

Decision No. .

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA.

In the matter of the application of
PACIFIC ELECTRIC RAILWAY COMPANY for
authority to construct and maintain
at grade a crossing with the railroad
of The Atchison, Topeka and Santa Fe
Railway Company in Rialto Avenue, in
the City of San Bernardino, at a point
approximately fifty-seven (57) feet
westerly from the center line of "I"
Street, in said City of San Bernardino.
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ORIGINAL

Application No. 504.

Frank Karr for Pacific Electric Railway Company,
E. Winans for The Atchison, Topeka and Santa Fe Railway Company.

GORDON, Commissioner.

SUPPLEMENTAL OPINION

The original application in this matter was filed by the Pacific Electric Railway Company on April 15, 1913, and asked permission to construct the single track main line of the Pacific Electric over the single track main line of the Santa Fe, on Rialto Avenue, in San Bernardino. Shortly after the application was filed an ex parte order was issued on the assumption that the two companies were in agreement as to the terms of installation and operation. On August 7, 1913 the applicant advised that no agreement could be reached with the Santa Fe in this matter, and a public hearing was thereafter held, which resulted in an order issued on October 8, 1913, requiring the installation of an interlocking plant, the expense of which was to be borne by applicant, and the maintenance of which was to be divided equally between the two companies. The order required plans to be filed with the Commission in accordance with General Order No. 33, ninety (90) days after the date of the order. This time was extended and plans were eventually filed on November 3, 1914, and were approved by the Commission four days afterwards.

In addition to the main line crossings to be taken care

Decision No. 3030

~~some~~ of by the interlocking there was a spur track within interlocking limits which was also fully interlocked during the original construction. Before the plant was completed and ready for inspection, the H. G. Nau Company constructed a warehouse on the Santa Fe track, and a spur track was built by that company to serve this building. The switch governing this spur track is within the interlocking limits, and instead of installing the usual interlocking protection an outlying switch lock was substituted. When it became necessary to apply to the Commission for approval of this change in plans the companies were unable to agree, and the matter was set for a further hearing, which was held at San Bernardino on December 20, 1915.

The outlying switch lock consists in its essential parts of a mechanical lock, the control of which is allowed or prevented by an electric magnet, which is controlled by a lever in the tower. The lever energizes the electric lock on the outlying switch lock and locks conflicting moves. When the leverman has reversed the lever that controls the outlying switch lock, and after the switch itself has been reversed, it is impossible to place the lever in the interlocking tower back in the normal position, thus releasing the conflicting routes, until after the switch is replaced in its normal position and locked. In this particular case the switch cannot be unlocked until the derails on the main line of the Pacific Electric are open and the signals are in stop position and the Santa Fe track is similarly protected. In other words, while the switch lock is open the towerman cannot set up a conflicting route, although he can admit Santa Fe trains into the plant to use the switch. The cost of a switch lock is from \$500 to \$700, while full interlocking for the same switch would cost from \$2200 to \$2400.

The Pacific Electric opposed the use of a switch lock, on the ground that it was not as safe as a standard plant, that

it would result in delays to Pacific Electric trains, and that in this installation a switch similarly located in the plant was fully protected at the expense of the Pacific Electric. It is the company's belief that the switch under consideration in this matter should be safeguarded by full interlocking protection.

As far as safety is concerned, it appears that the danger from the outlying switch lock as compared with the full interlocking lies in the fact that the derail on the spur track could be disconnected without the towerman being aware of the fact, and he could admit a second train into the plant which might come in contact with the first train, provided that train, through an accident or mistake of the crew, "split" the switch protected by the outlying lock and went to the main line of either track. It was stated, however, that with the electric wiring carried through the derail it would be impossible for this to happen; and this was admitted to be true by the representatives of both companies. If this were done, the only difference between an outlying switch lock and standard interlocking protection would be the greater liability of the former to get out of order, and this does not appear to be of great importance.

In regard to the matter of delays, the opposition of the Pacific Electric appears to be of more force. The use of an outlying switch lock undoubtedly slows down the operation of an interlocking plant, although the number and extent of the delays will rest largely with the towerman and the train crews of the line using the switch protected by the switch lock. In this case, where the Pacific Electric has spent some \$20,000 on an interlocking plant and has fully protected a Santa Fe switch situated similarly to the one now under consideration, the attitude of the Pacific Electric in not wishing a slower mode of protection, on a switch to be installed, is not unreasonable. It seems to me, however, that this objection can be considered better after the

plant has been in operation for some time than it can at the present time, when the number and extent of the delays are problematical. I believe on the whole, without expressing a general opinion in regard to the use of switch locks in interlocking limits, that in this case the outlying switch lock, if wired through the derail as suggested, will make the plant entirely safe and that it should be given a trial before it is decided that the delays it will occasion the trains of the Pacific Electric will be great enough to justify the additional expenditure of from \$1500 to \$1900. In arriving at this conclusion I have in mind the fact that the outlying switch lock is such a comparatively new departure in signal engineering that neither the signal engineer for the Santa Fe nor the signal engineer for the Pacific Electric were entirely familiar with its possibilities, and that it may often happen in the future that the cheaper installation will safely protect spur tracks and enable territory in the vicinity of interlocking plants to be used for industrial purposes which could otherwise be so used only by the installation of the more expensive devices at a cost which might often be so high as to be prohibitive.

The cost of this additional protection is fully covered in the contract between the two companies and will be borne by the Santa Fe. The change in the plant made by this installation will necessitate a new set of plans for the entire plant, and the expense of these plans should be borne by the Santa Fe.

I recommend the following form of order.

SUPPLEMENTAL ORDER

A further hearing having been held in regard to the application of the Pacific Electric Railway to cross the track of the Santa Fe and the matter of the installation of an outlying switch lock to protect a spur track to serve the H. G. Nau Company warehouse having been considered, and it appearing that this

installation should be permitted subject to certain conditions;

IT IS HEREBY ORDERED, That The Atchison, Topeka and Santa Fe Railway Company be and the same is hereby permitted to install an outlying switch lock on the spur track in question, subject to the following conditions, viz:

(1) The outlying switch lock shall be so wired through the derail on the spur track that an indication of its position shall be given in the tower, and it shall be connected up in such a manner that it will be impossible to lock the outlying switch lock unless the derail is in position.

(2) Plans for this wiring and revised plans for the entire plant shall be submitted to the Commission within ninety (90) days from the date of this order, and the cost of these revised plans and the work thereunder shall be borne by The Atchison, Topeka and Santa Fe Railway Company.

(3) The Pacific Electric Railway may, if it desires, keep a check on delays to trains occasioned at the interlocking plant by the outlying switch lock, and if it appears to the Commission that these delays are such as to make it reasonable that the outlying switch lock should be replaced by standard interlocking protection, the Commission reserves the right to order such a change made.

(4) The Commission reserves the right to make such further orders relative to the location, construction, operation, maintenance and protection of this crossing as to it may seem right and proper and to revoke its permission if, in its judgment, the public convenience and necessity demand such action.

The foregoing supplemental opinion and order are hereby

approved and ordered filed as the supplemental opinion and order
of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 6th day
of January, 1916.

Max Thelen

H. S. Howard

Wm. Gordon

Frank R. DeWitt

Commissioners.