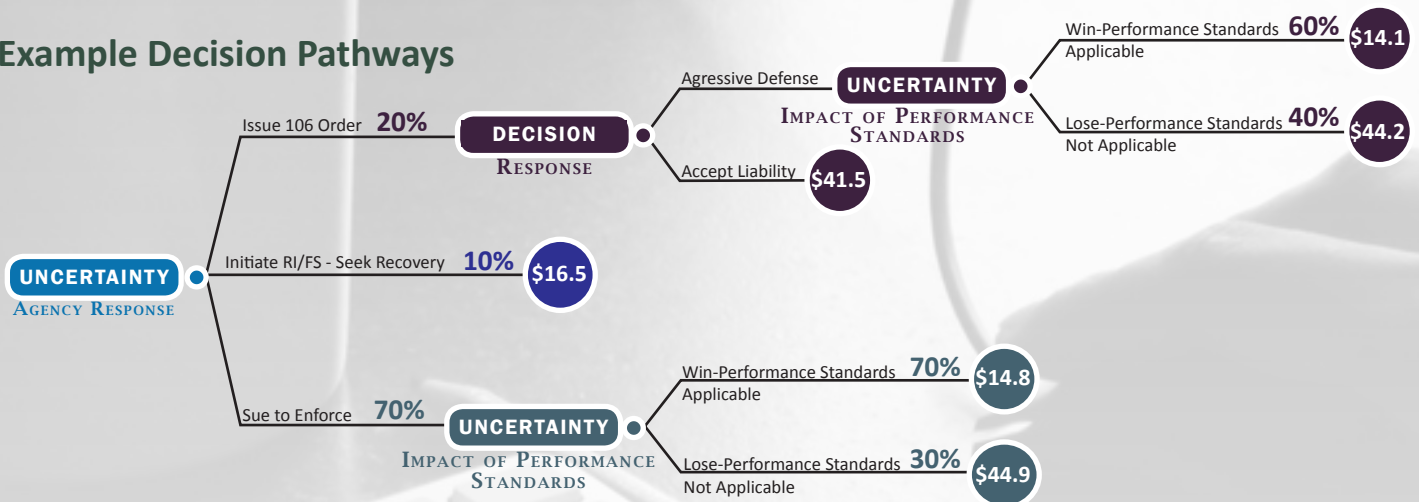


# DECISION CONSEQUENCE ANALYSIS

Decision-makers often face complex and uncertain projects with multiple and sometimes competing objectives with differing perspectives among stakeholders. Perhaps the most difficult task for these projects is balancing the many environmental, economic, technical, political, and legal objectives when determining the best path forward. Decision Consequence Analysis (DCA) provides a number of methods, tools, and procedures that can help decision-makers and other stakeholders manage these complex projects, achieve multiple objectives, reduce costs and uncertainties, prioritize activities, and make decisions more efficiently and cost-effectively.

