

2003



Teollisuuden Voima Oy
Annual Report

Annual Report 2003

Teollisuuden Voima Oy





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TVO in brief



Teollisuuden Voima Oy (TVO) produces electricity for its shareholders at cost price. The electricity is generated at the Olkiluoto nuclear power plant in Eurajoki and at the Meri-Pori coal-fired power plant. TVO has decided to invest in the construction of an additional unit at Olkiluoto, a pressurized-water plant of 1,600 MW.

Business concept and vision

TVO's business concept is the construction of nuclear power plants and generation of electricity for its owners safely, reliably, economically and with minimal environmental impact. TVO's vision is to be a world-class nuclear power company that is appreciated by Finnish society.

The main function of TVO is to ensure the safe, economical, and environmentally sound generation of electricity at the Olkiluoto nuclear power plant units. The goal is to keep the units up to date and in good condition, to build the additional nuclear power plant unit so that the generation of electricity is safe, economical and environmentally sound, and to enhance the competence of personnel.

Group structure

TVO is part of the PVO Group, whose Parent Company is Pohjolan Voima Oy. The subgroup of Teollisuuden Voima Oy includes the parent company Teollisuuden Voima Oy and the subsidiaries Posiva Oy and TVO Nuclear Services Oy (TVONS) and Olkiluodon Vesi Oy and Perusvoima Oy. Polartest Oy is an important affiliated company.

The business concept of Posiva Oy is to dispose of spent nuclear fuel from the Olkiluoto and Loviisa nuclear power plants. TVO has a 60 per cent holding in Posiva Oy.

The business concept of TVONS is to sell TVO's nuclear power expertise as a consultancy service. The business idea of Olkiluodon Vesi Oy is to ensure the supply of raw water to the Olkiluoto power plant units. Perusvoima Oy had no operations. The companies in question are fully owned by TVO.

Shareholder companies

Company shareholders and holdings December 31, 2003

	Holding, %		
	A series	B series ^{*)}	C series
Etelä-Pohjanmaan Voima Oy	6.5	6.5	6.5
Fortum Power and Heat Oy	26.6	25.0	26.6
Graninge Energia Oy	0.1	0.1	0.1
Kemira Oyj	1.9	1.9	1.9
Oy Mankala Ab	8.1	8.1	8.1
Pohjolan Voima Oy	56.8	56.8	56.8
Outokumpu Oyj		1.3	
Rautaruukki Oyj		0.3	
	100.0	100.0	100.0

^{*)} subscription agreement and undertaking December 5, 2003.

Administrative bodies

TVO's Board of Directors has a minimum of seven (7) and a maximum of ten (10) members.

The term of office of a member of the Board of Directors commences at the termination of the meeting of shareholders that made the election and ends at the termination of the meeting of shareholders making a new election.

The Board of Directors elects a Chairman and Deputy Chairman from among its members.

The Board of Directors convenes when summoned by the Chairman or, if the Chairman is prevented from doing so, by the Deputy Chairman.

The Company's Annual General Meeting and the Organization Meeting of the Supervisory Board were held on April 28, 2003. Extraordinary meetings were held on November 7 and December 5, 2003.

A meeting of shareholders decided on December 5, 2003 to change the Articles of Association so that the Company no longer has a Supervisory Board.



The Supervisory Board

Appointed at the Annual General Meeting on April 28, 2003. The Supervisory Board was abolished through an amendment to the Articles of Association made by an extraordinary meeting of the Company on December 5, 2003.



Etelä-Pohjanmaan Voima Oy

- Kaj Skåtar, Attorney
Deputy member Mikko Pukkinen, Mayor,
City of Seinäjoki

Fortum Power and Heat Oy

- Mikael Lilius, CEO, Fortum Oy
Deputy member Pekka Leskelä, Vice President,
Corporate Planning, Fortum Oy
- Juha Laaksonen, CFO, Fortum Oy
Deputy member Seppo Viitanen, Group Treasurer,
CFO, Fortum Oy

Graninge Energia Oy

- Matti Laukkanen, Managing Director
Deputy member Gunnar Larsson, Director,
Graninge Kraft AB

Kemira Oyj

- Tauno Pihlava, CEO
Deputy member Jukka Liimatainen, Vice President,
Energy

Oy Mankala Ab

- Martin Meinander, Ph.D
Deputy member Suvi Rihtniemi, M.Sc. (Eng.),
City of Helsinki

Pohjolan Voima Oy

- Heikki Sara, Senior Vice President, UPM-Kymmene Oyj
Deputy member Tapani Sointu, Vice President,
UPM-Kymmene Oyj
- Pekka Laaksonen, Senior Vice President,
Stora Enso Oyj
Deputy member Hannu Karppinen, Senior Vice
President, Stora Enso Publication Papers Oy Ltd
- Erkki Varis, Managing Director, Oy Metsä-Botnia Ab
Deputy member Esko Partio, Vice President, Energy,
M-real Oyj
- Tapio Ahola, Director of Technical Development,
Myllykoski Paper Oy
Deputy member Juhani Paananen, Managing Director,
Kokkolan Energia

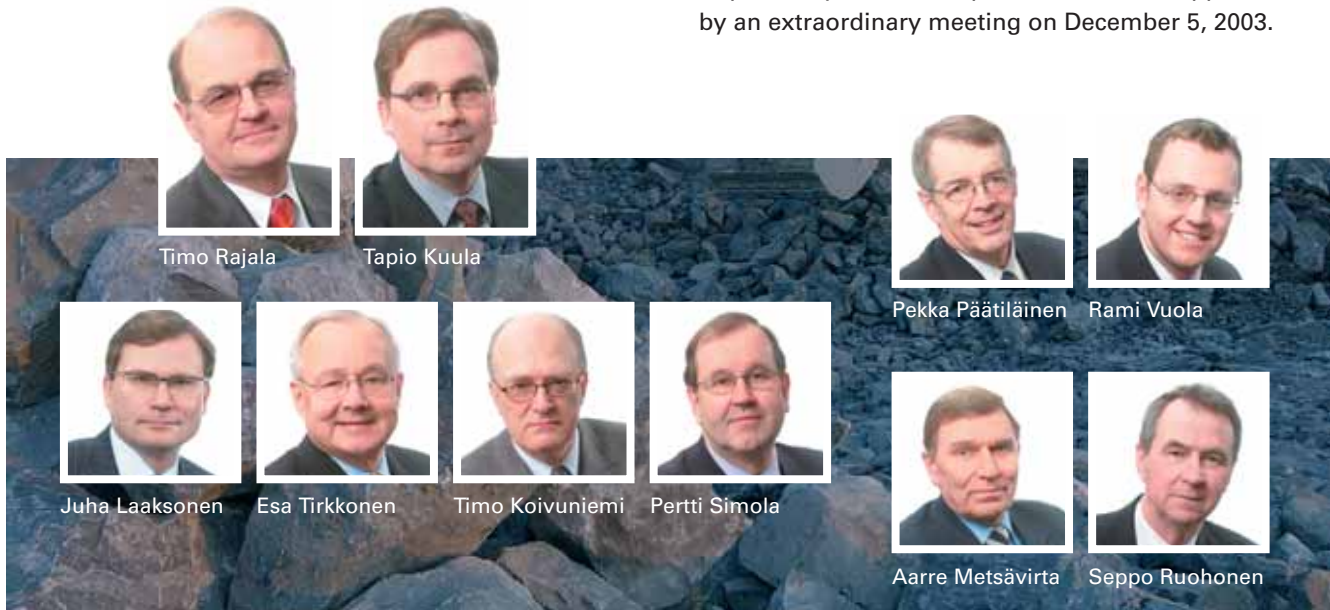
Chairman: Mikael Lilius

Deputy Chairman: Heikki Sara

Secretary: Risto Siilos, General Counsel, TVO

Board of Directors

Appointed at the Organization Meeting of the Supervisory Board on April 28, 2003 and supplemented by an extraordinary meeting on December 5, 2003.



