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ORIGINAL

Decision No. 43373

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Investigation, on the Commission's own motion, into the number of brakemen that should be employed by railroad corporations on their trains operating within this State as are necessary to promote the safety of the employees of such railroad corporations, their passengers, and the public.	)))))))	Case No. 4988

C. E. Goeble, State Legislative Representative, Order of Railway Conductors; Clifton Hildebrand for Transportation Brotherhood, Brotherhood of Railroad Trainmen, Order of Railway Conductors, Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen and Enginemen, and Order of Railroad Telegraphers; George W. Ballard, Chairman, California Legislative Board, Brotherhood of Railroad Trainmen, also for Frank G. Pellett, State Representative, Brotherhood of Railroad Trainmen, and for A. W. Harris, General Chairman, Western Pacific Brotherhood of Railroad Trainmen; W. W. Stevens, State Legislative Representative, for Brotherhood of Locomotive Engineers; G. F. Irvine, State Legislative Representative, Brotherhood of Locomotive Firemen and Enginemen; J. E. Cardwell, Chairman, California State Legislative Committee, Order of Railway Conductors, F. W. Dickey for W. W. Stevens for Brotherhood of Locomotive Engineers; Wills & McCarthy, by Pat McCarthy, for Brotherhoods; C. E. Whitman for Brotherhood of Locomotive Firemen and Enginemen; J. F. Graham, General Chairman for Brotherhood of Railroad Trainmen; H. F. Brown, Vice General Chairman, Order of Railway Conductors; W. O. Parks, General Chairman, Order of Railway Conductors, L. T. Foley, General Chairman, Brotherhood of Railroad Trainmen; Clyde E. Whitman, General Chairman, Western Pacific Railroad, Brotherhood of Locomotive Firemen and Enginemen, William P. Avery, State Legislative Representative, Switchmen's Union of North America;

E. E. Bennett for Union Pacific Railroad Company; Robert W. Walker for The Atchison, Topeka & Santa Fe Railway Company; C. W. Dooling for Western Pacific Railroad Company, Tidewater Southern Railway Company and Sacramento Northern Railway; R. E. Wedekind and H. Burton Mason for Southern Pacific Company, Northwestern Pacific Railroad Company, Visalia Electric Railway Company, Holton Inter-Urban Railway Company, Sunset Railway Company, Petaluma & Santa Rosa Railroad Company, San Diego and Arizona Eastern Railway Company, and Central California Traction Company; A. Larsson, for Arcata & Mad River Railroad; Clair W. MacLeod and J. L. Robinson for Trona Railway Company; P. N. Myers and Clair W. MacLeod for McCloud River Railroad; A. T. Nelson and Clair W. MacLeod for California Western Railroad Company; Clyde E. Brown and Clair W. MacLeod for San Francisco and Napa Valley Railroad; C. W. Cornell and R. E. Wedekind for Pacific Electric Railway Company; Lester T. Davis, State Assemblyman, George Miller, Jr., Member of State Legislature, Chris J. Jespersen, Member of State Senate, and Robert L. Condon, Member of State Legislature; J. T. Phelps for Operations and Safety Division, Public Utilities Commission.

O P I N I O N

At the November 2, 1948, General State Election, the people of the State of California, by the initiative, adopted a statute which amended Section 6902 of the Labor Code so as to require the employment, by railroad corporations, of at least two brakemen on "any freight, mixed, or work train" running on any "main track or branch line of railroad" on which there is operated "more than four trains each way per day of 24 hours . . .". Also, this statute added Section 6902.5 to the Labor Code, which section reads as follows:

> "6902.5. The Public Utilities Commission of the State of California shall have the power, after hearing had upon its own motion or upon complaint, by general or special order, rule, or regulation, or otherwise, to require each common carrier by railroad within the State of California to operate its trains, with such number of brakemen as are necessary to promote the safety of its employees, passengers, and the public; provided, however, that the Commission shall not require the employment of such number of brakemen as will result in feather-bed practices."

