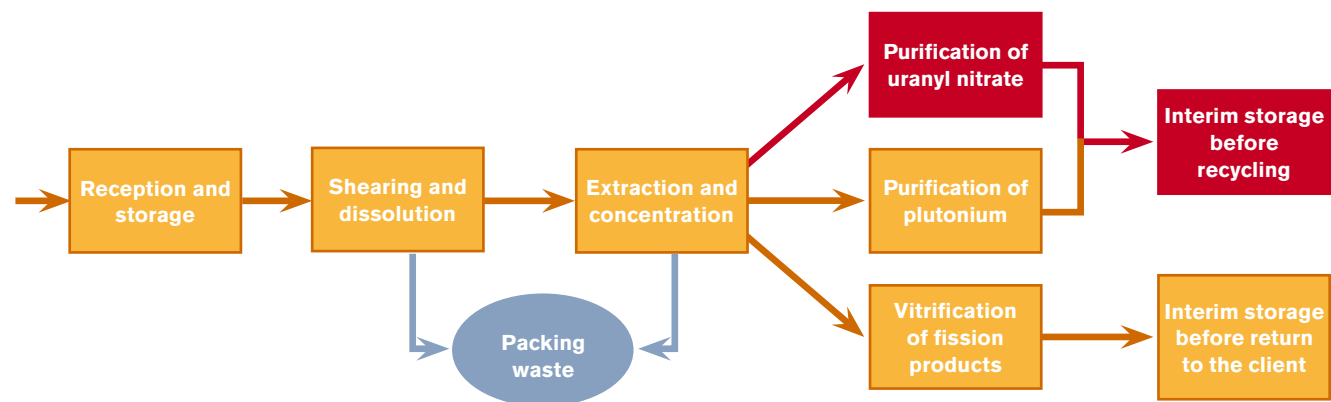




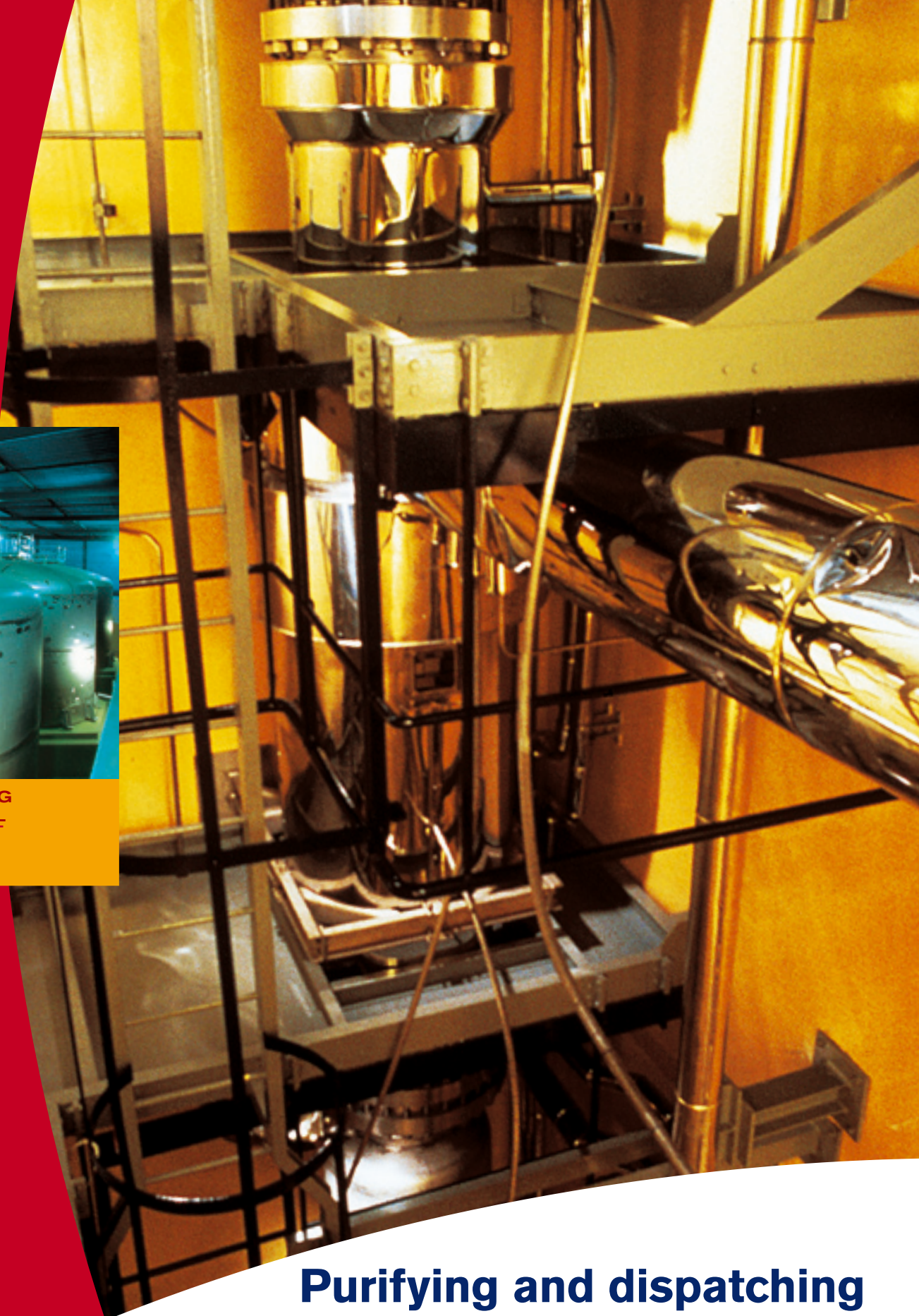
Reprocessing : the whole story



Control room.



