

In a volume protected by hypoxic air, normobaric hypoxic atmosphere is continuously retained. Hypoxic means that the partial pressure of the oxygen is lower than at sea level. Normobaric means that the barometric pressure is equal to sea level. Once the oxygen level falls below 15 %, health risks begin to increase and human operation of the storage is not possible anymore. Below 10 % Oxygen level, a flame will not burn anymore and composition of matter is halted.

To prevent condensation, humidity and temperature have to be kept constant. If one or the other rise, the mollier h,x diagram shifts and condensation can occur. The higher the mass of the surrounding earth and structure, the more of the seasonal and daily fluctuation in temperature is compensated.



SAFEGUARD REGULATION

The Safeguard Regulations of the IAEA aim to enforce accountability for all its member states. Through comprehensible records, each state has to record all actions with fissile materials. Thus, impeding secret enrichment of weapongrade material. This regulation applies to:

- a. Source material for nuclear fission
- b. Research reactors
- **c.** Power reactors
- d. Interim storage facilities
- e. Deep geological repositories
- f. Facilities which used to or will use nuclear material
- g. Nuclear armament
- h. Import, possession and export of nuclear material
- i. Research and development connected to nuclear fission

While some of this information can be destroyed after ten years, other information will have to be stored for future generations.





Neutron flux It is the total length travelled by all free neutrons per unit time and volume. Power produced is deduced from measurement of neutron flux. Primary coolant flow (*Fc*) is a basic safety parameter in reactor systems. (*Fc*) may be varied as a means for load following in modern power reactors.