



600

讓摩天大廈的玻璃外牆時刻閃爍生輝。
Keeping our glazed skyscrapers glittering.



生產力及服務質素

PRODUCTIVITY AND SERVICE QUALITY

水是生命之源
Water's
Life

- 效率及生產力
Efficiency and Productivity
- 營運開支封套
Operating Expenditure Envelope
- 組織架構檢討
Review of Corporate Structure
- 自動化
Automation
- 資訊科技
Information Technology
- 品質保證計劃
Quality Assurance Plan

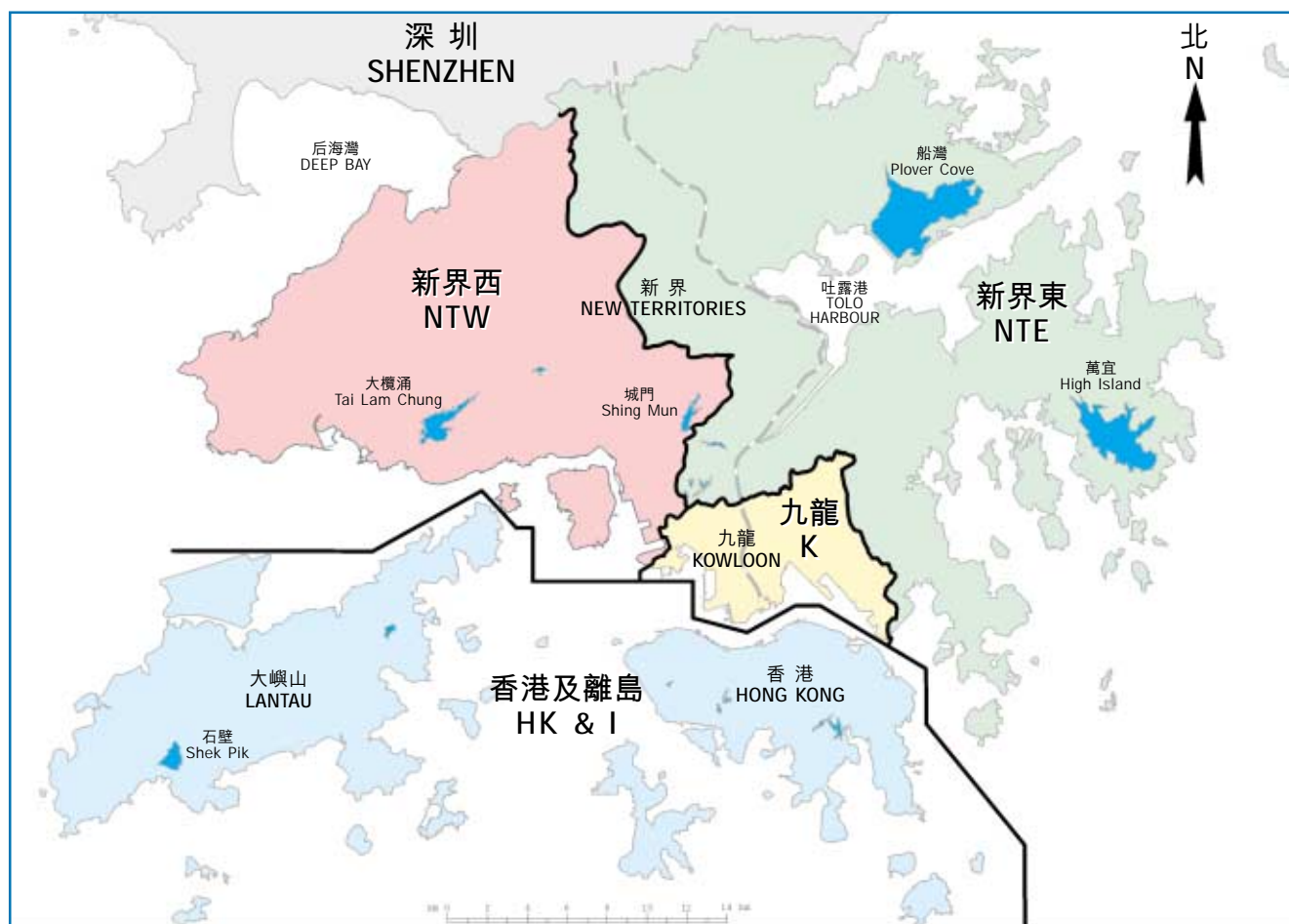
我們不斷竭力改善效率，在年內繼續取得



重大進展，進一步提高了
生產力及節省開支。

Our ongoing drive for
efficiency gains continues to achieve
significant progress in bringing about
improvements in productivity and
increased savings.

生產力及服務質素 PRODUCTIVITY AND SERVICE QUALITY



新運作分區分界圖。
Demarcation plan of new operation regions.

效率及生產力

「效率及生產力促進委員會」在本署節省開支的工作上，繼續擔當重要角色。年內推出的10項新措施，連同已落實的85項措施，使我們在過去3年累積節省了3.09億元，略為超出該委員會訂定的10%目標。能夠取得這個成績，全仗各職工會與管方在精簡工序及程序方面衷誠合作，以及推行更廣泛應用現代科技、加速運作自動化、重組架構、服務外判等措施。

營運開支封套

隨著政府採用「營運開支封套」模式分配資源，本署營運開支撥款在未來4年將合共再削減4.8%。首先，本署二零零三至零四年度的基線撥款已削減約9,700萬元，佔本署營運開支的1.8%，而以後每年的撥款都會再削減1%，直至二零零六至零七年度為止。為達到這些富挑戰性的節流指標，我們正推行以下措施：

- 在本署各設施加強節省能源。
- 檢討維修工作的優先次序。
- 適度調校濾水過程中的化學品投放量。
- 減少發出水費及排污費帳單方面的開支。

EFFICIENCY AND PRODUCTIVITY

The Efficiency and Productivity Improvement Committee (EPIC) plays a critical role in our striving for cost savings. Ten new initiatives introduced in the year together with the 85 initiatives already in effect have brought in cumulative savings of \$309 million over the past three years, slightly exceeding the target of 10 per cent set out by the EPIC. All this has been due to the spirit of cooperation between staff unions and management in streamlining work processes and procedures, the use of more modern technologies and greater automation, reorganization and out-sourcing of services.

OPERATING EXPENDITURE ENVELOPE

