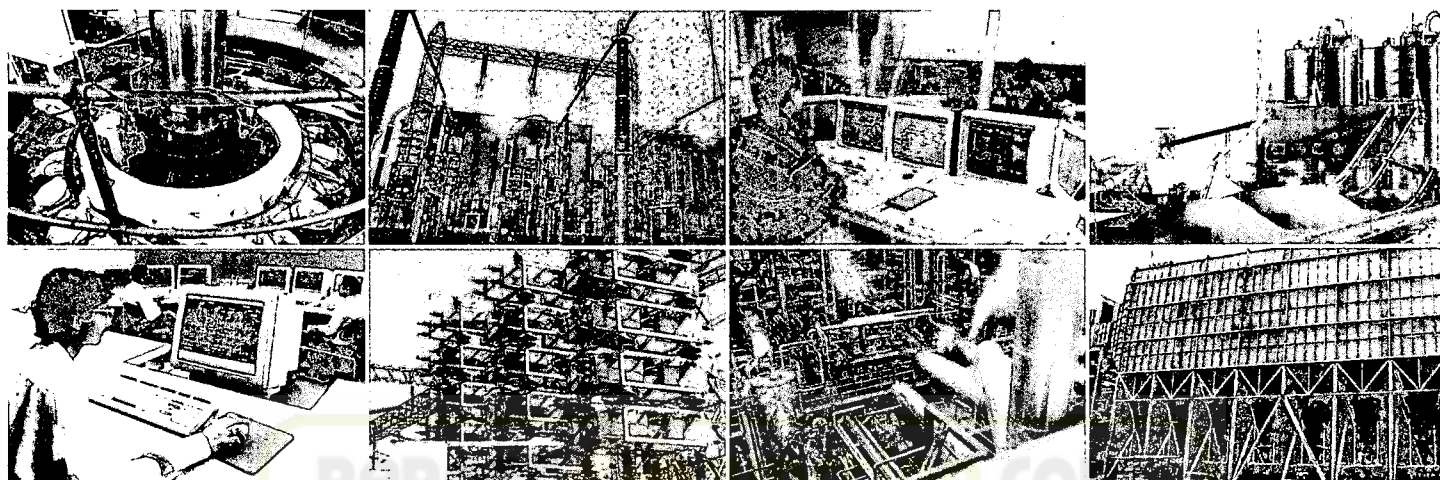


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| RO  | <input checked="" type="checkbox"/> |  | DIV | <input checked="" type="checkbox"/> |
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| AGM | <input checked="" type="checkbox"/> |  | SH  | <input checked="" type="checkbox"/> |
| YE  | <input checked="" type="checkbox"/> |  |     | <input checked="" type="checkbox"/> |

## Annual Report 1998

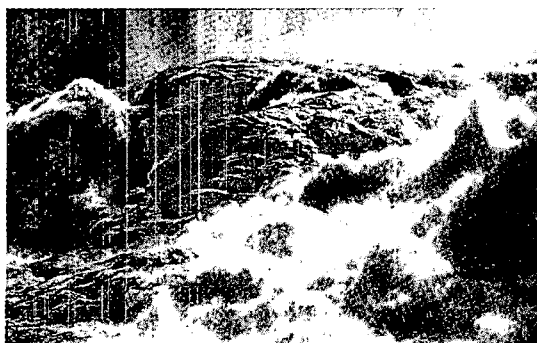
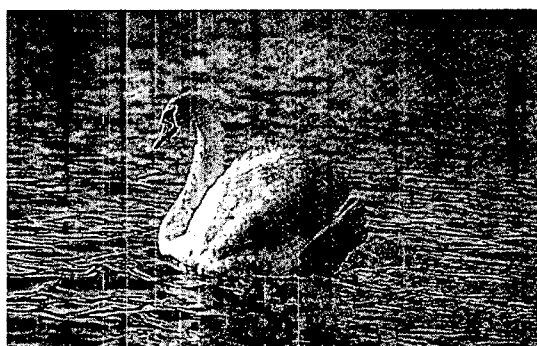
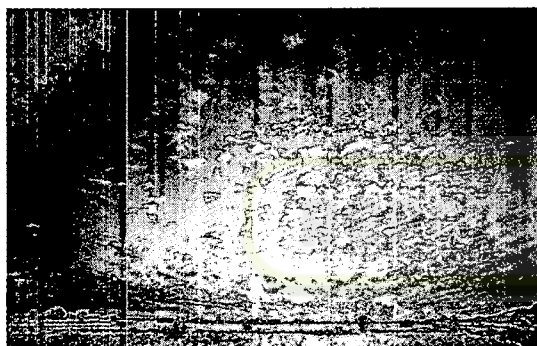


