

Part 4 —Lessons Learned

1. Recommended Changes to Industry Guidelines

EPRI will evaluate the results of this siting evaluation and include any required changes in a future revision of the EPRI “Siting Guide: Site Selection and Evaluation Criteria for an Early Site Permit Application.”

2. Influence Factors

An effective site evaluation process considers many business, engineering, environmental, and socio-economic factors. It evaluates applicable NRC, state, local, and other requirements. In addition, the process weighs the factors and assesses sites based on the relative contribution of each factor. The site selection process is intended to be rigorous, repeatable, and usable by any entity interested in evaluating potential sites for new nuclear generating facilities. Because of the large number and variety of issues considered in site selection, it is essential that a structured framework be used for the process to be objective and yield results in which decision-makers have confidence.

However, any entity conducting such an evaluation also brings to the process a unique perspective. That perspective may be driven by any number of factors, including the entity’s business objectives, business models, management style, risk tolerance, political climate, public perception, preconceived notions, and other factors in its business environment—any and all of which may serve to influence decision-making in a manner unique to that entity.

In this site evaluation study, two commercial and three DOE sites were evaluated. All sites were subjected to the rigorous site evaluation process summarized in Appendix A. Those evaluations resulted in a numerical Site Merit “score” for each site.

The original Site Evaluation Process divided the site screening and evaluation criteria into 3 groups: (1) Engineering/Economic, (2) Environmental, and (3) Sociological. The criteria included in each original group are identified in Table 2-1.

Table 2-1. Original Criteria Groups		
Group	Criteria Included	
Engineering/Economic	Electricity Projections Transmission System Site Size Site Topography Environmentally Sensitive Areas Emergency Planning Labor Supply Transportation Access Security Hazardous Land Uses Ease of Decommissioning Water and Air Regulatory Site Development Costs Schedule	Geologic Hazards Site-Specific SSE Capable Faults Liquefaction Potential Bearing Material Near-Surface Material Groundwater Flooding Potential Ice Formation Cooling Water Source Temperature & Moisture Winds Rainfall Snow Atmospheric Dispersion
Environmental	Terrestrial Habitat Terrestrial Vegetation Aquatic Habitat/Organisms	Groundwater Surface Water Population

Table 2-1. Original Criteria Groups		
Group	Criteria Included	
Sociological	Present/Planned Land Use Demography Socioeconomic Benefits Agricultural/Industrial Aesthetics	Historic/Archaeological Transportation Network Stakeholder Support Environmental Justice

The relative importance of each criterion and criterion group was reflected as a numerical weight value based on the collective judgment of the Dominion and Bechtel experts involved in the study.

As the study proceeded however, it was recognized that the original grouping and weighting of criteria did not accurately reflect the major factors that would influence the evaluation of both commercial and DOE sites, particularly the conditions that would be needed to support the construction and operation of a merchant power plant outside of Dominion’s historic service area. It became clear that a change to the evaluation process and its treatment of these significant factors was needed. After a series of meetings to discuss the issue and potential approaches, it was decided to establish a separate Criterion Group for those top economic criteria that have the most influence on Dominion’s business case analysis. The revised criteria groups are shown in Table 2-2. The weighting for each group and criterion are shown in Part 2 (Tables 6-3 through 6-5) and Part 3 (Tables 6-3 and 6-4).

Table 2-2. Revised Criteria Groups		
Group	Criteria Included	
Economic	Electricity Projections Transmission System	Stakeholder Support Site Development Costs
Engineering	Site Size Site Topography Environmentally Sensitive Areas Emergency Planning Labor Supply Transportation Access Security Hazardous Land Uses Ease of Decommissioning Water and Air Regulatory Schedule Geologic Hazards Site-Specific SSE	Capable Faults Liquefaction Potential Bearing Material Near-Surface Material Groundwater Flooding Potential Ice Formation Cooling Water Source Temperature & Moisture Winds Rainfall Snow Atmospheric Dispersion
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Sociological	<table border="0"> <tr> <td>Present/Planned Land Use</td> <td>Aesthetics</td> </tr> <tr> <td>Demography</td> <td>Historic/Archaeological</td> </tr> <tr> <td>Socioeconomic Benefits</td> <td>Transportation Network</td> </tr> <tr> <td>Agricultural/Industrial</td> <td>Environmental Justice</td> </tr> </table>	Present/Planned Land Use	Aesthetics	Demography	Historic/Archaeological	Socioeconomic Benefits	Transportation Network	Agricultural/Industrial	Environmental Justice
Present/Planned Land Use	Aesthetics								
Demography	Historic/Archaeological								
Socioeconomic Benefits	Transportation Network								
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The revised criterion groups and weighting more accurately reflect Dominion’s evaluation and decision-making process and the relative importance of the key factors that influence that process.