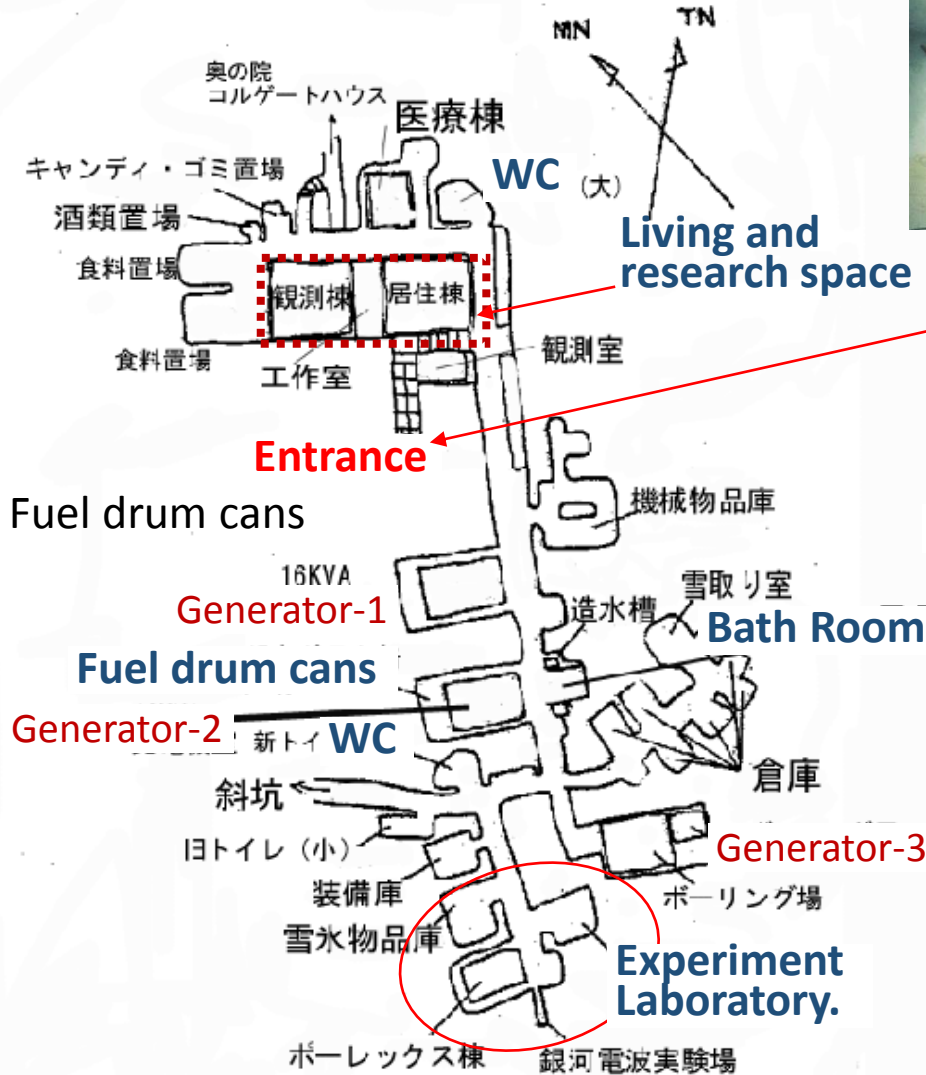


Living at the Station

みすほのほほ



To the world of darkness !



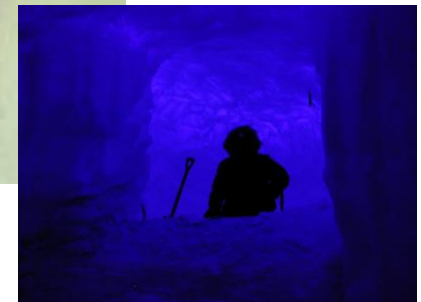
only one Entrance & Exit



What is he doing?



