

Energy supplies: the port's requirements forced breakthrough

One hundred years ago in the port of Rotterdam: „How many batteries will you need today?”

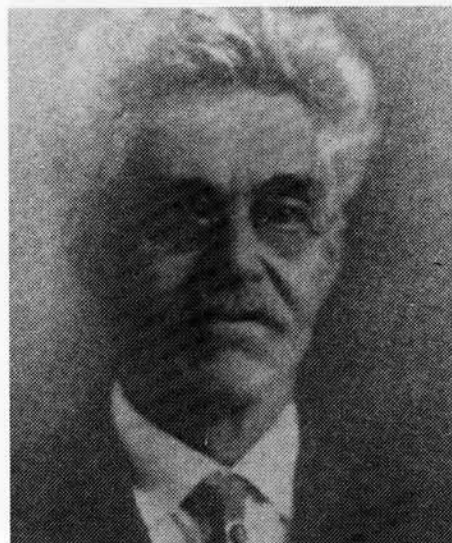
Hardly anybody even wonders how much effort was required to build a power station with an output capacity covering the entire requirements of a province. Yet the infancy of electricity is not all that far behind us. One hundred years ago the first two Netherlands power stations came on stream in Rotterdam. Financially they were not a success. Rotterdam's electricity supplies did not really get going properly until the city administration, realising that the harbours should be provided with electric cranes, built a power station for this purpose.

„I don't think it will be long before the man coming at the door to take orders for bottles of soda water will soon be followed by a man asking how many batteries one needs for the electric lamps”.

This forecast, made by a Rotterdam city councillor one hundred years ago, gave a completely different picture of electric light than we have. Our electricity comes from electric power stations – not from the battery shop round the corner. Neither is it used only for lighting. Largely varied tools and equipment are electrically driven and it would be most inconvenient if we had to live without these two holes in the wall-paper.

Yet the first indications that this luxury would eventually also be available to other people than a few modernists were noticeable only 100 years ago. The „light of the future” shone in the Netherlands as early in 1878, but the first few consumers had to

Former Russian navy officer Achilles de Khotinsky was one of the enterprises who were at the cradle of Rotterdam's electricity supplies. He also founded an incandescent-lamp factory.



New electric cranes sparked change of course

generate their own electricity because there were no power stations as yet. The light was most satisfactory in the fashionable halls, gardens, railwaystations and shops: it drew great attention and sparked all kinds of lyrical utterances. The „Rotterdams Nieuwsblad” newspaper for instance described a demonstration of the lights in Rotterdam park as: „A beautiful view of electric light reflected by the lovely green of the trees in our small, but delightful Eden.”

Coffee dealer L.W. Schöffer, who was convinced at an early stage that electricity was heading for a great future.



The pioneering stage

Technical progress made it possible to build power plants Rotterdam takes full credit for the fact that the first two Dutch power stations were established in this city, though they were slightly „tainted”. One of them was built in Amsterdam and the other one was built partly by Russian engineers.

„N.V. Nederlandsche Electriciteitsmaatschappij” (NEM) of Amsterdam had tried in vain for years on end to get a permit for building a power plant to provide the Dutch capital with electric lighting, but now it got an order for building one in Rotterdam.

The Rotterdam city council overruled objections raised by some councillors about the problems facing the gas companies which provided gas for lighting.

„A huge machine is on the way from America and with the aid of this hope to prove that electric light is really cheaper than gas light,” one member of the Rotterdam city council said during this remarkable meeting.

The „huge machine” was placed in a shed on the edge of the city. From this place a 200-metre-long cable, „fitted tightly in iron tubing”, was laid to a shopping centre. This

The name of this former Public Works Managing Director G. de Jongh is still alive in port circles. He realised during a study trip that electric port cranes offered great advantages.



The incandescent lamp factor of the „Electricity Company De Khotinsky System” at Prins Hendrikkade in Rotterdam nearly a century ago. Right: a gas lamp-post; left: a delivery cart of a steam-powered printing shop.

cable was linked up with the installations of the fashionable Grand Café du Passage and some other shops, including a tobacco shop, a confectioners' and an umbrella shop.

