

Summary

The State in the Electricity Market
– Interventions for a Functional
Electricity Transmission System
(RiR 2013:3)



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The State in the Electricity Market – Interventions for a Functional Electricity Transmission System

The Swedish National Audit Office (NAO) has audited the state's interventions for a functional electricity transmission system as this is an important part of the electricity market for which the state has a specific responsibility. The Swedish NAO intends the term electricity transmission to mean the distribution of electricity from power sources that produce electricity to the electricity users. Households and industry are dependent on electricity and a well-functioning electricity transmission system is thus critical to society. The quality and capacity of the electricity transmission system has an impact on the security of delivery and by extension the price for the electricity consumers as well. State initiatives are a required in order to achieve the Riksdag's overall targets for the electricity market. This encompasses, amongst other things, governance of the Transmission System Operator Svenska Kraftnät and the Swedish Energy Markets Inspectorate (Ei), which are important to a well-functioning electricity transmission system. The electricity market has undergone significant changes in recent decades.

In this audit the Swedish NAO has made observations about the state's interventions within several areas that are of significance to electricity transmission. These areas are the permit process for investments in the national grid, Ei's regulation of the quality of electricity transmission, the Government's governance of Svenska Kraftnät's investment planning and some of that organization's financial key figures. It is primarily that part of transmission which concerns the national grid that is included in this audit.

Electricity transmission is a complex issue. The state interventions encompass several material parts and thus it is important that the Governments reports to the Riksdag on the issue in a way that is fit for purpose. Consequently, the audit also encompasses the Government's reporting to the Riksdag.

Background to the audit

The Government has been commissioned by the Riksdag to create an effective electricity market with well-functioning competition that provides secure access to electricity at internationally competitive prices. Another central goal, also decreed by the Riksdag, that has an impact on the



DATE: 27-03-2013

electricity market is that of increasing the proportion of renewable energy. In order for the Riksdag's goal to be achieved, an increase in the transmission capacity of the national grid is important. As the administrator of the national grid, Svenska Kraftnät is thus a crucial stakeholder in this matter. Ei is another important stakeholder as this agency manages the permit process for the electricity network and is responsible for supervising the quality of electricity transmission. Electricity transmission is important for the entire electricity market. The conditions placed on the transmission of electricity ultimately have an impact on the market that households and industry face.

The audit is part of the Swedish NAO's audit strategy *The State in the Market*, the fundamental question of which is whether state commitments are executed effectively in markets which have undergone and are undergoing transformation and where the state is active in the market in addition to its regulatory and supervisory roles. The aim of the audit has been to audit the state's interventions in this area that are central to a well-functioning infrastructure when it comes to electricity transmission.

The audit is based on the following audit question:

Has the state created the conditions for a well-functioning electricity transmission system?

The audit's findings

The state's interventions for a well-functioning electricity transmission system

The Swedish NAO assess that the state's interventions for a well-functioning electricity transmission system are deficient in several parts.

The Government's governance of Svenska Kraftnät

According to the Swedish NAO's assessment, the Government's governance of Svenska Kraftnät has been too passive and has had a deficient platform. The transmission capacity of the Swedish national grid is still not sufficient.

Svenska Kraftnät's investment planning

Svenska Kraftnät's planning of its investments in the national grid has previously been deficient and has been characterized by a lack of transparency. Svenska Kraftnät's investment plans have rarely been fulfilled over the course of the period from the de-regulation of the electricity market's in 1996 to 2011. An explanation of why the investment plans have rarely been fulfilled is that many of the investment projects have been delayed compared with the original plan. According to the Swedish NAO, one consequence of the delayed investment projects is a deficient adaptation of



DATE: 27-03-2013

the electricity transmission infrastructure, the electricity network, to structural changes in the production of electricity and the increasingly integrated European electricity market. According to the assessment of the Swedish NAO, the feedback provided to the Riksdag by the Government about the causes of the unfulfilled investment plans has been deficient.

Svenska Kraftnät has interpreted their role over the course of the end of the 1990s and the beginning of the 2000s as being to manage the existing national grid to avoid driving up costs and thus increasing the network tariffs. At the same time, the Riksdag adopted investment plans that were not achieved.

Investments in the national grid have increased since 2007. However, Svenska Kraftnät and the Government have known since the early 2000s that the rate of investment would need to be increased, not least as a result of structural changes and the increasing age of the facilities. Based on the observation made, the Swedish NAO assess that Svenska Kraftnät could have begun investing earlier. The Swedish NAO also assess that the investment backlog, combined with the decision to divide Sweden into electricity areas has had an impact on the prices for electricity users in parts of Sweden.

