

10-Year Transmission System Assessment



Full Report

September 2003



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September 2003



AMERICAN TRANSMISSION COMPANY
THE ENERGY ACCESS COMPANY

Full Report - September 2003

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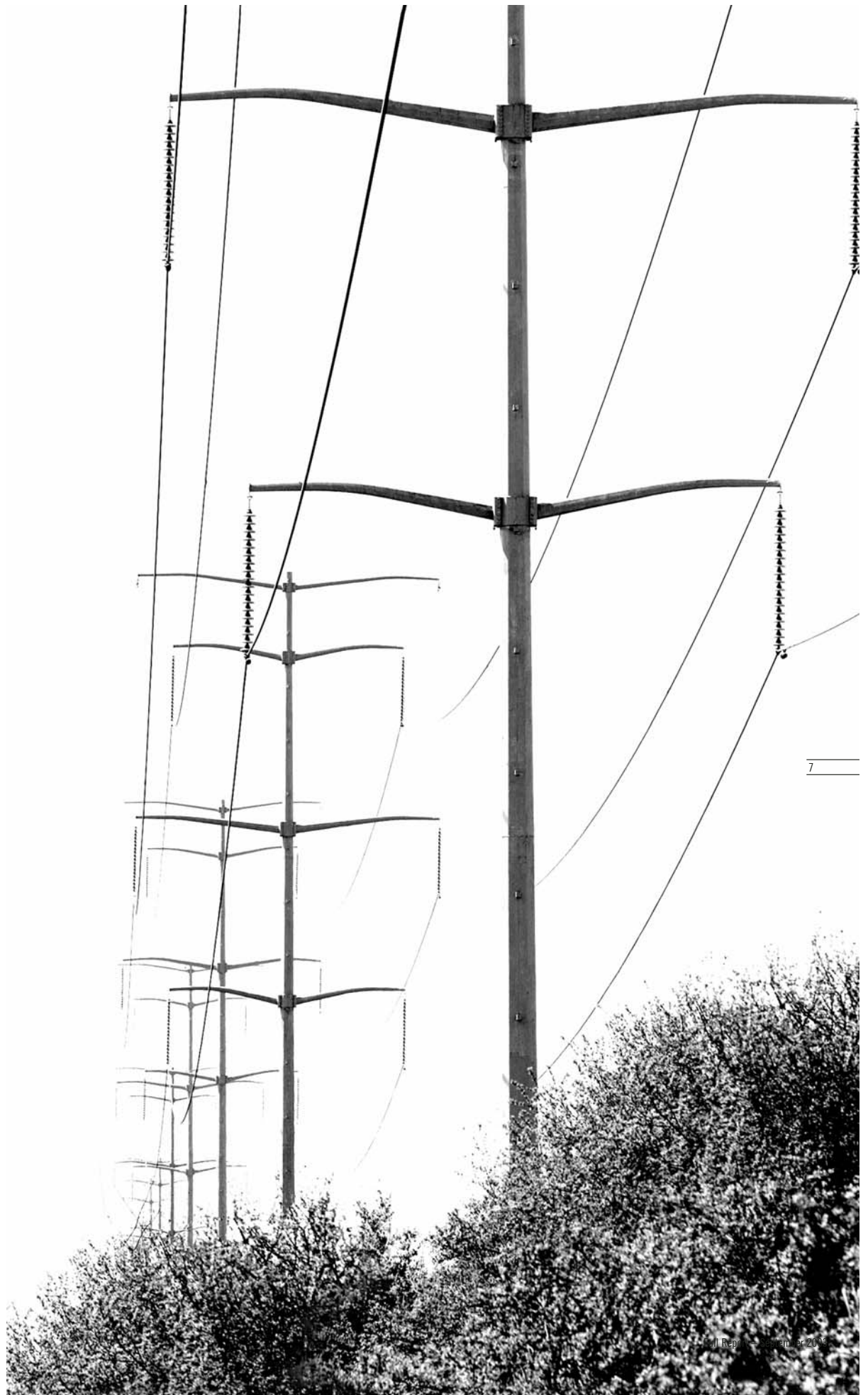
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American Transmission Company

2003 10-Year Transmission System Assessment

Executive Summary

This report contains the 10-Year Assessment for 2003 of the transmission system facilities owned and service territory encompassed by American Transmission Company LLC. This Assessment outlines the transmission system needs identified through the year 2012 based on (i) information provided by the local distribution companies, (ii) the latest transmission service requirements, (iii) generation and load interconnection requests, (iv) recent analyses conducted by ATC, (v) input from various stakeholders at ATC-sponsored meetings and (vi) strategic considerations. This Assessment describes transmission system constraints identified in those analyses along with alternative and specific proposed transmission projects to address those constraints.

