

NVE — State Power System:

**BASIS OF IDEAS — OBJECTIVES —
TASKS — STRATEGIES**

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STRATEGIC PLAN
for
The Directorate of the State Power System
in the Norwegian Water Resources and Electricity Board,
here called the State Power System

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1. BASIS OF IDEAS

- The basis of ideas and the *raison d'être* of the State Power System emanate from the Parliament's wish to have a direct influence on the planning, construction, operation, coordination and price development of electric power, through an official, operative body within the power supply.
- The State Power System shall within the framework of the authorities' regulations contribute to the construction and operation of transmission and production plants of electric power, and aim at an optimal power supply. The development and fixing of prices shall be carried into effect in accordance with the criteria of economic life in the society. The construction and operation shall be carried out at the lowest possible total costs, however always in consideration of quality, security and sound principles of business economics.
- The State Power System shall with their mains facilitate the transmission of power within the country, and be in charge of the power exchange with other countries.
- The State Power System shall on the basis of their extensive technical know-how and as an executive body for the authorities provide service and aid to other power-companies and support Norwegian research and industry by undertaking commissions, exchanging know-how and other measures of cooperation.
- The State Power System shall in cooperation with other Norwegian interests make their expertise available to developing countries.

2. OBJECTIVES AND TASKS

- The State Power System shall take part in the planning of the power development of the country.
- On the basis of the authorities' regulations and plans the State Power System shall supervise the planning, construction and operation of hydro-electric plants and thermal power plants, including all nuclear power plants and the primary transmission system.
- The State Power System shall provide electric power on a wholesale basis according to the most expedient methods with regard for costs, security in deliveries, work environment and other factors.
- The State Power System shall sell/purchase electric power on a wholesale level to/from other power companies and large industrial establishments. In this respect, it is important to keep the prices of electric power in accordance with the established energy policy.
- The State Power System shall be in charge of all export and import of electric power, unless otherwise decided or acknowledged by Parliament.
- The State Power System shall maintain a sufficiently comprehensive technical expertise to be able to carry out the assigned and expected tasks. This implies a continuous development of the administrative and technical expertise, of the work environment and of the personnel policy.
- The State Power System shall contribute to an active personnel policy that will give satisfaction at work, a good esprit-de-corps and productivity.
- The State Power System shall to a large extent cooperate with industry and research institutes.
- The State Power System shall inform as much as necessary about their activities and plans.
- The special expertise of the State Power System shall be at the disposal of the national power supply and the Norwegian industry and research.
- The State Power System shall participate in the work of protecting Norwegian interests in the international cooperation concerning electricity supply.

3. STRATEGY TOWARDS AUTHORITIES, GOVERNMENT AND SOCIETY

- 3.1 We must focus on the entire *Norwegian society* and consider it our employer who assigns us our tasks. Within the framework of our qualifications and our authority, service must pervade all levels of our organization. Our monopoly and/or our dominating position accentuate the necessity of bearing this in mind.
Our actions and decisions should aim at benefitting the society as a whole. Service rendered to some people must not entail special advantages at the expense of our company or others. Society will gain in that we,- in the official debate and by taking care of our company's interests — point out what in our opinion is correct on the basis of our technical knowledge.
- 3.2 We shall endeavour to cooperate with *the local community* to a reasonable and rational extent. Our establishments will often bring about new problems and unaccustomed situations for communities, villages and individuals. We shall help them as much as possible, and amongst others see to that the measures we carry into effect are combined with regional interests.
However, this should not involve substantial costs for the company beyond full compensation for damages and inconveniences.
- 3.3 We shall in our relation to *superior authorities*, i.e. the Main Board, the ministries and the government, strive for cooperation, mutual confidence and trust. This is necessary in order to be granted the delegation and responsibility which is essential to us in fulfilling our task. The primary basis for trust rests in professional strength and good work results.
- 3.4 Similarly, we must gain confidence and professional respect from *controlling authorities*,* i.e. taxation authorities, civil defence, labour inspection, concession authorities etc. and at the same time point out the interests of the electricity supply.
- 3.5 Together with *service-rendering authorities*, i.e. the Norwegian State Railways, the Directorate of Roads, the Norwegian Geodetic Survey, bodies for all types of community planning etc. we must work for an optimal result, having in view the ulterior interests of society. The know-how and qualifications of the various authorities should be exploited and overlapping avoided.
- 3.6 With respect to our relation with *international authorities*, we shall support our superior authorities in taking care of Norwegian interests as far as possible within the prevailing regulations and philosophy.