Asea Brown Boveri Limited



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This annual report carries a feature (page 3) on ABB's products, systems and services that fully respect environmental demands.

# Asea Brown Boveri Limited Report and Accounts - 1998

## Board of Directors

K.N. Shenoy, Chairman  
K.K. Kaura, Managing Director  
Aloke Mookherjea, Whole-time Director  
S.K. Nagpal, Whole-time Director (till 31-12-1998)  
Alexis Fries  
D.S. Narain  
Vijay Karan  
Tommy Lekberg  
Bo Martin Waern  
Jakob Disch

## Secretary

Naina R. Desai

## Bankers

Union Bank of India  
Bank of Baroda  
American Express Bank Limited  
ANZ Grindlays Bank Limited  
Canara Bank  
Deutsche Bank  
Hongkong & Shanghai Banking  
Corporation Limited  
State Bank of India  
Indian Overseas Bank

## Solicitors

Amarchand & Mangaldas & Suresh A. Shroff & Co.  
Crawford Bayley & Co.

## Auditors

Bharat S Raut & Co.

## Registrar & Share Transfer Agents

Tata Consultancy Services  
Lotus House  
Sir Vithaldas Thackersey Marg  
Mumbai - 400 020

## Registered Office

Vaswani Chambers  
264-265, Dr. Annie Besant Road  
Worli, Mumbai - 400 025

## Corporate Office

Gurunanak Foundation Building  
15-16, Qutab Institutional Area  
New Delhi - 110 067

## Works

Bangalore  
Calcutta  
Chennai  
Faridabad  
Mumbai  
Nasik  
Vadodara

## Marketing/Other Offices

Bangalore  
Bhilai  
Bhopal  
Bhubaneswar  
Calcutta  
Chandigarh  
Chennai  
Coimbatore  
Hyderabad  
Indore  
Jabalpur  
Jaipur  
Jamshedpur  
Kochi  
Lucknow  
Ludhiana  
Mumbai  
Nagpur  
New Delhi  
Neyveli  
Pune  
Vadodara  
Vishakhapatnam

## Overseas Office

Dhaka, Bangladesh

## 5 Year Highlights

|   | (Rs. in Million) |          |          |         |         |
|---|------------------|----------|----------|---------|---------|
| Description                                       | 1998             | 1997     | 1996     | 1995    | 1994    |
| <b>Sources of Funds</b>                           |                  |          |          |         |         |
| Share capital                                     | 414.2            | 414.2    | 310.6    | 310.6   | 310.6   |
| * Reserves  | 4,099.0          | 3,949.5  | 3,632.4  | 2,331.7 | 1,830.7 |
| * Net worth                                       | 4,513.2          | 4,363.7  | 3,943.0  | 2,642.3 | 2,141.3 |
| Borrowings  | 175.0            | 456.7    | 600.6    | 488.1   | 245.0   |
| * Funds employed                                  | 4,688.2          | 4,820.4  | 4,543.6  | 3,130.4 | 2,386.3 |
| <b>Income and Profits</b>                         |                  |          |          |         |         |
| Sales & Other income                              | 8,934.1          | 10,841.6 | 11,855.6 | 9,185.1 | 6,434.9 |
| Operating profit before interest and depreciation | 764.9            | 1,131.3  | 1,525.9  | 1,211.2 | 948.0   |
| Profit before taxation                            | 492.3            | 863.5    | 2,034.2  | 1,002.8 | 787.8   |
| Taxation  | 115.0            | 215.0    | 485.0    | 377.5   | 280.0   |
| Profit after taxation                             | 377.3            | 648.5    | 1,549.2  | 625.3   | 507.8   |
| Dividends   | 227.8**          | 227.8**  | 248.5    | 124.3   | 108.7   |
| Retained earnings                                 | 149.5            | 420.7    | 1,300.7  | 501.0   | 399.1   |
| <b>Other Data</b>                                 |                  |          |          |         |         |
| * Gross fixed assets                              | 2,770.9          | 2,599.4  | 1,865.1  | 1,460.7 | 1,127.0 |
| * Debt equity ratio                               | 0.04:1           | 0.10:1   | 0.15:1   | 0.18:1  | 0.11:1  |
| * Net worth per equity share - Rs.                | 109.0            | 105.4    | 126.9    | 85.1    | 68.9    |
| Earnings per equity share - Rs.                   | 9.1              | 15.7     | 26.6***  | 20.1    | 16.3    |
| Equity dividend - %                               | 50.0             | 50.0     | 80.0     | 40.0    | 35.0    |
| * Profit after taxes as % to average net worth    | 8.5              | 15.6     | 47.0     | 26.1    | 26.2    |