Svenska Kraftnät's work to invest in the national grid in the period from 1996 to spring 2012 has not been transparent. Even though the rate of investment at the beginning of the period was low, investment choices have still been made. Public control with regard to the choice to invest or not to invest has been low. When it comes to public control of Svenska Kraftnät's operations, the Swedish NAO has established that changes have been initiated that have improved the situation. These changes have been initiated by the organization itself and not by the Government.

Division into electricity areas

The EU's requirement for the Swedish market to be divided is one consequence of the international integration of electricity transmission. The electricity network's division into regional electricity areas affects the electricity prices faced by electricity users. The ongoing market integration, combined with the already established need to reinforce the electricity network within the country places specific demands on the Government's control over investments in the national grid. The opinion of the Swedish NAO is that the Government has been passive in the work to adapt the national grid in relation to international integration and known bottlenecks. It is also the opinion of the Swedish NAO that the Government should have provided the Riksdag with greater insight into this important issue for society, for example, with regard to investments that could have had an impact on the consequences of the division and the timing of the division.

The Swedish NAO notes that the division into electricity areas has given rise to a report to the Committee on the Constitution, as well as the commencement of a legal process on fundamental



questions. However, the audit does not encompass these ongoing cases.

Profitability target and dividend objective

The profitability target that the Government has placed on Svenska Kraftnät has an impact on the tariffs that the organisation's customers, i.e. the regional network monopolies and the large electricity producers, pay and thus also has an impact on the electricity prices paid by households and industry. The profitability target has an impact on tariffs in that the profitability target is covered with Svenska Kraftnät's revenues such as network tariffs. If the profitability target is reduced, all other things being equal, the network tariffs for the national grid can also be reduced.

Svenska Kraftnät has exceeded its profitability target over the course of the audit period and the state has taken a higher dividend from Svenska Kraftnät than that stipulated in the dividend policy over the course of the same period.

The Swedish NAO has not found any data from the Government with analyses for the past ten years of the profitability target in relation to the development of the tariffs over the course of the audit period, energy policy targets, other targets such as for industrial policy or the fact that Svenska Kraftnät has a monopoly. These types of analyses are a prerequisite for active management on the part of the Government. Furthermore, their absence of such data means that management has taken place in a way that does not provide the opportunity to retrospectively review the Government's actions. According to the Swedish NAO's assessment, it is thus not possible to exclude there having been the space to make the tariffs for Svenska Kraftnät's national grid lower.

Svenska Kraftnät is required by its instructions to operate in a business-like manner. However, what this means for Svenska Kraftnät in practice is not entirely clear.

The slow permit process delays investments in the national grid

Reinforcement and expansion of the Swedish national grid are important factors in achieving the targets set by the Riksdag regarding an effective electricity market and an increasingly large proportion of renewable electricity. A permit to construct a power cable is called a network concession, and is required for essentially all heavy-current cables. The observations made by the Swedish NAO with regard to the permit process for the national grid point to necessary investments being delayed and the potential for the state's interventions to be improved. There follows some of the circumstances that the Swedish NAO believes should be attended to with the aim of shortening the permit process.

There is a lack of common guidelines for the county councils' interventions in the permit process for the national grid. The audit shows that the management of similar cases differs between the county councils. Furthermore, certain county councils believe that it would be helpful for the



DATE: 27-03-2013

agencies' management of the permit process for the national grid if the Swedish Energy Agency highlighted certain areas of national interest for electricity transmission. However, this has not yet taken place. The agency has begun this work, but the Swedish NAO believes that the work should be intensified.

The key stakeholders have a variety of different interpretations of how power lines are erected, as they do about the consequences for operational safety, costs and human health of the investment alternatives. The Swedish NAO assess that Svenska Kraftnät's data on these issues could be more comprehensive and contain, to a greater extent, analyses of the impact on the economy of society as a whole, for example.

A large proportion of the objections that property owners, and also governmental agencies and affected municipalities, have in connection with permit cases relating to the national grid is the degree to which the magnetic field that arises surrounding national grid power lines is harmful to human health. There is prevailing disagreement among the agencies responsible for this issue, which can lead to worry among individuals and delay the permit process. The Swedish NAO's assessment is that the agencies responsible should work together to a greater extent in order to arrive at a consensus.

