

Environmental performance

While some businesses in the group, such as Altech, are essentially service providers, those that have manufacturing operations pose greater immediate environmental risks. Altron also recognises that, internationally, the IT sector is subject to a growing number of regulations that focus on the end-of-life disposal of IT equipment, and is facing mounting concerns over spiralling electrical power consumption. In going forward the group will therefore be more proactive in managing its environmental performance and pursuing environmental performance enhancements including recycling initiatives.

Environmental risks

To effectively monitor the environmental risks emanating from its operations,

particularly where these do not yet have in place certified environmental management systems, the Altron risk management committee has instituted regular environmental performance assessments of its high risk (manufacturing sites and factories) operations by an independent third party. The results of these six-monthly audits are reported to the risk management committee and will facilitate monitoring and comparability of quantitative environmental performance data.

- ▶ In the Altron group, the process with the largest environmental impact is soldering at **Altech UEC**, which results in lead waste. The waste is disposed of according to strict regulations by contractors that have supplied Altech UEC with proof of their compliance with water and waste by-laws and the National Environmental Management Act of 1998 (as amended). In compliance with European Union (EU) regulations, Altech UEC's processes will be completely lead free by July 2007.
- ▶ In the manufacturing of lead-acid batteries, two hazardous chemical substances, namely sulphuric acid and lead, are used. Sulphuric acid is a highly corrosive chemical substance and about 95% of its usage on site is concentrated in the battery/cell accumulator charging



Altech Autopage raised R120 000 for the De Wildt Cheetah and Wild Life Trust.

facilities or charge rooms. The handling of the acid causes continual minor spillages which, if not effectively controlled, can detrimentally affect the environment in terms of contamination or pollution of the soil and subterranean water systems under the concrete floor.

Willard Batteries accepts the responsibility for ensuring that the environment is not compromised. Care is, therefore, taken to protect the floors in the charge room areas, as well as in areas where smaller quantities of sulphuric acid are used. This is done by means of a floor coating which seals and protects the areas to which it is applied. The floor coating consists of a mixture of “silicone sand” and a sealant which is applied to the floor areas as an epoxy coating. The coating prevents any seepage into the subterranean soil and water and is either completely stripped off once a year (during shutdown), if the wear and tear of the year has been particularly severe, or carefully repaired where the coating has been breached.

- At **Desta Power Matla** during the certification audit for ISO 14001 accreditation, polychlorinated biphenyls (PCBs) were discovered in the ground soil system of its Epping premises. PCBs are a group of oil-like chemicals whose toxic nature was only recognised some 30 years ago and subsequently banned in the early 1980s. They were widely used as insulation in electrical

equipment, particularly transformers and oils. Gradual leakages of this substance from the transformer storage tanks into the soil occurred before it was banned. Desta Power Matla, together with the Department of Water Affairs, is monitoring the extent of this contamination. In addition, as directed by the authorities, Desta Power Matla has, among other actions, sampled oil at various locations in order to determine the presence and extent of the PCBs and drawn samples from the monitoring wells which are adjacent to the plume, but devoid of oil in order to assess whether compounds from the free-phase plume are being leached into the groundwater. While the results do not indicate an immediate risk to humans at the site or to the natural environment away from the industrial site, Desta Power Matla is collecting sufficient information through ongoing sampling of groundwater, oil as well as of monitoring wells in order to decide with the authorities on an appropriate course of action.

Environmental management

Environmental risks are largely managed through accredited environmental management systems. Operations which have a third-party certified ISO 14001 environmental management system in place include **Aberdare’s** Port Elizabeth and Pietermaritzburg operations, **Desta Power Matla’s** Cape Town operation,

ABB Powertech's operations, as well as **Willard Batteries'** Port Elizabeth site, which is ISO 14001 accredited by TUV Rheinland. **Battery Group's** factory is ISO 14001 certified and annually audited by SABS. It remains compliant with the requirements of the standard.

