

ENC 2002 Conference Invited Paper

HOW TO RENEW THE EXISTING NUCLEAR FLEET

EDF (France – Bernard DUPRAZ)

EDF's needs in baseload capacities are fully covered up to 2020 ; beyond 2020, the main issue is the renewal of the existing nuclear fleet (63 000 MWe, 58 units).

- 1) Because of the uncertainties concerning the price of gas, CO2 emissions, etc.... EDF's policy is to opt for an **open** and **flexible** mix for baseload generation and to keep open a target of 50 % up to 80 % from nuclear power plants for baseload.

- 2) EDF plans to extend the lifespan of existing plants to at least 40 years ; French regulations demand a safety reassessment every 10 years ; so life extension beyond 40 years will be assessed by the Safety Authority around 2012.

- 3) EDF is considering 2 types of reactors for future:
 - reactors for commercial service from 2010 up to 2030, such as EPR
 - "Generation IV" reactors, for **commercial service** beyond 2030/2035

Taking into account these 3 elements, the renewal of baseload capacities by nuclear power plants must be :

- **FLEXIBLE**, keeping open the option of introducing well proven designs
- **EXTENDED**, over a long period of time (25 to 30 years, from around 2020 to around 2050).

Due to this long lasting renewal program, significant life extension is needed for many plants.

Due to uncertainties on lifespan, it's necessary to be able to commission a series of new NPP's in the 2020's.

In conclusion, for EDF, life extension and new NPP are not mutually exclusive options, but two aspects of a same target : keep the nuclear option open.

06/06/2002