

Table 4-6: Weighted Common Data Range Ratio-Scoring for 345/115-kV Line Routes

Evaluation Criteria Metrics	Weight	Northern Route Ratio-Score	Southern Route Ratio-Score
Total Length (Miles)	5	3.03	5.00
Railroad Crossings (Number)	2	1.00	2.00
Stream Crossings (Number)	1	0.67	1.00
Length NOT paralleling existing linear facilities	4	n/a	n/a
Length through private easement	4	n/a	n/a
Length of ROW expansion	4	2.83	4.00
Area of ROW expansion	4	2.85	4.00
Residences within ROW (Number)	4	3.67	4.00
Residences within 100 feet of edge of ROW (Number)	3	2.21	3.00
Residences within 101 to 300 feet of edge of ROW (Number)	2	1.35	2.00
Businesses within ROW (Number)	3	0.00	3.00
Businesses within 100 feet of edge of ROW or centerline (Number)	2	1.70	2.00
Businesses within 101 to 300 feet of edge of ROW (Number)	1	0.72	1.00
Public Facilities within 300 feet of edge of ROW (Number)	4	2.67	4.00
Public Facilities within 301 to 1,200 feet of edge of ROW (Number)	3	1.50	3.00
Length by land use (Commercial/Industrial)	1	0.66	1.00
Length by land use (Residential)	4	2.79	4.00
Length by land use (Undeveloped Land)	3	1.42	3.00
Length by land use (Park/School/Open Space)	5	4.17	5.00
Visibility (Rating)	2	1.50	2.00
Length through stream or wetland	3	1.45	3.00
Length through environmentally sensitive area	3	1.14	3.00
Cultural resources predictive modeling analysis (Rating)	2	1.15	2.00
TOTAL		38.48	61.00

Based on the unweighted and weighted evaluation of the criteria scoring, the Northern Route is superior to the Southern Route.

4.6.4 Cost Estimates

Cost estimates for the Northern Route and Southern Route were developed for each Project segment by WMECO. The cost estimates are given in the third and fourth columns (designated 6n North and 6n

South, respectively) in Table 3-13 in Section 3.5.⁴ The estimates show that the Northern Route is superior to the Southern Route by a margin of approximately \$52 million.

The cost estimates are based primarily on information from past experience, vendors, construction contractors, published sources, such as RSMeans, and the professional experience and judgment of WMECO's consultants. The costs estimates have been developed with less than ten percent of the design effort completed. Therefore, the actual Project costs will be influenced by, and may vary from, the estimates and opinions projected at this stage. Factors such as final engineering design, conditions experienced during construction (e.g., unknown subsurface conditions like rock, contaminated soils, ground water, etc.; weather; contractor procedures and methods; unavoidable delays; and the contracting economic environment), government regulations and laws (including interpretation thereof), competitive bidding or market conditions and other factors affecting the Project will influence the actual costs experienced. The estimated costs include the following major components: engineering, surveying, environmental studies, construction management, project management, legal services, permit fees, land for permanent and temporary easements, materials, material storage, overhead costs, construction labor, taxes, escalation and allowance for funds used during construction (AFUDC).

4.6.5 Reliability

The new and upgraded circuit segments on either the Northern Route or the Southern Route would provide comparable system reliability. Both options were treated as having comparable reliability in the *Southern New England Transmission Reliability (SNETR) Report 2—Options Analysis*, discussed above in Section 3.

Basically the same overhead transmission line technology would be employed on either route, albeit in different combinations, and the substation and switching station improvements are the same for each routing alternative. The overhead line technologies have long been reliably used on the New England transmission grid. The primary differences are that a new 345-kV line using the Southern Route would be somewhat longer than a new 345-kV line using the Northern Route, the line designs over the Northern Route incorporates more sharing of line structures by 345- and 115-kV circuits than would the line designs over the Southern Route, and 345-kV circuits (new and existing) would be together on common right-of-way sections for the Southern Route but not for the Northern Route. Notwithstanding these differences, each design would result in a transmission system which fully meets the requirements of the relevant reliability standards and would provide comparable system reliability.

⁴ The same estimates are isolated and given in the following Section 5.7.