Etelä-Pohjanmaan Voima Oy

Petri Heinonen, Managing Director,
April 28, 2003 – September 1, 2003
Hannu Linna, Managing Director, Vaasan Sähkö Oy,
September 1, 2003 – December 5, 2003
Rami Vuola, Managing Director,
from December 5, 2003

Fortum Power and Heat Oy

Tapio Kuula, President
Juha Laaksonen, CFO, Fortum Oyj,
from December 5, 2003
Pekka Päättiläinen, President, Generation,
from December 5, 2003

Oy Mankala Ab

Seppo Ruuhonen, Managing Director

Pohjolan Voima Oy

Timo Rajala, President and CEO
Timo Koivuniemi, Senior Vice President, Energy,
Stora Enso Oyj
Aarre Metsävirta, Senior Executive Vice President,
M-real Oyj
Pertti Simola, Vice President,
UPM-Kymmene Corporation
Esa Tirkkonen, Senior Vice President, CFO,
Kemira Oyj

Chairman: Timo Rajala

Deputy Chairman: Tapio Kuula

Secretary: Risto Siilos, General Counsel, TVO



Committees established by the Board of Directors

Appointed at the Organization Meeting of the Board of Directors on May 9, 2003

Operations Committee

Etelä-Pohjanmaan Voima Oy

Timo Mäki, Energy Supply Manager

Fortum Power and Heat Oy

Jussi Helske, Vice President, Generation Nuclear

Oy Mankala Ab

Pekka Manninen, Director, Production Department, Helsinki Energy

Pohjolan Voima Oy

Arto Tuominen, Senior Corporate Advisor
Seppo Leppänen, Manager, Energy Economy, Stora Enso Oyj

Jukka Liimatainen, Vice President, Energy, Kemira Oyj
Esko Partio, Vice President, Energy, M-real Oyj
Seppo Vatanen, Manager, Corporate Development, UPM-Kymmene Oyj

Chairman: Pekka Manninen

Deputy Chairman: Esko Partio

Expert: Reijo Sundell, Senior Vice President, Operation, TVO

Secretary: Jaakko Tuomisto, Manager of Energy Management, TVO

Finance Committee

Fortum Power and Heat Oy

Juha Laaksonen, Senior Vice President, CFO, Fortum Oyj
Seppo Viitanen, Senior Vice President, CFO, Fortum Oyj, from January 28, 2004

Oy Mankala Ab

Seppo Ruohonen, Managing Director, Pohjolan Voima Oy

Pohjolan Voima Oy

Timo Väisänen, Senior Vice President, Group Treasurer
Juha Forsius, Vice President, Group Treasurer, UPM-Kymmene Oyj

Veli-Jussi Potka, Managing Director, Stora Enso Packaging Oyj, *deputy* Hannu Kasurinen, Senior Vice President, Stora Enso Financial Services

Ritva Sipilä, Senior Vice President, Group Treasurer, Kemira Oyj

Chairman: Juha Forsius

Deputy Chairman: Juha Laaksonen

Experts: Mauno Paavola, President and CEO, TVO
Klaus Luotonen, Senior Vice President, Finance, TVO

Secretary: Lauri Piekkari, Senior Vice President, Finance, TVO

The Finance Committee is also the finance committee for the Olkiluoto 3 Project.

The Economics Committee Assisting the President and CEO

Fortum Power and Heat Oy

Päivi Lehtinen, Business Controller

Pohjolan Voima Oy

Minna Korkeaoja, Executive Vice President, Group Controller

Chairman: Mauno Paavola, President and CEO, TVO

Expert: Klaus Luotonen, Executive Vice President, Finance, TVO

Secretary: Lasse Bergström, Controller, TVO

In addition, three committees have been set up for the Olkiluoto 3 project: a Construction Committee operating under TVO's Board of Directors, and a Planning Committee and an Operation and Transmission Committee operating under the Construction Committee.

Construction Committee

Fortum Power and Heat Oy

Pekka Päättiläinen, Vice President, Generation

Pohjolan Voima Oy

Timo Rajala, President and CEO
Heikki Peltola, Senior Vice President, Investment
Coordination and Technology Development,
UPM-Kymmene Oyj

Teollisuuden Voima Oy

Mauno Paavola, President and CEO
Martin Landtman, Senior Vice President, Project

Chairman: Timo Rajala
Deputy Chairman: Mauno Paavola
Secretary: Martin Landtman

Operation and transmission committee

Etelä-Pohjanmaan Voima Oy

Petri Heinonen, Managing Director,
until September 1, 2003
Rami Vuola, Managing Director,
from December 11, 2003

Fortum Power and Heat Oy

Timo Karttinen, Vice President, Portfolio
Management and Trading

Pohjolan Voima Oy

Risto Vesala, Managing Director
Esko Partio, Vice President, Energy, M-real Oyj
Timo Koivuniemi, Senior Vice President, Energy,
Stora Enso Oyj

Teollisuuden Voima Oy

Rauno Mokka, Executive Vice President, Production
Jaakko Tuomisto, Manager of Energy Management

Chairman: Rauno Mokka
Secretary: Jaakko Tuomisto

Planning Committee

Fortum Power and Heat Oy

Jussi Helske, Vice President, Generation Nuclear

Teollisuuden Voima Oy

Ami Rastas, Executive Vice President, Engineering

In addition, at least four other experts in the nuclear
field, Finnish or foreign, to be appointed at a later date.

Chairman: Ami Rastas

Management Group

President and CEO

Mauno Paavola, M.Sc. (Eng.)