Opening the snow door in every morning



Closing at every night

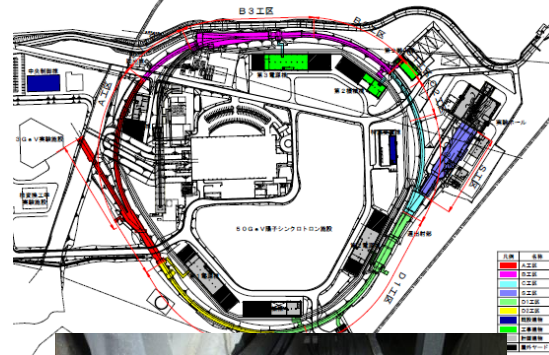
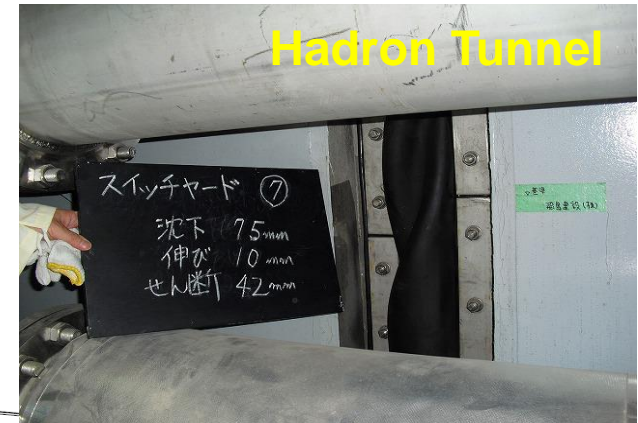
Discussion:

Life Safety in the Deep Underground Space

Big Earthquake at 14:46 on March 11, 2011

J-PARC is about 300km distance from the source

■ Surface Facilities: Damage



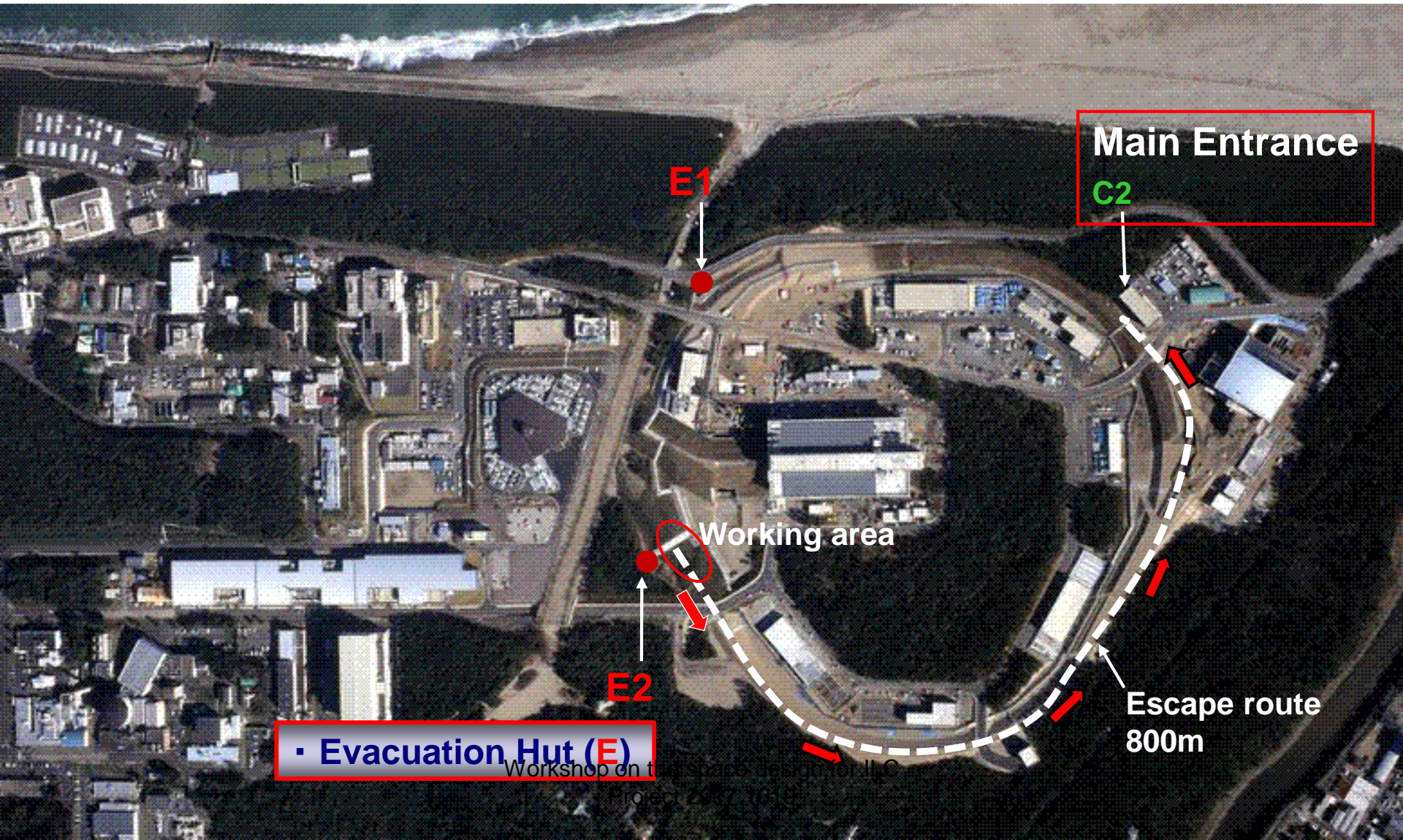
Escape action just after the earthquake

We should learn and reflect on the ILC design.



