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Decision \_\_\_\_\_

**ORIGINAL**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of )  
 The Atchison, Topeka and Santa Fe )  
 Railway Company, Los Angeles and )  
 Salt Lake Railroad Company and its )  
 lessee Union Pacific Railroad )  
 Company, The Western Pacific )  
 Railroad Company and Southern )  
 Pacific Transportation Company for )  
 Approval of Restudy of the Cost of )  
 Maintaining Automatic Grade Crossing )  
 Warning Devices. )

Application 87-07-025  
(Filed July 16, 1987)

OPINION

Applicants The Atchison, Topeka and Santa Fe Railway Company, Los Angeles and Salt Lake Railroad Company and its lessee Union Pacific Railroad Company, The Western Pacific Railroad Company, and Southern Pacific Transportation Company, which are railroads, request the Commission review and approve the 1986 re-study of the cost of maintaining automatic grade crossing warning devices and accordingly allocated the funds appropriated to the Grade Crossing Protection Maintenance Fund. The study has been taken into evidence and designated as Exhibit 1. The formal file of the case shows that copies of the study were served on the Commission Transportation Division Staff (staff), the United Transportation Union, the Cities of Martinez, Los Angeles, Sacramento, Fresno, and San Diego and the State Department of Transportation, the State Controller, and Los Angeles County. Notice of filing of the application appeared in the Commission Daily Calendar of July 22, 1987. No exceptions to the study or protests to the application have been received.

In accordance with California Public Utilities (PU) Code Section 1202.2, the Commission divides the cost of maintaining

automatic grade crossing warning devices between railroads and public agencies in the same proportion as the apportionment of cost of construction. PU Code Section 1231.1 requires that the share of cities, counties, and cities and counties of the cost of maintaining automatic grade crossing warning devices is to be paid to the railroads from an annual allocation to the Commission which "shall constitute the amount necessary for such maintenance." The share of the cost of maintaining automatic grade crossing warning devices assigned to a public agency other than a city or county, such as the California Department of Transportation, is paid to the railroads by that public agency, and is not subject to the annual allocation specified in Section 1231.1.

Following the enactment of PU Code Sections 1202.2 and 1231.1, the Commission adopted a special signal unit system of reimbursement and ordered that a cost of \$30.00 per relative unit value be used by the railroads and the public agencies for determining the latter's share of the annual cost of maintenance. Decision (D.) 72225, Case 8249, 67 Cal. PUC 49 (1967).

In 1978 applicants commissioned a study for purposes of conclusively establishing the inadequacy of the reimbursement rate authorized by the Commission and of the amount of the reimbursement fund established by Section 1231.1. Applicants believed that the existing system was based on outdated cost data without changes to reflect current cost levels and grossly understated the actual cost of maintenance. On May 4, 1982, applicants filed Application 82-05-05 which resulted in D.84-09-057, which was modified by D.84-12-061.

By Ordering Paragraph 1 of D.84-09-057, the Commission adopted a different, more efficient method for determining and assigning the cost of maintaining automatic grade crossing warning devices. Pursuant to Ordering Paragraph 3, a procedure for an annual update of costs was specified in Appendix B to that decision. Pursuant to Finding of Fact 13, new studies using the

adopted methodology were required to be conducted at least every three years. 1987 is the third year. In accordance with Finding of Fact 13, the applicants commissioned a new study during the year 1986. That study is contained in Exhibit 1.

The purpose of the 1986 study was to review and update the study performed in 1979 and to develop and apply a method for setting the monetary amount to be used for billing the annual maintenance costs of automatic grade crossing warning devices, including signal apparatus relating thereto but excluding costs relating to the crossing surface.

The objective of the 1986 study was to determine the current actual cost for each crossing category. The study did not address major modifications to the previously adopted methodology. It did include some refinements to the methodology to improve accuracy, to streamline the data collection process without sacrificing integrity of results. And finally, it considered and responded to comments provided to the Commission regarding the prior study. A total of 611 crossings was selected from the population of 2,983 crossings eligible for public assistance. (The 1979 study was based on 211 crossings.) As in previous studies, the category average method was applied to five distinct categories:

- a. Main line crossings (all).
- b. Branch line crossings with gates.
- c. Branch line crossings without gates.
- d. Other line crossings with gates.
- e. Other line crossings without gates.