REPROCESSING NUCLEAR FUEL T3 AND T5 FACILITIES



Purifying and dispatching uranyl nitrate

Purifying uranium so that it can be recycled

T3 and T5 facilities carry out the final stages in the reprocessing of uranium which, once purified, packed and stored, is returned to the beginning of the fuel cycle in order to be recycled.

Apart from purifying and concentrating the uranyl nitrate produced in R2 and T2 facilities, other procedures are also carried out here: non-tritiated nitric acid is recuperated and recycled; spent solvent from UP3 plant is collected and recycled; uranium nitrate is prepared and sent out to UP3 plant.

4/ Processing non-tritiated nitric acid

The acid that results from purification in T2, T3 and T4 facilities, is also recuperated, decontaminated by evaporation, and then adjusted before being recycled.

5/ Preparing uranium nitrate

Uranyl nitrate is transformed into uranium nitrate by hydrogen reduction. It is then sent to T2 and T4 facilities (uranium/plutonium separation).

1/ Purifying uranium

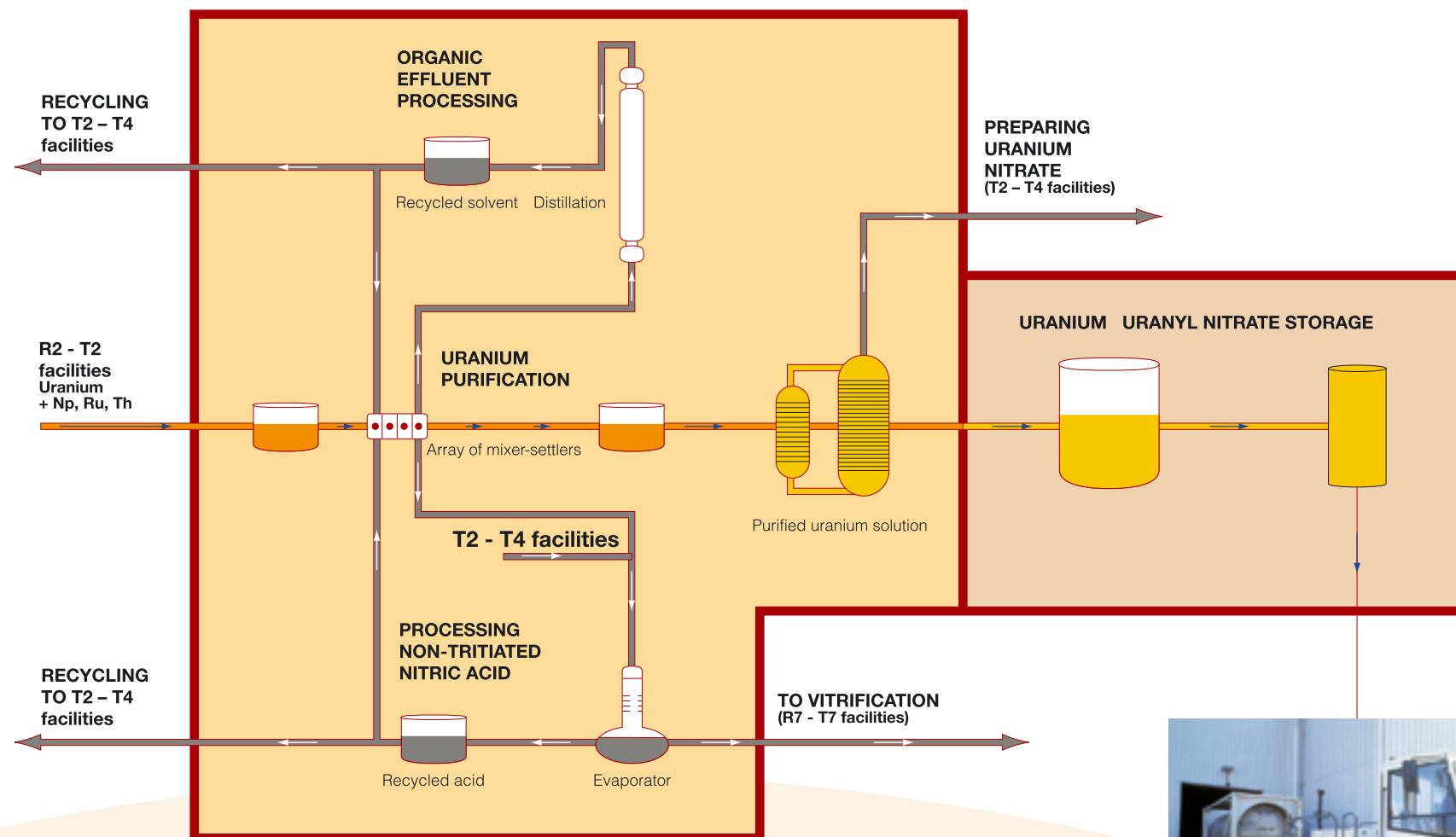
This is carried out in an array of mixer-settlers by liquid-liquid separation in two successive cycles – extraction and re-extraction. Remains of gamma emitters (zirconium, thorium, ruthenium) and alpha emitters (plutonium, neptunium) are thus eliminated. Uranium solutions are then concentrated by evaporation. Extraction raffinates (remains of alpha and gamma emitters) are sent to the vitrification facility. Two uranium cycles function in parallel: one for T2 and the other for R2.

2/ Storing uranium

After it has been concentrated, the uranium is stored, checked, packed and then sent off to join the fuel cycle all over again.

3/ Processing solvents

Solvents are recovered from purification cycles and from T2 and T4 facilities, and then decontaminated by chemical and physical processes so that they can be recycled.



LR65 container of reprocessed uranium.

Uranyl nitrate storage tank.

Mixer-settler engine room.

Distillation.