What happened at that time?

Is it due to a **psychological** condition?



■ Many Questions about the Escape action

- They started evacuating actions before the emergency alarm.
- More emergency information is needed for evacuation.
e.g. Information about the **evacuation direction** using a mobile system.
- They ran towards the access portal where they always entered.
- Was the **evacuation route** correct?
- Even though they were near the emergency exit, it was not used.
- It took so long time to leave after they arrived at the entrance.
- Despite the **oxygen alarm**, personal radiation management procedure was carried out as usual.
- Is there a problem with the position of the **access control gate**?

Emergency Escape way



Radiation Control Gate



Space with no window

- Some kind of closed environment and underground space share some basic features. (Dr. Sterling 1990)

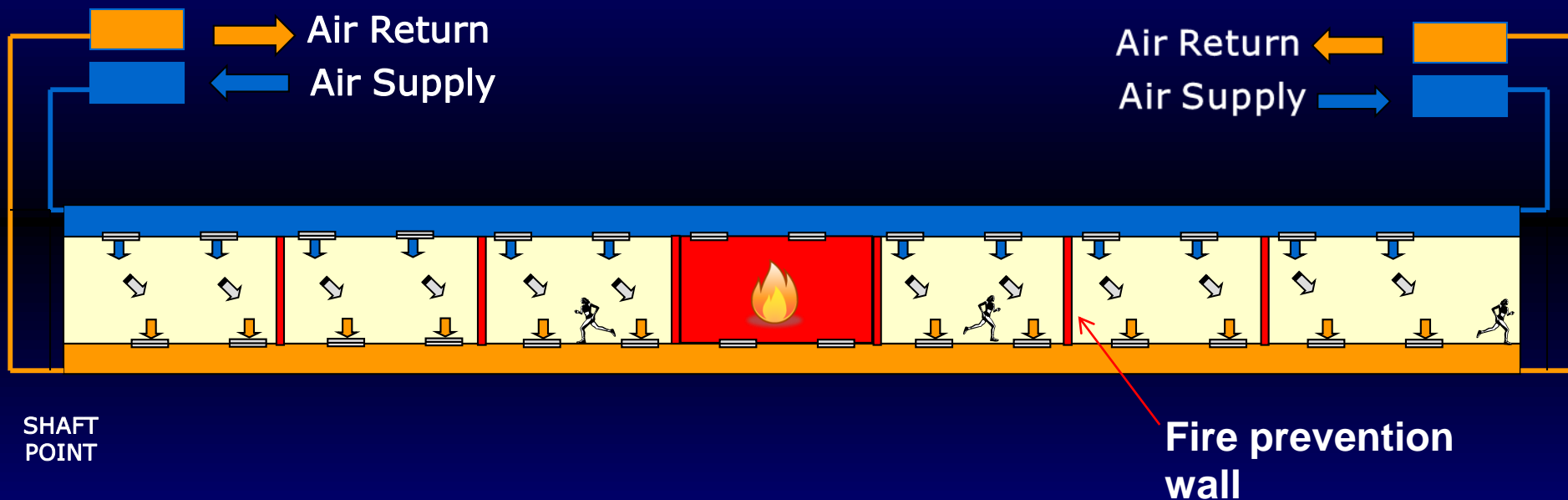


- An environment similar to the underground space is an artificial environment like a spacecraft, a submarine, a base of Antarctica.

These similarities are dependent on lighting and ventilation technology as well as closure and feeling of isolation from the natural environment.