Members

Rauno Mokka, Executive Vice President, Production
Ami Rastas, Executive Vice President, Engineering
Martin Landtman, Senior Vice President, Project
Klaus Luotonen, Executive Vice President, Finance
Risto Siilos, General Counsel
Reijo Sundell, Senior Vice President, Operation

Employee representatives

Representative: Antti Syyrakki, Group Leader
Deputy representative: Kari Halminen, Facility
Maintenance

Secretary: Tellervo Taipale, Manager, Public Information

Auditors

Auditors

Eero Suomela, Authorized Public Accountant
PricewaterhouseCoopers Oy, Authorized Public
Accountants, Pekka Nikula, Authorized Public
Accountant, principal responsibility

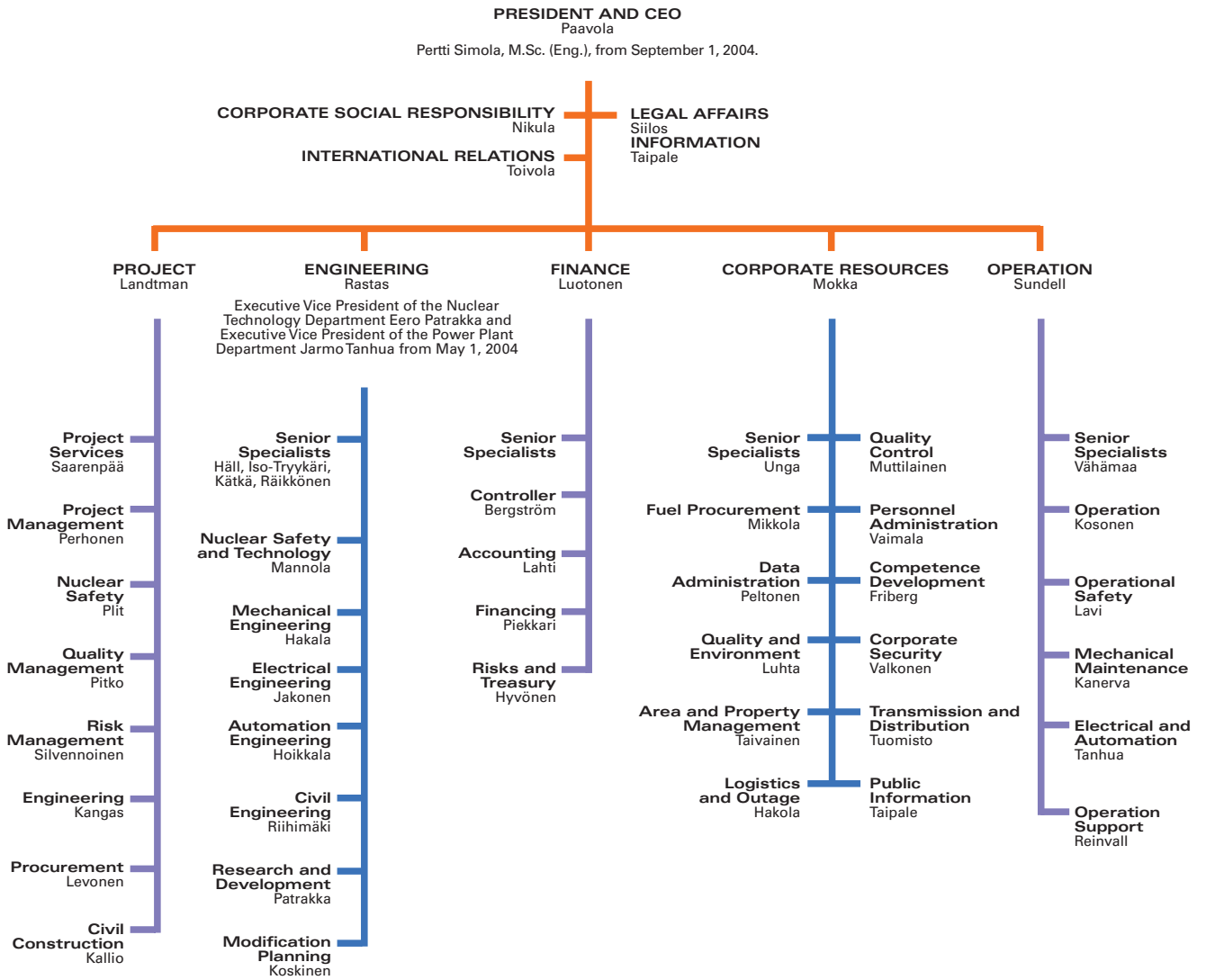
Deputy auditors

Juha Wahlroos, Authorized Public Accountant
Pekka Kaasalainen, Authorized Public Accountant



Organization

Organizational chart as at January 1, 2004:



TVO in figures 1999-2003

	2003	2002	2001	2000	1999
SALES (GWh)					
OL1	7,118	6,989	7,155	7,035	7,103
OL2	7,018	7,099	6,980	7,020	7,083
MERI-PORI	1,545	835	956	1,357	913
TOTAL	15,681	14,923	15,091	15,412	15,099
CAPACITY FACTORS (%)					
OL1	97.0	95.3	97.6	95.7	96.9
OL2	95.5	96.6	95.1	95.5	96.6
TVO's share of the total electricity supply in Finland (%)	18.5	17.8	18.5	19.5	19.3
INCOME STATEMENT (M)					
Turnover	223	218	219	229	228
Other sales	5	4	2	2	1
Fuel costs	63	56	56	57	53
Personnel costs	36	31	30	28	26
Depreciations	51	49	49	50	50
Contribution to the Finnish State Nuclear Waste Management Fund	11	12	10	9	15
Other expenses	71	61	60	57	54
Profit/loss from operations	-4	13	16	30	31
Financial income and expenses	9	11	14	17	19
Profit/loss before appropriations and taxes	-13	2	2	13	12
Change in depreciations difference	-13	2	2	13	12
Profit/loss for the year	0	0	0	0	0
BALANCE SHEET, ASSETS (M)					
Non-current assets	547	568	579	612	641
Long-term loan receivables	553	524	496	468	440
Inventories	154	161	180	182	177
Receivables and cash at bank and in hand	92	82	64	61	66
TOTAL	1,346	1,335	1,319	1,323	1,324
BALANCE SHEET, LIABILITIES AND SHAREHOLDERS' EQUITY (M)					
Shareholders' equity	148	131	131	131	131
Cumulative depreciation difference	344	357	355	353	340
Liabilities					
Long-term	193	186	179	241	296
Finnish State Nuclear Waste Management Fund	549	520	492	467	440
Short-term	112	141	162	131	117
TOTAL	1,346	1,335	1,319	1,323	1,324
Investment in fixed assets (M)					
OL1 + OL2	29.9	37.2	16.1	20.6	19.7
Meri-Pori	0.1	0.8	0.1	0.1	0.3
TOTAL	30.0	38.0	16.2	20.7	20.0
Long-term loans (M)	236.2	269.4	270.8	308.8	349.4
Equity ratio (%)	61.8	59.9	58.8	56.6	53.4
Assets in Finnish State Nuclear Waste Management Fund (M)	763.8	732.2	693.2	656.2	623.3
Personnel (average)	513	486	479	480	482

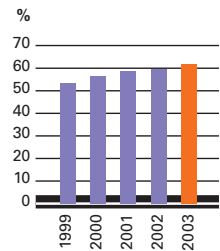
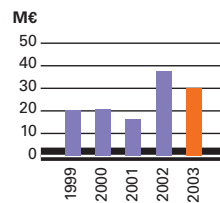
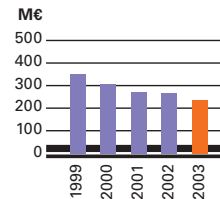
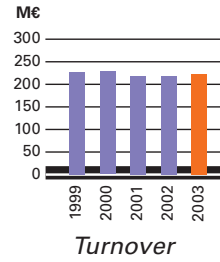
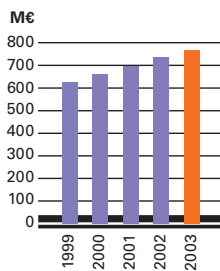
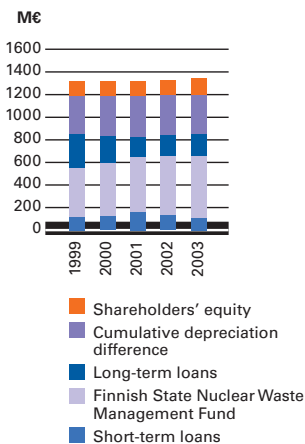
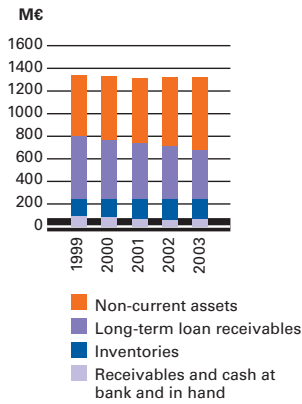
Calculation formulas