Following the enactment of this statute, the railroads of California posted notices that, effective 12:01 A.M., December 15, 1948, they would operate all through freight trains, with certain exceptions[1], with a maximum crew of one conductor and two brakemen. The four Railroad Brotherhoods[2], under date of December 14, 1948, filed with this Commission an informal complaint against the railroads' contemplated action, but, nevertheless, operations as set out in the notices were instituted.

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(1) Three brakemen are used on trains operating into the surrounding states of Nevada, Arizona, and Oregon because of the full-crew laws of these states; on certain runs in California as a result of agreements between the railroads and the Brotherhoods; and, in many instances, on local trains.

(2) Locomotive Engineers, Locomotive Firemen and Enginemen, Railroad Trainmen, and Railway Conductors.

On December 15, 1948, this Commission issued its order of investigation and, as a result, public hearings were held in the matter before Commissioner Potter and Examiner Syphers at San Francisco on January 10, 1949, at Sacramento on April 20, 21, and 22, at San Francisco on May 4 and 5, June 8, 9, 10, 22, 23, 24, 27, 28, 29, and 30; July 1, 6, 7, 8, 27, 28, and 29, 1949. In addition, on July 20 and 21, 1949, the presiding commissioner and examiner, accompanied by representatives of the parties hereto, made a physical inspection of the four subdivisions of the Western Division of the Western Pacific Railroad. On each of these hearing dates evidence was adduced and on July 29, 1949, the matter was submitted. It is now ready for decision.

The testimony presented in this matter was confined to the lines of the Western Pacific Railroad, it being the announced plan to hold separate hearings for each railroad involved. Furthermore, it was developed at the hearings that, in conformity with Section 6902.5 of the Labor Code, the jurisdiction of the Commission to determine the number of brakemen required is confined to the number of brakemen "necessary to promote the safety of its (railroad's) employees, passengers, and the public". With these considerations in mind, we now analyze the testimony presented at these hearings.

The Operations-Safety Division of this Commission, having made investigations of the lines of the Western Pacific Railroad, presented the results of these investigations. Additional evidence was presented by the Brotherhoods and the railroads respectively.

The Western Pacific Railroad's operations are divided into two main divisions designated as Western Division and Eastern Division. The entire Western Division is in the State of California and consists of four subdivisions. The First Subdivision runs between San Francisco and Stockton, the Second between Stockton and Oroville, the Third between Oroville and Portola, and the Fourth between Keedie and Bieber. In addition, part of the First Subdivision of the Eastern Division is in the State of California, this part running from Portola to the California-Nevada State Line east of Calneva.

At this point it should be noted that, since December 15, 1948, the train crews of through freight trains on the four subdivisions of the Western Division, have consisted of a conductor and two brakemen, in addition to the engine crews which are composed of an engineer and fireman for each engine used. On the First Subdivision of the Eastern Division, a train crew must consist of a conductor and three brakemen on trains of more than 50 cars. This is occasioned by a provision of the Nevada Full-Crew Law. The third brakeman is used on that part of the run which is in California in order to avoid adding an additional man at the California-Nevada State Line.

The First Subdivision of the Western Division of the Western Pacific Railroad covers the main-line territory between San Francisco and Stockton, and is 90.29 miles in length. Between San Francisco and Oakland there is a freight ferry operating across the bay so that, so far as the railroad operations are concerned, Oakland is the western terminus. There is double track for part of the area within the City of Oakland, between Chestnut Junction

