

SOME FACTS ON SERVICES OF GENERAL INTEREST IN SWEDEN WITH FOCUS ON WASTE MANAGEMENT, WATER SUPPLY AND SANITATION AND SOCIAL SERVICES

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1. GENERAL ASPECTS

Introduction

Sweden is one of the world's northernmost countries, on about the same latitude as Alaska and North Siberia. One tenth of Sweden is north of the Arctic Circle. The distance from north to south is nearly 1 600 km and the maximum distance in an eastwest direction is 500 km. The total area of the country is 450 000 square km, which makes China approximately 18 times larger than Sweden. Less than 10 % is farmland and the majority is forested. Sweden is mostly rather flat apart from the mountains in the north-west, which reach heights of up to 2 000 metres.

The climate is mild in spite of the location. For Stockholm the average temperature is 18°C in July and only just below freezing in January and February. These figures are valid for the southern third of the country where most people live. The northern part is characterised by considerably colder winters.

Sweden has a population of 9 million. Northern Sweden is thinly populated with some few exceptions for certain coastal areas. The highest population density is found in a belt extending from Stockholm on the east coast to Gothenburg on the west coast and to the southernmost parts of the country. About 83 % of the population lives in towns with more than 5 000 inhabitants. Including its suburbs, the capital Stockholm has about 1.5, Gothenburg 0.7 and Malmö 0.5 million inhabitants.

Sweden has a constitutional monarchy with a parliamentary form of government. The parliament consists of one chamber and the members are elected every fourth year. In 1995, Sweden became a member of the European Union.

Local self-government a basic principle

The administration in Sweden has three levels. At the central level there is the Parliament and the Government and the various Ministries. At the regional level there are 21 county councils in charge of health and care services and of local transportation and as many County Administration under the State with administrative control and coordinating functions. At the local level there are 290 municipalities. The median size of a municipality is only 16 000 inhabitants. The largest, Stockholm, has more than 780 000 inhabitants and the smallest, Bjurholm, less than 3 000.

Over the past 50 years, responsibility for several major public services such as social care and elementary schools has been shifted from the state to municipalities. Municipalities are also responsible for planning, construction and operation of the facilities for water and wastewater and for waste management and planning.

Local authorities enjoy a strong status in society due to their extended area of operations.

The principle of local self-government, one of the fundamental principles of the Swedish democratic system, forms the basis of activities undertaken by local government. This means that the inhabitants of each municipality and county council elect their political representatives to a

municipal or county assembly every four years in direct elections. In this way, inhabitants can influence how municipalities and county councils fulfil their mandate.

Local self-government includes the right to levy taxes and the responsibility for organising activities so as to meet the needs of citizens. Local self-government gives added value in the form of efficiency, a holistic approach and proximity.

The local authorities have three main sources of revenue: local income tax, income from services and state grants. The right to levy taxes is a precondition for local authority independence. The fact that local income tax and income from services account for two thirds of municipal revenue means that local authorities retain broad control over the nature of their activities. In 1998 the revenue from state grants amounted to 18 % of the total municipal income and taxes for 56 %. Income from services amounted to 12 %.

The total expenditure of the municipalities was SEK 320 billion in 1998. The money was allocated mainly for Social services (35 %) and Education (28 %). Out of a total of 753 000 employees (almost 20 % of the total working population in Sweden) 58% worked in these fields.

National legal frame on organisation models for municipal services

In 1992, the Swedish Parliament took a decision that in principle entailed allowing the services provided by municipalities and county councils to be run by entrepreneurs under contract, apart from those activities involving the exercise of public authority. Municipalities and county councils are therefore free to decide the forms in which municipal and county council services may be organised. Services can thus be delivered:

- by municipalities themselves
- by municipal companies
- by providers that have been procured under contract
- by cooperative companies, private individuals and associations.

The national agencies in charge of social services supervise their provision on behalf of the Government. This supervision, which takes place at both national and regional levels, consists in monitoring and evaluating service provision as such, considering individual cases and seeing to it that the rights of the individual are complied with.

2. WATER SUPPLY AND SANITATION IN SWEDEN

Water resources

Sweden is rich in water so that water supply does not constitute any major problem. However, the quality of raw water varies and thus the level of treatment needed. Industry and farming uses about three times as much water as the municipal sector. Reasons for saving water may instead be to minimize the flows to treatment plants thus optimizing the running and minimizing the costs for pumping and chemicals.

