HAL: I want to include some personal things in the book, like personal experiences, etc., is more what I'm after than a description of the management, or anything like that. But, as trainmaster, what were your duties? What was your job like?
BC: On the CP RR the train master and road foreman of engines job were combined. Normally, on transcontinental RRs, the parent companies like the UP, the road foreman of engines was the man in charge of engine crews and motor power almost exclusively. He didn't have too much to do with the actual train operation or the shipping or the loading of cars. He made sure the motor power was in good operating condition; qualified engineers for various aspects of the RR, like the passenger service or mountain grade operation.
HAL: Oh, you had to sort of pass on them?
BC: Also the road foreman promoted firemen at that time to engineers. Very seldom was a man around less than several years before he was promoted to engineer. However, with the new engineer training programs with their modules like the Air Force, they can simulate all aspects of handling an engine, long trains, mountain grades, high spee, low speed, braking--they can simulate all that, consequently employees will go thru this training.
HAL: They do that now for CP?
BC: Not necessarily for the CP, but for BN UP yes. The thing to remember here now, the CP is a very unique operation. It is nothing more than an operating company for the old Northern Pacific--no the BN--and the UP. The crews--operating crews--exclusive of switchmen, are furnished by the parent companies. The UP furnishes brakemen, conductors, engineers and firemen when necessary for the lines west of Lewiston--just to Riperia. The BN furnishes crew for all the lines East of Lewiston--which includes your 1st, 2nd and 4th subdivisions. I did mention exclusive of switchmen. Switchmen are solely a CP product. They do not hold seniority away from the CP RR. They're locked in. Same way with the car men, the machinists, the clerks, are all solely CP men. The section men, the bridge men. But the operating crews, exclusive of the switchmen all comes from the parent company.
HAL: Formerly, when you had to pass on somebody who was in line to be an engineer, what did you actually do with that person?
BC: OK, to start with, the man was supposed to have had X number of miles of main line service, I can't remember the exact number of miles involved, as a main line fireman, predominently in freight service. He could probably accummulate those miles in a matter of a year and a half. Then,during that period, of course, depending on with whom he was working--some engineers were better than others as far as letting the fireman run the engine to give them a little actual experience in handling the train. Then they went thru an examination--back at the time of steam engines, we had boilers, ejectors, water pumps, stokers and the aspects of the locomotives, how to return locomotives, what to do in case of brake failure--it was quite a extensive mechanical exam. Then it was even more so on the air brakes--they had to know the full pull of the air, from the time it was sucked into the compressor until it was discharged thru the brake valve.
HAL: They didn't have to necessarily be able to make those repairs, did they?
BC: Yes. One time we had to get out there and tighten the boxes or get down and replace the grease cellars. We were furnished with a monkey wrench, a hammer and a coal chisel essentially. About the only tools you had. However, I didn't start railroading until 1940, but I hand

fired a lot of steam engines; I shoveled one heck of a lot of coal; I fired a lot of stokers; I fired high speed passenger trains with steam engines; I've run all the steam engines the NP every had that were still running from 1940 on--freight and passenger. Then when the diesels started I was going between fireman and engineer, back and forth. Sometimes I was set up as an engineer and sometimes as a fireman. Actually, getting back to your original question about the air brake exam, that was far more demanding exacting than the mechanical aspects of the exams.

HAL: Why was that more important?

BC: There was more chance for failure. Also the engineer wanted to safely and efficiently move the train--you had to know what the slack was in the train all the time, when to keep the train stretched out, when to keep it bunched up. He had to know how the air worked on each individual car so he could perform his braking safely and efficiently without damage to the lading or injury the members of the crew in the cab or caboose, I should say. When you stop to think that you could have up to two feet of slack action on each car and you have 100 cars, it would be possible for the locomotive to move 200 feet before the caboose ever moved. Spring action within the draw bars plus physical slack between the knuckles. You can see what could happen if the engineer opened that throttle and the train was bunched, pieces would be flying all over the RR.

HAL: You had to go very slow?

BC: You went slowly to go smoothly. Now with the advent of radios communication the engineer is sitting up there with a radio, the conductor back there with a radio, when the engineer starts to move the train they communicate.

HAL: Before radios, could you tell when you'd taken all the slack up?

BC: The main thing was you would assume that the slack was bunched starting out of the yard and you'd be prepared to go 200 feet or whatever you figured was necessary before the train was moving. However, once on the road, then it's your responsibility to know where the slack was, whether the train was bunched or spread out, because your the one who stopped the train--what procedure did you use? Had you kept the throttle open and left the engine brakes off, and let the train stop you--its going to be all stretched out. Then when it comes time to start that train again, no problems, cause it's all stretched out. However, if you shut the throttle off or let the engine brakes stop the train, they'll come in bunched. Then, you've got other problems too. Suppose you have ungulating grade or suppose you're on a mountain--like on the 2nd subdivision or the 4th subdivision, going up grade, if you shut the throttle off quickly and set the brakes you're going to have a certain amount of runin and the brakes are going to hold. The minute you release those brakes the train is going to start rolling back down the hill and with the engine brake set it's possible to snap a knuckle or a draw bar that way. So up-grade you always (except in dire emergencies) you always tried to set the train brakes and make sure that train was stretched out, when you stopped. By the same token, coming down the hill you wanted to keep that train bunched up tight against the engine, just as tight as you could when you came to a stop, stopping the engine with full engine brakes and on sand, to keep bunched up tight. If you didn't, and it was stretched out and you released the air brakes, the first thing you know--bang, bang, bang--here they come and they'll shove you right down the mountain.