and Clinton. From Clinton eastward the single track parallels some city streets and makes numerous crossings over other city streets until it emerges into more open country in the vicinity of San Leandro. In this area the track is tangent and the grade is negligible. This is also true of the track running eastward to Niles, at Milepost No. 30. From Niles to Altamont there is an ascending grade which, for the most part, is 0.8 per cent. In this area there are curves up to 6 degrees and the track passes through hilly country. From Altamont to Carbona there is a descending grade of one per cent and for the greater part of the way there are curves in the track up to 6 degrees. From Carbona to Stockton the grade is negligible and the track, for the most part, is tangent. There are three tunnels on this subdivision. Tunnels Nos. 1 and 2 are in Niles Canyon, No. 1 being 4,287 feet in length and No. 2 being 385 feet in length. Tunnel No. 3 is east of Altamont and is 400 feet in length. The number of freight trains on this subdivision averages 3 to 4 in each direction per day, in addition to the passenger trains. The length of freight trains varies from 40 to 75 cars and sometimes longer, the passing tracks ranging from 69 to 117 cars in length. Freight operations over this subdivision are conducted by the use of steam locomotives, and helper engines are used westbound between Stockton and Altamont and eastbound between Niles and Altamont as needed.

The First Subdivision has a type of signaling designated by the railroad as an absolute automatic block system between Clinton Tower and Stockton. This is a type of traffic control wherein the signals are controlled from the central office at Sacramento but wherever it is necessary to throw any main-line switches, this is done manually by the train crews.

The Second Subdivision of the Western Division is located between Stockton and Oroville, and is 111.29 miles in length. Throughout the length of this subdivision the tracks are tangent with the exception of about 6 miles of curved track ranging up to 6 degrees of curvature and the grade is negligible. Two passenger trains and an average of four freight trains are operated in each direction daily, and the average length of freight trains ranges from 70 to 75 cars and sometimes longer. This subdivision has single track with passing tracks averaging about 76 cars in length. There is a signal system designated by the railroad as an automatic block system between Stockton yard and Marysville, which is a type of train control wherein the signals and main-line switches are remotely controlled from the central office at Sacramento. Testimony was presented that the railroad was engaged in extending the automatic block system for the entire length of the Second Subdivision. Between Marysville and Oroville, at the time of the hearing, the trains were operated on time table and train orders. On this Second Subdivision the crews of the through freight trains perform the local work, such as switching at the various stops, inasmuch as there are no local trains assigned with the exception of a seasonal assignment between Stockton and Thornton.

The Third Subdivision of the Western Division is located between Oroville and Portola, covering a distance of 116.31 miles. The track runs through what is known as the Feather River Canyon and, for a distance of approximately 100 miles, the grade is one per cent. There are numerous curves and 31 tunnels, the longest being the Spring Garden Tunnel which is about 7,318 feet in length. The railroad and State Highway No. 24 parallel each other on opposite sides of the river throughout most of the length of the Third Subdivision. The type of signaling on this subdivision is

centralized traffic control wherein the signals and main-line switches are controlled from a central office at Sacramento. On this division there are assigned local trains that handle the way freight; however, the through freight trains are frequently required to pick up and set out cuts of cars. Both passenger and freight trains operate over this division. It is a single-track line with passing tracks having an average capacity of about 86 cars.

The Fourth Subdivision of the Western Division is located between Keddie and Bieber and covers a distance of 113.26 miles. The track runs through mountainous territory in a rather sparsely settled area. There are no automatic signals in use on the subdivision, the trains being operated entirely by time table and train orders. This, likewise, is a single-track line with passing tracks averaging about 89 cars. No passenger trains are operated on this run although passengers are permitted to be carried on the cabooses of all freight trains. There are between two and three freight trains in each direction daily. The trains range in length from very short trains to 86 cars. The track is, for the most part, over long ascending and descenting grades which, in some instances, are as steep as 2.2 per cent. There are numerous curves ranging up to 10 degrees and eight tunnels. Helper engines usually are used on this subdivision between Keddie and Almanor and, on occasions, helpers are used on the westbound run between Bieber and Hall's Flat.

The portion of the First Subdivision of the Eastern Division of the Western Pacific Railroad, in California, covers the territory between Portola and the California-Nevada line east of Calneva, the entire subdivision extending to Winnemucca, Nevada.