The power station did not get many more clients; this might also have been due to the fact that a number of Rotterdam inhabitants were not too pleased with the electricity, because the thick and expensive NEM cable was twice cut „wantonly”. The NEM kept going for exactly one year after which it had to close down the plant due to lack of interest.

Useful battery

Another entrepreneur, Achilles de Khotinsky of Rusland, decided on a completely different approach. While serving in the navy of Czar Alexander II, he had experimented with the ignitions of bombs, and busy Achilles had apparently become so

The first electric port crane used by Rotterdamsche Lloyd; the dockers still stood to attention when a photographer came along. The construction was 13 m high; its legs were over nine metres apart.

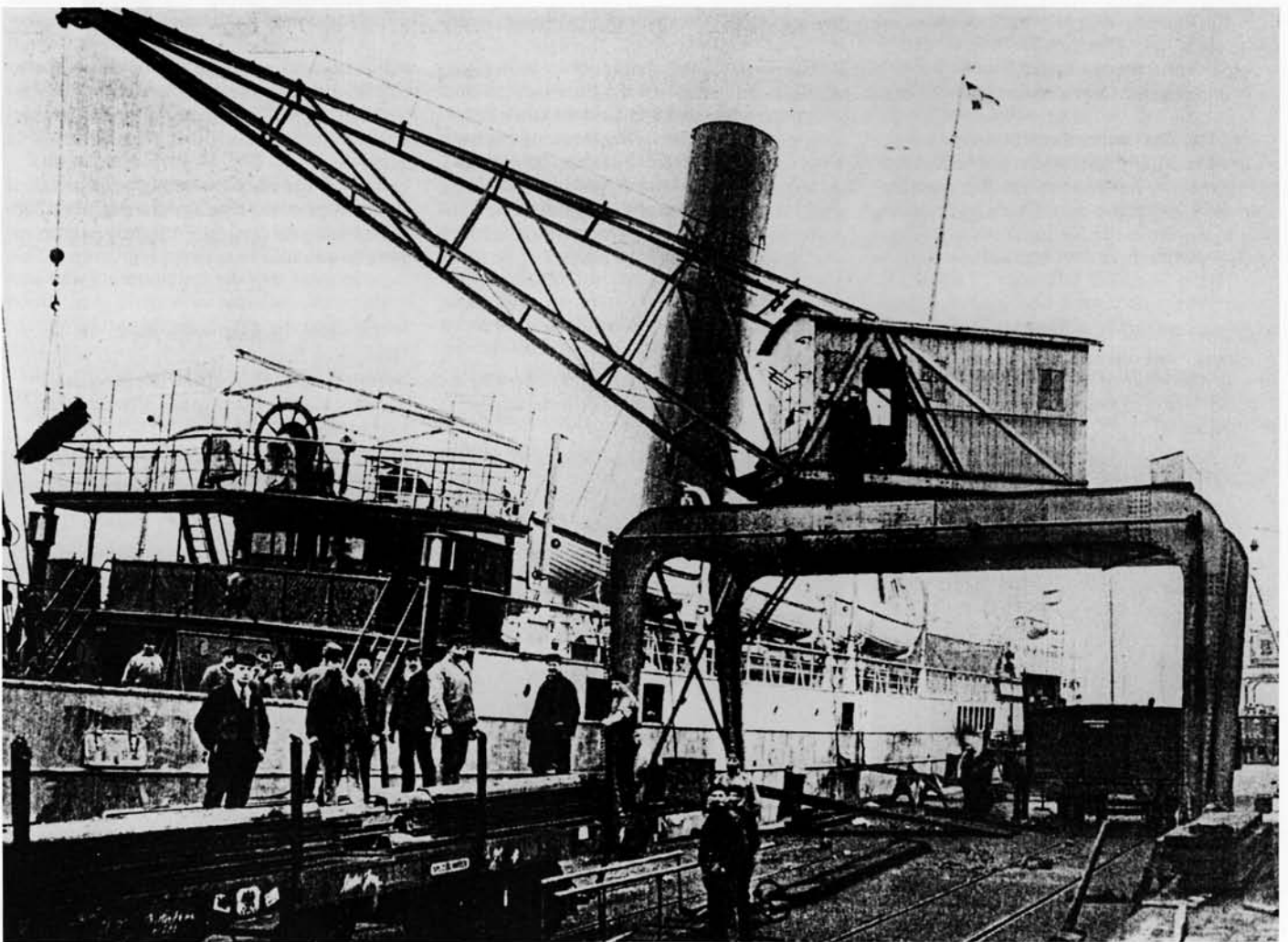


adept in this, that he was accused of the successful bomb attack on the Czar a few years later.

