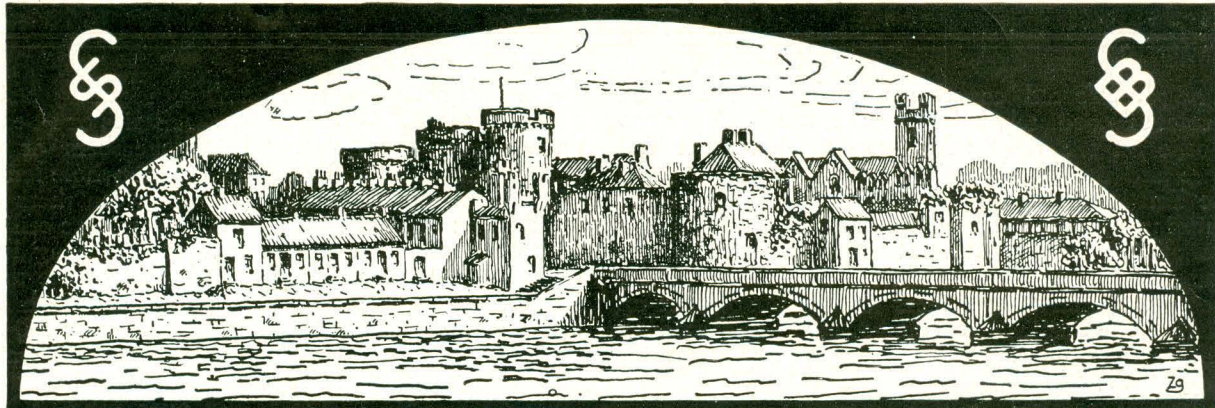




Siemens-Schuckertwerke
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PROGRESS ON THE SHANNON

3rd YEAR

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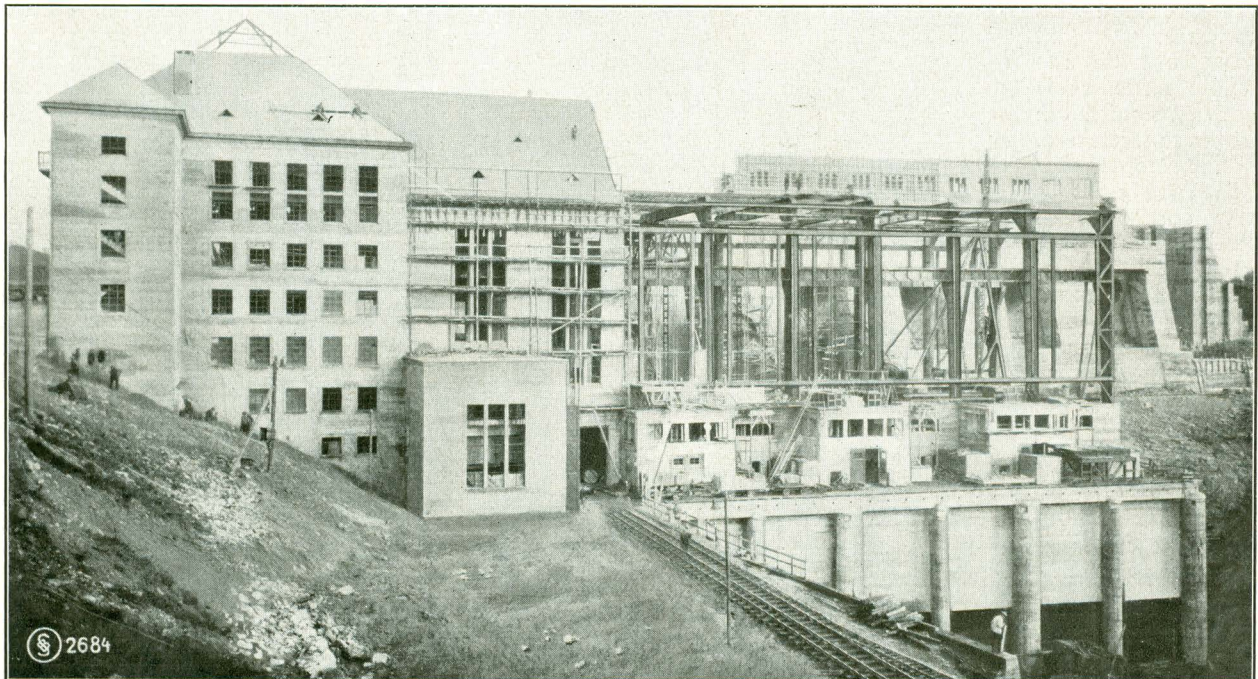
Progress on the Power Station

