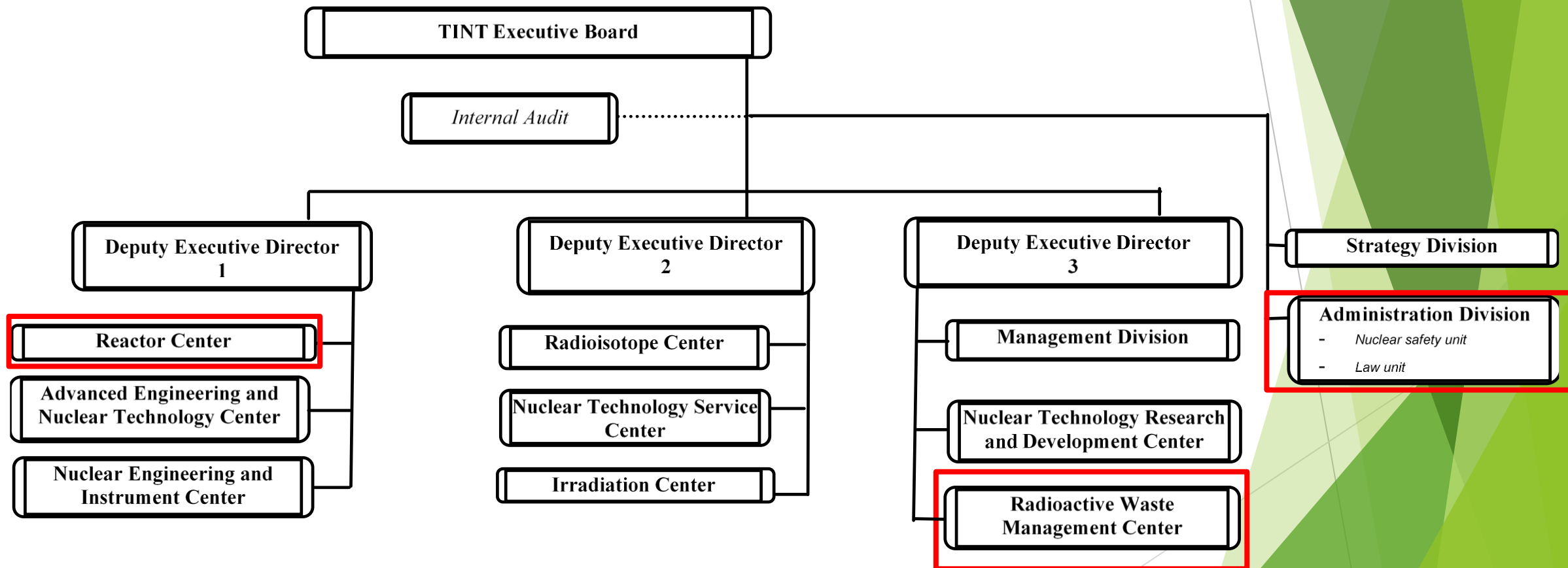


RESEARCH REACTOR SPENT FUEL MANAGEMENT IN THAILAND



Thailand Institute of Nuclear Technology (Public organization) About Spent Fuel Management



Thailand research reactor 1- modification 1 (TRR-1/M1)

