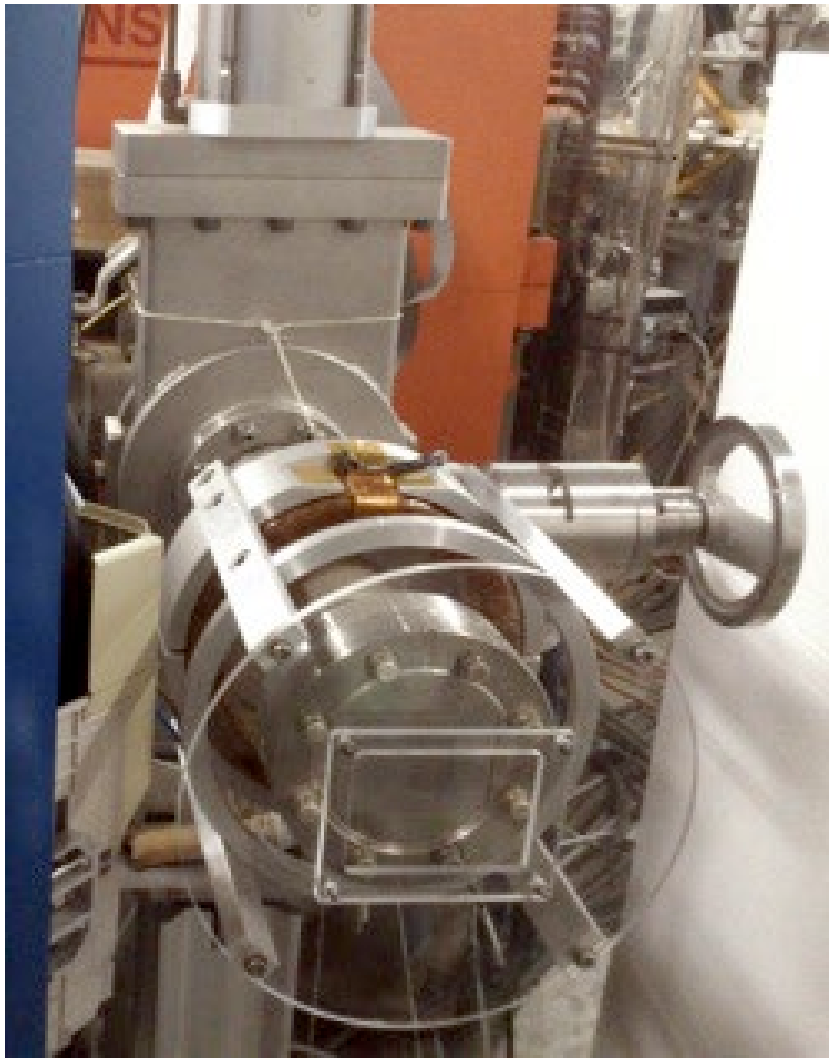
- **Always coordinate with BTF staff** before using **compressed gases**.
- **Use only the official BTF gas infrastructure**, including:
  - External gas fence
  - Dedicated gas lines
  - Pressure reducers and safety devices
- **Be fully aware of the hazards associated with your gas**.
- **Secure gas cylinders at all times** to prevent falling or movement.
- **Store gas cylinders exclusively** in the **external gas fence area**.
- **Use an appropriate exhaust line** when required.
- **Request adaptation of the gas safety system** if your setup requires it.
- **Do NOT perform mechanical work on a gas system while it is operating**.
- **Always check and release pressure** before disconnecting or opening a gas line.
- **Do NOT manipulate or bypass the gas safety system** under any circumstances.

Gas System Safety (2)

- **Always agree in advance** with **BTF staff** on the use of **compressed gases**.
- **Use only the designated gas line** appropriate for the specific gas in use.
- **Do not abandon empty (exhausted) gas cylinders** follow proper return procedures.
- **Do not leave the gas fence open** at any time.
- **Always return the gas fence key** after use.
- **Do not use gas cylinders that do not belong to your group**.

Vacuum Safety

- **Do NOT touch the beam exit windows**.
- In general, **avoid touching any part of the vacuum system**, including:
  - Beam pipes
  - Pumps
  - Valves
  - Associated vacuum components



Searching and Closing the Area (Ronda)

- **Search procedure ("Ronda")** must be performed **before closing the area**.
- **Two authorized persons are required**:
- **Person 1** stays near the **access gate**, ensuring that **no one enters** the area during the search.
- **Person 2** checks that **no one is present inside the area** and **presses the search buttons in the required sequence**.