Responsibility at local level for water supply and sanitation

Water supply and sanitation including the management of storm water is the task of the local

government or municipality. The municipality owns the facilities and is also responsible for running them. There is a long tradition in connection with this management. Each municipality determines the fees for these commodities.

Two thirds of utilities cover their costs by means of the fees. Smaller municipalities may subsidise by means of local tax. Altogether 99% of the costs of capital and running are covered by fees[1]. The remaining 1 % is put on the local authority, i.e. municipal tax. This means that the business of water supply and wastewater management can be regarded as self-reliant.

All customers who want to be connected to water and wastewater services must pay a connection fee, the size of which is decided by each local authority. Rates normally incorporate two components: a basic price per year and a current price per cubic metre of water consumed. To facilitate a fair fee, practically all consumers have water meters.

In 1998 252 municipalities supplied water and sanitation as a unit within the municipality, whereas 39 were running water supply and sanitation as a municipally owned company. Eight utilities were organised in inter-municipal companies co-operating over municipal borders but still owned by the participating municipalities and finally 7 had a management contract with a nongovernmental company.

All these utilities are run by approximately 6 000 persons. Of these, 2 000 are technicians at water works and waste water treatment plants, 2 000 work on pipe networks and the rest in the offices. During the last decade, all organizations in this sector have experienced extensive rationalization and cuts in the workforce employed.

Water supply

Sweden has slightly over 2000 publicly owned water works. The total length of the water mains is 67 000 km which means 8.8 meters per connected person. These figures do not include the private house connections.

Drinking water is classified as food and thus the water works are run like a food production unit. It is possible to produce a good quality drinking water from surface water as well as from groundwater. Groundwater has several advantages compared to surface water due to lower temperature and smaller contents of unwanted organic substances and bacteria. The groundwater resources are not enough to supply the whole country. The trend is to try to implement artificial infiltration and thus gain the advantages of groundwater and at the same time minimize the use of chemicals in water production.

Drinking water quality is the responsibility of the Ministry of Agriculture with the National Food Administration as the central supervising agency. On a local level the municipal committee for environment and health exerts the supervision.

The Ministry of the Environment is responsible for water protection. The supervision is provided by the Environmental Protection Agency on a central level, the county administration on a regional level and the municipal committee for environment and health on the local level.

Sewage treatment

Sweden has just over 2000 publicly owned sewage treatment plants. All the 7.7 million people living in urban areas are connected to a sewage plant. The total length of the sewers amounts to 92 000 km, of which 32 000 consists of stormwater sewers. This gives an average of 12 metres per connected person.

Today, plants with biological/chemical and nitrogen removal serve 36% of the connected

population, biological/chemical plants serve 58% and biological only or chemical only plants serve the remaining population. This investment in building plants has led to a decrease in pollution load on the receiving water. Sweden may have the most far-reaching effluent standards in the world for treated wastewater.

The effluent from municipal wastewater treatment plants is subject to the licensing rules as expressed in the new Environmental Code. Other major legislation within the field is the Health Act, the Public Water and Wastewater Plant Act, and the Food Act.

The County Administrative Board issues permits for most plants, and for the smallest plants the municipal environment and health committee may give its approval. Permits for the discharge of treated sewage are granted by the Environmental Courts for the largest plants.[2]

Trends and developments

Organizational developments

A trend had newly developed towards management contracts with private service providers. Most of these contracts are for small municipalities and the contract periods are short, typically three plus three years. The question of delegated management has been the subject of intensive discussion in Sweden. However, the needs in water supply and sanitation in the country are considered well covered by the present management forms. The concepts proposed, especially by foreign organisations, have so far not been attractive enough.

The latest reports indicate that some 44 of the 290 municipalities now work according to a on a so-called client – contractor concept within the municipal administration, which usually is a first step in opening services for competition. In the future there will probably be a large variety of solutions for the water and wastewater services. Many local systems with interface to the central system may be developed from the research that is now in progress.

