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NUCLEAR GENERATION SAFETY AND COMPETITIVENESS Laurent Stricker EDF

Now that Nuclear Generation is competing in the open market, many of us speak about costs pressure and thus potential conflict between safety and cost reduction. I would like to present EDF current situation and point of view on this field.

Recent past years data show no contradiction between safety and other results production

To ensure a sustainable Nuclear Plant operation, electricity competitiveness and excellence in Nuclear Safety are required. Otherwise the Nuclear generation will be rejected by the public opinion and subsequently by the political decision makers.

The world experience shows that the quality approach, needed to master the Nuclear Safety, is the engine of the global performance. The Nuclear Power Plants with the best results in the Nuclear Safety domain are in the top quartile for the major performance indicators, as Nuclear Safety, Unit Capability Factor and cost effectiveness. Even if the Nuclear Safety improvement requires expenses to maintain an appropriate safety level, the quality management will result in significant cost reduction. The quality based management is the tool used for the outage duration adherence enhancing the quality of the preparation and the optimisation of the work performed.

<u>How EDF intends to manage this double constraint of safety and competitiveness in an open</u> <u>market ?</u>

Using a "Cost Killing" approach, short term gains can be obtained in the areas that do not impact the Nuclear Safety. Logistics, routine maintenance, maintenance volume optimisation, heavy maintenance operation postponing, administration, stocks of spare parts in excess, fees and optimisation of the nuclear fuel purchase and back end contracts must be explored to reach the target.

But short term gains strategy does not mean short sighted policy about the basic competitiveness factors that are life extension and safety excellence.

Quality management, by improving the power plants' industrial processes as outage duration and scheduling, normal operation (UCF) enhancement, is a major factor for reducing costs through increased efficiency and productivity.

In the long term, plant life extension is also obviously a efficient way to "make money". When the plant financial depreciation is complete, the producer gains full profit from the asset.

This is amplified by the fact that the EDF fuel prices are very little influenced by the exchange rate neither by market fluctuations. Furthermore, the fuel price represents the third of the variable costs for Nuclear Generation when it represents two thirds for the Gas Combined Cycle.

Consequently EDF position is that gains obtained through quality based management must partially finance heavy components replacements, life extension, safety improvements or optimisation of the nuclear fuel burn up studies.

This will guarantee middle and long term competitiveness in a strong industrial approach based on asset viability with no impact on Nuclear Safety and production cost level.

That industrial, responsible and long term approach means also that EDF will continue to evaluate and provision in its production costs its future liabilities such as the waste management, the decommissioning of plants as well as the high radioactive waste long term storage. Therefore, the nuclear generation costs have already included its future liabilities' expenses taking into account environmental issues unlike other means of energy production.