

## EDF Energy - Proposed Candidate for Asset Management Excellence Award

*Proposed by UMS Group – July 2007*

**Project Name:** EDF Energy Investment Optimisation Tool & Process Installation

**Brief Project Description:** EDF Energy designed and installed a new Investment Optimisation Process and Toolset for their Regulated Networks Business

**Project Description:** EDF Energy recently implemented a new process and integrated toolset for optimising asset investment decisions for their Network Asset Management Plan (NAMP). The approach adopted considers the network condition starting point, provides transparency into the options and tradeoffs involved in each potential investment, and generates clear projections of the impact that individual investments will have in achieving regulatory and business objectives for the network.

It provides consistency and trailability of investment optimisation decision making, forces planners to think of the wider aspects of business drivers when developing business cases for network investment, and achieves management buy-in to the process by incorporating their perspectives into weighting of the business drivers. It has also dramatically increased the speed, level of detail and insight with which management can identify issues and options for investment levels within each part of their network.

The process and toolset are complementary to other asset risk / optimisation management methodologies such as RCM, whole life costing, incremental cost benefit (etc.) which are applied at a 'project' level to produce optimised projects - in that it provides a methodology that enables all those individually optimised projects to be compared and prioritised in an objective way and on a consistent basis.

**Business Drivers and Benefits:** The UK regulatory environment is requiring increasing rigour for, and transparency into spending within the Electricity Distribution Network businesses. Price determination proceedings suggest a trend in regulatory expectations: moving away from the rather simplistic “efficient frontier” approach for capital spending determination towards more sophisticated optimisation approach. Strategic linkage is needed but the scale and complexity of the business have made it impossible for executives to be directly involved in the numerous individual projects considered each year. Two major benefits were achieved:

- 1) Stronger investment alignment with company strategy, improved ability to meet emerging regulatory requirements and to begin to influence regulatory perspectives on investment options and tradeoffs.
- 2) Better senior management access to investment decision criteria, scenarios and tradeoffs has enriched and facilitated their involvement in strategic decision making.
- 3) Measurable risk reduction in the optimised production plan and the ability to incorporate technical and socio-political risk, as well as financial risk in their investment analysis.

**Implementation Success:** The optimisation process and toolset has been in place at EDF Energy for the full 2007 network assets planning cycle and is being readied for the 2008 planning cycle. In practical terms, 2.5% - 3% savings (e.g. same value for 3% lower Capex spending) was demonstrated by the Benefits Realisation test. The Continuous Improvement Process steering committee believes that further fine-tuning the optimisation process will raise savings another 2.5% in 2008 and 2009.

As part of readying the Asset Management and optimisation process for the 2008 planning cycle, EDF Energy have initiated a project to integrate the toolset “upstream” with existing legacy systems. When complete for the 2008 planning cycle, investment planning managers will have a single toolset and user interface from which to perform whole life asset management. From a system viewpoint, EDF Energy IT staff will have a single repository of asset data, investment drivers, and resulting capital programmes.

**Innovative Use of Asset management Tools & Techniques:** Within the utility industry, integrated decision support and optimisation of capital programmes are a new approach to Asset Management and planning. This approach places Asset Management decisions on-par with long-standing practices such as reliability engineering and load analysis. In fact, EDF Energy believes that this may soon become the standard for the industry and hopes it will usher in a new period of greater collaboration with the regulator. At the very least, the integrated approach result supports PAS 55 principles and will result in more rational decision making about optimal investment levels in the UK electricity distribution business.

A key component of the new optimisation process is the ability to generate a network asset risk profile based on the projects selected. Planners can easily identify high risk projects or investments and then determine whether they should be included in the optimised portfolio. It also enables Planners to quickly identify the incremental risk/opportunity associated with various investment cap scenarios. This has enabled the Asset Management team to demonstrate effective risk management to Senior Management, the Board and Regulators.

The application of the new process and toolset has relieved those involved in the planning and budgeting cycle of the interminable iterations in developing an annual and long-range asset investment plan. Likewise, during the operating year as changes occur (storms, project cost overruns, etc.) the approach supports quick and accurate assessment of planning portfolio impacts and decisions to deal with the changed environment. For subsequent years, the toolset has created an audit trail of changes to project estimates and the anticipated effects on operating and financial performance. Each project or programme in the optimised portfolio also represents templates for future years, further reducing the workload on employees.

The IO Tool has contributed to better intelligence about the assets by identifying critical assets requiring investment, facilitating scenario planning in terms of how EDF Energy would respond to different regulatory investment incentives and/or different financial (cashflow/RoR) targets, and demonstrating how and where asset criticality changes as a function of strategic assumptions about the future regulatory and business environment. And by analysing the optimisation merit order (and any ‘displaced’ projects - i.e. those that don’t make the cut) it provides the means to examine relationships between asset strategies and future operating performance.

The new process has also shifted thinking and behaviours in the organisation, as employees can see more clearly the linkage between potential projects and value to EDF Energy. Demystifying (and depoliticising) the decision making process for where investments are made across the network allows greater clarity around project evaluation criteria and resulting decisions. It also provides enhanced ability to trace strategic objectives to the actual projects that are designed to support their achievement, thereby producing significant accountability benefits as well. As a result, project design staff quickly realise that to get their projects approved they must reassess all options from value/risk perspectives, and the quality of projects proposed climbs.