■ TARGETS

Certification

- **Altech UEC** aims to have its operations ISO 14001 certified during 2007
- Certification of **Altech NamiTech's** Linbro Park site is in progress, with certification due by January 2008
- **Aberdare's** Gauteng operations will be certified in July 2007

Energy efficiency

At **Altech UEC**, initiatives to use renewable energy sources include designing its products to comply with the new stringent European energy-efficiency standards for all electrical equipment.

Battery Group is moving away from using fossil fuels (mainly liquid petroleum gas) to greater use of electricity, while its laboratory discharging units and its industrial chargers return power into the grid whilst discharging.

During 2006 **Bytes**, together with Eskom, successfully implemented a sophisticated, proactive energy management system at the group's operation in Selby and rolled this out to its offices in Midrand. This system uses passive infrared sensors to determine when illumination is required, and uses on average 40% to 70% less energy. At **Desta Power Matla**, 90% of all fluorescent lighting was replaced with energy efficient lighting. Cost savings have not yet been calculated.

Water

Measures taken or planned to reduce or optimise water use include, at **Battery Group**, a feasibility study on water bath charging in the Industrial plant, which could



Peter Louw of Aberdare Standford Road demarcating excess paper for recycling.

result in a saving of 66 kilolitres of water per day, as well as a study on re-using industrial waste paste and water.

ABB Powertech recycles and reuses 35 megalitres of water a year. **Destra Power Matla** recycles and reuses about 0.77 megalitres of water per annum through a water-saving process at its zinc tank, and at its slitting operations, a project to reuse water in the slitting machine's water cooled motor is being planned that will save at least 1.8 megalitres per annum. **Altech UEC** does not use water in any of its production processes.

No ground water is drawn for any of Altron's operations.

Biodiversity

The operational activities of the Altron group do not impact on biodiversity, protected or sensitive areas, heritage sites, fresh water resources or related ecosystems.

Waste

Waste management projects at the manufacturing and operational level throughout the Altron group include the controlled separation and disposal of hazardous waste, transport, storage or trading of this waste, recycling and reclamation of waste materials, and the auditing of the legal compliance of contracted waste disposal companies.

Eco-friendly garden

Bytes is creating an eco-friendly garden at its business park in Midrand with the assistance of a multi-disciplined environmental development agency in which the primary mission is ecologically sustainable landscape development and local biodiversity. The initiative involves the establishment of those local plant communities and topographical features that exist within the immediate natural surrounds of Bytes Business Park and which will in turn attract and sustain endemic wildlife such as birds, reptiles, amphibians, insects and fish. Being water-wise, the indigenous garden will result in a vast reduction in the ground's management costs.

Types of major waste generated by Altron operations, include, in **Altech UEC**, steel strips, cardboard and plastic, which is segregated to facilitate recycling, as well as general waste that is sent to landfill.

Destra Power Matla's main wastes are fluorescent tubes, oil rags and used thinners. Aberdare's copper, PVC and lead waste is recycled, while cable waste is sent to landfill.

Battery Group's lead waste is reclaimed and recycled, while its liquid effluent is treated and discharged into the municipal sewer.

About 80 bags of personal protective equipment are sent to landfill per month with a licensed hazardous waste contractor. Plastic is reclaimed and recycled. Battery Group factories in Port Elizabeth continue modifications to address the emission of pollutants – such as acid vapour and lead dust – into the atmosphere. Considerable capital has been spent on ensuring emissions of liquid acid effluent are neutralised and managed within legal requirements. Water from the battery-charging baths is pumped into a holding sump, pH corrected and reused in the charging process.

ABB Powertech sends about 1 058 m³ general waste to landfill per annum, in addition to 1 082 m³ insulation waste,

522 m³ boiler ash, 192 m³ oil-contaminated waste, and 24 500 m³ litres soluble oil. 31 800 litres of scrap paint and thinners are partially recycled where possible, while 146 060 litres of scrap oil, 607 tons of scrap steel, 129 tons of scrap core steel, and 12 tons of scrap copper are recycled.