Part I

In our June number we described all the work that had been done on the Power Station up to that date. Since then the aspect of the site of that work has changed to such an extent as to be hardly recognizable. The Power House together with its adjacent buildings rose gradually from their foundations and now tower high above the original ground level, with the turbine casings concealed deep below and the three penstocks running right up to the

Intake Sluice Building, the superstructure of which is so far advanced as to give a clear idea of its final appearance.

The Power House consists of several parts quite separate in themselves and in their purpose, though all interconnected and joined into one single building. With the Power House proper in the centre, by which is meant the huge hall, measuring 62.28×18.46 m. in floor space, with the generators resting on a



General view of the works at the 38 KV-Switch House, the Generator Hall, the Oil Refinery with Transformer Workshop, and the cooling houses

strong reinforced concrete frame system and the turbines immediately below, there is the 38 KV-Switch House on the right when looking down the Tail Race and the 10 KV-Switch House behind it. On the Tail Race side of the 38 KV-Switch House the building housing the oil refinery and transformer workshop projects out. It is now, but for the finishing touches inside, almost completed. There are also special transformers to step the current up to 110,000 volts, as the voltages at which the power will be distributed are 110 KV, 38 KV and 10 KV, as already fully described in our January issue. The Generator Hall is built of 9 extremely massive steel frames interconnected by steel girders. Seven of these frames are already in position. In size they measure 18.00 m. in width and 17.80 m. in height, and rest on steel hinged bearings on concrete foundations. The purpose of the bearings is to allow for slight movement caused by temperature variations. The spaces between the vertical members of the frame work along the building are filled with concrete, so that from outside the whole structure is not distinguishable from a concrete one.

The steep V-shaped roof truss is also composed of steel girders resting over the main frames and interconnected by two lines of steel I-beams spaced intermediately between the ridge and the cast concrete cornices of the roof, and two more close to each other at the cornices themselves. The whole is still more strengthened by bracings running from the ridge to the cave of the roof between every set of roof frames.

Fixed at about 1 m. apart over the steel skeleton of the roof structure are the timber rafters which in their turn are covered by closely fitting timber planks laid horizontally. The roof over the first three main frames is now being covered with felt, over which eventually Killaloe slates will be laid. In all, for the whole of the Power House, there

are 26,100 sq.ft. of roof surface, requiring about 38,000 slates 20" × 12" in size. A series of I-beams resting over the horizontal top members of the main frames run longitudinally for the whole length of the Generator Hall. The spaces between them are filled by a reinforced concrete slab forming a ceiling, thus concealing the roof structure. At roughly a third from the top of the total height of the main frames, on either side inside the building, run heavy cantilevers supporting rails over which two 100 ton