Long-term loans = balance sheet long-term loans + annual repayments – loan from the Finnish State Nuclear Waste Management Fund

Equity ratio % = 100 x $\frac{\text{shareholders' equity} + \text{cumulative depreciation difference}}{\text{balance sheet total} - \text{loan from the Finnish State Nuclear Waste Management Fund}}$



TVÖ in figures 1999-2003





Review by the President and CEO



The year under review, 2003, was an important one for TVO's operations. TVO's present nuclear power plant units generated the second-largest amount of electricity in Olkiluoto's 25-year history safely and economically. The project for an additional unit to be built at Olkiluoto proceeded as planned, and the final decision to invest in it was made in December 2003.

Events on the Nordic electricity market strengthened the necessity for constructing an additional unit. Finland's electricity consumption increased more quickly than was expected. The hydropower situation remained worse than average in the Nordic countries. There are no major projects to construct electricity-generation capacity under way. These factors have led to a situation where the scope for importing electricity from other Nordic countries has been minimal, the price of market electricity is higher than previously and almost all the production capacity based on fossil-fuels has been in use at times in Finland. The volume of carbon dioxide emissions has gone up, so the significance of additional nuclear power in reducing emissions to the level required by the Kyoto Protocol is greater than before.

TVO's objective is to guarantee the existing plant units' generation capacity far into the future by constantly keeping the plant as good as new. In the year under review TVO invested EUR 30 million in the existing plant units and decided to modernize the turbine plant between 2005 and 2006.

In addition to the usage and development of the present production units, TVO invested heavily in preparations for the project to build additional nuclear power. Offers for the delivery of the plant were received in the spring of 2003 and a contract was signed with a French-German consortium on December 18, 2003. The choice of supplier was made on the grounds indicated in the invitation to

tender. There were two excellent alternatives for the plant site, Olkiluoto at Eurajoki and Hästholmen in Loviisa, with the final choice favouring Olkiluoto.

The total cost for expanding the nuclear power plant at Olkiluoto by one additional unit in present-day monetary terms is estimated at some EUR 3 billion. Production costs, using the same calculation principles as with the present plant units, are expected to be lower than was estimated at the time of the application for the Decision in Principle.

With the decision to build the Olkiluoto 3 unit, TVO's Articles of Association were altered and updated. The company's operating principle as a producer company remains unchanged, but the formation of three share series is a very important change: the A series grants entitlement to the supply of electricity generated by the present nuclear power plant units; the B series to the supply from the additional Olkiluoto 3 unit; and the C series to the supply generated by the TVO holding in the Meri-Pori coal-fired power plant. The change will allow different ownership relationships in the share series. Rules concerning the Supervisory Board were abolished.

The fact that the reservations for power from the additional unit considerably exceeded the amount of power distributable shows how much the project is needed.

TVO has continued to invest in training the personnel and developing the activity based management systems. The focal points in training during the year under review were strengthening the culture of safety and supervisory activities. The importance of both will increase with the project and both will continue to be developed.

Set output targets were achieved during 2003, including output at the Meri-Pori coal-fired plant, where a solution was found to the technical problems that caused disruptions at the beginning of the year. When the



Review by the President and CEO



Meri-Pori output is included, TVO achieved the highest volume of electricity output in its history, 15.7 TWh.

The company's finances are in good shape. Loan instalments were repaid according to plan. The funds collected for the State Nuclear Waste Management Fund fully cover the costs of nuclear waste management for the existing plant units.

The development of the Company's operating methods, organization and personnel will continue. A self-assessment and improvement programme of the safety culture was initiated in 2003 in line with a procedure developed by the International Atomic Energy Agency (IAEA). Company-level policies based on the Company's values and business concept were revamped during the year under review and approved in February 2004.

The utilization of nuclear know-how will be continued not only in the Olkiluoto 3 building project but also in the operations of TVO Nuclear Services Oy, a subsidiary of TVO.

Prospects for the new year are good. The Company's production activities are expected to continue in the previous manner. The only pressure on production costs is coming from fuel and, in fact, these will be alleviated by the strengthening of the euro against the dollar. The rise in the price of uranium concentrate will also be alleviated by the fact that the supply of nuclear fuel has been assured by long-term contracts for years to come.

The Olkiluoto 3 project will start full-scale during 2004. The application for a construction license was submitted to the Government on January 8, 2004. The excavation work was begun in February 2004. It will be possible to start the actual construction work once the construction permit has been granted, which should be in the spring of 2005.

The year under review was in many ways an interesting year in the Company's history. I am retiring at the end of year 2004, and I would like to extend my warmest thanks to the Company's owners, and the representatives of the administrative bodies, staff members and all the other stakeholders affected by the Company's activities for their excellent and rewarding cooperation. I wish Teollisuuden Voima Oy and my successor, Pertti Simola, all the best in the years to come.

Mauno Paavola



Company operations



TVO and society

Operations guided by values

All the Company's operations and decision-making are guided by its values i.e. responsibility, pre-emptive thinking, openness and continuous improvement. The Company operates according to the principles of sustainable development, taking into account financial, ecological and social responsibility in its operations. TVO's personnel policy is based on motivated and competent personnel who handle their duties responsibly and are committed to observing agreed operating methods.

Uninterrupted production part of social responsibility

TVO's business concept is the construction of nuclear power plants and generation of electricity safely, reliably, economically and with minimal detrimental effects on the environment. Uninterrupted production at the Olkiluoto nuclear power plant has been an important part of the procurement of electricity needed by Finns for a quarter of a century.



Company operations



In recent years about a half of Olkiluoto's electricity has been used for industrial purposes and the other half for general consumption. The new nuclear power plant unit will be producing electricity in the same way. The worse-than-average hydropower situation that continued in the Nordic countries in 2003 underlined the necessity for base power such as nuclear power. Interest in sharing the electricity from the new unit is widespread, and reservations for power exceeded the capacity of the new unit.

Environment-friendly production

Right from the outset of operations a great deal of interest has been shown in environmental questions associated with nuclear power. In the initial stages of production the debate centred on emissions into the environment and their effects. In a quarter of a century of operations at Olkiluoto these emissions have been very low and they are falling all the time.

There has also been interest in the management of nuclear waste, particularly in the technical solutions and method of implementing the final disposal of spent fuel. A detailed report on this can be found in the annual report of Posiva Oy, a subsidiary of TVO.

