

THE REGULATORY SITUATION IN SWEDEN TODAY – FROM A SWEDISH DSO PERSPECTIVE

Pontus FINNSTRÖM
Vattenfall Eldistribution AB – Sweden
Pontus.finnstrom@vattenfall.com

ABSTRACT

The Swedish electricity network industry has historically had an ex-post regulation. The ex-post regulation seen was inadequate due to its complexity and unpredictable. To avoid these uncertainties, and to be inline with the EU directives, the Swedish Parliament decided to introduce a new regulatory model, an ex-ante model. The implementation of the new model has not gone smoothly. More than 50 percent of the electricity network companies in Sweden appealed the decision when the Regulator announced the revenue frames for the next regulatory period on October 31, 2011. As a result, the Swedish DSO's are once again in a situation of uncertainty, something that the new ex-ante regulation was meant to minimize. This paper will outline and discuss Vattenfall Eldistribution AB's view of the fundamental principals of an optimal regulatory model and where the Swedish regulatory situation is today in its quest to achieve a good long-term, sustainable solution.

INTRODUCTION

The paper starts with a brief background of the Swedish regulatory system and the process that led up to the situation today. The fundamentals in a regulatory model, according to Vattenfall Eldistribution, are presented followed by a description of the new Swedish ex-ante model and the objections that the DSO's emphasised in their appeal to the Swedish Administrative Court. The Regulator has altered its position on several of the issues but there is still a lot to be done to reach a robust, long-term, predictable, stable and objective solution for the industry.

BACKGROUND

The Swedish parliament decided in 2009 that the Regulator should develop a new ex-ante regulatory model, aligned with the EU directive. The aim was to replace the old Network Performance Assessment Model, an ex-post regulatory model, in 2012 with a new ex-ante model. The decision to develop a new ex-ante model was welcomed by the industry as a whole. The ex-post regulatory model, the Network Performance Assessment Model, was seen as to complex and unpredictable.

The preparatory work leading up to a new ex-ante model involved close and transparent dialogue between the

Regulator, the industry, end customers and academics. The goal was to create a model that would give a robust, long-term, predictable, stable and objective regulatory framework that incentivizes and facilitates the energy transition within electricity distribution networks, including adequate incentives for investments. This type of model was considered especially important at a time when the industry was, and still is, in a state of significant change. The industry thought that there was a good collaboration between the different parties and was quite assured that the outcome would be a good balanced model that would benefit the customers, the industry and the society as a whole.

The Regulator was supposed to publish the first level of the new ex-ante revenue frames on October 31, 2011. Instead of announcing the new ex-ante revenue frames for the period 2012 to 2015 as pre stated the Regulator announced a transitional period up to 2027. The decision confused the whole industry.

In principal all the applications from the DSO's were approved according to the original new ex-ante model by the Regulator but after the transition period of 16 years. The industry had been able to apply for a total sum of 183 BSEK and got 148 BSEK for the period 2012-2015. The Regulator thereby reduced the industries revenue frame with 35 BSEK in the transition period compared to the original developed ex-ante model. The Regulator argued that there was a need for the transition period in order to gradually adjust to the new regulation. This is particularly strange in the context of an already decided adjustment period 2008-2011 between the old ex-post model and the new ex-ante regulation by the Regulator. The Regulator justified this by referring to the societal interest of low and stable network tariffs.

More than 50 percent of the about 170 DSO's in Sweden including the three major DSO's – E.ON, Fortum and Vattenfall reacted by appealing the decision. According to these DSO's the new transition period was, besides being in violation of the Swedish Electricity Act and was essentially incorrect on the following points; investments, up-stream network costs, indexation and the historical period. Besides these points, the Regulator had diminished the impact of the important quality regulation. [3]

FUNDAMENTAL PRINCIPALS IN A REGULATORY MODEL ACCORDING TO VATTENFALL ELDISTRIBUTION

Vattenfall recognizes the importance of a strong regulation as the foundation in an industry with a natural monopoly. Without a strong regulation the industry and its partisans will have a hard time to build up consumer trust in society. At the end the DSO's and the Regulator are dependent on some sort of public recognition and trust regarding price level and distribution quality. Vattenfall Eldistribution believes that an ideal regulatory model for electricity distribution should be robust, long-term, predictable, stable and objective. The model should be balanced to the extent that the market situation objectively imitates a free market situation. As a crucial part of the societal infrastructure DSO's needs the opportunity to deliver a reasonable yield and at the same time stimulate an energy efficient usage in society. This is not an easy balance when profits are mostly made by the consumption of energy. Nine principles to be considered in establishing a regulatory model are summarized below. Vattenfall Eldistribution believes that these principles must be included and carefully balanced to achieve an ideal regulatory model;