\* Excludes revaluation of fixed assets/revaluation reserve

\*\* Includes corporate dividend tax @ 10%

\*\*\* Without considering extraordinary income

Net worth and earnings per equity share of Rs.10/-

## Every year enormous volumes of electrical energy need to co-exist with nature

That just about doubles our responsibility to preserve the earth

ABB's mission is to meet the need for dependable electrical energy assuring reliable and sustainable growth, fully respecting environmental demands.

The world's demand for energy is on a steeply rising curve, but so is its concern for the environment. For the foreseeable future, man must continue to derive most of the power he needs by burning fossil fuels. The challenge is to produce it, transport it and use it more efficiently while reducing environmentally harmful emissions to the minimum. In meeting this challenge, ABB technology leads the way.

ABB concentrates on finding ways to generate more electricity with less fuel and lower emission, to move that electricity to consumers with minimal losses in transit and to use electricity more efficiently in factories and refineries, homes, offices, hospitals and airports.

ABB focuses on preventing adverse environmental impacts. Listing out procedures to phase out raw materials that may harm the environment. Reducing the number of materials used, recycling old material into new products, cutting down on the spare parts and consumables required during product life cycles.

### Generating electricity

ABB supplies power generation equipment and power plants based on any fuel and hydropower. Intelligent power plant control systems optimise the power generation process. Pollution control technologies include electrostatic precipitators, fabric filters and scrubbers and flue-gas desulfurisation systems.

### Gas turbines

ABB has developed an environmental burner that limits the amount of pollutants generated and increases the energy efficiency. The level of nitrogen oxide emitted is less than 15 parts per million.

### Steam turbines

ABB's steam turbine systems meet all the requirements of high-performance steam cycles.

### Combined cycle power plant

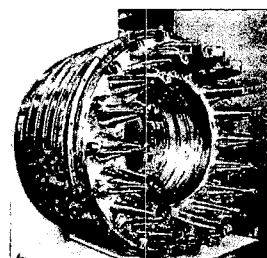
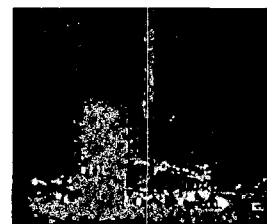
ABB combined cycle power plants with environmental burners and high-efficiency turbines convert 58.5% of the primary energy in the fuel to electrical power. Further research in combustion, high-temperature materials, aerodynamics and thermodynamics will improve the performance even further, pushing efficiency over the 60% mark.

### Boilers

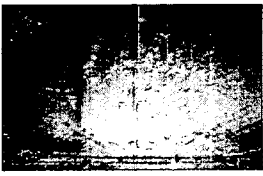
ABB's new tangential-firing system for coal fired boilers offers full control of all steps from fuel preparation to the final stage of combustion. This dramatically reduces nitrogen oxide emissions, even without a nitrogen oxide reduction system.

### Emission control systems

ABB supplies advanced emission control systems for all types of coal-fired power plants. These systems remove 99.9% of particulates, absorb 98% of the sulfur dioxide and reduce nitrogen-oxide emissions by 85%. The environmental







benefits of these systems far outweigh the environmental impacts of manufacturing, installing and operating them.