This Assessment is intended to provide further foundation for continued discussions in the public arena on the transmission planning process, identified transmission system needs and limitations, possible resolutions to those needs, and coordination with other public infrastructure planning processes. Specific opportunities for public participation in the planning process has and will, at a minimum, include periodic Planning Zone Meetings held throughout ATC's service territory. ATC will continue to issue an annual Assessment each summer with an Update Report, if needed, the following winter. Planning Zone Meetings will be held at least annually following issuance of each Assessment, with additional meetings and communications developed as the planning process evolves. Numerous other customer and stakeholder communication activities associated with specific projects or initiatives occur throughout the year.

This Assessment contains several new features, including more expansive description of each planning zone, an Assessment of ATC's import capability in the future, an Assessment of dynamic stability, a description of generation developments and estimates of capital costs associated with planned, proposed and conceptual transmission projects. Much of what has been added to this year's Assessment is in response to comments and suggestions made by various stakeholders.

As detailed in this Assessment, there are various needs and limitations identified on the ATC transmission system which must be addressed in the near future. Many of the needs and limitations identified can be addressed with projects that involve equipment additions or replacements at existing substations. Several of the needs and limitations identified involve older transmission lines that can overload under contingency conditions. These lines are candidates to be rebuilt to increase their capacity and to address the aging facilities condition issue. Several of the needs and limitations identified are of sufficient scope and complexity that they will likely require a more comprehensive solution, perhaps involving new transmission facilities.

In total, this 10-Year Assessment anticipates the following:

Table ES-1 Summary of American Transmission Company's Transmission System Assessments

| | UPDATED 2002 ASSESSMENT (FEBRUARY 2003) | 2003 ASSESSMENT (AUGUST 2003) |
|---|--|----------------------------------|
| NEW TRANSMISSION LINES REQUIRING NEW RIGHT-OF-WAY | | |
| 345 KV | 7 LINES / 225 MILES | 8 LINES/ 220 MILES |
| 161 KV | --- | --- |
| 138 KV | 13 LINES / 128 MILES | 17 LINES / 107 MILES |
| 115 KV | 4 LINES / 51 MILES | 4 LINES / 42 MILES |
| 69 KV | 5 LINES / 45 MILES | 9 LINES / 92 MILES |
| EXISTING TRANSMISSION LINES TO BE REBUILT, RECONDUCTORED OR UPGRATED | | |
| 345 KV | 5 LINES / 102 MILES | 7 LINES / 114 MILES |
| 138 KV | 40 LINES / 683 MILES | 47 LINES / 807 MILES |
| 115 KV | 4 LINES / 98 MILES | 4 LINES / 108 MILES |
| 69 KV | 12 LINES / 49 MILES | 12 LINES / 54 MILES |
| NEW TRANSFORMERS TO BE INSTALLED | | |
| (# OF TRANSFORMERS / TOTAL CAPACITY) | 44 TRANSFORMERS / 11875 MVA | 38 TRANSFORMERS / 9980 MVA |
| NEW CAPACITOR BANKS TO BE INSTALLED | | |
| (# OF INSTALLATIONS / CAPACITY) | 47 INSTALLATIONS / 960 MVAR | 34 INSTALLATIONS / 930 MVAR |

The estimated cost of the plan summarized above is approximately \$1.7 billion over the period 2003 through 2012. At this time, ATC anticipates total capital expenditures of around \$2.8 billion over this same time period. This difference consists of costs for:

- Interconnection of proposed generation projects not included in this Assessment
- Strategic and/or conceptual transmission projects discussed in the last part of Section V but not included in the Section VI tables
- Transmission-distribution interconnections that don't require a regulatory filing or more than a few spans of transmission line construction.
- Capital-related maintenance projects
 - Line rebuilds not involving reconductoring or voltage conversions
 - Circuit breaker, switch and other terminal equipment replacements
- Protective relay replacements

In addition, there are a number of needs and limitations identified in this Assessment for which specific solutions are not yet identified. In these instances, potential alternative solutions have been identified to provide a basis for further discussion with customers and stakeholders.

Figure ES-1 shows geographically the transmission system reinforcements that are included in this year's Assessment. Please refer to the tables in Section VI of this Assessment for details on each of the particular projects reflected in this figure.

Figure ES-1
TRANSMISSION SYSTEM ADDITIONS
2003 THROUGH 2012
May be Planned, Proposed or Conceptual