The length of this subdivision is 210.9 miles and the portion in California is 56.97 miles. In addition to the passenger trains, there are about four freight trains per day each way, averaging about 74 cars in length. The trains on this subdivision are operated by time table and train orders although there are automatic block signals at the Chilcoot Tunnel which is about 19 miles east of Portola.(3) The track is practically level with very little curvature between Portola and the Chilcoot Tunnel. East of the Chilcoot Tunnel to Constancia there are curves up to 6 degrees. From that point east to Herlong the track is practically straight and then there is a slight curvature east to the state line. There is a grade averaging between 0.4 per cent and 0.8 per cent easterly from Chilcoot Tunnel to the state line.

An analysis of the testimony presented by the several witnesses in this proceeding as to the duties of a brakeman and the factors affecting his work might be considered under various headings, including train inspections, train repairs, train operations, weather conditions, terrain, operations in yards, length of trains, time required to do the work, observance of rules, and general considerations. We propose to consider this testimony under these several headings and then to make an evaluation of these factors as they relate to safety of operations, keeping in mind that the jurisdiction of this Commission in this matter is specifically limited to a consideration of the number of brakemen "necessary to promote the safety of its (the railroad's) employees, passengers and the public." (Section 6902.5, Labor Code of California.)

According to this record, there are three types of train inspections - standing, rolling, and running. A standing inspection is one wherein the crew member walks along the side of the train to make his observations, paying particular attention to any

(3) Railroad witnesses testified that a centralized traffic control system was about to be installed on this subdivision.

defects in the equipment or in the position of the lading which may be on the train. A rolling inspection is one where similar observations are made when the train is rolling slowly past a given point or points where the train crew members are stationed, and the running inspection is one wherein the train crew members observe the train and its lading while the train is in motion along the track and while the train crew members are on the train. The purpose of these inspections is to detect possible defects which may lead to equipment failures such as broken knuckles, broken drawbars, hot boxes or journals, sticking brakes, hot wheels, dragging equipment, and other mechanical defects such as broken air hoses, and also any defects in the lading of the train such as shifted lading. It is the common practice, in accordance with operating rules and allegedly in the interest of safety, to conduct train inspections as frequently as practicable. The testimony indicated that these inspections become the responsibility of the conductor and the brakemen, and that the engine crews, because of their duties relating to the locomotive, cannot be relied upon, in the main, to conduct these inspections with the exception of running inspections wherein the engineer or fireman may observe the train while it is in motion and when the conditions are such that they can make these observations.

Whenever a defect is noted as a result of a train inspection, or otherwise, the train crew makes such repairs as it can. According to the evidence, it is possible for the crew members to correct hot boxes or journals by additional packing, oiling, or brassing; to correct broken or dragging brake equipment, to replace broken knuckles and to perform other repairs. If the defects are such that the repairs cannot be effected by the train crew, then it

is the practice to set the car out at the next siding, recouple the train and proceed, leaving the car to be repaired later by the staff of the mechanical department. There was considerable evidence concerning the number of men required to effect certain of these repairs. It was pointed out that, on occasions, men carry a knuckle for many car lengths in order to make a replacement. Also, chains are used to connect cars where an emergency connection is necessary due to a break in two. The weights of these knuckles and chains were discussed and in some cases, according to the testimony, it is not practicable for one man to carry this equipment. Other testimony indicated that in a good many cases by proper manipulation of the train it would not be necessary to carry this equipment any appreciable distance.

In the matter of a standing inspection a crew of a conductor and two brakemen can satisfactorily conduct it although it is apparent, from the testimony, that it might be done more expeditiously if more men were available. Where a rolling inspection is made, it appears that a conductor and two brakemen can conduct it satisfactorily and also perform any other required duties. Likewise, this is true when the standing and rolling inspections are combined. For example, about half the train length before coming to a stop, the engineer can slow down the train so as to permit the head brakeman to drop off and make a rolling inspection of one side of the first half of the train. After the train comes to a complete stop, the head brakeman can cross over and walk back to the engine, making a standing inspection of the other side. At the same time, a man from the rear can walk up and make a standing inspection of one side of the rear half of the train, then cross over and, if the train is to leave right away, make a rolling inspection of the other side,