Pressurized, fluidized bed, combined cycle combustion (PFBC) is one of the 'cleanest' ways of burning coal in power stations. PFBC combines ABB's know-how in combustion and gas cleaning with the capacity of designing and building high-performance interacting gas and steam turbine units.

The pressurized combustion and sulfur absorption conditions make PFBC power plants much smaller than the conventional coal-fired plants. This, together with high cycle efficiency and low emissions, contributes to outstanding environmental performance.



### Hydropower

ABB has a long history in building hydropower generators with very high efficiencies. ABB also provides systems that control water levels of hydropower plants, keeping the water within 100mm above or below the ideal level. This lessens the damage to the eco-systems.

### Cogeneration

ABB is the world's largest supplier of systems that move waste heat from power plants and industrial process to heat buildings. This is one of the examples of cogeneration. Energy efficiency can be increased to more than 90% during the heating season or an average 70% over a full year.

### Moving electricity

ABB is at the fore-front of technological development aimed at reducing trans-

mission losses and increasing the capacity of transmission lines without occupying more land. Power is transmitted either as three-phase, high-voltage alternating current (HVAC) or as high-voltage direct current (HVDC).

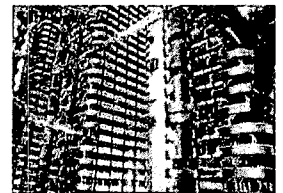


The main environmental aspects of power transmission are related to losses in the system and to the impact of overhead power lines on the landscape. An emerging concern is the possible health risk from long-term exposure to the magnetic fields around alternating current power lines. But in spite of extensive research, no conclusive evidence of such risk has been found.

ABB supplies a complete line of power transformers, capacitors, cables, power circuit breakers and other switchgear, substations and management systems that meet the highest demands of efficiency, reliability, safety and low environmental impact.

### Converter stations

ABB is the world's leading supplier of HVDC systems and is now introducing a new generation of converter stations with improved eco-efficiency, low losses, plus reduced size and weight.

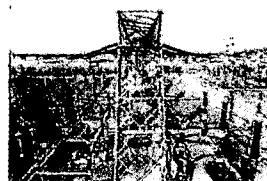


### High-voltage substations

These substations transform high voltage



to medium voltage before distribution to medium-voltage substations. They contain transformers, capacitors, switches and breakers, surge arresters, circuit



breakers and cables that control high-voltage current in various ways. Product development and system optimisation using integrated intelligence enables ABB to continue to improve the performance of its high voltage substations. Reduced losses, environment-friendly insulation systems, recyclability, lighter and more compact design are some of the improvements.

Overhead power lines are the most common way to transmit electricity. The higher the voltage, greater the capacity of the power lines, and lower the losses resulting in both environmental and economic benefits.

### **Reactive power compensation**

ABB reactive power compensation technologies use series capacitors to reduce the negative consequences of the reactive power component. They increase the capacity of HVAC transmission systems by 30% to 40%. This means better use of rights-of-way and a reduction of the number of power lines required.

### **Power transformers**

Over the next five to ten years, new qualities of steel and more compact designs will reduce losses by up to 20% both when the transformer is operating at full power and when it is idling.

### **High-voltage switchgear**

The top priority must be reliable operation but ABB also gives priority to small losses and environment-friendly design and manufacture.

### **Distribution substations**

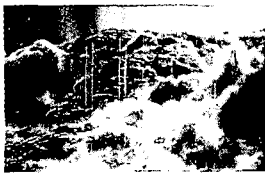
ABB improves the eco-efficiency of these systems by integrating intelligence, reducing losses in transformers, using environment-friendly installation systems, lowering the weight and designing for recyclability.

### **Network control and supervision systems**

ABB offers a complete range of advanced, information technology based systems that meet the power industry's need for information to make the right decisions both for business and for the environment. ABB's substation automation enables efficient power network management by providing modular solutions for protection, control, monitoring and communication.

ABB also provides a full range of low and medium voltage products and systems that distribute electricity to homes, commerce and industry. These include meters, breakers switches, fuses, programmable controls, switchgear, motor control centers and distribution centers, substations, as well as their installation and service.

The main environmental aspects focus on the losses that occur as electricity passes through the network of cables, wires and devices between substations and consumer equipment.



