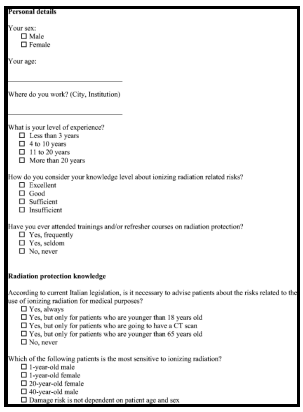
Radiological safety assessment of a reference (INTOR) facility

CFFTP - Inspection Manual by Cornerstone


Personal details

Your sex:
☐ Male
☐ Female

Your age:

_____

Where do you work? (City, Institution)

_____

What is your level of experience?
☐ Less than 5 years
☐ 4 to 10 years
☐ 11 to 20 years
☐ More than 20 years

How do you consider your knowledge level about ionizing radiation related risks?
☐ Excellent
☐ Good
☐ Sufficient
☐ Insufficient

Have you ever attended trainings and/or refresher courses on radiation protection?
☐ Yes, frequently
☐ Yes, seldom
☐ No, never

Radiation protection knowledge

According to current Italian legislation, is it necessary to advise patients about the risks related to the use of ionizing radiation for medical purposes?
☐ Yes, always
☐ Yes, but only for patients who are younger than 18 years old
☐ Yes, but only for patients who are going to have a CT scan
☐ Yes, but only for patients who are younger than 65 years old
☐ No, never

Which of the following patients is the most sensitive to ionizing radiation?
☐ 1-year-old male
☐ 1-year-old female
☐ 20-year-old female
☐ 40-year-old male
☐ Damage risk is not dependent on patient age and sex

Description: -
-
Poland -- Historical geography
Poland -- Boundaries.
Oder-Neisse area.
Bible stories, English.
Banking law -- China
Moscow (Russia) -- Civilization.
Moscow (Russia) -- Social life and customs -- 20th century.
Moscow (Russia) -- Politics and government -- 20th century.
Moscow (Russia) -- History -- 20th century.
Fusion reactors -- Safety measures.
Tokamaks -- Safety measures.
International Tokamak Reactor ProjectRadiological safety assessment of a reference (INTOR) facility
-
Report (Canadian Fusion Fuels Technology Project) -- no. G-85037
Report / Canadian Fusion Fuels Technology Project -- no. G-85037Radiological safety assessment of a reference (INTOR) facility
Notes: Includes bibliographical references.
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Tags: #Worker #Safety #and #Health

Radiation Safety

The primary proton beam energies considered in this work were as follows: The target stations being used were those in operation in: The target material was chosen among the following options, taking into account the time of the target operation and the most frequently used targets in recent experiments: Thick shielding several metres and long distances tens of metres between the studied points and the source make it difficult to achieve accurate simulation results. This progress is measured quarterly and monitored by management through radiological performance reports. More than 10 permanent experiments are carried out at ISOLDE and take advantage from RIBs produced by GPS and HRS targets.

Radiation protection, radiation safety and radiation shielding assessment of HIE

Each recommendation rating is based on a synthesis of the collective evidence, a benefit-harm assessment, and consideration of resource use. Studies have demonstrated that ionizing radiation can have adverse effects on the human body; therefore, patients and personnel should be protected from unsafe levels of ionizing radiation. Both, measurements and simulation results of the ambient dose equivalent rate are very low 150 MeV and the need to use, in that energy range the predictions from theoretical models.

Radiological assessment on spent resin treatment facility and transportation for radioactive waste disposal

Both the measurement values and the simulation results for the ambient dose equivalent rate distribution for the parking area correspond to the values which are below the background ambient dose equivalent rate level. The foreseen increase in the nominal intensity and the energy of the primary proton beam of the existing ISOLDE facility aims at increasing the intensity of the produced radioactive ion beams RIBs.

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Radiation workers using the spent resin treatment equipment, as well as radiation workers transporting PC-HIC to the disposal site and public spaces in the transportation route, were considered in the evaluation. These badges are exchanged on a monthly basis and the results are reviewed by RPP.

Worker Safety and Health

The analysis of the simulation results shows good agreement with the measurement data when the GPS target is in operation. In particular, Table HRS operation mode with the Ta target shows that the calculated result increases by a factor of 12, while Table GPS operation mode with Ta target shows that the calculated value increases by a factor of 14 when the proton energy is changed by 1. The measurements correspond to the facility under operation with the proton beams of 1.

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The upgrade of the facility foresees the construction of additional facility support areas in the location currently assigned as a car parking area.

Accelerator Safety

Moreover, the simulated ambient dose equivalent rates are on average lower than the maximum admissible value imposed by the CERN regulations. General scheme of the ISOLDE facility.

Radiological assessment on spent resin treatment facility and transportation for radioactive waste disposal

FLUKA-calculated ambient dose equivalent rate distribution in the GPS target shielding. Significant discrepancies can be observed between the measurements and the simulated results. Licensees can reduce the likelihood of a reactor accident by maintaining a low frequency of these initiating events.

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