APPENDIX 1

Design and Data Requirements

JOINT POWERS BOARD
ELECTRIC PROPULSION ROLLING STOCK ANALYSIS

The purpose of this feasibility study is to analyze the technical and economic characteristics and performance of a fleet of new electric locomotives and existing Gallery commuter rail cars vs. an all new fleet of electric multiple units (EMU's).

DESIGN REQUIREMENTS

- Trailing Load: 1,200,000 lbs. (7Current Gallery Cars at AW2 load at 170,000 lbs. each – 140,000 lbs./car + 170 pass.x 170lbs. each)
- Minimum R. Curve: 14 degree;
- Maximum Grade: 3% , 1 mile long. Train must be able to start from zero speed.
- Maximum operating speed: 110 MPH
- Electric Power: 25kV AC
- Duty Cycle: 150,000 miles/year
- Standards: Must comply with all current North American Standards (FRA, APTA)

2. *DATA REQUIREMENTS*

2.1 Locomotive

- Acceleration and braking rates
- Drawbar tractive effort capability
- Starting current required and power demand curve characteristics
- Electric power consumption rates
- Weight
- General Dimensions
- Initial estimated price (Assume order placed in 2001)
- O&M Costs per vehicle hour and per vehicle mile
- Compliance with current North American Standards?
- Maintenance facility requirements?

2.2 EMU (Gallery or Bilevel – Approximately 120/140 seated passengers each)

- Acceleration and Braking Rates
- Starting current required and power demand curve characteristics
- Electric power consumption rates
- Weight
- General Dimensions
- Initial estimated price (Assume orders placed in 2001)
- O&M costs per vehicle hour and per vehicle mile (or married pairs, provided it meets design requirements)
- Compliance with current North American Standards?
- Maintenance facility requirements?

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