According to Svenska Kraftnät's instructions, the expansion of the national grid will be based on assessments of the benefit to the economy of society as a whole. What such assessments refer to and whether they will be performed for individual investments or only at a more overarching level is, according to the Swedish NAO's assessment, unclear. The Swedish NAO assesses that a specification should be made and that this could simplify the permit process as there would no longer be space for various interpretations of the term.

National grid cases involved the difficult task of balancing the influence of those specifically affected by the case and societal goals that are important to households and industry at a national or European level. It is often objections from affected property owners which lead to the permit process taking a long time. The Swedish NAO's opinion is that the Government has not emphasized and managed to a sufficiently high degree the conflict of interest between shortening the permit process for the national grid and the influence that specific affected property owners have over the expansion of the national grid.

Limited preventative, national supervision of electricity transmission

One of Ei's roles is to supervise the delivery quality of electricity transmission. According to the agency, supervision can be divided into planned and indication-controlled, in which the indication-controlled has dominated the work in recent years as a result of several severe storms. This means that the planned supervision, which should be preventative, has taken place less often. The result is that one of the aims, namely a greater degree of self-regulation involving the network owners taking action themselves, is in danger of not being achieved. In addition, the Swedish NAO



DATE: 27-03-2013

believes that Ei should, to a greater extent, learn from the experience of past supervisory cases, for example, in order to gain an overall picture of problems that arise within this area and take control of these at a national level. For example, this applies to problems with deficient weatherproofing of the electricity network, non-functioning remote control equipment or the network owners' emergency preparedness organizations. In this way, the supervision would systematically manage risk areas for the delivery quality of electricity transmission.

The Swedish NAO's assessment is that, based on the problem descriptions that have appeared in the audit, there are areas that should be subject to Ei's agency-initiated, planned supervision.

The Riksdag should have been given more information

The Riksdag has without exception been given deficient information about investments in the national grid for the years 1996–2012. According to the Swedish NAO's assessment, the Government has not submitted a sufficient picture of the national grid in budget proposals as there are a lack of descriptions of why the various investments have been needed, of the consequences of the investments and of when it was estimated they would be completed. There has also been a lack of feedback in budget proposals for the investments that the Riksdag decided on the previous year, for example, how much of the investment plan Svenska Kraftnät has successfully completed.

Recommendations

The Swedish NAO's comprehensive assessment is that the Government's management of the interventions that should have been made in the electricity transmission area has been passive. Despite an increasing need for investment, the permit process for the expansion of the network has taken a long time, which has delayed important investments. Furthermore, there is a lack of data that makes it possible to become acquainted with the Government's deliberations on the profitability target and dividend objective for Svenska Kraftnät, or how functional the term 'business-like manner' is in the management of the organization. The Government has also not worked towards a preventative, national supervision of the delivery quality of electricity transmission. Instead, the supervision has been reactive, with little focus on making the network owners take preventative action to ensure delivery quality. Finally, the information provided by the Government to the Riksdag about the electricity transmission system has been deficient. For example, it has lacked feedback on the investments that the Riksdag decided on the previous year. For this reason, the Swedish NAO submits the following recommendations to the Government and Ei.

The Government's management of investments in the national grid

The Government should monitor Svenska Kraftnät's investments in the national grid more actively than it has done previously. Svenska Kraftnät plans large investments that aim, among other things, to increase the transmission capacity of the Swedish national grid and increase its integrations with the rest of Europe. The investments need – in order to avoid negative effects on



DATE: 27-03-2013

price – to be realized on time in an efficient way. This will require an active and well-founded management from the Government. Management such as this should constitute a support for Svenska Kraftnät in the challenges that the high investment rate involves, for example, finding appropriate forms of finance and managing an expanded organization.

Business-like manner and profitability targets

The Government should develop and specify the term 'business-like manner' in relation to Svenska Kraftnät's role. Furthermore, the Government should describe in writing its analyses and justification for the profitability target and dividend policy for Svenska Kraftnät.

More efficient process for national grid concessions

The Government should commission relevant agencies to investigate the opportunities of having a faster permit process for national grid concessions. Several of the circumstances that have been identified in the audit as factors that have an impact on the national grid permit process could serve as a starting point for such a commission.

Improved supervision of the delivery quality of electricity transmission.

Ei should, to a greater extent than previously, exercise an agency-initiated, national supervision of the delivery quality of electricity transmission. The Government should work to achieve this through its management of the agency.

Improved information to the Riksdag

The Government should improve the information it provides to the Riksdag about the investments that are made by Svenska Kraftnät. The information should contain clear descriptions of the justification for the investments and what their consequences are. The Government should also provide the Riksdag with feedback on the extent to which the investment plans have been fulfilled.