The new average maintenance cost basis expressed in 1986 cost levels was found by the study to be as follows:

a. Main line crossings	\$2,527
b. Branch line crossings w/gates	1,835
c. Branch line crossings wo/gates	712
d. Other line crossings w/gates	1,308
e. Other line crossings wo/gates	710

Based on the price levels in effect during the test period of August through October 1986, (the same test months used in the 1979 study) the total statewide cost of maintaining reimburseable crossings was found to be \$6,292,077 and is broken down as follows:

<u>Category</u>	<u>Average Annual Cost per Crossing</u>	<u>Number of Crossings</u>	<u>Total</u>
a. Main line	\$2,527	1,652	\$4,174,604
b. Branch w/gates	1,835	975	1,789,125
c. Branch wo/gates	712	120	85,440
d. Other w/gates	1,308	126	164,808
e. Other wo/gates	710	<u>110</u>	<u>78,100</u>
Total		2,983	\$6,292,077

A comparison of the estimated average annual cost to maintain crossings in 1979 and in 1986 is as follows:

<u>Category</u>	<u>1979 Study Results *</u>	<u>1979 Costs Indexed to 1986 Cost Levels**</u>	<u>1986 Study Results</u>
a. Main line	\$2,004	\$2,892	\$2,527
b. Branch line w/gates	1,670	2,411	1,835
c. Branch line wo/gates	810	1,170	712
d. Other line w/gates	1,035	1,495	1,308
e. Other line wo/gates	616	890	710

\*1979 study results refer to estimates adopted by the Commission in D.84-09-057.

\*\*Costs were indexed with the approach specified in Appendix B of D.84-09-057 using Association of American Railroad's 1986 "AAR Railroad Indexes". For Western Railroads.

The differences between the above 1979 costs indexed to 1986 cost levels and the lower costs found by the 1986 cost study are due principally to three factors. First, the cost of maintaining electronic modules was reduced due to a modified approach which tracked the actual number and type of components replaced at sample

crossings. Also, the cost of most electronic products has declined and the reliability of the products has improved since 1979. Second, the frequency of routine visits was reduced reflecting improved reliability and more effective maintenance and inspection procedures. The frequency of special visits to the crossings is very close in the two studies for each category. Third, increased labor additives only partially offset the above-decreased costs.

Appendix B to Exhibit 1 gives a detailed description of the approach used in computing individual cost components.

The study recommends that the average category costs developed in this study and 1986 cost levels should now be used as the basis for indexing, with two minor refinements which applicants contend will improve accuracy. These refinements are as follows:

1. The combined "wage rates and supplements" index published by AAR for Western Railroads should be used to index nonmaterial costs rather than the "wage rates" index. This will improve tracking of the actual cost patterns.
2. Forecasting of the annual weighted average ratio based on the third quarter report should be based on the average of the three quarters of data then available and a forecasted fourth quarter value, rather than on the third quarter index alone. Since the annual index is based on the index values for the four quarters, this change should improve accuracy. The forecasted index for quarter 4 will be developed by assuming that the rate of change between quarters 3 and 4 will be the same as between quarters 2 and 3 for the current year.

Applicants request that the procedure set forth herein Appendix A be used to revise the future year costs of maintaining automatic grade crossing warning devices and that the Commission approve the 1986 study and accordingly allocate the funds appropriated to the Grade Crossing Protection Maintenance Fund.

Findings of Fact

1. As required by Appendix B to D.84-09-057, applicants made a study of 1986 costs to maintain automatic grade crossing warning devices, which study is set forth in Exhibit 1.

2. The 1986 study shows those yearly costs by category of crossing to be as follows:

<u>Category</u>	<u>Yearly Cost</u>
Main line crossings	\$2,527
Branch line crossings w/gates	1,835
Branch line crossings wo/gates	712
Other line crossings w/gates	1,308
Other line crossings wo/gates	710

3. The 1986 study did not make major modifications to previously adopted methodology but did include some refinements to the methodology which improved accuracy, streamlined the data collecting process without sacrificing integrity of results, and considered and responded to comments provided to the Commission regarding the prior study.