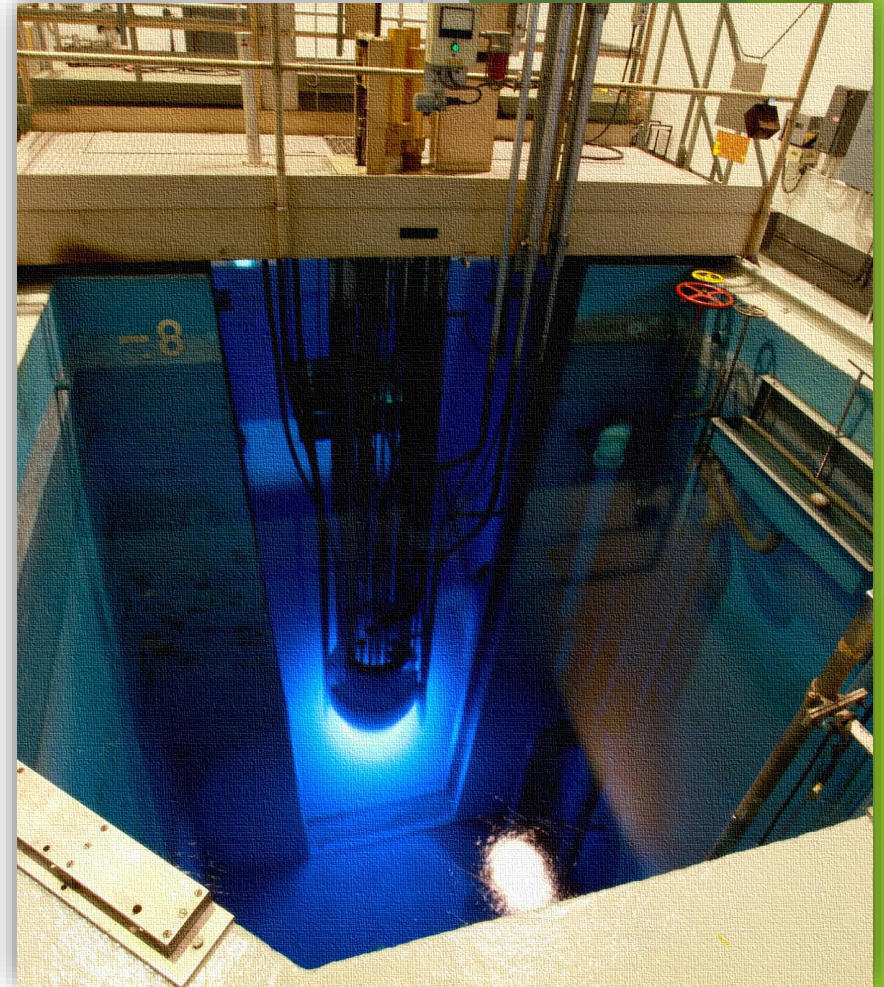
Reactor type: TRIGA Mark III

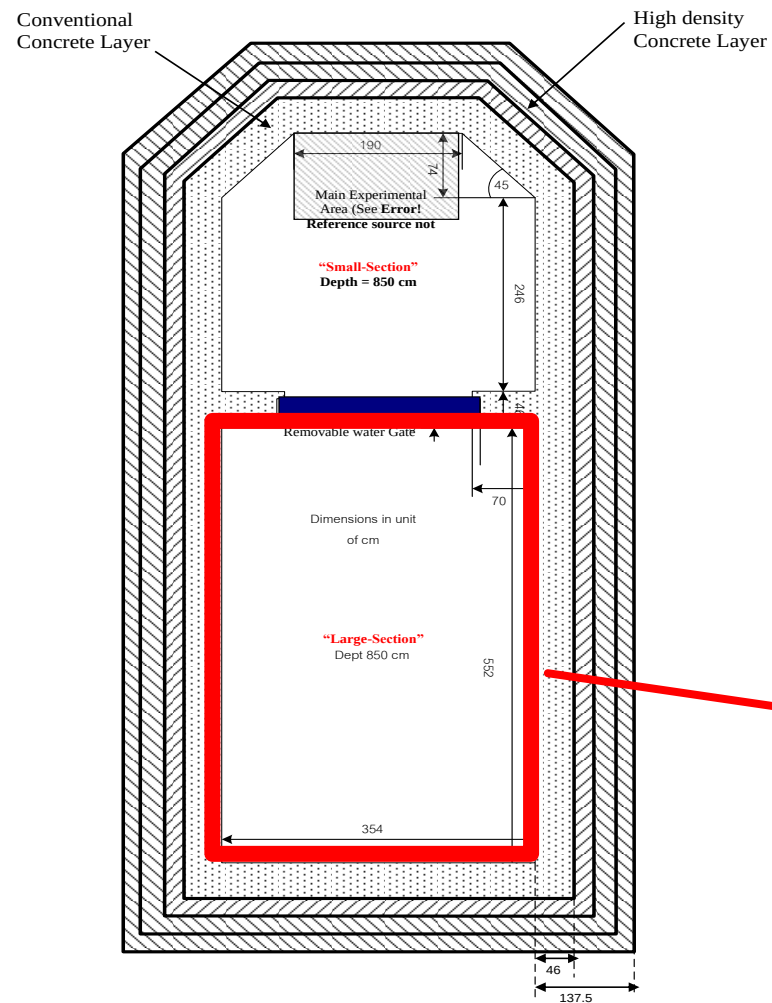
Operating Power: 1 MW

Fuel material: UZrH

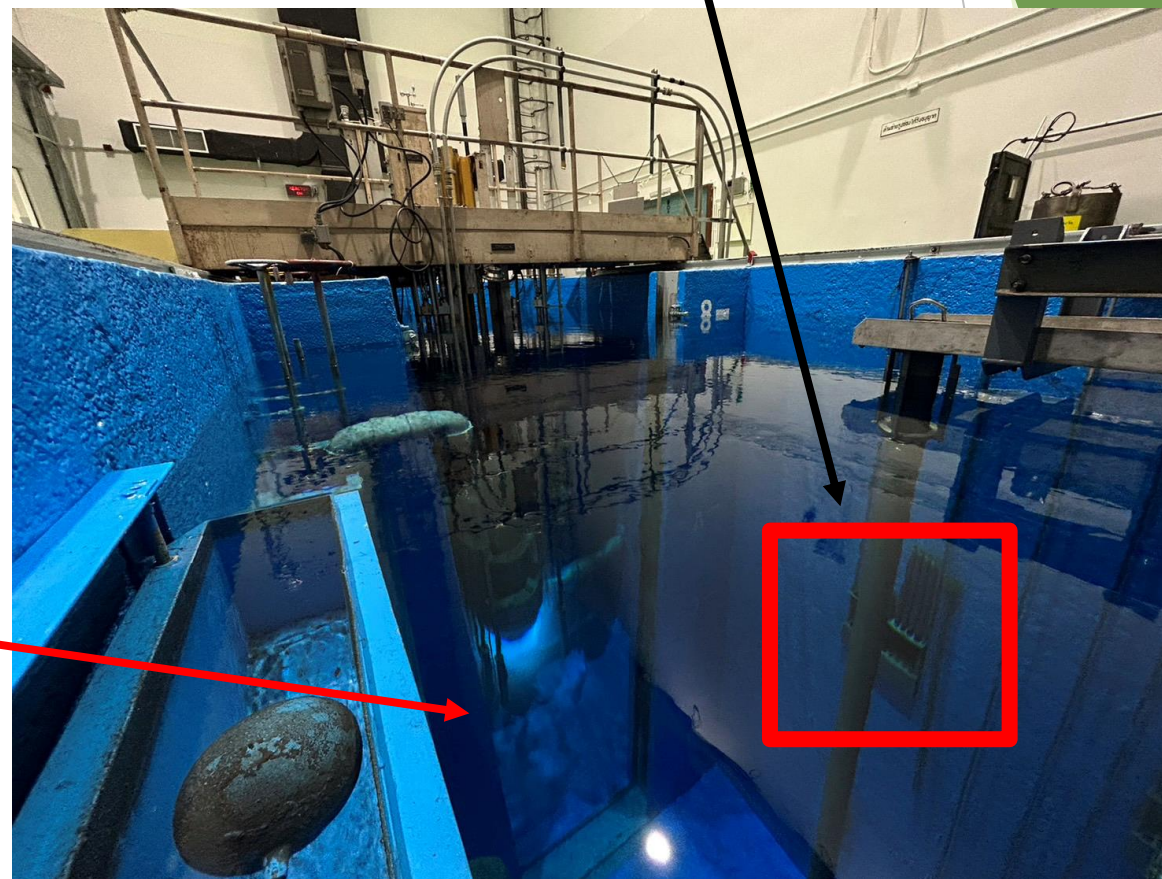
Fuel of RR

- Approximately 120+ fuel elements in total
- 100 fuel elements used in the current core with 5 control rods
- All fuel elements are kept in underwater fuel racks in reactor pool (large section pool)
- Each rack can store up to 20 fuel elements
- Transfer of fuel element in pool by fuel handling tool
- Transfer of fuel element out of pool by transfer cask