as the train moves slowly by. The third man of the train crew is available for flagging or such other work as may be necessary. In the conduct of running inspections, there was testimony that additional brakemen might be of some value although an analysis of all the testimony discloses that, with a crew of a conductor and two brakemen, there could be men at both the front and rear ends of the train who would make observations whenever possible. In this connection it should be pointed out that, according to this record, it is not the practice of trainmen to ride out on the trains of the Western Pacific. They either ride on the front end of the train in the cab of the engine, or in the "dog house" on the tender, or else they ride on the rear of the train, in the caboose. Also, in making repairs, while there undoubtedly are difficulties encountered which might be handled more expeditiously with larger crews, according to this record, a crew of a conductor and two brakemen can satisfactorily effect most of the repairs that are ordinarily made while the train is on the road. Thus, so far as train inspections and train repairs are concerned, the contribution of additional brakemen over and above the crew of a conductor and two brakemen, is to permit the work to be done in a shorter time.

In the operation of trains, it is the function of the conductor and the brakemen to perform necessary flagging, to set out and pick up cars at the various stations where there are no local crews assigned to this work, to control or secure the train where necessary, by setting retainers or hand brakes, correct shifted lading where practicable, and to do other necessary work. In conducting this work, and in conducting train inspections and train repairs previously discussed, members of a train crew communicate with each other and with the engine crew by means of signals. It is extremely important that all members of the engine crew and the

train crew know when the train is going to start and when it is going to stop. This knowledge is obtained through the passing of hand signals which may be reinforced by the use of flags or other devices, and also by the use of so-called arrangements. Arrangements, as the term is used in railroading, refer to understandings which are had between the engine and train crews as to when the train shall move, and for what distances. These arrangements may make use of additional signals such as whistle signals from the engine, and plug tests whereby the conductor at the rear of the train makes use of the conductor's air brake valve to signal to the engineer at the front of the train. The method, time, and place of using these signals is covered, in some detail, by the operating rules of the railroad as are, also, the conditions under which flagging is necessary. There was considerable testimony as to the effect of various types of signals and arrangements, it being the contention of the Brotherhoods and members of the Commission staff, that hand signals were the most safe and satisfactory type, and it being the contention of the railroad witnesses that whistle signals and plug tests might be substituted for hand signals in a good many cases.

We do not feel constrained to rule upon the merits of hand signals, as compared to arrangements, whistle signals, and plug tests, in this decision. The fact of the matter is that all of these types of signals are presently in use and it further appears, from the evidence in this record, that any of these signals can be effected by a crew of a conductor and two brakemen under favorable conditions. The smaller crew can effectuate the same signals if the men take the time to get to points close enough together so hand signals can be seen and

then walk to a point where they can transmit these hand signals to the engine, or, if they have made arrangements in advance for the use of plug tests or whistle signals. There was testimony to the effect that the view between the front and rear ends of the train might be obstructed by curves or weather conditions, and also that the trains might be too long to permit a satisfactory view of the hand signals; therefore, it was contended that additional men were desirable and necessary in order to be stationed at points along the train to pass these hand signals more expeditiously. There is merit to this contention, even though the contribution of additional brakemen would be chiefly a saving in time.

Weather conditions apparently play an important part in train operation. Witnesses in this proceeding testified as to the weather conditions on the Western Pacific and pointed out that the Third and Fourth Subdivisions, in particular, are subject to extremely cold and stormy weather in the winter. It was the opinion of some of the witnesses that this adverse weather contributes to equipment failures. For example, it was pointed out that in cold and stormy weather the packing in a journal box might fail to lubricate properly, and in very cold weather this packing sometimes freezes. Also, it was testified that there are fog conditions encountered at times along the First and Second Subdivisions, as well as the other two subdivisions.