Technical trends

- New methods for biological treatment are being tested and may well be a major issue in the future, thereby minimising the use of chemicals.
- New methods, such as the separation of urine, may well have a future in new developments and in suburbs undergoing reconstruction.
- Today a large number of water pipes in houses are made of copper. This causes release of copper that is harmful to the user as well as to the sludge.
- The general goal is to reuse contents of nutrients, especially phosphorus.
- Use IT-solutions in all possible applications. Plants and networks may then be run in a coordinated way.

3. WASTE MANAGEMENT IN SWEDEN

In autumn 2005 the Swedish parliament adopted a new strategy for sustainable waste management stating the overall targets for the environmental aspect of waste management. The ultimate goal is to be able to hand over to the next generation a society in which the major environmental problems have been solved.

New statistics on household waste and treatment methods show that Swedish household waste management can be seen a successful. A great degree of commitment from citizens, property owners, producers, entrepreneurs, and local authorities has led to the achievement that more than 95

per cent of household waste is now recycled as energy, material, or nutrients. Within a few years it is estimated that only one or two per cent will go to landfill.

Quantities of waste 2005

In 2005 the quantity of household waste produced per inhabitant and per year amounted to 480 kg. These quantities include household waste and comparable waste including bulky waste, garden waste, hazardous waste, and comparable waste from shops, offices, industries, and restaurants.

Data on waste from trade and industry are unfortunately more difficult to collect and report.

Waste separation, collection and transport

In Sweden waste management is under the responsibility of three categories of players:

- **Municipalities**, legally responsible for household waste according to the Swedish Environmental Code. Municipalities are responsible for hazardous waste in household waste. This responsibility comprises collection, transport, and treatment.

- **Producers**, legally responsible for their respective product groups: waste paper, packages (cardboard, plastic, glass and metal), waste from electrical and electronic equipment and car tires. Through modifications of the European legislation on producer responsibility for waste from electric equipment producer responsibility has been extended to new kinds of products, including refrigerators and freezers. Producers have also been given an economic responsibility for the households' historical electrical waste. Collection of waste electrical and electronic equipment continues to rise. The degree of recovery is reckoned to be 80 per cent.

- **Other waste holders**, in practice industry/business, when the responsibility for waste does not rest with the other two. Every company is under a legal obligation to ensure that hazardous waste arising from its operations is handled correctly by checking that those who transport and receive waste have permits to do so.

Collection of household waste is mostly provided fortnightly from single-family houses and weekly from multi-family buildings. There is growing interest in mobile and stationary vacuum systems in collection work.

The most common collection system for single-family houses is two separate bins, one for biowaste and one for other waste. Today 110 out of 290 municipalities allow their inhabitants to separate their food waste for central treatment.

Systems of recycling stations for packaging and newspaper cover the whole country. Collection systems are developed in consultation between producers and local authorities. At the stations there are containers for paper and different packaging materials.

Municipal recycling centers

The amount of waste brought to the municipal recycling centers continues to rise, as does the number of visitors. These centers have increased in number, so that there are about 700 today. More

is expected of them also, with demands for better manning and longer opening hours. The majority of household hazardous waste and waste electrical and electronic equipment is left here. Small businesses have discovered the service that is provided and have been able to bring their waste if they pay a fee. The amounts going to the recycling centers increased in 2005, as in the year before, by about 10 per cent, corresponding to over 100 kg per inhabitant.

Hazardous waste

On average, each person in Sweden handed in 2.9 kg of hazardous waste in 2005. This includes car batteries and small batteries. Hazardous waste accounted for 0.6 per cent of household waste in 2005.

Households are responsible for separating their hazardous waste from other waste. Most local authorities have had this obligation inscribed in the municipal waste regulation ordinance for a long time.

Local authorities are responsible for collection of and information about small batteries. All batteries have in particular to be collected and sorted. Discarded batteries can be placed in special containers at recycling centres, recycling stations, hazardous waste collection points, and also in some shops that sell batteries.

Methods for waste management

In their work with waste management the local authorities aim to work efficiently and to minimize damage to the environment. A number of stakeholders take part in this work –including households and producers.

