



## Managing risk through effective team-based decision making

### Creative problem-solving



In business there is typically a direct relationship between risk and reward. The bigger the risk you take, the greater the possibility of making a high return. The reverse side of this is that high risks can also be associated with spectacular failure.

Engineers working for RWE npower need to understand the commercial implications of the decisions they make. *The best decisions will be those that provide good technical solutions while at the same time are commercially successful.*

Learning to manage risks is important. Decisions taken must be in line with other priorities such as safe working. At RWE npower, health and safety is the number one priority.

Creative problem-solving involves dealing with problems for the very first time. While there are tools and techniques to help find solutions, engineers will need to be creative. They need to decide what methods to use and ultimately how the problems will be solved.

### **Problem solving to manage risk**

At senior management level, RWE npower has engineers with responsibility for running very large units such as a power station. These senior managers are continually provided with information about every aspect of the performance of the plant. They receive advice and information from a range of specialists.

The sorts of problems they encounter include what to do when a weakness is spotted in materials. For example, the giant turbines which power the generators can develop tiny defects over time. The turbines can weigh more than 250 tonnes and rotate 3,000 times a minute. These defects are actively managed and carefully monitored to ensure they do not deteriorate to present a potential safety risk.

When a plant manager is notified that tiny cracks have been found in the turbine, then he or she must come to a decision very quickly. The options are:

1. Shut down part or all of the plant and start repairs. In the middle of winter this could prove to be very costly. When demand is at peak this could lead to losing supply contracts worth £2 million per day.

2. Take advice from specialist engineers to check whether it is still possible to continue operating while carefully monitoring the weakness. Specialist fracture engineers would need to prove that, if they continued to run operations, the impact on the materials would remain within safety limits. Repairs would then be made as soon as possible.

3. Do nothing. (At RWE npower this is not an option.)

Managers will only consider options that do not involve a health and safety risk. Once they are satisfied that this is the case they will consider commercial criteria. The best solution will be the one that fully meets the requirements of customers while at the same time yielding the optimum financial return.