The low level of hydropower that continued in the Nordic countries last year increased the production of coal-fired condensing power, and carbon dioxide emissions in Finland reached record levels. In 2002 Finland emitted 63 million tonnes of carbon dioxide,

and in 2003 the figure was even higher. Under the Kyoto Protocol and the EU's burden-sharing Finland should restore its greenhouse emissions to the 1990 level, when emissions of the most important greenhouse gas, i.e. carbon dioxide, were 54 million tonnes. Once it is completed, the new nuclear power plant unit will cut carbon dioxide emissions in Finland by some 12 million tonnes compared with a similar amount of electricity being generated by coal-fired plants. It would be difficult to make this reduction cost effectively by other measures.

Operations during the year under review were in accord with the Company's environmental policy and the permits granted to the Company. There was not one infringement of an environmental permit and radioactive emissions were a fraction of the permitted limits. Of the seven environmental targets set for 2003, six were achieved.

Well-being in the surrounding area

TVO's operations bring well-being to the Satakunta region. TVO is the biggest employer in Eurajoki: in 2003 it employed 524 people directly. Of TVO's personnel, about 58 % live in Rauma, 22 % in Eurajoki, 5 % in Pori and 15 % elsewhere. Subcontracts and annual outages provide employment for about 1,000 people, a total of some 120 person-years. The real estate taxes paid by the Company amounted to EUR 2.9 million.

Nuclear power production

Production and annual outages

In 2003, the production at the Olkiluoto power plant was 14,154 GWh, that is 17 per cent of the electricity consumed in Finland.

Apart from one exception, Olkiluoto 1 ran without interruption. A repair to a seal in the service hatch of the steam line caused a break of a few hours in electricity production. The plant unit produced 7,127 GWh of electricity and reached a capacity factor of 97.0 per cent.

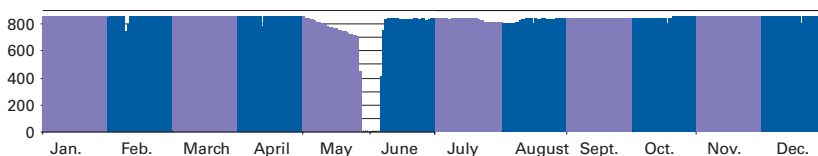
Olkiluoto 2 took advantage of the reduced need for electricity in late June by balancing the turbine and repairing one leaking valve in the turbine. Production was interrupted for 19 hours. Otherwise the unit operated faultlessly and produced 7,027 GWh of electricity and had a capacity factor of 95.5 per cent.

The average capacity factor for the Olkiluoto plant units was 96.3 per cent.

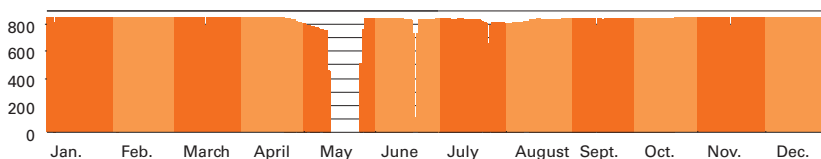
Annual outages for 2003 were conducted in May and June in accordance with the new annual maintenance rhythm. The outages start with a longer-lasting maintenance outage and continue with a refuelling outage in one of the plant units. This year it was the turn of Olkiluoto 2 for a maintenance outage, which lasted 14.5 days. The most important work included inspections of the nozzles in the reactor pressure vessel, replacing one low-pressure preheater and changing the operator's console in the reactor. Correspondingly it was Olkiluoto 1's turn for a refuelling outage, which lasted 9.5 days. Inspections and maintenance work were carried out at the same time.

Annual outages accounted for about 117 person-years. The biggest number of contractor employees on any one day was 800. The total cost of annual outages was around EUR 15 million. On the basis of inspections made during the outages the useful life of the plant units can still be considered to be the planned 60 years.

Olkiluoto 1, production 2003 (MW).



Olkiluoto 2, production 2003 (MW).



Key figures of the Olkiluoto power plant in 2002 and 2003.

	OL1		OL2		Total	
	2002	2003	2002	2003	2002	2003
Production, GWh	6998	7127	7108	7027	14106	14154
Capacity factor, %	95.3	97.0	96.6	95.5	96.0	96.3
Annual outage, days	13	10	7	14	20	24



Company operations

Nuclear fuel

The market price of uranium rose considerably during the past year, but so far it has not had an effect on TVO's nuclear fuel costs.

Contracts for fuel deliveries have been secured for several years ahead.

Nuclear fuel procurement during the period under review amounted to EUR 34.7 million (EUR 36.5 million in 2002) and burn-up costs totalled EUR 41.6 million (EUR 42.6 million).

Stocks of nuclear fuel and uranium on December 31, 2003 were valued at EUR 139.8 million (EUR 146.7 million at the end of 2002), of which the fuel in the reactors was valued at EUR 68.4 million (EUR 71.1 million).

Investments

During the year under review investments totalled EUR 30.0 million (EUR 38.0 million). The biggest investment costs were for replacing the reactors' feed-water distributors and the high-pressure turbines and the intermediate superheaters. During the year under review modernization of the turbine plants in both plant units was started. This investment will be carried out between 2003 and 2006.

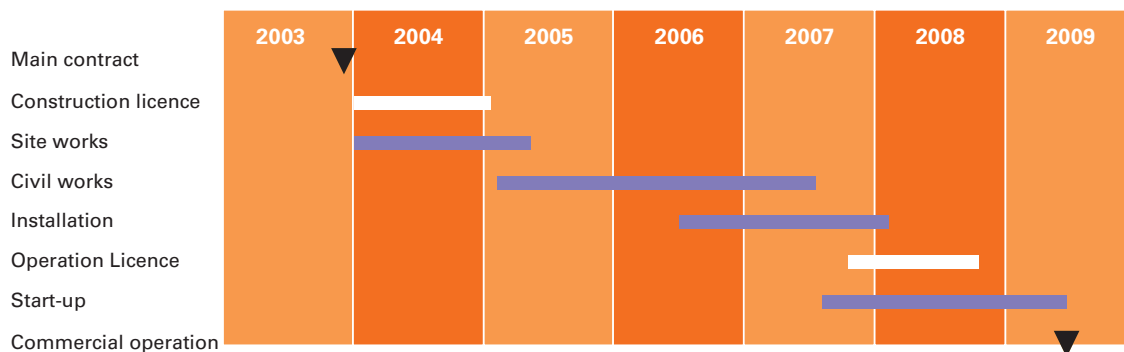


Olkiluoto 3 project

The new unit project proceeded according to schedule and plan during 2003.

In September 2002 TVO initiated competitive bidding for the construction of a new power plant unit at either Hästholmen in Loviisa or Olkiluoto in Eurajoki. At the end of March 2003 the Company received several offers for lightwater plant units with either a boiling water or pressurized water reactor and turbine plants.

Olkiluoto 3 timetable.



Various plant technologies and turn-key deliveries were represented in the offers. The invitation to tender was open to suppliers whose plant fulfilled the terms and conditions in the Decision in Principle approved by Parliament.