There was conflicting testimony presented as to whether or not the terrain had any effect upon the number of brakemen required for safe operations. It was indicated that curves in the track actually may prove to be advantageous in conducting running inspections of the train. So far as grades are concerned, some of

the witnesses pointed out that slack action would be more frequent, and also, more frequent use of brakes, retainers, and hand brakes would be required. The slack action occasioned by operation on grades apparently contributes to certain types of equipment failures such as broken knuckles and drawbars.

It also appears from this testimony that, where there are severe weather conditions, and where there are grades and rugged terrain, frequent and thorough train inspections become increasingly important.

Considerable testimony related to the number of men required to safely conduct switching operations in yards, a great deal of it centering around the yard at Keddie where a somewhat unusual situation is presented. All the tracks are on a curve and at one end of the yard there is a tunnel into which trains are sometimes moved during switching operations. Furthermore, the yard is located on a mountainside with a one per cent grade westward. Trains of the Third Subdivision pass through this yard and it is the western or southern terminal of the Fourth Subdivision. As previously mentioned, the through freight crews on the Western Pacific subdivisions frequently conduct switching operations, and at the Keddie Yard, through freight crews conduct switching operations on through freight trains of both the Third and Fourth Subdivisions. In doing such switching it was testified that so-called "blind shoves" constitute a hazardous practice and could be avoided through use of a sufficient number of brakemen to pass the necessary signals.

After careful consideration of all the testimony in this record we conclude that there are freight train switching operations in yards which require the service of a conductor and three brakemen in order to conduct them with a reasonable degree of safety. This is particularly true in the Keddie yard.

Some of the witnesses stated, as their opinion, that the length of freight trains was an important factor in determining the number of brakemen required. Other witnesses held a contrary view and stated that the length of freight trains had no bearing upon the number of men required in the train crew. In the operation of an extremely long train, it is frequently difficult, and sometimes impossible, for a man to see a signal from one end of the train to the other. It was developed that a 100-car freight train is almost a mile in length and, under the best of conditions, it is difficult to clearly discern signals at that distance. Furthermore, on single track lines, there was testimony to the effect that when one of two or more meeting trains is of such length as to exceed the capacity of the passing track, it is necessary for the crews to execute a saw-by. The safe execution of such an operation requires the use of more than two brakemen, according to some of the testimony presented. However, the railroad contended that an additional brakeman is not necessary to safely conduct such an operation and further it was pointed out that by proper dispatching and make up of trains such meets could be eliminated. Obviously, unfavorable weather conditions such as fog, rain, snow, and haze materially reduce the limit of vision. For these reasons, it was contended that additional brakemen are required so that they may be placed at vantage points along the length of the trains and aid in the passing of signals. Also, it was contended longer trains require additional work in the matter of inspections, setting the hand brakes and retainers, and are more likely to require additional repairs. On tangent track at level grade and in open country these factos may not result in unsafe operating conditions, whereas the same factors in mountainous terrain might constitute hazards to railroad operations. Therefore, we conclude that while additional men on long freight trains would merely contribute to a saving in time in the flat open country,

such additional men would materially contribute to the safety of operations in mountainous territory such as is found throughout the Third and Fourth Subdivisions.

There was a great deal of testimony concerning the rules under which trains are operated. The Western Pacific operates under a Book of Rules written and promulgated by its management although in many respects patterned after the Standard Code of the Association of American Railroads. Among other things, these rules set out in considerable detail, the duties of the trainmen and what is expected of them under various conditions. This railroad advanced the theory that these rules were to be observed when it was expedient and proper to do so, but that, under certain conditions, the strict observance of the rules was not required. We cannot subscribe to this theory. It is our opinion that, so long as these rules are in effect, operations should be conducted in accordance with them and it cannot safely be left to the discretion of the individual employees as to when they shall observe the rules and when they shall not.

