WORKSHOP ON THE RESEACH REACTOR DECOMMISSIONING ACTIVITIES:

COST ESTIMATES

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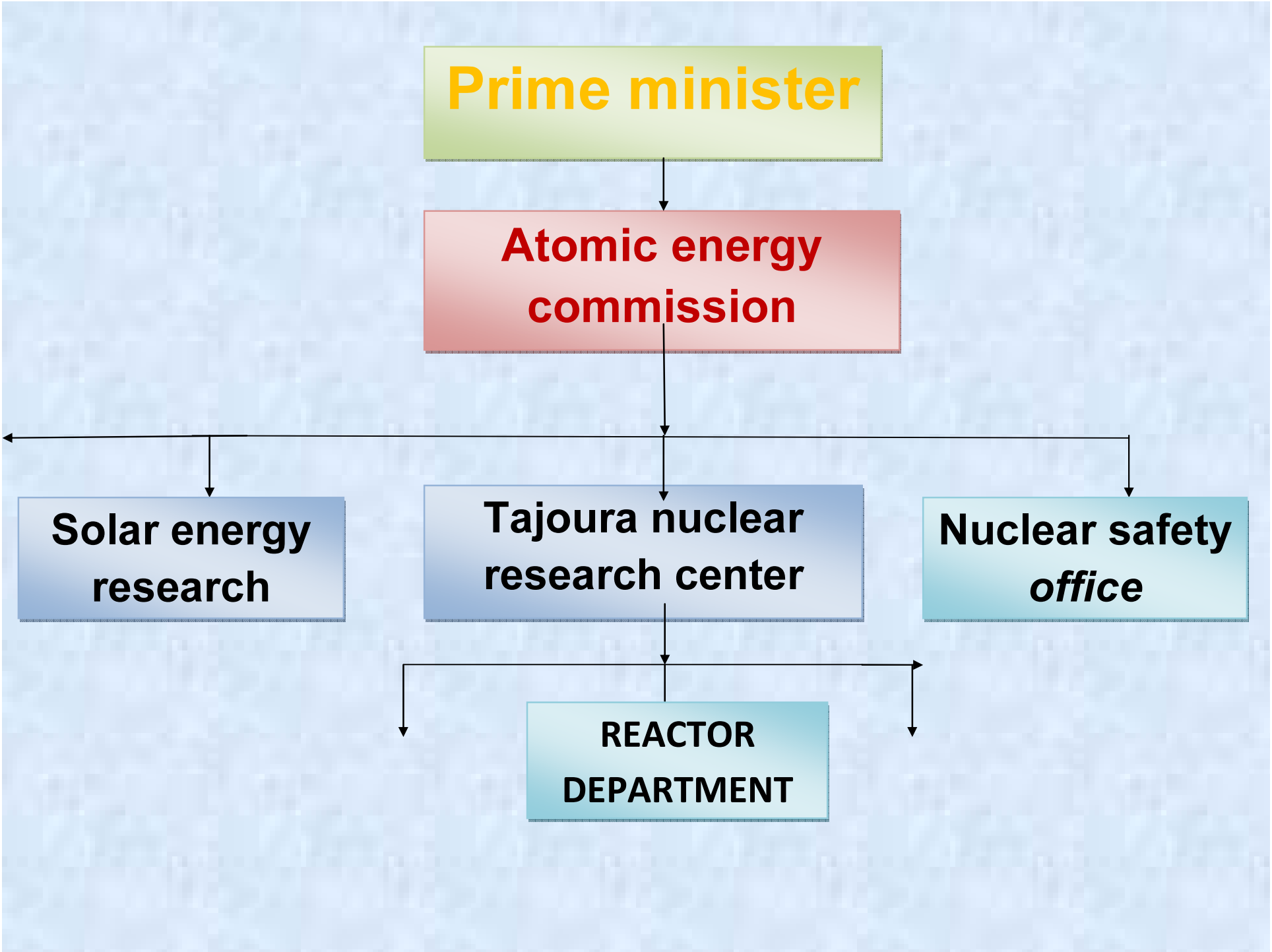
Prime minister
Atomic energy commission
Solar energy research
Tajoura nuclear research center
Nuclear safety office
REACTOR DEPARTMENT

Introduction:-

Tajoura research reactor is a pool type with nominal power of 10MW first operation 1983. The reactor core surrounded by beryllium reflector and enclosed within aluminum vessel covered by about 7 meters of light water.

Water is used as coolant, moderator, reflector and biological shield.

The reactor has been converted in 2006 to use IRT-4M LEU fuel with enrichment less than 20%. Before conversion the fuel was IER-2M HEU with enrichment of 80%.

The reactor is designed to carry out research in the following areas:

- nuclear physics
- Solid state physics
- Neutron physics
- Radiation biology
- Radiation chemistry
- Activation analysis
- Study of behavior of structural materials

The reactor is also utilized in the following areas:

- Training of students and new engineers
- Production of radioactive isotopes.

Decommissioning plan Guidelines

- Safety analysis report.
- Reactor Log books.
- Documents of facilities and buildings related to the reactor.
- IAEA standards and guides .
- Rules and regulations set by the regulatory body.

Basics of decommissioning plan

- The Tajoura research reactor is composed of the following systems and equipments:
- 1. Reactor block
- 2. Primary cooling system
- 3. Secondary cooling system
- 4. Instrumentation and control system
- 5.Purefication system
- 6.Special ventilation system
- 7. Radioactive leakage drainage, overflow and collecting system
- 8.radiation detection system
- 9. Electric system

- 10. Auxiliary equipments and systems
- -Hot cells
- -Transport equipment
- -Water supply system
- -Industial and domestic drainage water system
- -Compressed-air pipes.
- -Dray storage

Decommissioning strategy

Not clear up to now

Tajoura Research Reactor Decommissioning Plan

Introduction

The introduction of the decommissioning plan cover the general information of the reactor

Facility description

Site location &description

- The nearest civilian housing and hospital is more than 4km away from the center.
- Tajoura research reactor is located 34km east of Tripoli along the sea coast.

Building & system description

The general description of The building &system included in the decommissioning , it is engineering schematics and system layout drawings

1 - Building construction

2 - Major components

3 – Building service system

Note:- if the critical facility not included in the decommissioning project a part of the Building & systems will not include in the decommissioning and the building service system

(part of the structure material information not found up to now)

Radiological status

Contaminated structures

The building(s)&rooms divided in two region contaminated &clean

Subsurface soil contamination

The history of the surface soil contamination sampling and measurement recorded

Surface &ground water

The history of the surface &groundwater contamination sampling and measurement recorded

Facility operating history

The history of the operation and irradiated material and any upgrade of systems related to the safety of the reactor recorded

Thank you for your attention

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