The offers were processed as soon as they were received and the Company found that there are several options on the market that meet the strict Finnish safety requirements. About 150 people from TVO and 300 people from outside the Company took part in making the comparisons.

In the middle of October TVO completed comparing the location sites for the plant and chose Olkiluoto. The Company's studies showed that both areas were highly suitable for the new unit. Overall, however, Olkiluoto turned out to be slightly cheaper.

In the middle of October the Company announced that it would give priority to a plant based on a pressurized water reactor that was offered by a consortium comprising Framatome ANP GmbH, Framatome ANP SAS and Siemens AG. The other options were not excluded at this stage. The negotiations with the consortium were brought to a conclusion in December.

TVO's Board of Directors decided to invest in the new nuclear power plant unit Olkiluoto 3 on December

18, 2003, and the Company signed a contract for the construction of a pressurized water plant unit of some 1,600 MW with the consortium comprising Framatome ANP GmbH, Framatome ANP SAS and Siemens AG. The plant will be delivered on the turn-key basis including the construction work. The consortium will be responsible for the overall functionality of the plant, its licensability and timetable. The new plant design is based on newest nuclear power plants in France and Germany.

The plant was chosen on the basis of a technical and economical comparison and of criteria agreed in advance. The criteria were those that were presented in the offer-to-tender document i.e. safety, reliability of the technology, the plant's environmental impact, construction time, estimated operating costs and suitability for the Finnish electricity system.

The organization implementing the project started its operations at the beginning of the year under review and as a result of the investment decision took on the responsibility for constructing the Olkiluoto 3 plant unit. For expertise in nuclear technology the project will utilize the know-how of other organizations in the Company. The Company was reorganized at the beginning of 2003 to make this possible, at the same time ensuring the availability of the resources needed





Company operations

by the existing plant units. The new organization has proved to be very efficient.

In January 2003 TVO submitted applications for environmental permits to the Western Finland Environmental Permit Authority for the new power plant unit. At the same time permits for water construction related to the building of the new unit were applied for at the Authority, and a permit was granted in February 2004. In addition, TVO sent permit applications relating to work at the site of the new unit to the Municipality of Eurajoki and City of Loviisa. Permits for this work were granted during the year under review.

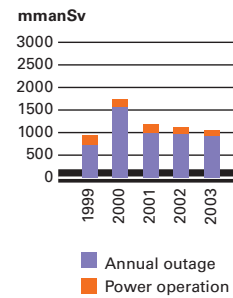
The Decision in principle of Council of State in 2002 that was approved by Parliament was the first stage in the permit process for the nuclear power plant project. The two next stages, according to the Nuclear Energy Act, are the construction license and operating license. TVO submitted an application for a construction license to the Council of State on January 8, 2004.

The plant contract of Olkiluoto 3 plant unit was signed December 18, 2003.

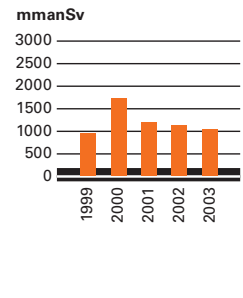
Safety

The Olkiluoto power plant units functioned safely throughout the whole year. No incidents with a major impact on nuclear safety occurred. Of the incidents that occurred during the year seven were rated one, the lowest rating on the international seven-point INES scale. There were no events higher on the scale. TVO submitted a special report on eight incidents to the Radiation and Nuclear Safety Authority (STUK).

Operational interruptions occurred on only a few occasions during the year, and none of them led to a breakdown in production. Both OL1 and OL2 were stopped once for inspections and repairs in addition to the annual outage.



Annual radiation doses at the Olkiluoto power plant.



TVO's collective annual doses.





The work-related radiation doses received by employees at the Olkiluoto power plant averaged 0.97 millisieverts (mSv) in 2003. The highest dose received was 7.9 mSv, which is just under a fifth of the annual limit of 50 mSv set by the authorities. Every Finn receives an annual average radiation dose of 3.7 mSv, which originates in the main from natural sources.

The collective radiation dose received by power plant employees in 2003 was 1.03 mansieverts (manSv) which was about 8 % less than in 2002. Annual outages accounted for 88 % of this. The collective dose is low by international standards.

The occupational accident target for 2003 was zero. This was not achieved; there were 12 accidents leading to absence from work, four of these taking place on the way to work. There were 121 notifications of near-misses, 39 of them relating to occupational safety.

Environmental matters and nuclear waste management

Operations have conformed with the Company's environmental policy and permits and with the environmental management system, which meets the requirements of the international ISO 14001 standard and the EMAS regulation 761/2001.

Six of the seven environmental goals for 2003 requiring improvement were achieved. There were no significant environmental non-conformities during the year.

Major environmental investment included the construction of decontamination equipment for radioactive components at Olkiluoto 1, which was started in 2002, and changes to the preheating system at Olkiluoto 2. This will make it possible to reduce the consumption of ion-exchange mass used in the condensate-clean-up system.

The research project on the use of warm cooling water for the cultivation of cold-sensitive plants was continued in 2003 in cooperation with MTT Agrifood Research Finland.

The environmental impact of the Olkiluoto nuclear power plant has been small.



Company operations



As in previous years, radioactive emissions have been extremely low and radioactive water discharges have been reduced further to 0.20 per cent of the official limit. The annual dose of emissions to residents in the surrounding area was only 0.16 mSv.

Low and intermediate-level radioactive waste totalling 4,299 m³ has accumulated, 96 m³ of it in 2003. Waste amounting to 109 m³ accumulated in 2002.

Spent uranium fuel amounting to 983 tonnes had accumulated by the end of the year, 43 tonnes of it during 2003 (in 2002 43 tonnes).

Waste goes either to the final repository or to the intermediate storage at Olkiluoto.

A Corporate Social Responsibility Report gives a detailed account of environmental matters for 2003.

The report, which is published separately meets the demands of the EMAS regulation.

Posiva Oy concentrates on research and development for the construction of a final repository for spent nuclear fuel at Olkiluoto. Work on a research tunnel extending to a depth of 400 metres is scheduled to begin in 2004.

Public relations

The most significant events that were made public during the year under review were the decision to locate the new nuclear power plant unit at Olkiluoto and the choice of the consortium comprising Framatome ANP GmbH, Framatome ANP SAS and Siemens AG to deliver the plant unit.

September saw the 25th anniversary of the Olkiluoto nuclear power plant and its supply of electricity to the National Grid. The achievement of this milestone was celebrated at a social occasion arranged by the personnel at Eurajoki ice rink, the theme being the 1970s. The media were also informed of the 25 years of production.

A great deal of information material was produced, both printed and online. The publications are free of charge and can be ordered by post or on the Internet. This annual report can be read on the Company's website (www.tvoy.fi). The publications are also available at the visitors' centre at Olkiluoto.

The Company took part in nationwide fairs and exhibitions in the energy sector and had its own stand at events in the Olkiluoto area.

During the year under review more than 11,000 people visited Olkiluoto. Instead of the traditional summer weeks at Olkiluoto, schoolchildren in the lower level of the Finnish comprehensive school system were treated to something new: during two science camps and one technology camp 50 budding scientists, boys and girls, became familiar with the basic phenomena of natural science. All three camps lasted a week and were arranged in association with Taloudellinen Tiedotustoimisto.