The most important methods for handling waste are the following:

- **Material recycling** of packages, waste paper and cardboard, scrap metal, and electronic waste gives lower environmental impact and saves energy and material resources. This fraction is increasing every year. The recovery from waste from electrical and electronic equipment has increased, corresponding in 2005 to 14 kg per person
- **Biological treatment** extracts nutrients and biogas from food and garden waste, which brings major environmental gains. Biogas is an environment-friendly and a renewable fuel which can be used in vehicles, for heating, and to generate electricity. The digestion process also yields a product, digestate, which is an excellent fertilizer. The market for biogas as vehicle fuel has developed vigorously in recent years. If all the biogas produced at Swedish sites for waste digestion was used as vehicle fuel, it could replace about 18 million liters of petrol. About 10 per cent of household waste is treated biologically.
- **Incineration plants with energy retrieving** handle more than 50 per cent of household waste. A total of 11.1 TWh of energy was generated by incineration in 2005. The energy consists of 10.2 TWh heat and 0.9 TWh electricity. Well-developed district heating systems give Sweden a unique situation compared with many other countries in Europe. The heat from waste incineration covers about 20 per cent of the total need for district central heating in Sweden (corresponding each year to the heating needs of about 600,000 apartments and electricity for over 100,000 households).

Incineration also takes place in other plants which do not use household waste.

Some of the plants store waste for a time during the year, often through baling. The waste can then be incinerated during the cold part of the year.

Waste incineration plants have been modified to comply with a new directive for all waste incineration plants in the EU, which came into force at the end of 2005. The legislation entails tighter rules for emissions to water and air. Toxic emissions of dioxin have decreased radically since the problem was detected in the mid-1980s. The most part of bottom ash from incineration is deposited in landfills, but can also be used as a substitute for natural gravel in the construction of roads. The flue gas residue is classified as hazardous waste and deposited in safe forms, in some cases after some kind of stabilization.

- **Landfills** are needed for waste that cannot or should not be recycled or treated in any other way. The amount of landfilled household waste has fallen sharply, in line with the ambitions. Landfilled household waste in 2005 is below 5 per cent. Neither separated combustible nor organic waste may be landfilled now. There is currently a shortage of capacity for treatment of waste that cannot be landfilled. A certain quantity of waste is therefore stored while awaiting treatment. The primary intention is to incinerate this waste.

In 2005, landfill gas was recovered at about 60 active sites. In addition there are about ten plants at now closed landfill sites. It is estimated that a total 340 GWh is recovered, of which 20 GWh is used as electrical energy, the rest for heating. Apart from this, gas equivalent to about 70 GWh was flared. Flaring does not yield any energy, but it does reduce the emission of hazardous substances.

Around 90 per cent of landfill is deposited at sites with some form of leachate collection and for the most part treated in municipal sewage treatment plants.

Organization and financing of waste management in Sweden

Household waste is to a large extent treated by the local authorities' own treatment facilities.

60 per cent of waste transports are contracted to private providers. Slightly more than half of the population of Sweden has their waste collected by private contractors. Waste from industry is not often transported by the local authorities (less than ten per cent).

Producer's responsibility is contracted out to a certain extent to local authorities who provide incineration, dismantling of electronic waste, collection of packages, etc. on commission from the producers. Waste recycling is however for the most part provided for by private companies.

Municipal costs for the collection and treatment of household waste are covered by users' fees. Those fees are established in advanced through a municipal decision and calculated as even covering municipal costs for the running of recycling centers (see above under 2.2). Fees should according to the principle of "self-cost" not exceed the municipal costs for waste management. In case the operational management has wholly or partly been contracted out to private companies, municipal costs are based on their remuneration, which of course normally includes a profit-margin.

Waste from electrical and electronic equipment

Since producer responsibility was introduced in 2001, a system called Elretur was devised by RVF, the Swedish Association of Local Authorities, and the electrical producers' company El-Kretsen AB. This collaboration means that the local authorities have assumed responsibility for handling all collection from households, while the producers look after all the treatment.

WEEE from households is collected at about 650 recycling centres all over Sweden. This is the most common form of collection for this waste.

The waste is mostly dismantled manually by a certified company and then sent on for final treatment or recycling. There are roughly 20 private and municipal electronic dismantling companies in Sweden.

Other waste than household waste

Forty per cent of industrial waste is subject to material recycling and roughly as much is incinerated. There are about 140 landfill sites owned by manufacturing industries. Industry itself is responsible for taking care of waste that is not household waste and in certain cases has its own landfills and potential to recover energy from the waste. More than 90 per cent of the collection of industrial waste is done by private contractors.