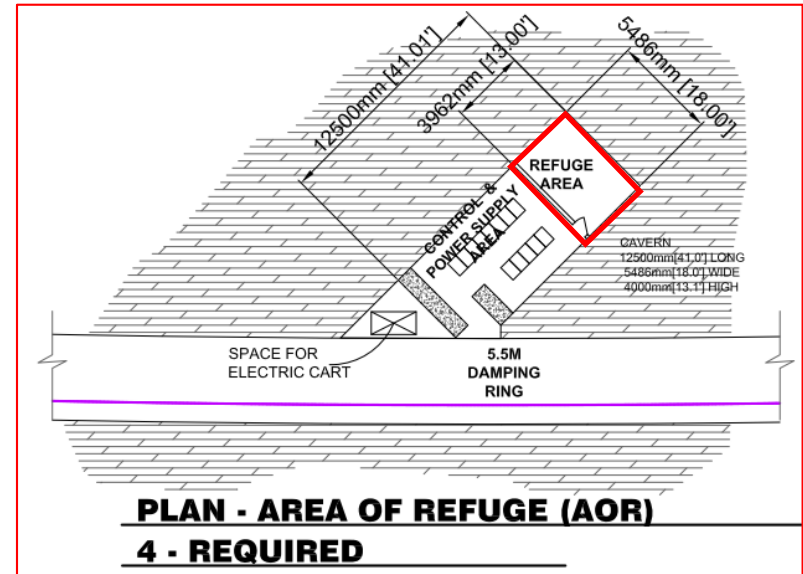
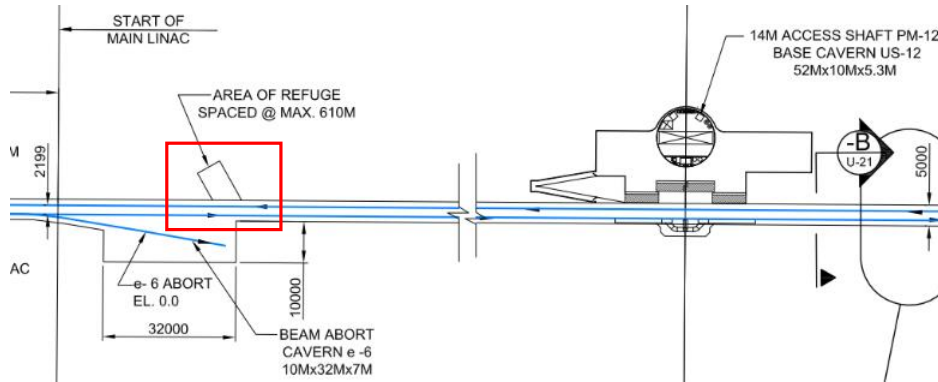
ILC Fire safety plan –European

For ILC & CLIC



- Control of the pressure from both ends of a sector.
- Control of the pressure (overpressure or underpressure in each area).
- Fire detection per sector compatible to fire fighting via water mist.

ILC Fire safety plan – American



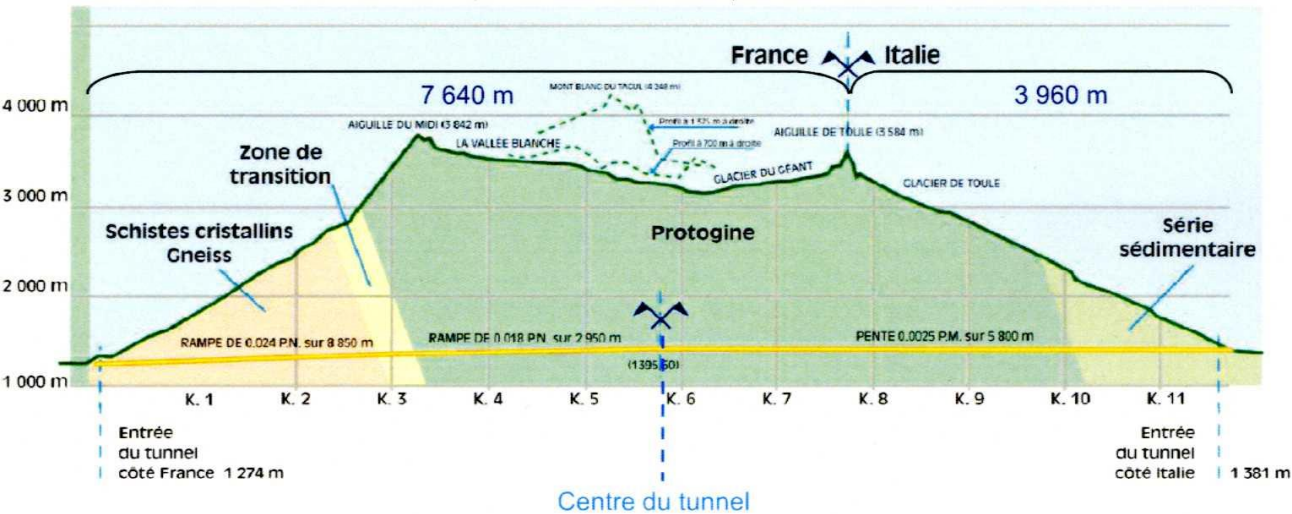
Capiapo mine falling accident /2010



Chile Atacama



Mont Blanc tunnel - big Fire Accident



- Opening: June, 1965
- Total Length: 11.6 km
- Altitude: France side /1,274m
Italy side /1,381m
- Earth Covering depth: Max 2,500m

◆ **Fire accident : March 24, 1999**