* *The concession authorities regulate the right to use natural resources (e.g. lakes, waterfalls etc.)*

Forms of cooperation

In all our cooperation with others we shall as much as possible seek simple, unbureaucratic forms of cooperation. This applies to superior as well as coordinated official authorities. We must work for an extensive delegation at all levels and endeavour to eliminate all superfluous sections in the handling of a case and in the contact with legislative authorities. We shall run an objective and active information service through mass media, and towards authorities and organization of business life in order to increase the understanding and interest for our work.

4. STRATEGY FOR PERSONNEL POLICY, ORGANIZATION AND ADMINISTRATION

- 4.1 Our activity is based and dependent on a high level of knowledge in many fields, i.e. technics, economics, administration and law. The qualifications of our personnel is of a decisive importance to the result of our work. We shall aim at a personnel with a high level of technical knowledge, who enjoy their work, who have a high work moral and who show interest and respect for our activities.
- 4.2 We wish to encourage our employees towards extra skills and efforts by creating a favourable work climate, and by a policy of wage remuneration and promotion. Thus, our work in this field shall consist of providing adequate possibilities for such stimulus.
- 4.3 We shall strive for respect and loyalty among the employees at all levels within our department, in other bodies affiliated to or independent of our department, within the employees' trade union and among officers and other representatives. We must work for a good esprit de corps. Each individual shall appreciate his position in the system and the necessity of his contribution to the final result.
- 4.4 Employees at all levels shall be given tasks, responsibilities and authority according to their qualifications, and have the opportunity, through their work, to personal and professional development.
- 4.5 The management is of major importance to the work climate and the work result. We shall concentrate our efforts on establishing a qualified leadership.
- 4.6 The safety and health of the employees will be taken care of through systematic health and protection measures. We shall, through welfare measures, contribute to prosperity, health and solidarity.
- 4.7 The results and utility of each individual's work contribution will to a large extent depend on how we organize our total activity. We shall establish an organizational structure with clear relations of responsibility and authority, which respects the natural fields of competence and which furthers simple work procedures. The organizatio-

nal structure should not be permanent, but adaptable at any time to the various tasks and needs. We shall establish work groups and managements of projects independently of the line organizations when this is possible.

- 4.8 We shall attempt to delegate on a large scale decisions, responsibilities and tasks to sub-departments, offices, established groups and individuals. The delegation should be effected within certain criteria for efficient and proper handling of a case.

5. FINANCIAL STRATEGY

- 5.1 Our activities must comply with the social criteria for appropriate exploitation of resources. When undertaking new investments, we shall thus pay regard to the long-range marginal costs and the calculated rate of return and adjust them in accordance with these criteria.
- 5.2 Even though the ulterior social objective may in certain cases be an impediment to pure business criteria, we shall emphasize the importance of solving the tasks at lowest possible costs. In line with this policy we shall extend our objectives for efficiency and develop a consciousness for quality and cost at all levels within our department.
- 5.3 When the authorities assign us tasks that clearly will not satisfy the requirements for a reasonable economic return, we shall intensify the control on the financial effects of the State Power System.
- 5.4 The exchange of power with foreign countries should aim at providing a maximal economic return for the society.

6. STRATEGY FOR NEW TECHNOLOGIES

Our main products are:

- 6.1 Electric effect and energy.

Our central services are:

- 6.2 Transmission and delivery of electric power to central places throughout the country, and transformation down to a medium voltage level (45kV — 132kV) at the same places.
- 6.3 Overall-planning of the hydro-electric establishments, thermal power stations and primary transmission system.
- 6.4 Engage in alternative and new methods of producing electricity on a larger scale.
- 6.5 Construction technical, electro-technical, thermo-technical and machine technical planning and projection, and in some of these disciplines also the detail projection of the above mentioned plants (cf. 6.3).
- 6.6 Project management with special competence at performing tasks concerning power development.