A committee comprising representatives of the municipalities in the vicinity of Olkiluoto and TVO met regularly, as did the working group of Eurajoki and TVO representatives. The groups went through events at the Olkiluoto plant and discussed the international position of nuclear power as a form of electricity production.

Personnel and know-how

Personnel

The Company had an average of 513 permanent employees during 2003 (486 during 2002) and the Group employed 557 people (521 during 2002). At the end of the year the Company had 524 permanent employees. More than 200 people were also employed in traineeships or summer jobs. During the year the know-how in the Company was strengthened by

recruiting more than 50 people.

Collective agreements for different employee groups were in effect throughout the whole year. A new salary scheme for employees in the energy sector was introduced during the year.

The results of a personnel survey that applied to all employees show that general job satisfaction and well-being are good. On the basis of the results improvements in the decision-making process, internal cooperation and operating methods were chosen for development.

To maintain the personnel's working capacity and efficiency, support was continued for the development of occupational health care, working conditions, ergonomics, occupational safety and leisure-time activities.

Know-how

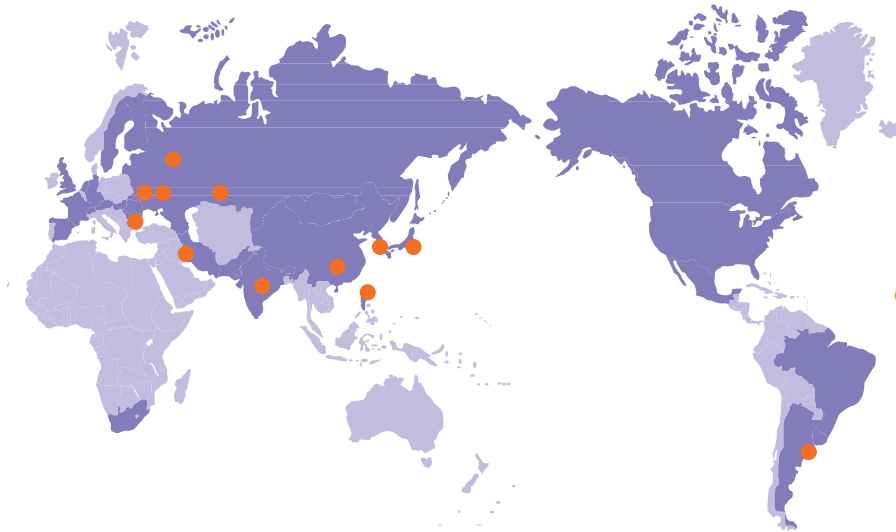
The Company's training activities are aimed at maintaining the present personnel's high level of know-how and making new employees responsible experts in nuclear power technology. The planning of training for the personnel at the new OL3 plant unit has already been started to achieve this objective.

During the past year the focal points of training were the induction of new employees, task and project management, nuclear power technology, and interactive and negotiation skills. With this in mind, a broad-based national course in the nuclear field was implemented in 2003. It was planned by power companies, nuclear power authorities, research institutes and universities all working together. The participants in the course, altogether 51, came from the same organizations. The aim is to use this course as the basis for developing a new basic course in nuclear technology that is suitable for employees at nuclear power plants.

In the past year the plant operators took part in further training in the manner prescribed. The training of new operators who started at the beginning of the year proceeded as planned.



Company operations



Use of nuclear power throughout the world at the beginning of 2003.

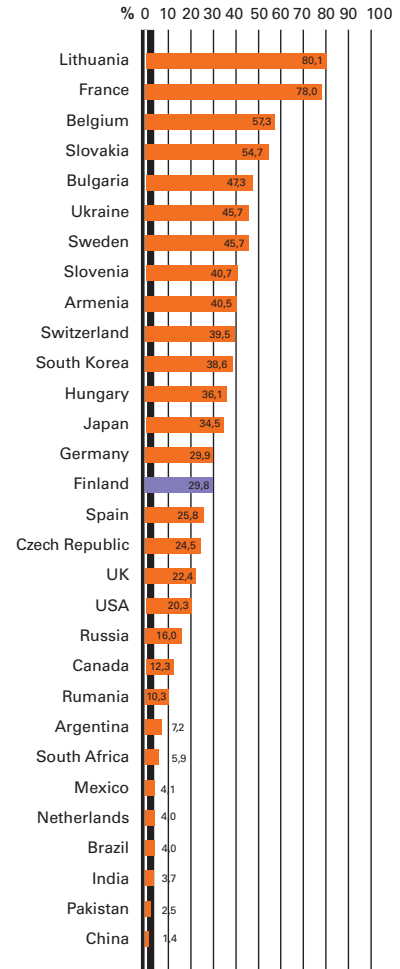
- Nuclear power being used
440 units, 360,431 MW
 - Under construction 32 units 26,440 MW:
- | | |
|---------------|---------------|
| Argentina 1 | Rumania 1 |
| China 3 | Russia 3 |
| India 8 | Slovakia 2 |
| Iran 2 | South Korea 2 |
| Japan 3 | Taiwan 2 |
| North Korea 1 | Ukraine 4 |

Nuclear power worldwide

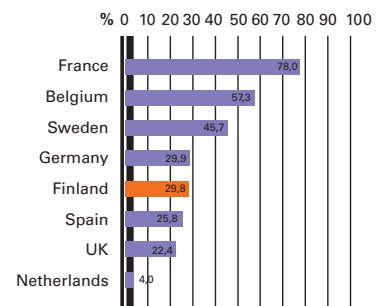
IAEA statistics for 2003 show that there are 440 reactors in operation throughout the world and 32 reactors under construction in a total of 33 countries.

During 2003 16 per cent of the world's electricity consumption was generated through nuclear power, as in the previous year. Nuclear power accounted for 35 per cent of the energy generated in EU countries.

In Finland a total of 21.83 TWh of electricity was generated by nuclear power in 2003, Olkiluoto's share being 14.15 TWh.



Proportion of nuclear power in electricity production 2002.



Proportion of electricity generated by nuclear power in EU countries in 2002.

Coal-fired power

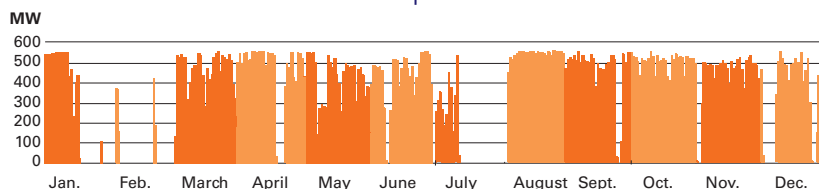
The Company has contributed 45 per cent of the financing required to build the Meri-Pori coal-fired power plant and uses its share of the plant for generating electricity. Fortum Power and Heat Oy operates the plant. TVO procures its own share of the coal needed.

TVO's share of electricity generated at the Meri-Pori plant in 2003 was 1,545 GWh (835.0 GWh in 2002), for which 520,000 tonnes (285,000 in 2002) of coal were used.