Certain local authorities allow small and medium-sized businesses to take their waste to recycling centres for a fee.

Trends and developments

The last few years have seen great changes in the care of hazardous waste. New treatment methods have been developed for material recycling from hazardous waste by separating hazardous substances and recycling the remainder. New technology and legislation are expected to further reduce the amount of hazardous waste and increase the share that can be used for material recycling. Incineration and landfill are still the most frequently used methods.

4. SOCIAL SERVICES IN SWEDEN

Responsibility for social services at local and regional level

The 21 county councils are responsible for providing:

- health and medical care to those living in their areas
- forensic mental care, which is provided following court decisions
- compulsory mental care
- dental services.

Local and regional authorities (i.e. municipalities and county councils) have many mandatory tasks in the social field:

- Child-care

- Education: municipalities are responsible for compulsory school for children, adult education, most of upper secondary schooling and Swedish for Immigrants.
- Elderly care: both social measures and health and medical care except treatment by doctors. i.e. extensive home-help services and medical care at home
- Assistance to those who are not otherwise able to support themselves. According to national legislation, social assistance has to provide a reasonable standard of living, which can take the form of financial assistance or material support of various kinds.
- Homes with 24-hour for people requiring extensive personal care, supervision and medical treatment: health care and treatment, care and supervision of children, young people or adults (children and young people in need of special care and treatment and adults, primarily people with substance misuse problems or mental disabilities)
- Health
- Adult day-care activities, short-stay care, emergency alarms, etc.

The majority of municipalities have on a voluntary basis undertaken to receive refugees and asylum-seekers under contracts with the Swedish Integration Board in return for special compensation from the Government.

Organisation of social services

The main national legal frame for organisation of social services is described under 1.3.

Where compulsory services are concerned, freedom of manoeuvre for municipal policies depends on the frameworks stipulated by legislation, which can vary from area to area. While in some areas, municipalities may almost be regarded as the executors of central government tasks, in others there is greater freedom.

Most elderly care is delivered by the municipality itself (70 %). Alternative forms of operation, including the purchase of places, cooperatives and customer choice systems, comprise 9 % of municipalities' total costs for elderly care.

As is the case with child-care, parents/children can choose between municipal and private schools. Education is free in both cases since municipalities pay. In some cases, municipalities can also procure educational services.

Financing of social services and the principle of local self-government

Municipal and county councils fund their social services by tax revenues, primarily through their own tax rates or central government funding. Tax revenue consists of various types of taxes; income tax, tax on capital, wealth tax, corporate tax, real estate tax, etc. However, local government tax is solely based on the income of the inhabitants (as opposed to state taxes).

The scope of local autonomy largely depends on the way in which municipalities and county councils obtain their revenue. Maximum autonomy is achieved via tax revenue that is derived from an independent local government tax rate, where municipalities and county councils can decide on the tax rate themselves.

Regarding child-care for the children of parents who are gainfully employed or studying, municipalities are responsible for the major proportion of the costs, with parents paying a small percentage as charges. In many municipalities, it is possible for parents to choose between municipal or private pre-schools as the providers of child-care. In both cases, municipalities are responsible for financing. In some municipalities, contractors are procured to run municipal pre-

schools.

As seen above, municipalities and county councils can decide that they will deliver social services and health and medical care themselves or through contracts with private actors. Providing that the provisions of contracts are complied with, municipalities and county councils should still be considered the responsible authorities, even if services are delivered by a private supplier. Explicit support in law is however required for municipalities and county councils to transfer an administrative function that involves the exercise of public authority to a private supplier.

The principle of social services of general interest being governed democratically and financed based on the principle of solidarity, has a long tradition and strong popular support. Joint financing based on solidarity is a guarantee for ensuring that all Sweden's inhabitants have equal access to services of a high standard on equal terms.

Quality aspects

Good procurement skills are a vital factor when procuring services in health and medical care and the social services. Developing procurement skills and building up systems for follow-up, etc. will therefore become increasingly important as more services are procured.

It can generally be said that open auditing of the results, quality and safety of health and social services is extremely important in all health and social care services, irrespective of the form of management. Better follow-up of services is needed to ensure that individual citizens benefit from the diversity of services. Transparent auditing of the quality and safety of health care and the social services must therefore be undertaken. It is important that the growing competition between providers in the field of health and social services does not take place solely on the basis of financial considerations, but is primarily based on comparisons of quality.