After analyzing all of these factors, it becomes apparent that the ones which might require the presence of additional brakemen for safety reasons alone are conditions of weather, terrain, the element of time, and the length of trains as generally operated. We have previously discussed the effects of weather, terrain and the length of trains in this opinion. As to the element of time, there was a great deal of testimony by witnesses for the Operations and Safety Division of this Commission and by witnesses for the Brotherhoods, all of whom are now or had been operating trainmen, to the effect that, when men are rushed, due to insufficient number of trainmen, they take shortcuts that might involve unsafe practices. In other words, they do not take sufficient time to make complete and thorough inspections. The rear flagman fails to go out as far as required when the train is stopped, and in various other ways shortcuts are often taken. We consider this to be an important item

in train operations. Regardless of any theoretical conditions or assumptions which may be advanced, the human element is definitely an important factor, and it was conceded by all parties that human failures are a major cause of railroad accidents. The practice of indulging in shortcuts and the failure to take proper precautions, for safe train operations is not an unusual occurrence according to this record.

Therefore, it is our opinion that a proper consideration of safety should give due regard to the element of time and while we do not believe that this factor alone is controlling, where it is combined with the factors of difficult terrain and severe weather, there is a stronger justification for a larger crew than a conductor and two brakemen to safely conduct the operations of through freight trains.

In the safe operation of freight trains, we need be concerned with safety of the public, passengers, if any are riding on the freight train, workmen who may be working along the track, other trains, and the members of the train crew, themselves. It is incumbent upon the train and engine crews likewise to have due regard for the public who may be in the vicinity of the railroad operations with their safety in mind. While passengers are not normally carried on freight trains, there was evidence in this record that passengers frequently ride in the caboose of freight trains between Keddie and Bieber. The common practice of the Western Pacific Railroad is to have crews of workmen along the tracks and right-of-way to carry on any necessary maintenance, repair and clean-up work. It is the constant duty of train and engine crews to avoid collision or interference with other trains. Thus, when a train stops, it is usually necessary to send a flagman out so as to stop approaching trains. The safety of the members of the train crew is a serious consideration inasmuch as testimony in this record shows that approximately three-fourths of all train accidents are those involving trainmen.

Our conclusions in this decision, therefore, are based upon an application of all the foregoing considerations and conditions as applied to the factual situation as it exists on each of the subdivisions of the Western Pacific Railroad. So far as the First Subdivision of the Eastern Division is concerned, the train crews presently consist of a conductor and three brakemen on trains of more than 50 cars. It appears from this record, that such a crew is sufficient to safely conduct the operations on this subdivision. Through freight trains on the First and Second Subdivisions are presently being operated with train crews of a conductor and two brakemen, which from this record we find to be sufficient for safe operations on these two subdivisions. In this connection, our conclusions are influenced not only by the conditions of terrain and weather which prevail, but also by the presence of the absolute automatic block system on the First Subdivision and the automatic block system on the Second Subdivision. On the Third and Fourth Subdivisions, we find that safe operations require a train crew consisting of a conductor and three brakemen on through freight trains. In making this finding, we give effect to the conditions of weather and terrain as they exist in those areas, together with the problem of the additional time required to safely operate the trains with crews of a conductor and only two brakemen as this problem specifically applies to conditions on these two subdivisions. We also give effect to the switching problems, particularly those involved at Keddie yard.

The evidence in this case indicates, and we now find, that the employment of two brakemen on through freight trains on the First and Second Subdivisions, and three brakemen on through

freight trains on the Third and Fourth Subdivisions as hereinabove set forth, will not result in featherbed practices.

O R D E R

A proceeding having been instituted upon the Commission's own motion, public hearings having been held, and the Commission being fully advised in the premises and hereby finding that the promotion of the safety of railroad employees, passengers, and the public so require,

IT IS ORDERED:

That the Western Pacific Railroad, on the portions of its line now designated as the Third and Fourth Subdivisions of its Western Division, shall not permit to be run, on any part of the main track or branch lines of said subdivisions, any through freight train on which there is not employed at least one conductor and three brakemen.

The effective date of this Order shall be twenty (20) days after the date hereof.

Dated at San Francisco, California, this 4th day of October, 1949.

R. L. Mitchell
Justus F. Craemer
Ira H. Rowell
Harold P. Huls
Kenneth Potter
Commissioners