- *Provide incentives to streamline and rationalize the individual DSO.* Due to the market situation with a natural monopoly there is no natural "force" that provides incentives to streamline the organizations. Hence such incentives must be intertwined in the regulatory model.
- *Provide incentives for structural rationalization.* A good functional model should not just have incentives that stimulate rationalization of individual organizations. A good functional model should also include incentives for structural rationalization of the whole industry. Monopoly can sometimes work as a "safe haven" for ill managed organizations. An ideal regulatory model should provide incentives that counteract such behaviour and stimulates a rationalization of the whole market structure. Not just when it comes to ill managed organizations but also when it comes to rationalization of the borders between the different concession areas.
- *Provide incentives for investment, R&D and technical development.* This is a central point today due to the role the electricity network can and will have in the overall societal energy conversion with the increasing demands on smart grid, smart metering, etc. There are clear risks that the DSO's won't be able to take their central role in the future energy landscape to meet the customers long-term needs of quality and other electricity related services etc. without sufficient incentives, due to the required short timespan.
- *Facilitate for the DSO's to promote and take action toward energy efficiency usage in society.* Large energy savings can be achieved by

optimising and utilising the existing network structure. An optimal model should incentivise such solutions.

Be accepted and practicable for exercise of official authority as well as for the owners internal control/management work. The Regulatory model ought to correspond to the industry's internal and external steering principles to as large a degree as possible. The model for steering and follow-up should be the same.

- *Obstruct monopoly profits.* An inefficient DSO should not be able to make the same profit as an efficient DSO. At the same time, there should be a function that obstructs excess profit.
- *Provide investors/owners with a yield adjusted to the market with regard to the industries risk level and the capital-intensive demand.* The industry must be attractive and sustainable for investors. To be able to achieve this, the market must have a potential return that is adjusted to other external markets in the view of an investor. This is one of the foundations to achieve an objective market. Without an outward looking perspective the regulation risks being too one-sided.
- *Facilitate improvements in the overall quality according to societal and customer demands.* DSO's core product is to distribute electricity, it is hence important that the model facilitates the efforts to deliver as good and efficient service as possible.
- *Have a long-term approach in all aspects of the regulation due to the capital intensity and duration of the investments.* The investments can and often have a life span of 30 years or more. It is thus important that the regulation is long-term and predictable in its structure and at the same time robust.

These principles ought to be the foundations in achieving a robust, long-term, predictable, stable and objective model. Both the Regulator and the industry should be interested in achieving these principles. The presented principles are not revolutionary and most stakeholders would probably sign up to them. Unfortunately the proposed regulatory model with the transition period deviates from several of the above principles.

THE NEW EX-ANTE REGULATORY MODEL IN SWEDEN

The original ex-ante regulatory model covered most of the above principles. It had e.g. reasonable incentives for investments, structural rationalizations, quality and a balanced obstruction function to hinder monopoly profits. It wasn't perfect but it was a good base for a model that could have become a good functional model for all stakeholders

following only minor adjustments.

In short, the newly developed ex-ante model consists of three parts; influential costs with efficiency requirements, non-influential costs and the regulatory capital base (RAB).

The capital base was unlike other electricity distribution regulatory models structured around value retention with real annuity. This means that re-investments do not influence the capital base. In order to justify a value retention structure and promote re-investments a quality regulation was set up, see figure 1. [2]

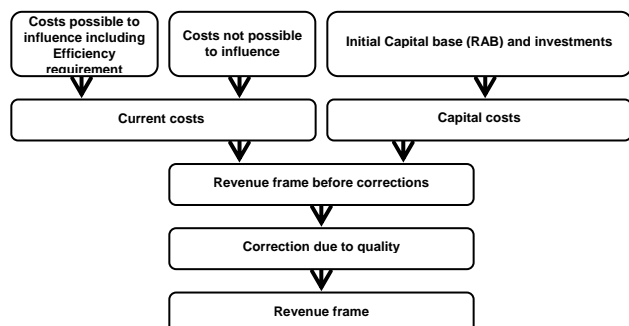


Figure 1. The structure of the new Swedish ex-ante model.

The setback came when the Swedish Regulator announced the alterations to the original ex-ante model with the 16-year transition period. The alteration implies that at least three of the most important cornerstones in a regulatory model were removed due to the alteration of the prerequisites in the regulation, being robust, long-term and predictable.

The DSO's appealed the Regulator's decision in the Swedish Administrative Court on the grounds that the decision to impose a transition period among other things was in violation to the Swedish Electricity Act. The DSO's also questioned several fundamental issues in the transition period. The following fundamental issues were questioned by the DSO's;

- *New investments*; the DSO's would not get full return on their capital base when investing. New investments would only give one-third return on the capital base, which meant that the Regulator had reduced the incentives for new investments. This in an industry that plays an essential role in the future societal energy conversion, an industry in great need of investment to be able to take on that responsibility. [3]
- *Up-stream network cost*; the DSO's were not allowed to fully pass on all up-stream network costs to their customers. According to the transition period the DSO's needed to carry some of the non-influential costs that the TSO put on the DSO's, without coverage. [3]

The Regulator later altered their position on these two issues in their answer to the Swedish Administrative Court on the appeal. New investments and up-stream network

costs were changed to an acceptable solution with full reimbursement of new investments and up-stream network costs. The indexation was changed to the positive. Unfortunately the new indexation places a greater uncertainty on the risk level on the DSO's.

Three essential questions were still left on the table to be solved after the Regulators response to the Administrative Court; re-investments, historical base and cost of capital.