It is particularly important for the individual user to be able to compare the quality and content of the services offered.

Future developments and elements of market mechanisms – experiences

Social services

One development in municipal health and social services has involved increasing user choice. Some municipalities have introduced customer choice/care provider contracts in services for the elderly. The system is based on municipalities setting goals, prices and standards for their activities, and entering into agreements with several care providers. Care users or their close families are then able to select the care provider that they think offers the best care.

Several different organisations operate not-for-profit health care and social services. These include various voluntary organisations, NGOs, cooperatives and popular movements. Staff or user cooperatives are most common within services for the elderly. Some voluntary organisations also run home-help services that supplement those provided by municipalities. User cooperatives are primarily found in rural areas, and there are some 30 cooperatively-run homes for the elderly in this country.

There is, in many respects, a lack of knowledge about the consequences of opening up elderly care services to competition. It is therefore not possible to draw any clear-cut conclusions on whether privately managed elderly care services are of a higher standard and cheaper than services run by the municipalities themselves.

According to a report of the National Board of Health and Welfare's report^[3] there is no

significant difference in users' experiences of the quality of privately managed elderly care compared with those of elderly care run by municipalities. Factors other than the actual provider determine what users think about services – such as continuity, the way in which people are treated and their opportunities to influence the content and manner in which services are provided. Negative quality factors include, for example, changes in management.

Nor is it possible, given the information available in this area, to substantiate any claim that opening up the market has led to lower costs in elderly care services.

Homes for health care and treatment, care and supervision of children and young people in need of special care and treatment and adults, primarily people with substance misuse problems or mental disabilities are another of the social services that are characterised by alternative forms of management. It is very common for homes for care and residence to be run by a company, an association, a foundation or a private individual. Instead of providing health care and treatment themselves, municipalities enter into agreements with one or several private homes for care and residence, where people needing care and treatment can be placed. One third of the treatment units for drug misusers are thus managed and owned by private companies or organisations^[4].

Health and medical care

In Sweden, services in the areas of health and medical care are mainly publicly funded. Some of these services are contracted out. Despite this, experience to date on the different forms of ownership, on the greater involvement of the private sector in health and medical care and particularly on the consequences for the health system as a whole is limited.

Experience, including supervision studies undertaken by the National Board of Health and Welfare, shows that differences in the quality of these services cannot be linked to the form of ownership and management. Thus, in health care services, the type of organisation has not determined the content and quality of these services. More important factors have been the way in which the work is managed and organised, opportunities for specialisation, skills development for staff and low staff turnover.

There is, however, a risk that long-term investment in research and development is weakened in a health care system based on short-term contracts that do not clearly define this R&D role. It is therefore important to take research and development issues into account when transferring operations between different types of care providers. It is also important to clarify who is to pay the costs of higher education in the field of health care and to be responsible for long-term staff supply in the transition to a system with different types of ownership.

Account should also be taken of emergency preparedness in health and medical care services when contracts are entered into between a county council and an entrepreneur who is to take over responsibility for management of hospital-based health and medical care.

Another observation of the National Board of Health and Welfare is that current procurement procedures, with short contract periods and frequent changes in care providers lead to poorer cooperation between care providers. Lack of cooperation may endanger patient safety. There is also a conflict between the objectives of the Health and Medical Services Act for good health and for the whole population to have access to good care services on equal terms, and the contract periods decided when procuring under the Public Procurement Act. Short contract periods involve the risk that the ability of care providers to provide good care on a continuous basis is impaired, which puts the fundamental objectives of the Health and Medical Services Act at risk.

[1] Costs for municipal water services are subject to the principle of cost-justified fees, which entails

that in principle no profits can be achieved by the municipality in the long-run. Swedish law does not either allow a municipality to invest profits made through water supply and sanitation into other public utilities such as libraries or child-care.

[2] A Supreme Environmental Court deals with appeals

[3] “Konkurrensutsättningen inom äldreomsorgen” (Marketisation of elderly care)

[4] (National Board of Health and Welfare report “Insatser och klienter i behandlingsenheter inom missbrukarvården den 1 april 2003” (Measures and clients in treatment units in the care of substance misusers, 1 April 2003)

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