

**Interface  
LINAC  
ID 49 – Emissions to air, (noise), ground, and water**

**DRAFT**



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## **1. EMISSIONS TO AIR**

From the linac, all emissions to air are expected to go through the ventilation stack. It is supposed to contain only air, albeit activated. The topic of radioactive emissions is treated elsewhere.

The cryogenic system will leak helium to the atmosphere, about 10% of the inventory per annum. Helium is an inert, non-toxic and - in the expected concentrations - completely harmless gas of no environmental concern.

## **2. EMISSIONS TO GROUND AND WATER**

There are no expected emissions from the accelerator. Cooling water is confined in a closed loop, exchanging heat with the district heating system. Chemicals used to treat the water will be collected and taken care of separately. Storm water and drain water will be channelled to a retention basin and monitored for radioactivity etc .

## **3. NOISE**

Some interiors of buildings - such as the compressor building of the cryoplants or the HVAC rooms - will be noisy, but release of the noise to the outside will be prevented by adequate measures. Noise measurements can be performed at similar cryogenic installations e.g. CERN or SNS. Ventilation stacks and exhausts should be the main contributors to noise at the facility during operation but no high levels are expected.