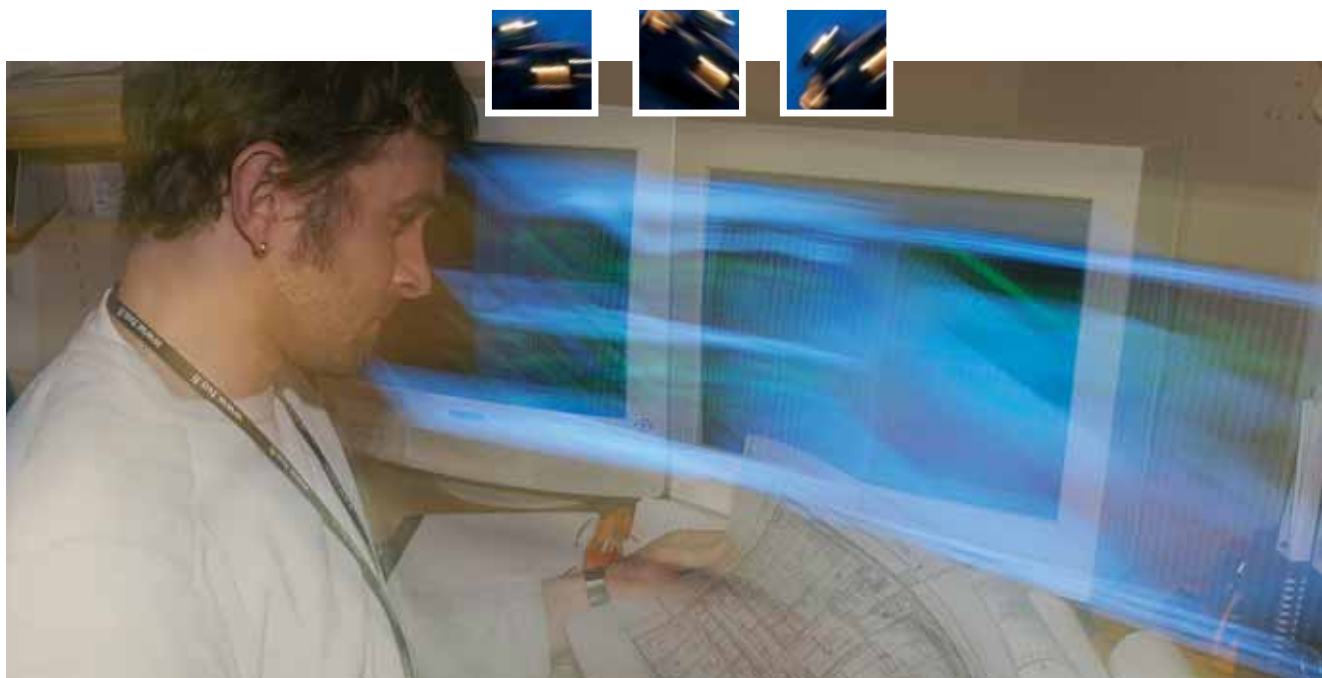
Damage to the tertiary superheater in the boiler disrupted the plant during January and February in

2003. It was caused by circulation malfunctions arising from the disengagement of the internal oxide layer in the superheater's pipes. The damage was repaired at the beginning of March and afterwards the plant ran as normal for the rest of the year. Because of this incident the tertiary superheater will have to be completely overhauled in the next few years. The plant's outage took place between July 12 and August 3.

TVO's coal stocks at the Meri-Pori power plant amounted to 270,399 tonnes on December 31, 2003 (215,000 tonnes on December 31, 2002).



Meri-Pori production January 1 – December 31, 2003.





Subsidiaries

Posiva Oy

Posiva Oy, which is owned jointly by TVO and Fortum Power and Heat Oy, is responsible for research into and implementation of the final disposal of spent nuclear fuel. Posiva's turnover amounted to EUR 18.6 million (EUR 14.6 million).

In the current decade Posiva's operations will be concentrating on the construction of the underground research facility, which is known as ONKALO, at Olkiluoto, and the research to be carried out there. The facility will verify the results that have been obtained so far by drilling from the Earth's surface about the suitability of the bedrock for final disposal. The construction of ONKALO will also make the planning of the final repository easier, and with the research done there information will be acquired for the submission to the Government at the beginning of the 2010s of an application for a permit to build the final repository.

The Municipality of Eurajoki approved a building permit for ONKALO during the year under review. The intention is to select the contractor responsible for building the tunnel at the beginning of 2004, and the excavation work is planned to start in the summer of 2004.

Material concerning the building of ONKALO has been prepared and sent to the Radiation and Nuclear Safety Authority for evaluation. The material covers the technical description, research plan, description of the normal state of Olkiluoto and the plan for continuous observation of the geosphere and biosphere.

The first three-year nuclear-waste management programme was completed in the year under review. The yearly-based programme will continue to be sent to the Ministry of Trade and Industry.

TVO Nuclear Services Oy

TVO Nuclear Services (TVONS) markets specialist and maintenance services that are based on the quality of TVO's operations and on the know-how and long-term experience of its personnel. TVONS uses TVO's staff as the experts and thus supports TVO's operations.

The year under review was the fourth complete year of TVONS's operations. Its turnover was EUR 2.5 million.

Antti Piirto was appointed the managing director from May 1, 2003, upon the retirement of Juha Pernu, who had led the company's operations from its inception.

An assignment under the European Union's TACIS programme was continued by a year, starting in November. The assignment includes transferring know-how in western thinking on nuclear safety to the Kola nuclear power plant.

TVONS has carried out maintenance tasks during outages at several power plants. Besides TVO know-how, the machinery and equipment at Olkiluoto, which in technical terms is top-grade, has been used for these tasks.



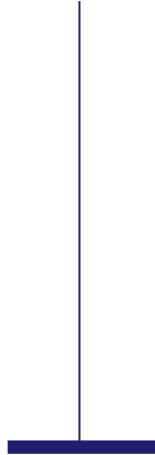
Financial Publications

During the year under review, Teollisuuden Voima Oy published its Annual Report 2002, Corporate Social Responsibility Report 2002, Annual Review 2002, and Interim Reports for January-March 2003, January-June 2003, and January-September 2003. These publications are available in both Finnish and English.

During 2004, the following reports will be published:

- Annual Review 2003, in February 2004
- Corporate Social Responsibility Report, in April 2004
- Annual Report 2003, in April 2004
- Interim Reports for January-March 2004, January-June 2004, and January-September 2004 by the end of the month following the period in question.

The above publications will also be available in Finnish and English.



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Teollisuuden Voima Oy
FIN-27160 Olkiluoto, Finland
Tel. +358 2 83 811
Telefax +358 2 8381 2109

Teollisuuden Voima Oy
Töölönkatu 4
FIN-00100 Helsinki, Finland
Tel. +358 9 61 801
Telefax +358 9 6180 2570

Teollisuuden Voima Oy
Scotland House
Rond-Point Schuman 6
1040 Brussels, Belgium
Tel. +32 2 282 8470
Telefax +32 2 282 8471

www.tvofinland.fi

Subsidiary companies:

Posiva Oy
FIN-27160 Olkiluoto, Finland
Tel. +358 2 837 231
Telefax +358 2 8372 3709

www.posiva.fi

TVO Nuclear Services Oy
FIN-27160 Olkiluoto, Finland
Tel. +358 2 83 811
Telefax +358 2 8381 2809

www.tvons.fi