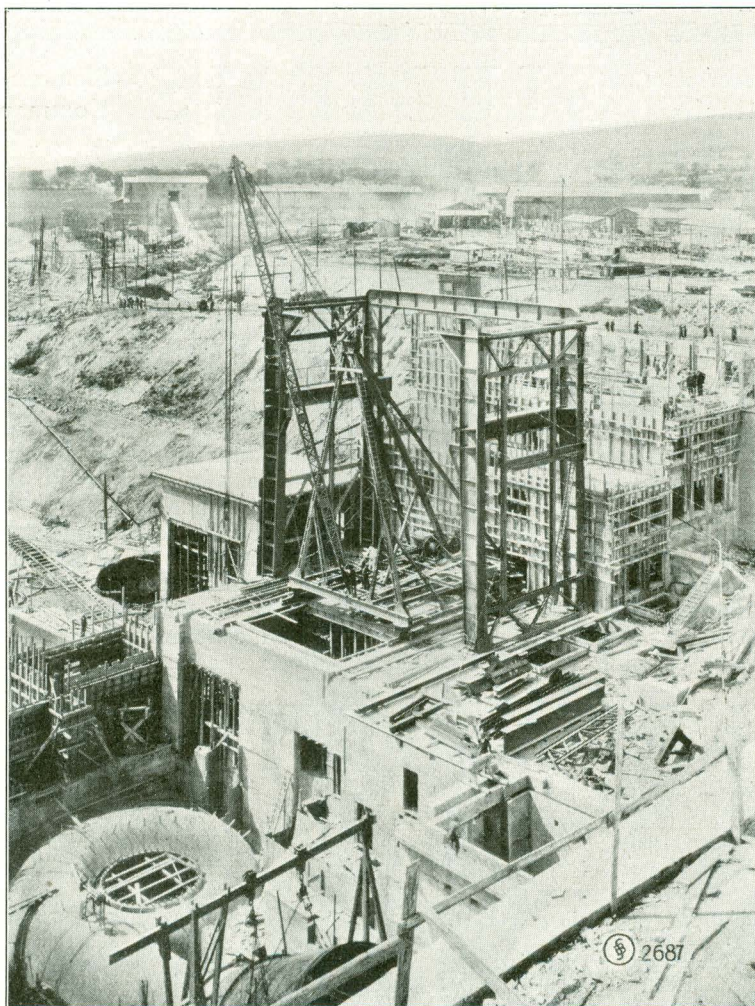
overhead cranes will eventually run over the whole length of the Generator Hall. These cranes are now nearly completed, and will primarily be used to bring the generators and the turbines into their proper position, and subsequently for lifting heavy machine parts etc, when repairing the plant during its working, as well as for placing the 3 additional generators and turbines that will have to be installed for the full development.

The annexes to the Power House proper consist of

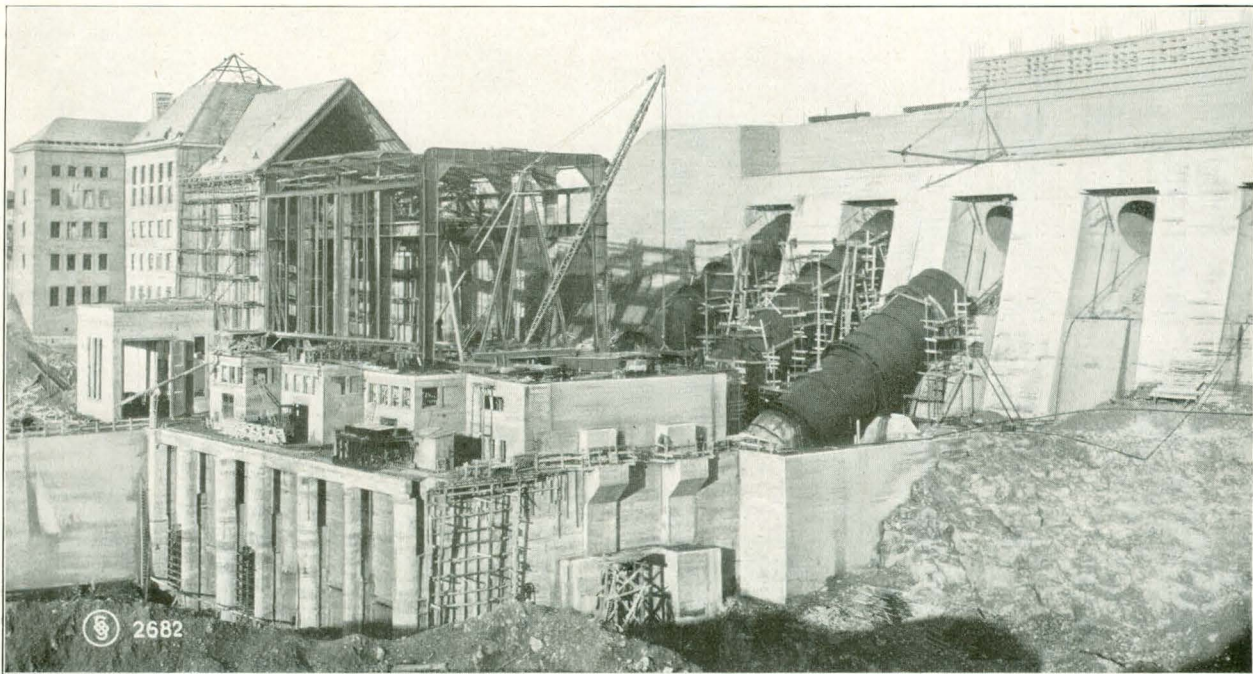
1. transformer rooms,
2. control rooms for generators and turbines,
3. store rooms, situated below the floor level of the Generator Hall and projecting some 13 m. towards the 38 KV-Switch

House beyond the turbines, thus providing a clear working space for assembling machinery and for future repairs.