- 6.7 Construction technical operation of plants.
- 6.8 Planning as well as technical maintenance and operation of the above mentioned plants.
- 6.9 Disposing of electric power.

7. STRATEGY FOR PLANNING AND DEVELOPMENT

- 7.1 We will have the responsibility for the planning and construction of the national primary transmission system and for the line connections with abroad. Setting up power mains and locating sub-stations is an ever-increasing problem. We shall concentrate upon working out long-range plans in order to facilitate an incorporation in the regional and development plans of the counties and municipalities.
- 7.2 Hydro power will still be the basis for new production plants of electric power. It is of major importance that the remaining part of hydro power,- which is economically exploitable and which is permitted developed,- is submitted to planning and development with the object of a maximal benefit for the entire present and future power production system. The advantages of hydro power in coordination with thermal power stations must be taken care of. Thus, our main task will be an overall-planning of all major remaining hydro power systems. In this respect we will disregard who owns what. The projects can then either be carried into effect as purely State owned power plants, or alternatively, several interested parties can go together on a project. If we are to plan and construct plants where there are several owners, we shall work to obtain the exclusive responsibility for planning, construction, operation and maintenance.
- 7.3 It is estimated that after 1985—90 the hydro power development will be reduced compared to the level of 1960—80. Still, it will represent a considerable activity after 1990, in terms of reconstruction work, supplementary work and maintenance of existing plants. Thus, the hydro power expertise must and will be maintained.
- 7.4 Thermal power will progressively bring about a shift in our activity towards new spheres of technics. It is realistic to expect thermal power stations to be operating in the 1980's. As regards the development of nuclear power, if any, we count on the exclusive responsibility.
In our projection and planning we will proceed carefully by choosing the solutions that are well known and tested as much as possible. We will consider the possibility of also constructing this type of power plants excavated in rock underground.
- 7.5 If, from an economic point of view, the North Sea gas can be turned to account in the production of electric power, we will engage in a study of the possibilities for such a utilization of gas, and be prepa-

red to have the responsibility for any construction of gas-fired power plants.

- 7.6 We must follow closely, and give active support to the development of any new types of power plants.

8. STRATEGY FOR THE OPERATION OF POWER PLANTS AND TRANSMISSION SYSTEMS.

- 8.1 Normally, we shall ourselves manage the operation, maintenance and administration of the State power supply establishments. This does not apply, however, in our cooperation with local power supply, if we thus can obtain a rationalization on the whole. On the basis of this principle, we shall undertake to solve tasks of a similar nature for others.
- 8.2 When we organize the operational tasks, we shall seek to satisfy the requirements in operation reliability and efficiency by concentrating authority and responsibility into those bodies that are best qualified to solve the tasks. This implies that the supervision and the coupling authorities of the primary transmission system will as far as possible be directly under our management and control.
- 8.3 In order to fulfill the requirements of lowest possible working expenses combined with adequate security in deliveries, we shall aim at:
- a high operating reliability through preventive maintenance, facilities for emergency reparations, operation planning and application of modern system technique.
 - satisfactory personell security through coherent management procedures, explicit instructions and other security measures.
 - teaching and training the operation personell in consistency with the requirements in operation and personell security.
 - adapting the acumulated operation experience for inter alia being used as basis in the development of new establishments.

9. STRATEGY FOR «PRODUCING OURSELVES OR PURCHASING»

- 9.1 In consideration of the quality requirements and the importance of maintaining our competence in central fields, we shall seek to solve our tasks at lowest possible costs. In this respect, it is important to undertake running estimations of the tasks, and thus decide if we best can solve the tasks on our own account (considering time, quality, costs), or whether to have recourse to other official authorities, i.e. power supply organizations, institutes, consultants and contractors.