## Using electricity

ABB offers a broad range of technologies and services for industrial processes, petrochemical industries, oil and gas industries as well as systems for buildings and ships. Products include electric motors, drives, turbochargers for diesel engines, instrumentation, automation and robotics, paint shops, dryers and indoor climate systems.

The environmental aspects focus mainly on the efficiency of these products, control of operation, and the recovery of energy and materials.

## System for buildings

ABB systems can reduce energy needs by as much as 80% while maintaining or even improving the quality of the indoor environment. ABB technology for evaporative cooling further reduces the environmental impact.

## Electric motors

ABB has adopted the life-cycle approach in research, design and marketing, resulting in more eco-efficient electric motors and applications.

## Variable speed drives

ABB has pioneered a technology that allows any standard electric motor to match its power and speed to changing load conditions, such as in rolling mills and paper-making machines. This reduces the amount of electricity used, sometimes by more than 50%, and prolongs the working life of the machinery. Both factors improve eco-efficiency.



## Process automation systems

ABB process automation systems allow process engineers to supervise and interact with processors in real time. Because of their distributed architecture, these systems can monitor and control complete industrial processes. This enables operators to refine processes to get the most production out of the least input of raw material and energy while maintaining or improving product quality as well as minimising waste and harmful emissions.



## Industrial robots

ABB is the world's largest manufacturer of industrial robots. There is a great potential for improving environmental performance in ABB's continued efforts to develop robotic systems for more and more industrial processes, such as for zero-emission paint shops.

## Electricity meters

ABB's electricity meters operate for decades without maintenance and contain no environmentally toxic substances. Integrated intelligence helps end users manage electricity used to reduce costs and spare the environment.



## Notice to Members

**Notice** is hereby given that the Forty-ninth Annual General Meeting of the Members of Asea Brown Boveri Limited will be held at Patkar Hall, S.N.D.T. Women's University, 1, Nathibai Thackersey Road, Mumbai 400 020, on Wednesday, the 21 April, 1999, at 4.00 P.M.(S.T.) to transact the following business:

1. To receive, consider and adopt the Balance Sheet as at 31 December, 1998 and the Profit and Loss Account for the year ended on that date and the Reports of the Directors and the Auditors.
2. To declare a dividend on equity shares.
3. To appoint a Director in place of Mr.D.S.Narain who retires by rotation, and, is eligible for re-appointment.
4. To appoint a Director in place of Mr. Tommy Lekberg who retires by rotation, and, is eligible for re-appointment.
5. To consider and, if thought fit, to pass with or without modifications, the following resolution as a Special Resolution:

"RESOLVED THAT Messrs.Bharat S. Raut & Co., Chartered Accountants, be and are hereby appointed Auditors of the Company to hold office from the conclusion of this meeting until the conclusion of the next Annual General Meeting at and for such remuneration as may be fixed by the Board of Directors of the Company in addition to reimbursement of travel and out-of-pocket expenses incurred by them."

6. To consider and, if thought fit, to pass with or without modifications, the following resolution as an Ordinary Resolution.

"RESOLVED THAT pursuant to the provisions of Sections 198, 269, 309 and other applicable provisions, if any, of the Companies Act, 1956 read with Schedule XIII to the Companies Act, 1956, and subject to the approval of the Central Government, if necessary, and such other sanctions as may be necessary, desirable and expedient in law, the Company hereby approves the appointment of Mr.K.K.Kaura as Managing Director of the Company with effect from 1 September, 1998 for the period from 1 September, 1998 to 16 October, 2001 upon the terms and conditions as set out in the draft Agreement

laid before this meeting and for the purpose of identification, signed by the Chairman which Agreement is hereby specifically approved and sanctioned with liberty to the Board of Directors to alter, vary and modify the terms and conditions of the said appointment and/or Agreement, in such manner as may be agreed upon by and between the Board of Directors and Mr.K.K.Kaura within and in accordance with the limits prescribed in Schedule XIII to the Companies Act, 1956 or any statutory amendment or modification thereto.