## Example Decision Pathways

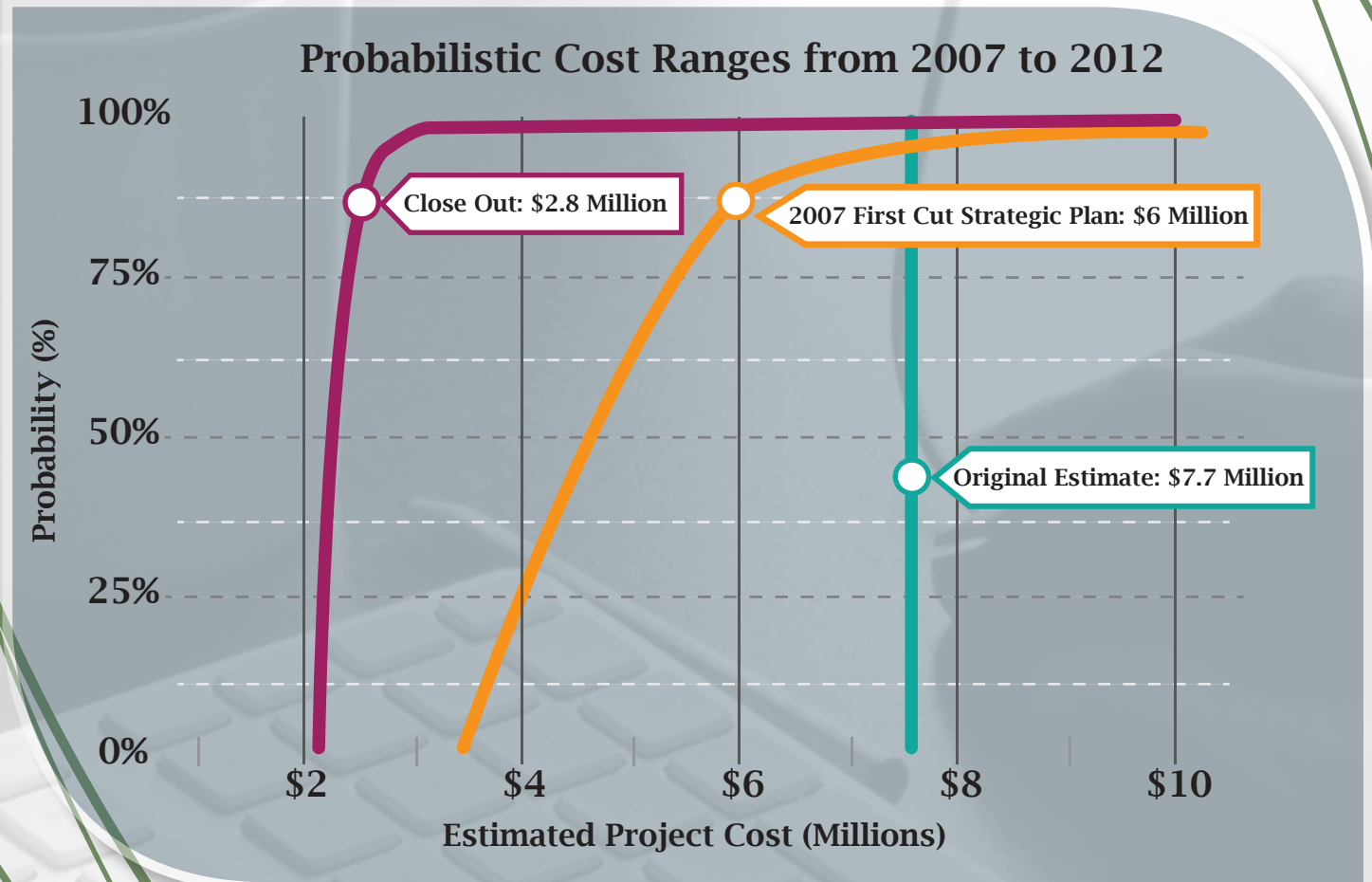


### Benefits of DCA include:

- ❖ Early definition of key project issues.
- ❖ Early identification of preferred decision pathways based on legal, physical, social, political, and fiscal constraints.
- ❖ Early elimination of impractical alternatives.
- ❖ Identification of cost escalation risks throughout the life of the project.
- ❖ Increased communication and reduced conflict among project stakeholders.
- ❖ Portfolio management through identification and prioritization of important sites and resources.
- ❖ Development of benchmarks for determining decision-making effectiveness and optimization of strategies and tactics.
- ❖ Identification of strategies, decisions, and tactics that can mitigate the most likely undesirable consequences, and prioritization of resources accordingly throughout the life of the project.
- ❖ Documentation of liability reduction activities.

## Project Example

The original estimate to remediate and achieve closure of a former chemical factory in New Jersey was \$7.7 million. NewFields performed DCA and determined that there was an 80 percent chance that the total cost would be less than \$6 million. As the project continued, the DCA process helped identify the cost drivers and uncertain project components. As more data were collected, uncertainty and estimated costs were reduced. The DCA process helped identify the optimal path for the project, resulting in a final cost of \$2.8 million, a savings of almost \$5 million from the original estimate.



The horizontal and vertical axes represent the estimated project cost and the likelihood of the cost occurring, respectively. For example, the orange line shows that there is an 80 percent chance of the project costing less than \$6 million and a 20 percent chance of exceeding \$6 million.

The colored lines represent cost and uncertainty. The more vertical the line, the less uncertainty there is in cost. For example, the orange line shows a wide range of costs, representing lots of uncertainty, while the red line is relatively vertical, representing less uncertainty about project cost.