The floor of the store rooms, situated below the above projection of the Generator Hall, is at the same level as that of the Great Southern Railway line, one branch of which actually runs right into them, thus enabling the goods to be brought straight to the spot. Furthermore a large opening measuring 9 m. × 5 m. cut out in the floor of the Generator Hall immediately above the railway and the stores will facilitate the supply of materials from the store-room or straight off the railway trucks to the Generator Hall. The latter one might mention is lit by huge windows measuring 12.10 m. in height



Erection of the steel frames for the Generator Hall and the concreting of the 38 KV-Switch House



General view of the works at the Power Station

and 4.00 m. in width. These are already in position for the first three main frames.

The three 30,000 KVA transformers for the 110,000 volts with their cooling houses are located on a terrace on the Tail Race side of the Generator

Hall and also at the same level as that of the Great Southern Railway, the cars of which can be shunted on to a track running along the Tail Race edge of the terrace, by means of a turntable situated at the corner, where the retaining wall along the



Inside view of the steel structures of the Generator Hall

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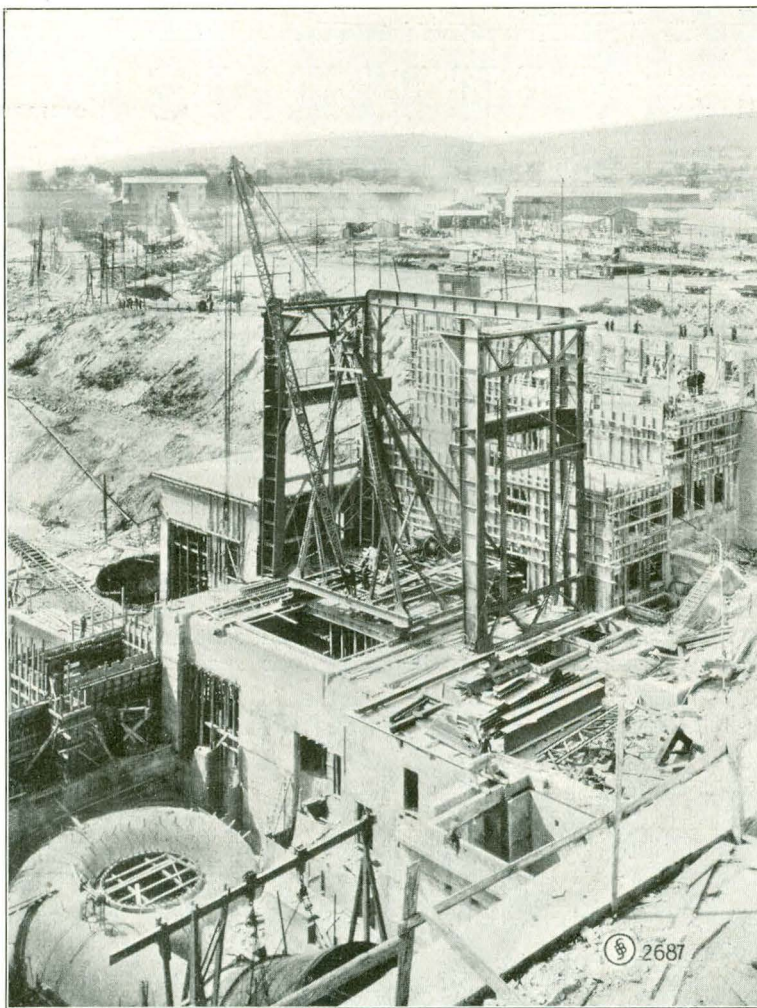
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