De Khotinsky, who left for France in the year of the attack, resolutely rejected charges.

His practical experience with electric ignitions enabled him to design one of the first workable batteries. One day he gave a demonstration of such a battery at the home

of Rotterdam coffee dealer Wilhelm Schöffner. The dealer, impressed by the capabilities of the Russian, agreed to set up the N.V. Electriciteitsmaatschappij system „De Khotinsky” (electricity company). With Russian knowhow and Rotterdam money a battery plant was built on Noordereiland, an island opposite the town of Rotterdam. This plant later also produced the first Dutch incandescent lamps.

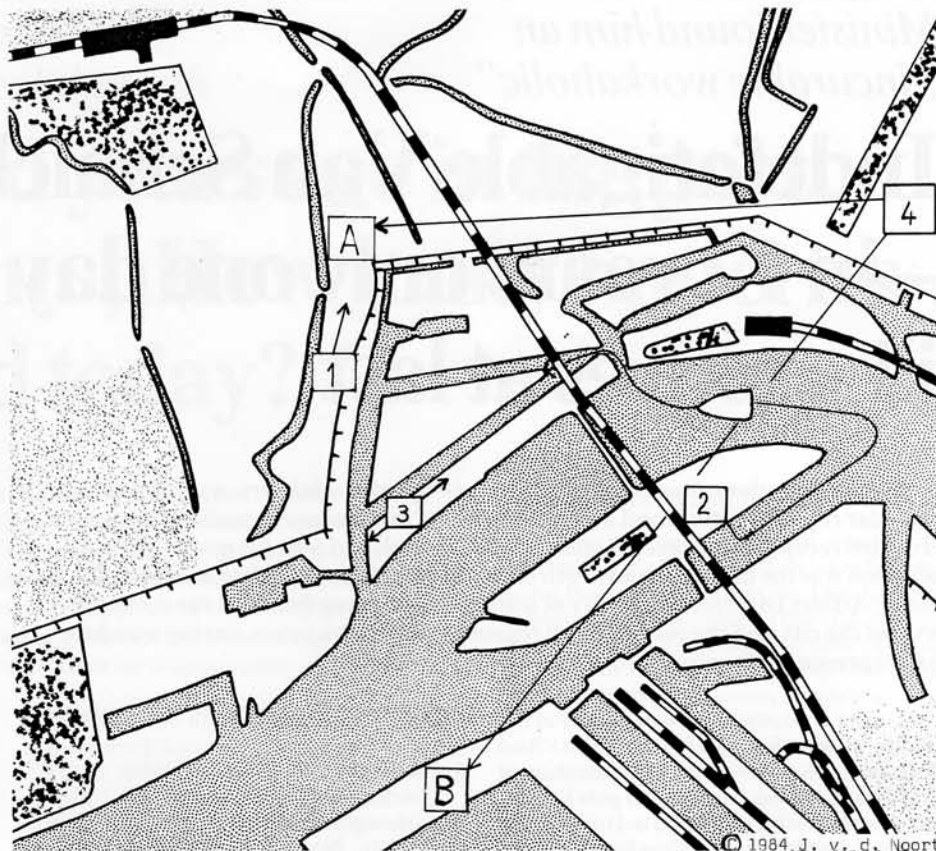


The Edison dynamo mounted in the plant was used in the day-time to charge batteries which were taken to the other side of the Maas river by boat at nightfall to provide houses along the Rotterdam harbours with electricity.