4. The total statewide yearly cost of maintaining reimbursable crossings is approximately \$6,292,077.

5. The study was based on 611 crossings out of 2,983 reimbursable crossings as compared to 211 crossings used in the 1979 study.

6. The 1986 study resulted in lower costs in each category than the 1979 costs indexed to 1986 cost levels.

7. Appendix A to Exhibit 1 gives a detailed description of the approach used in computing individual cost components.

8. The average category costs and cost levels developed in the 1986 study are reasonable and proper to use as the basis for indexing, with the exception that: 1) the combined "wage rates and supplements" index published by AAR for Western Railroads should be used to index nonmaterial costs rather than the "wage rates" index and 2) forecasting of the annual weighted average ratio based on the third quarter report should be based on the average of the

three quarters of data then available and a forecasted fourth quarter value.

Conclusion of Law

The application should be granted as set forth in the ensuing order. The order should be effective today because there is an immediate need for the relief sought.

ORDER

IT IS ORDERED that:

1. The category maintenance method of costs set forth in Finding of Fact 2 shall be used for determining the cost of maintaining automatic grade crossing protection for administering Public Utilities Code Section 1231.1.
2. The 1986 Study of Costs to Maintain Automatic Grade Crossing Warning Devices identified as Exhibit 1 is approved.
3. Applications to revise the costs set forth in Finding of Fact 2 shall conform to the procedure set forth in Appendix A.
4. Billing for the share of the cost of maintenance of automatic grade crossing protection shall be submitted by the railroad to the Commission staff on a calendar year basis. Bills shall be submitted in duplicate to the Commission staff by the railroad.
5. Upon receipt of the bill and claim as provided for in Ordering Paragraph 4, this Commission shall transmit Claim Schedule Form 218-B along with Commission staff verification to the Department of Transportation for submission to and payment by the Controller of the State of California. ✓  
✓

6. Payment for the public agency's share of the cost of maintaining automatic grade crossing protection shall be made directly to the billing railroad.

7. The application is granted as set forth above. ✓


This order is effective today.

Dated January 13, 1988, at San Francisco, California.

DONALD VIAL  
FREDERICK R. DUDA  
G. MITCHELL WILK  
JOHN B. OHANIAN  
Commissioners

Commissioner Stanley W. Hulett,  
being necessarily absent, did  
not participate.

I CERTIFY THAT THIS DECISION  
WAS APPROVED BY THE ABOVE  
COMMISSIONERS TODAY.

  
Victor Weisser, Executive Director  
JWB



APPENDIX A

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Requests to update maintenance costs shall be furnished to the Commission Transportation Division staff with the following information in verified form no later than January 15th of each year. The information shall be prepared and developed to include the Annual Maintenance Cost for each calendar year as required. Base data through 1989 shall be the 1986 costs set forth in Finding of Fact 2. Commencing in 1989 a new study using the methodology in Exhibit 1 shall be conducted at least every three years. Thereafter the base date set forth in the new study shall be used in lieu of the costs set forth in Finding of Fact 2.

The request shall contain appropriate computations for each crossing category and should comply with the following methodology:

Association of American Railroads (AAR) indices for Western Railroads shall be used to update sample period crossing costs to future year cost levels as follows:

1. Compute the ratio of average cost levels in the current year to 3rd quarter 1986 cost levels. This computation should be performed separately for a) wages and wage supplements and b) materials and supplies categories.
2. Weight the ratios derived in 1. by the percentage of cost in each category (e.g., 46% wage and wage supplements and 54% materials and supplies).
3. Apply the weighted average ratio derived in 2. to each category of crossing, arriving at updated average annual costs.

APPENDIX A

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The average cost levels for a current year will be estimated after the 3rd quarter actual data is released. This will be done by averaging the actual index for quarter 1, the actual index for quarter 2, the actual index for quarter 3 and a forecasted index for quarter 4. The forecasted index for quarter 4 will be developed by assuming that the rate of change between quarters 3 and 4 will be the same as between quarters 2 and 3 for the current year.

After applicant Railroads furnish the verified information to the Commission Transportation Division staff and Caltrans for review and if agreement is reached, staff will prepare a Resolution to be presented to the Commission for approval. If staff, Caltrans, and applicant Railroads cannot reach agreement, staff will recommend that an OII be issued and the matter be set for public hearing.

(End of Appendix A)

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