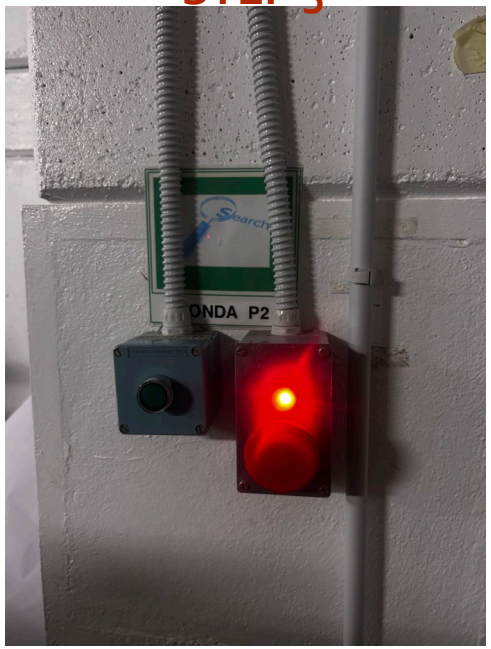
Searching and Closing the Area (Ronda) –BTFEH1

- There are **two button** to press in the right order to complete the search.

1. Press the first button located on the mezzanine floor of EH1
2. Exit from the green door
3. Enter the EH1 from the PADME side and press the second button
4. **Close** the gate, **turn the key** clock-wise (once), and remove the key
5. Insert the smaller key in the lock panel and turn in lock position

STEP 1

STEP 3

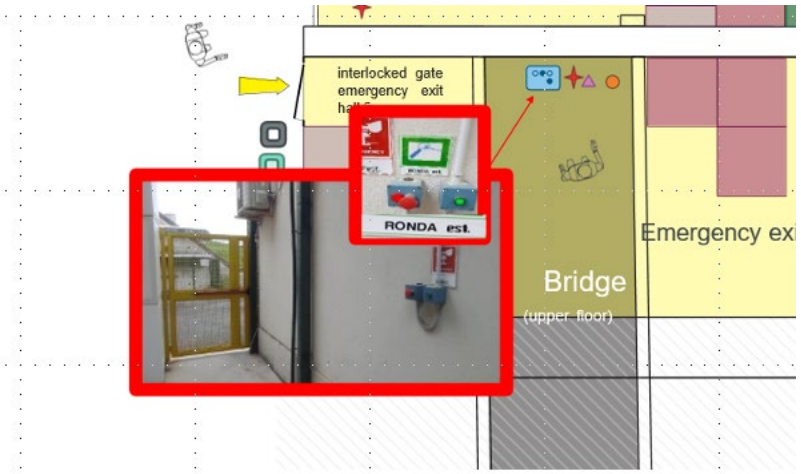


STEP 5

Searching and Closing the Area (Ronda) –BTFEH2

1. Make sure the **Ronda Ok LED** on the safety panel near the BTFEH1 green gate is **ON** and the **key on the lock panel is in lock position**
2. Exit in the External access area
3. Make sure the External yellow gate is closed
4. Search the Emergency Exit area (press the green button "RONDA est.")
5. Enter in BTFEH2 and close the gray door
6. Search the BTF2 Hall (press button P1, P2 and P3)

STEP 4

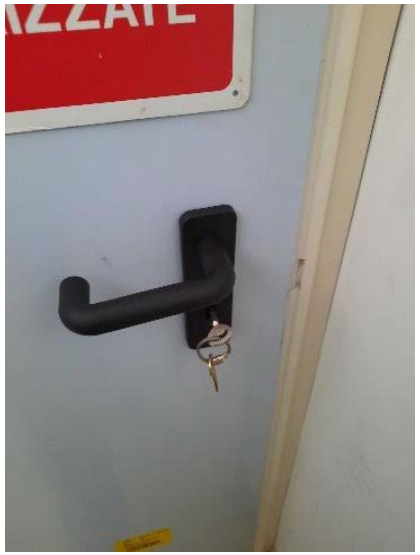


Searching and Closing the Area (Ronda) –BTFEH2

Searching and Closing the Area (Ronda) –BTFEH2

7. Lock the DOOR upstairs using the main key
8. Make sure the “BTF2 ON” on the safety display over the door light up (if LINAC is ON)
9. Put the little key in the Safety Block
10. Turn it clockwise (on "LOCK" position) and check that the red lamp light up

STEP 7



STEP 8

STEP 10

Further reading and documentation

- LNF general safety document
- BTF manuals