- *Re-investments* were given a lower cost of capital than the agreed interest. The chosen value retention structure of the capital base is dependent on a balanced cost of capital and a strong quality regulation in order to work. The transition period is missing this crucial element. There are not enough incentives to re-invest in the network today. [3]
- *Historical base for the network cost structure*; A historical base for the network cost structure was imposed in order to derive the frame for the DSO's cost structure in the model. Unfortunately there is a principle issue with the historical base used (2006 to 2009). The period 2006 to 2009 is comprised of two different regulatory models. The Network Performance Assessment Model that was in place from 2003 to 2007 and the Intermediate Regulation. The Network Performance Assessment Model gave no room for price increases, which meant that the majority of DSO's did not increase their tariffs during that time. A few DSO's challenged the model and increased their network prices. These companies benefitted from the historical period 2006 to 2009. In principle, this should be considered as wrong. [3] A model that favours the DSO's that historically violated the regulatory model is not a good starting point for a new model. Ultimately this is sending a signal that it might be beneficial to violate the Regulator and the set model. This contradicts our view that a regulatory model should be robust. The Regulator ought to avoid such a situation.
- *The cost of capital (WACC)*; the DSO's argue that the cost of capital is too low. Determining the cost of capital is by no means an exact science. It is impossible to set an exact value. Various studies give different outcomes. Other similar industries in Sweden such as district heating, the regulated gas industry and the fixed fibre telecommunication network industry have a higher cost of capital than the 5,2% imposed on the electricity distribution industry. It can be argued that there is a higher risk in electricity distribution than the above named industries. Historically the cost of capital for DSO's has been about 6,5 % in Sweden. The risk level today could hardly be viewed as lower with the on-going energy conversion in society. The

current cost of capital seems, from this perspective, to be too low. [3]

Besides the fundamental issues in the appeal there is one more crucial issue missing in the proposed transition period in order to build the basis for a robust, long-term, predictable, stable and objective regulatory model. That is a strong quality regulation. This is especially important when the capital base, as in Sweden, is determined by a value retention structure on the real annuity.

A quality regulation was included in the original ex-ante model [2]. The strength of the quality regulation could already be questioned in the original developed model and was diminished to an insignificant aspect in the decided transition period. The quality aspect was downsized to give one third of the impact of the original developed model.

Quality in the sense of secure supply is a central part of the core product/offering in the electricity distribution industry. Societal acceptance of the industry could be jeopardized if questions regarding quality arise again. It is of crucial importance that a long-term sustainable model has a strong quality regulation attached to it.

It can be further noted that the Swedish Electricity Act states that the regulation should be built on two cornerstones;

- There should be a quality aspect that influences the given revenue frame for each DSO.
- The revenue frame should cover reasonable costs to run the network business during a supervisory period and give a reasonable return on the assets that are needed in the network business. [1]

DSO's argue that these cornerstones are missing due to the introduced transition period of 16 years.

DISCUSSION

Most of the concerned stakeholders would most likely agree on the fundamental principles presented in this paper. None of the principles should be seen as controversial. They could even be viewed as quite basic and rudimentary principles for an informed person. All stakeholders would most likely also agree that a regulatory model should be robust, long-term, predictable, stable and objective. The difficulty with most regulations is the objective aspect of the regulation. All stakeholders regardless of whether they are politicians, NGOs, DSOs, the public etc. will always try to influence the regulation and its status in society. The Regulator's most important role is to be the independent organisation that is objective and is able to stand up against all kind of pressure and distinguish the objective and sensible solution for the industry, customers and society as a whole.

At the moment, several of the fundamental principles that Vattenfall Eldistribution believes should be covered in a regulatory model are missing in the proposed transition period. There are not e.g. sufficient incentives for *structural*

rationalizations, promotion of energy efficient usage, R&D and technical development and the return is too low. There is a long-term approach in the sense that the Regulator has more or less decided the model for the next 16 years. This is not our view of a long-term approach. A long-term approach needs to be sustainable and applicable. This model is neither sustainable nor applicable in the sense that it does not give the incentives that are needed in today's and tomorrow's energy landscape.

The two principles, quality and providing a reasonable return for the owners, that can be inferred from the Swedish Electricity Act, are missing in the proposed transition period. Without these two principles there is a risk that society in the long run loses its already tarnished trust for the industry and that the attractiveness from an owner and investors perspective diminishes. This could have severe consequences on the industry and ultimately society. The industry needs to be viewed as attractive and competitive in comparison to other industries to be able to attract investors and future investments.

CONCLUSION

Vattenfall Eldistribution believes that the current Regulatory model with a transition period to 2027 is of disadvantage to the DSO's and ultimately the users of our services. The Swedish electricity distribution industry is, due to the imposed transition model, far from reaching a sustainable model that is in line with the presented principles. The fundamental issues regarding re-investments, historical base, indexation, cost of capital and not least the quality aspect needs to be solved. It is of great importance that a solution is reached due to the industries important role in the overall societal infrastructure. A role that will most likely become even more important during the coming years. As already stated it is essential that the electricity distribution industry operates within a robust, long-term, predictable, stable and objective regulatory model.

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