HAL: Were there any particular spots on the Grangeville line that were more difficult to handle than others?

BC:The Grangeville water grade, a maximum of 5-10%. The grade from Lewiston to Spaulding. Spaulding was the junction point were the 2nd subdivision takes off from the 1st subdivision. Then, as you leave Spaulding and go up to Lapwai, that is all 1% grade up to Bundy. Now that still is not too steep a grade. However, from Bundy to Culdesac it is 2.2% grade and 2.2 is the same as over Stampede Pass or the long pass over the Rockies. However, the lay of the land is so deceiving it looks like it is flat. It's difficult to believe that that is a 2.2% grade and many engineers who have not been up there too much have been fooled, especially coming down. They let the speed of the train get up to 30-35 mile an hour. Of course now with the new regulations, this is a 25 mile an hour track anyway. But, getting up to 30-35 miles per hour with a heavy train on a 2.2 grade it's difficult to control it. Then from Culdesac to Ruebens is 14 miles and there you have a 3% grade--and there are a lot of curves, high degree curves, and horseshoe tunnels, big, high bridges, side hill bridges, and that track there is a 15 MPH track. Anywhere in that area your mountain grade operation would definitely come into effect--either assending or desending. In years past, with box cars, you would probably have roughly 70 ton loads--that would be the maximum--including the weight of the box cars. Then with the covered hoppers, you were up to 135 tons which was dynamite as far as braking was concerned. Also, I would say about 1977 or 78, got the third stringer on all the bridges in the 2nd subdivision, which would enable them to bring solid trains of covered hoppers down the mountain. Prior to that time, it was necessary to stop at Reubens and switch your box cars--either lumber cars or engine box cars in between every covered hopper. That was very time consuming but necessary because it was too heavy for the bridges the other way. The instituted a program of installing a third stringer on all the bridges which beefed up the bridges and then they went to solid trains. Any time you had over 100 ton loads on a good grade you had a very hard job safely braking the train on a descending grade. With the diesel, of course, you have dynamic brakes and brake valves that will maintain a certain reduction of the air brake pressure to kind of hold the train coming down the mountain. Then each car has a retaining valve on it that delays the release of air. So, in other words, on each car with the retaining valve in high position when the engineer releases the brakes he is recharging the train line--it goes back through each car to the caboose. In recharging the train line the triple valve on each car moves to a recharge position and at the same time releases the air from the brake cylinder on each car. With retaining valves what it does is it sets up a small orifice on each car that retards the release of the air from the brake cylinder. So, at Reuben we would stop and set the retaining valve on all the cars and then start down the mountain and try to hold it at 15 miles an hour. Less than 15 miles an hour your dynamic brake is not very effective. The newer models of diesels have what they call --I don't remember--but the new type of dynamic brake works right down until the train is almost stopped, whereas in the older models did not have that. The GP-9's didn't have it. Actually the most effective braking is at 20 miles an hour, but with the speed restriction of 15 MPH we did not really have maximum dynamic braking at all times on the mountain.

HAL: Was the design of the braking system on each freight car the same in the days of steam as it is on the diesel?

BC: No. In the latter days of steam, of course they did have what they called the AB valve.

HAL: Could you release gradually?

BC: Oh the operation was the same but the valves have been so much

improved now. However, they do seem to be more inclined to adapted to high speed operations. Even the shoes on the cars. That's a beautiful shoe for high speed--at low speed it does not do the work of a cast iron shoe. With the cast iron shoe, of course, you also had the fire hazard because of sparks where with the Cobra or fberglass shoe you didn't have that.

HAL: Do the fiberglass shoes last as long?

BC: I think so, yes. In fact they probably last longer, however, with an inexperienced engineer you might have to replace the shoes on every car on the train because of over-extended use of brakes on the mountain or high ~~xxxx~~ speeds. A moment ago, you asked about GP-9's. The UP #245 was the first GP-9 built by Electramotive at LaGrange. The 245 was assigned here at Lewiston until about 1979 or 80 when it was being sent back to UP periodical test of some kind, and it had an accident and they destroyed it. In fact, in 1954 I was an engineer out of Spokane. I was forced to Lewiston as an junior engineer to work out of Lewiston. I was NP.

HAL: Did you actually go out on trains with engineers when you were certifying them?

BC: Yes, every time an engineer went out on the diesels somebody had to ride with him until he got qualified.

HAL: Was that part of your job? Did you run many steam locomotives here in the CP.

BC: Yes.

End