

## **Fuel Management Department**

### **1. Organizational Structure**

- In-core Fuel Management and Reactor Physics section;
- Fuel Procurement section;
- Fuel Engineering Services and Accounting section.

### **2. Functions of Fuel Management Department**

#### **2.1 In-Core Fuel Management and Reactor Physics section**

- Periodic analysis of the physical operational data at steady state and transient conditions;
- Neutron physics calculation in order to evaluation of performance of the In-Core monitoring systems(ICIS, NFME, ...);
- Annual fuel management calculation including burn-up and optimized core pattern;
- Neutron physics calculation in order to analysis of the transient and emergency modes and during physical start-up tests as well;
- Provide the safety justification report of each core pattern;
- Updating of the neutron physical characteristics of the reactor core in order to consider in the reactor passport;
- Updating of the results of the long term fuel management calculation;
- Updating of the isotopic inventory of the core in order to use in fuel accounting activities;
- Investigation on subjects like possibility of increasing of fuel burn-up, using new materials, modifications and power up-rating of the core;
- Updating safety and operational documents such as Album of Neutron Characteristics of the Reactor Core, FSAR, Technical Specification for Safe Operation and ....

## **2.2 Fuel Procurement section**

- Providing the required engineering services on fuel procurement such as providing annual time schedule, updating of the technical appendices of the main fuel contract, investigation on probable technical changes of fresh fuel, study on fuel price prediction and ...;
- Providing the required engineering services on all stages of fabrication, transportation, delivery and storage of fresh fuel;
- Providing the required engineering services on modification of fresh fuel storage situations as well as preservation of guaranty conditions.

## **2.3 Fuel Engineering Services and Accounting section**

- Investigation on cause of fuel damages occurred during operation campaign;
- Providing the required engineering services on using new fuel types such as safety and economic justification, selection of the specific type of new fuel and ...;
- Providing the required engineering services on issues related to spent fuel such as updating of documents and instructions of transportation and storage in fuel pond and...;
- Providing the required engineering services on issues related to probable changes on fuel pond and its related systems such as cooling system, refueling machine and ...;
- Providing the required engineering services on fuel accounting.