Bytes SA's recycling programme ensures that waste paper and used batteries are removed by specialists for disposal in an environmentally friendly manner. Scrap generated by the group, including printer cartridges, is sold to scrap dealers who, in turn, sell it to recycling companies.

Significant spills

There were no significant spills reported by group operations during the period under review.

Hazardous waste

Waste deemed as hazardous based on its toxicity, ignitability, corrosivity, or reactivity per local regulations produced by Altron operations include, at **Altech UEC**, solder dross that is collected for reclaiming by the supplier. **Altech NamiTech's** manufacturing process is toxin free. Waste material that cannot be recycled is disposed of using specialist waste disposal



Effluent pH readings take place regularly at Willard Batteries Port Elizabeth factory.

Recycling lead-acid batteries

One of the most exceptional environmental success stories of our time lies in the recycling of lead-acid batteries. In the USA, lead-acid batteries are the most highly recycled consumer products at 93% (newspapers 42%, aluminium cans 55%, and plastic softdrink bottles 40%). This success story is partly due to the life cycle of the lead-acid battery – such as those used for electric wheelchairs – which is 98% recyclable. At Willard and Sabat Batteries the recycling of lead-acid batteries is a multi-stage process. Initially, the battery is broken apart in a hammermill. Broken pieces go into a vat or flotation pond where the lead and heavy materials sink to the bottom while the plastic floats. At this stage, polypropylene (or plastic) pieces are scooped away and liquids drawn off, leaving the lead and heavy metals behind. The plastic pieces are washed, air-dried and melted together into an almost liquid state. The molten plastic is then put through an extruder that produces small uniform pellets, which are used

to manufacture new battery cases. The lead grids, lead oxide and other lead parts are cleaned and melted in a smelting furnace with additives to help remove impurities. The molten lead is poured into ingot moulds. After a couple of minutes, the impurities (or dross) float to the top of the still-molten lead in the moulds and are scraped away. The ingots are then left to cool, after which they are removed and ready to be resmelted to produce new lead plates and other parts for new batteries. Old battery acid is handled in two ways. The acid is neutralised with an industrial compound similar to household bicarbonate of soda. This turns the acid into water which is treated, cleaned and tested to ensure it meets clean water standards, and then released into the sewerage system. Old battery acid is processed and converted into sodium sulphate, an odourless white powder used in laundry detergent, glass and textile manufacturing. In this way, a potentially noxious substance is transformed into a useful, reusable product.

companies which all comply with environmental best practices. At **Battery Group**, all lead waste – around 160 tons per month – is recovered and recycled, while plastic wrapping and all contaminated wooden pallets are treated as hazardous waste. Quantities are however not measured. **Battery Group's** product, due to its lead, sulphuric acid and plastic

content, potentially impacts on air, water and soil, through emissions and spillage. Emissions of lead oxide from the manufacturing process are carefully controlled, while the generation of liquid effluent is treated in a treatment works and released under controlled conditions. The lead and plastic are both reclaimed, through the “take back” system, and recycled.

Hazardous waste produced by **ABB Powertech** includes oil-contaminated waste, soluble oil, scrap paint and thinners, as well as scrap oil.

Emissions and climate change

Altron and its operations have not yet developed a coherent strategy to address climate change. The group aims to begin monitoring its emissions, particularly at those operations that emit greenhouse gases, and will be addressing the broader issue of climate change in the coming period. At present, only **ABB Powertech** is in a position to report on its greenhouse gas emissions, which it estimates to be 3 000 tons of CO₂ per year. In addition, an investigation is under way to switch from

coal to natural gas for its boiler burner to further reduce emissions.

