

THE NORDLAND RAILWAY. ANOTHER STEP FORWARD

By H. Överland, Chief Engineer.

"The Nordland Railway is a depressing chapter", said the Chairman of the North Norwegian Business Men's Study Group, in the review he submitted at the Annual Meeting in June this year, in which he covered everything that had happened in the North of Norway during the last year. "In this chapter, as usual, the most conspicuous items are the things that have never in fact taken place".

But now, at last, something is going to be done which should be capable of arousing a little optimism among the inhabitants of this part of Norway, even though there are admittedly reasons why their optimism should be a trifle reserved.

In December of this year ordinary trains will start running down Mount Saltfjell past Lönsdal, which is situated 512 metres above sea level, and 20 miles further on to Saltdal station, which is situated only 24 metres above sea level. The track has also been laid past Rognan station, which is situated 9 miles further north than Saltdal, so that of the 144 miles between Mo and Bodö 94 miles of track have already been laid. Furthermore rails will run out to Rognan quay, a deep water quay which the Germans built during the Occupation. This quay has now been repaired, and can be served by train, so that it will now be possible to have a sort of rail connection to the sea at Saltenfiord. A sort of rail connection, because the track between Saltdal and Rognan quay has not yet been adjusted so that ordinary rail traffic will not be possible, but it will probably be possible to run trains onto the quay at slow speeds.

From Lönsdal the line drops with a maximum fall of 18 yards in a thousand down the mountainside. The descent is only interrupted by level sections for double tracks, to enable trains to pass, at Kjemåga, Tretnes, and Rusåga stations, and the track does not reach the bottom of the valley until a point about a mile to a mile and a half south of Saltdal station. From Saltdal the line descends gently towards the sea at Rognan. The curvature is good here, as indeed it is in most parts of the Mo-Bodö line, with a minimum curve radius of 400 metres, which allows a speed of 50 miles an hour, in contrast to the Sörland railway where the minimum curve has a radius of 300 metres.

The stretch between Lönsdal and Saltdal runs almost entirely through mountain terrair, with large cuttings, and through 10 tunnels with a total length of 1 1/4 miles. The longest of these, the Kjemånasen tunnel, is 540 metres long. Very considerable quantities of rock and earth have been removed from the mountain cuttings, in all about a quarter of a million cubic metres of rock along the line, and between a hundred thousand and a hundred and fifty thousand cubic metres of loose stone.

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There are signs of this work of clearing for more than a hundred yards up the slope. On a stretch in Bleikneslia, between Tretnes and Rusåga stations, the work of clearing the hillside went on for several years before the line could be said to be really safe against a fall of stone. As an extra safety precaution, on top of the actual cutting wall, a parapet, several metres high, has been built for a distance of 150 yards, in order to stop falling rocks from rolling down on to the track.

Running north from Lönsdal the track has been built high above the floor of the valley, and as a result access has been particularly difficult. To facilitate the work of construction a number of transport roads have been built from the main road, which is situated on the floor of the valley on the other side of the river. Barracks have been built along the line, but usually the workers prefer to make their way up from the valley to their work, and to return in the evening in order to be with their families.

Work on the stretch Lönsdal-Rognan was started in wartime, and by the time the Germans capitulated the work of leveling from Rognan quay was sufficiently advanced for the track to be laid from the quay and 5 1/2 miles south, to a spot called Brenne. This stretch of track had to be subsequently relaid, but even so, by the time the capitulation came, the work was so well in hand that the Germans had hoped to have the track completed as far as Rusåga in the course of 1945. From Rusåga and south in the direction of Lönsdal, however, the bulk of the work still remained to be done when the capitulation came. And even if the Germans had been able to lay the track as far as Rusåga in the course of 1945, this does not mean that the line was completed up to this point. Bitter experience has taught one this lesson in other departments of the constructional work of railway engineering.

When we consider that it is precisely 8 years since the line was opened as far as Lönsdal, we must admit that the people of North Norway have good grounds for their impatience, and it is hardly surprising that their hopes of acquiring improved communications have dwindled from year to year.

The reasons why it has taken so long to lay the track down from the mountainside are numerous, and a very cogent reason is that the line was opened as far as Lönsdal on a track that was really incomplete. From Mo to Lönsdal is a distance of 65 miles. This stretch includes the 15 mile long iron-ore line between Mo and Storforshei which was built by the English Dunderland Iron Ore Company just before 1905. No work was carried out on this stretch during the war years. The iron-ore line was admittedly not first class, but it was serviceable, and this was good enough for the Germans. In 1947 this stretch of line became State property, and the parliament decided that it should be rebuilt and incorporated in the trunk line.

The official desire that the constructional work should be pushed on as fast as possible, with a view to extending the line to Fauske as rapidly as possible, has dictated the tempo of work since 1947-1948. On technical and economical grounds the Board of Directors has always considered that the rebuilding of the Dunderland railway and the completion of the work still to be carried out between Storforshei and Lönsdal should be carried out as soon as grants and working conditions made this possible. In their opinion the line should not be extended further north until the stretch Mo-Lönsdal could also be operated by trains with speeds of 50 miles an hour and more.