Rack of irradiation fuel element



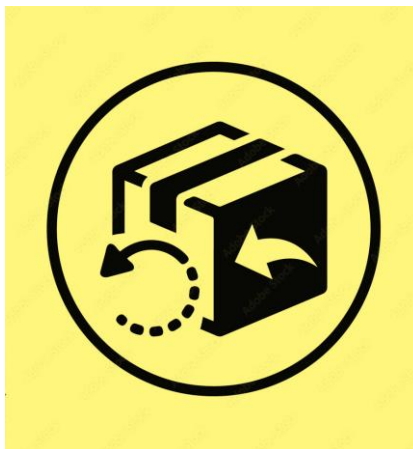
Strategy for SF in Thailand: 3 Options

1



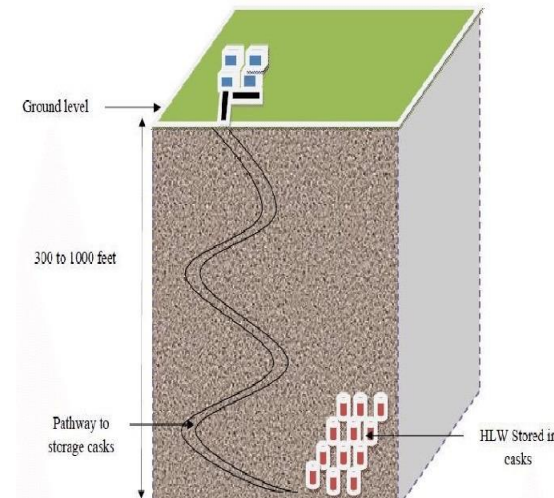
Spent fuel
pool

2



Repatriated

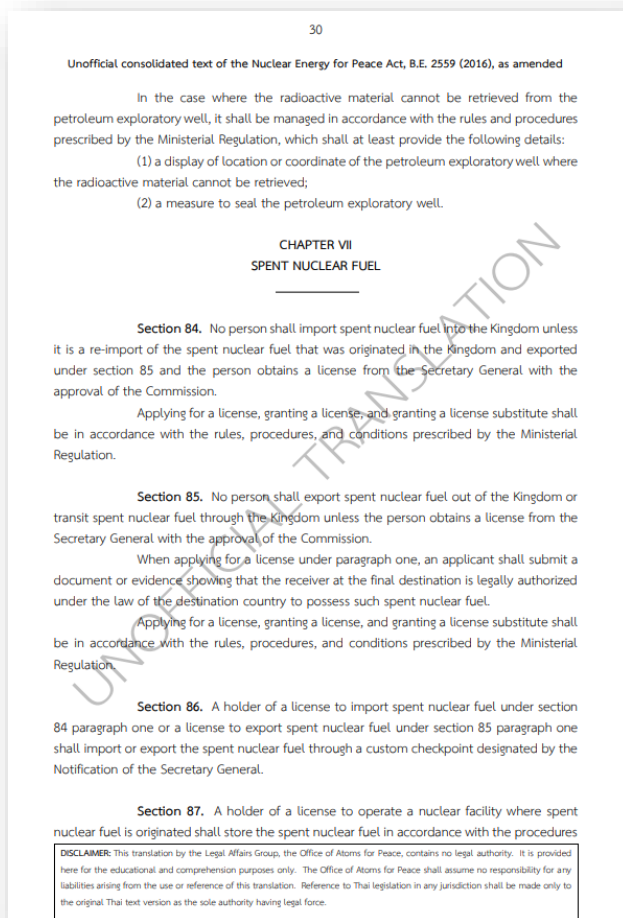
3



<https://tse2.mm.bing.net/th?id=OIP.I3OMx5t6-hH4-XXJ09Z7wwHaGH&pid=Api&P=0&h=180>

Deep geological
disposal (in the future)

Regulatory framework



NUCLEAR ENERGY FOR PEACE ACT, B.E. 2559 (2016)

Section 87. A holder of a license to operate a nuclear facility where spent nuclear fuel is originated shall store the spent nuclear fuel in accordance with the procedures specified in the final safety analysis report, which is a condition in the operating license, unless the spent nuclear fuel is transferred to the government agency with the assigned duty to store spent nuclear fuel, or is exported to be processed outside the Kingdom, or is repatriated to the vendor or lessor. The storage of spent nuclear fuel, **transfer** of spent nuclear fuel to the state agency, **export** of spent nuclear fuel to be processed outside the Kingdom and **repatriation** of spent nuclear fuel to the vendor or lessor shall be in accordance with the **rules, steps, and procedures prescribed** by the **Ministerial Regulation**.

National policy related to SF

The objective of this policy is to ensure that radioactive waste and spent nuclear fuel in Thailand will be safely managed to protect human health and environment now and in the future in a sustainable and cost-effective manner.

Financial Support for SF Management

The financial arrangements are put in place for resources (including technical and human) to sustain the waste management organization and the regulatory body, and for implementing of the policy.

- The current and future financial arrangements for the management of radioactive waste including spent fuel will be borne by the generators and funding set aside for this purpose will be preserved for the time when it is needed. (Polluter Pays Principle)
- The Government of Thailand will take the financial responsibility for the future management of the spent fuels which the operators no longer exists.

Transparency

All spent fuels and radioactive waste activities will be conducted in an open and transparent manner and the relevant parties will make information on the safety of RWM activities available to members of publics

- Decision regarding spent fuels and radioactive waste management will take into account the interests and concerns of all interested and affected people.

Public acceptance



Conclusion

- Thailand has national policy related to spent fuel and radioactive waste.
- Legal framework related to spent fuel management has been established.
- The strategy related to SF including spent fuel pool, deep geological disposal and send it back to country of origin
- Public acceptance is the priority issue for spent fuel and radioactive waste management

Thank you for your attention