Product stewardship

Product stewardship, requiring all participants involved in the life cycle of a product to take shared responsibility for the impacts to human health and the natural environment that result from the production, use, and end-of-life management of the product, is of increasing importance in the ICT industry. A number of initiatives are under way in the group to manage aspects of product life cycles, from waste disposal to recycling. Altron will furthermore be investigating increasing the recyclability of all its products.

For operating companies handling hazardous chemical substances, the highest level of housekeeping standards is required. These standards must prevent fire, spillage, ingestion and contamination. In monitoring hazardous chemicals, daily checks take place and waste disposed offsite is conducted by reputable and certified waste disposal contractors.

To comply with EU requirements, including the RoHS (Restriction of the use of certain hazardous substances in electrical and electronic equipment) and Waste Electrical



Regular quality checks take place at all operations.

and Electronic Equipment (WEEE) directives, **Altech UEC** has implemented a programme to remove lead from the soldering process for products supplied into European markets. By July 2007 all lead and harmful substances usage in its production processes will be eliminated. Processes involving volatile organic compounds (VOC) have already been phased out. All other waste material generated in manufacturing multi-media decoders is recycled. Additionally, in terms of its product design, only recyclable packaging material is used. A modern water-based paint plant has been installed to eliminate the use of harmful solvents in traditional oil-based paints. The percentage of the weight of products sold that is reclaimable at the end of the product's useful life is at least 66% of the decoder consisting of the metal and plastic content.

Aberdare, Altech UEC and Battery Group have processes in place to assess the health and safety impacts across most product life cycle stages, from product conceptualisation to disposal, reuse and recycling. With the implementation in **Desta Power Matla** of the OHSAS 18001 standard in June 2006, the health and safety impacts of about 40% of its products have so far been calculated through risk assessments throughout the cycles of product conceptualisation to despatch.

At **ABB Powertech**, 68% of its 250 MVA transformer may be reclaimable, but this varies according to the types and sizes of transformers produced. Information available on actual reclamation is not available.

Take-back schemes and initiatives in collaboration with suppliers include, at **Desta Power Matla**, the recycling of copper pallets and spools in collaboration with copper suppliers. All **Battery Group** product components are reclaimable, of which approximately 80% are currently recovered. Of old battery components, lead metal is recycled, plastic is recycled for use as battery cases and covers, and acid is converted to gypsum for disposal in properly controlled landfill sites.

Legal compliance

No incidents or fines for non-compliance with applicable environmental legislation occurred at any Altron operations during the year under review.

Environmental expenditure

Projects to improve environmental performance across the group, include at **Altech UEC**, the conversion to lead-free processes, as required by the EU. Direct costs to comply with these directives are in the order of R500 000. Input costs of Altech UEC products have as a result increased by approximately 3%, but

these have been absorbed by improved product innovation.

Battery Group has spent R1.6 million on upgrading its automotive dust extraction systems, R130 000 on a wet scrubber and R7 million on paste filling equipment in its industrial plant. Within **Aberdare**, improvements to its boiler burner, costing R480 000, will be completed by August 2007 and will result in reduced emissions.

Influencing suppliers and contractors

The group recognises the influence it has on its suppliers and contractors in improving their health, safety and environmental performance. **ABB Powertech** considers the environmental performance of potential suppliers in its procurement and uses ISO 14001 certified companies where possible. In addition to the quality audits the company currently performs on its suppliers, it plans to conduct a survey of its suppliers to assess their current levels of accreditation with regard to

health, safety and environmental systems. This survey will be completed by the end of July 2007, and will assist in determining the scope for future assessments of suppliers.

Aberdare's main contractors are required to comply with ISO 14001. The health and safety management of suppliers will be addressed during the process of OHSAS implementation. **Battery Group** is currently developing a training programme for suppliers on health and safety issues.

■ TARGETS

Environmental performance

- Continue to pursue ISO certification of operations
- Develop a position paper regarding the group's response to the challenges of climate change
- Pursue emission reduction targets in operations, where applicable
- Explore collaborations with suppliers and business partners around recycling