After some months of experimenting the inventive Russian realised that these transport of splashing battery acid had better be stopped and that a central point across the river in the town itself would be far more satisfying. He asked the city administration for permission to set up such a battery centre. He was not lucky; the city administration had just bought the gas works and planned to sell gas to households and industries. It will be obvious that the company was not to keen on the competition of electric light. Eventually De Khotinsky was allowed to set up a very small trial plant for generating electricity on the waterside. This plant balanced on the verge of losses and profits. Eventually, it was taken over by the city.

Recommendation: wait

Consequently, the initial interest in electric light was poor. The first two Dutch power plants were unable to cut their losses. Therefore the city of Rotterdam was hardly inclined to make large investments to light



The position of Rotterdam's first electric power station clarified in a map: 1) the site on which *Nederlandsche Electriciteitsmaatschappij* built a small power station; 2) the power plant on *Noordereiland* set up with financial support. The customers were with electricity from heavy batteries shipped across the river; 3) the site at which De Khotinsky later built a small trial power station in the city itself.

Holland's first municipal station was built in the east of the town (4). It was connected with two large accumulators, one in the city centre (A) and the other served the port area (B).

„Unusually beautiful light in our small, delightful Eden”

up the city. „Electricity is still far too much in the development stage” to set up an electricity company. „Let us bide our time instead of taking the risk of losing a lot of money.” Public Works Managing Director Gerrit de Jongh said.

Mr De Jongh had rightfully won the nickname „Daring Gerrit”. Around the change of the century he made a major contribution towards the vast growth of the port of Rotterdam, and it was far from him to adopt a wait and see attitude. However, he did not see the necessity of electric light: people withing to have light could go to the city's gas works, he said.

Turnabout

Consequently, Rotterdam's inhabitants had to make do without electric light for the time being.

A study made by Mr De Jongh was to change needed new cranes for „his” new harbours, and together with a colleague of the city's commercial division he visited the Northwest-German Trade and Industry Fair in Bremen to get an idea of the best system.

They wondered whether the new harbours in Rotterdam should be equipped with steam cranes or hydraulic cranes, but electric harbour cranes were also being shown at the exhibition.

Above all they were impressed by the

small electric tramcar of the Thomson Houston International Electric company which drove about on the exhibition site.

The chief engineer of the Port of Hamburg, Andreas Mayer, told them that the same company had provided the whole port of Boston with fully electrified equipment. He also said that Hamburg was seriously considering to equip its ports also with electric cranes.

This information set Mr De Jongh thinking: falling back technically from a leading position and lagging behind a competitor was the worst that could happen. Therefore Rotterdam should also have electric cranes, preferably as soon as possible. Electricity was no longer a luxury – it had become vital to the ports. These ports, „on which we have spent so many tonnes of gold to bring them to life, and which can only give a proper yield if we can satisfy today's requirements just as well as our competitors,” a spokesman of the City council's port committee said.

The city administration unanimously endorsed this view and it approved a proposal for a study tour along the major European electric power stations to find the best possible procedure.

In the end it was decided to build a direct current plant next to the municipal gas works. It supplied the electricity via a heavy cable and two large accumulators. One of these was connected with the port cranes and the other was sited in the centre of the

city. When the port activities slackened at night, the plant did not have to remain idle, but it could provide the city centre with light via an accumulator.

First connections

The power station was operational on November 5, 1894. N.V. Blauwhoedenvem and three electric cranes at the „Wilhelminakade” quay were connected with the power station.

The days of waiting were over. Major chances had been taken and borne by pioneers as well as by the NEM and De Khotinsky. The city power company could build on their work. Rotterdam became really enthusiastic when it heard of electric harbour cranes. One may rightly say that these cranes stood at the cradle of Rotterdam's electricity supplies.

Jan van den Noort