RESOLVED FURTHER THAT subject to the provisions of Section 198 and Section 309 and other applicable provisions, if any, of the Companies Act, 1956, the remuneration payable to Mr.K.K.Kaura as Managing Director by way of salary, perquisites, commission and other allowances, shall not exceed five percent of the net profits of the Company and ten percent of such net profits for all such managerial persons of the Company together in that financial year.

RESOLVED FURTHER THAT notwithstanding anything hereinabove stated, where in any financial year during the currency of his tenure as Managing Director, the Company has no profits or its profits are inadequate, the Company will pay the remuneration by way of salary and perquisites as set out under item No.6 of the Explanatory Statement annexed to this notice as minimum remuneration subject to the approval of the Central Government, if and when necessary.

RESOLVED FURTHER THAT in the event of any statutory amendment, modifications or relaxation by the Central Government to Schedule XIII to the Companies Act, 1956, the Board of Directors be and is hereby authorised to vary or increase the remuneration (including the minimum remuneration), that is. the salary, commission, perquisites, allowances, etc. within such prescribed limit or ceiling and the aforesaid draft Agreement between the Company and Mr.K.K.Kaura be suitably amended to give effect to such modification, relaxation or variation without any further reference to the Company in General Meeting, if so permissible.

AND RESOLVED FURTHER THAT the Board of Directors of the Company be and is hereby

authorised to do and perform such acts, deeds, matters or things and take such steps as may be necessary, expedient or desirable to give effect to this resolution."

7. To consider and, if thought fit, to pass with or without modifications, the following resolution as a Special Resolution:

"RESOLVED THAT the Company hereby takes note of the increase of Rs.15,000/- in the salary of Mr.Aloke Mookherjea, the Whole-time Director of the Company, as approved by the Board of Directors of the Company at its meeting held on 28 October, 1998, that is, from Rs.50,000/- per month to Rs.65,000/- per month with effect from 1 September, 1998 in accordance with the Agreement dated 3 June, 1998 executed between the Company and Mr.Aloke Mookherjea.

RESOLVED FURTHER THAT the penultimate paragraph of Clause 7 of the Agreement dated 3 June, 1998 executed between the Company and Mr.Aloke Mookherjea, namely:

"The above remuneration by way of salary, perquisites and other allowances not exceeding ceiling limit of Rs.10,50,000/- per annum or Rs.87,500/- per month, shall also be paid to Mr.Mookherjea in the event of loss or inadequacy of profits in any financial year during the aforesaid period, in addition to the perquisites as stated in Clause 7 within specified limits stipulated under Section II of Part II of the Schedule XIII to the Companies Act, 1956."

be and is hereby substituted for and replaced by the following paragraph in the

same Clause 7 of the aforesaid Agreement, namely:

'Notwithstanding anything hereinabove, where in any financial year during the currency of his tenure as Whole-time Director, the Company has no profits or its profits are inadequate, the Company will pay the aforesaid remuneration by way of salary and perquisites as minimum remuneration subject to the approval of the Central Government, if and when necessary.'

AND RESOLVED FURTHER THAT the aforesaid terms and conditions duly revised/ modified as set out in the draft Supplemental Agreement laid before this meeting and for the purpose of identification, signed by the Chairman which agreement is hereby specifically approved and sanctioned with liberty to the Board of Directors to alter, vary, modify the terms and conditions of the said appointment and/or Agreement in such manner as may be agreed upon by and between the Board of Directors and Mr.Aloke Mookherjea and the Board of Directors of the Company be and is hereby authorised to obtain the approval of the Central Government, if and when necessary, and to do and perform such acts, deeds, matters and things and take such steps as may be necessary, expedient or desirable to give effect to this resolution."

By Order of the Board  
Naina R.Desai  
General Manager & Secretary

New Delhi  
28 January, 1999

Registered Office:  
Vaswani Chambers,  
264-265, Dr.Annie Besant Road,  
Mumbai-400 025.

#### Notes:

1. The relative explanatory statement pursuant to Section 173 of the Companies Act, 1956 ("the Act") in respect of items 6 and 7 is annexed hereto.
2. ***A member entitled to attend and vote is entitled to appoint one or more proxies***

***to attend and vote instead of himself, and a proxy need not be a member.***

3. In accordance with the provisions of Section 205-A of the Act, the Company has transferred unclaimed dividend relating to the year ended 31 December, 1994 to the