There were considerable and obvious advantages in this policy. Maintenance, which today costs approximately one million kroner annually on this stretch, could be reduced by half, and it would be possible to get almost as far as Fauske in the time now spent on the stretch between Mo and Lönsdal.

In order to achieve these advantages as soon as possible, the main emphasis, once the line has been extended to Lönsdal, has been placed on the rebuilding of the Dunderland line and the completion of the stretch south of Lönsdal. This work is still going on, and although the situation on the stretch from Mo to Lönsdal is improving year by year, there is still a great deal of work to be done here.

On the stretch to the north work was mainly carried on during the winter months, and in summer the time was spent chiefly in preparing and planning the work for the coming winter. When orders were received in 1951 to continue the track as far as Rognan as quickly as possible, the work schedule had to be largely recast. On the stretch between Lönsdal and Kjemåga no appreciable work had been undertaken during the war years and the immediate post-war years. It took three summers, from 1951 up to and including 1953, to complete the rough levelling work on this stretch. Most of it is rock, and it should be suitable for winter work. We have tried, however, but have been beaten by snow and storm, and inevitably the work has had to be carried out in summer.

In the Autumn of 1953 it was possible to start laying the track from Lönsdal and northwards, and in November of the same year the line had been completed just beyond Kjemåga station. For the first 4 miles from Lönsdal the track has been laid with 41 kilo rails, each 15 metres long, the same as that between Dunderland and Lönsdal. Further north, and as far as Rognan, 35.7 kilo rails have been used, welded together in lengths of 36 metres in the rail smithy at Alnabru. Laying a new track with rails of this length has not been undertaken previously in Norway, and it entails certain problems. The method of rail laying which was chosen is "home-made" and has been described in the Norwegian State Railways' Technical Journal No.2, of this year, by the "inventor" departmental engineer Ellingsve.

In 1954 the work of track laying was continued, beyond Kjemåga, as far as Saltdal, and this year Rognan and Rognan quay were reached. Crushed stone for adjusting the track is brought up from the Lønsdal stone-crushing mill, supplemented by additional amounts from the railways own stone-crushing plant at Hjartåsen. The plant at Lønsdal, not completed until May of this year, operates with one large crusher and three smaller crushers. It has a capacity of 250 cubic metres a day, working with two shifts.

Of the approximately one mile and a quarter of tunnel on this stretch approximately 500 yards had to be bricked up before gravelling, and there are prospects of having to brick up an additional 100 yards, although this work can conveniently be postponed.

It has been considered necessary to erect snow shelters and snow screens on the stretch between Lønsdal and Kjemåga, but it is hoped that the birch woods which commence just north of Kjemåga will provide protection for the stretch to the north. In the course of the summer approximately 1600 yards of snow screens and a total of 300 yards of snow shelters have been constructed at either end of the Kjemåsen tunnel.

Apart from the station building at Rusåga and Saltdal 9 "single" and 1 "double" dwellings have been erected for employees. At Kjemåga the offices have been set up in the double watchman's residence, and at Tretnes there is a small office building. It is not expected that either of these two stations will have to cope with much traffic, but they are necessary as there are double tracks at both stations where trains can pass one another. At Kjemåga there is also a water tank for locomotives.

Saltdal station, where a locomotive shed has been built, as well as a water tower, water trough and a turnable, is a station where, it is hoped, a considerable volume of traffic will pass through in the future. It is assumed that Saltdal will have to act as terminal station for the future local traffic between Bodö and station districts. In order to cope with the freight traffic which will inevitably have to be dealt with during the period that Saltdal is used as a temporary terminal station, a provisional freight shed of 370 square metres has been erected, as well as living quarters for foot-plate crew.

Although a considerable amount of work still remains to be done before this stretch may be said to have been completed, i.e. such work as the final adjustment of the track, a certain amount of bricking up in tunnels, plastering, and the like, the stretch of line from Lønsdal to Saltdal should now be sufficiently advanced for traffic to operate on this stretch before Christmas of this year.

Thus yet another milestone will have been reached in the work of extending the Nordland railway in the direction of its temporary goal, Bodö. During the next few years every effort

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will be made to rebuild the Dunderland line, which, with its sharp curves, insufficient covering, and weak bridges, is a serious obstacle to traffic. The work is now rapidly nearing completion, and it is our aim to have the stretch of line completed before the railway is opened as far as Fauske, if possible by 1958. The work of laying the track as far as Fauske will be intensified in so far as the funds and the labour available permit. We should like to run the track past Setså station - approximately 7 1/2 miles from Rognan - before Christmas next year, and we hope we shall be able to lay the track on the stretch as far as Fauske in 1957. It should be possible to have a line operating as far as Fauske by 1958, and as far as Bodö by 1960.

The stretch of line from Lönsdal to Saltdal runs through magnificent scenery. From Kjemånasen tunnel and further north Mount Solvåg can be seen immediately opposite, on the other side of the valley, while the Saltdal valley lies, almost at one's feet, 8 or 9 miles further north. A journey on this stretch of the line in good weather should be an unforgettable experience. Here's hoping we shall see you up in the north in the not too distant future!

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