- 9.2 We shall concentrate our activity into central fields with a high standard of difficulty, however not in specialised fields which can be covered equally well by others. We shall ourselves direct the realization of simple projects, and run efficient control on quality, costs and construction schedules. We shall seek to exploit the advantages of continuous operation on a large scale.
- 9.3 Permanent electro-technical and machine technical equipment to all types of power supply establishments is delivered ready mounted from the industry. When installing power mains, we erect ourselves the towers, lines etc.
- 9.4 We shall aim at maintaining as far as possible a steady employment situation, and avoid building up our force at times of high-pressure in our work.
- 9.5 Now and then we shall leave tasks to others that we normally would have undertaken ourselves. This is to have control on our own judgement of our competitiveness.
- 9.6 It may occur that we are instructed to undertake certain tasks on our own account having regard to social employment. If these are not in line with our strategies as stated above, we shall point out the extra costs they involve when presenting the budgets.
- 9.7 Operation of the power supply establishments that are completed, cf. section 8.1 under «Strategy for operation».

10. STRATEGY FOR SERVICES ON THE POWER MARKET

- 10.1 We are whole-sale suppliers of electric power to general delivery and big industry. The demand in general delivery has priority. Superior authorities decide who should be given priority to long-range contracts among the larger industrial establishments.
We shall, in understanding with the Directorate of Electricity, contribute to an expedient administrative development of the electricity supply, by reorganizing our domestic circle of customers into larger units.
- 10.2 We shall purchase firm power, energy and/or effect and canalize it through the State Power System, in so far as such a canalization is socially rational, regard being had to business principles. The power we thus purchase should have a durability and security that clearly discriminates it from occasional power.
- 10.3 On the basis of our own current power values, calculated according to short-range marginal costs, we shall actively take part in the open market for purchase and sale of occasional power.
- 10.4 Through our production planning we shall contribute to an optimal exploitation of the total production and delivery capacity of the country. We will endeavour to establish appropriate agreements on the coordination of production planning with other companies and bodies.

- 10.5 We shall control all import and export of electric power. This involves that we conduce to an expansion of our own as well as other power companies' production possibilities and delivery capacities. A continuous cooperation with the countries involved in the exchange of power is the pre-condition for jointly taking care of the technical and economic problems of the connected electricity network.
- 10.6 we want to work out in cooperation with the takers expedient regulations for the transmission of foreign power on the State transmission system. The regulations are to be framed in consideration of an appropriate cost level of the transmission tariffs, and with the object of an optimal exploitation of the total productive machinery of the country.
- 10.7 When the situation is especially suited for utilizing special expertise or exploiting idle resources, the market for our construction activity will be the public sector. Construction expertise in specialised fields should also be offered power organizations in other countries.
- 10.8 Our carrying trade of heavy goods, which is specialised in the transport of heavy power production equipment, is intended for the market of the Northern countries and the North Sea countries. The Norwegian Electricity supply should, however, have priority.
- 10.9 Our expertise and our experience material should be made available to others, especially to the developing countries.

11. STRATEGY FOR TECHNOLOGICAL DEVELOPMENT

- 11.1 On account of our central position in the power supply, we should feel a special responsibility to promote the technological development. This involves the technical expertise as well as the development of new methods and improved materiel.
- 11.2 The technological expertise shall be developed in connection with:
- overall-planning of the primary transmission system and of the hydro and thermal power projects.
 - electro-technical planning with focus on the planning and construction of operation centres and guidance systems for all types of power supply establishments, and which will be provided with modern automatics, remote control and process control computers.
 - planning of transmission plants with focus on projection techniques and materiel technology as well as construction methods, transport and installation of power mains.
 - construction technical details projection of hydro power, and to a reasonable extent also of thermal power.
 - construction activities with focus on developing the technique of removing large rocks and masses.

- the technical and economic operation as well as administration of operations and methods for optimal exploitation of the technical installations and the power production.
 - the utilization of computers and other modern facilities in all our fields of activity.
- 11.3 Our possibility to undertake projects with a certain risk ratio shall be turned to account through initiatives of cooperation with other companies and organizations, research institutes and industry, in order to develop new methods and improved materiel. Research and development contracts should be used, inter alia, to develop competitive Norwegian industry. Our wide experience in operation and construction shall serve to benefit these development works.