With the adoption of the Operating Expenditure Envelope (OEE) approach by the government in resource allocation, a total deduction of another 4.8 per cent on our Operating Expenditure will be made in the next four years. As a start, some \$97 million, being 1.8 per cent of our Operating Expenditure, has already been deducted from the baseline allocation for the year 2003/04, and one per cent will be deducted in each following year until 2006/07. To achieve these challenging saving targets, the initiatives being taken forward include:

- Stepping up energy savings in WSD installations.



沙田濾水廠的「監控及資料收集系統」。
SCADA system at Sha Tin Water Treatment Works.

- Reviewing the priorities of the maintenance activities.
- Optimizing chemical dosage in water treatment.
- Cutting costs for sending water and sewage charges bills.

REVIEW OF CORPORATE STRUCTURE

To align with the new customer care system, the two former Supply and Distribution Branches and Administration and Planning Branch were regrouped into the Operations Branch, Development Branch and Customer Services Branch in September 2002. The original five operation regions were also reorganized into four, namely the Hong Kong and Islands Region, Kowloon

Region, New Territories East Region and New Territories West Region.

Another study on WSD organizational structure is being undertaken by a Working Group on the Review of Organizational Structure and Efficiency (ROSE) formed in early 2003. The Working Group comprises representatives from major WSD staff unions and management and the main focus of the study is on the New Works Branch, Operations Branch, and Mechanical and Electrical Branch. The primary goal of the Working Group is to work out an optimal corporate structure to better match our customers' current and future expectations and needs through review of workloads, streamlining workflow, policies and management practices, and rationalizing organizational structure.

生產力及服務質素 PRODUCTIVITY AND SERVICE QUALITY

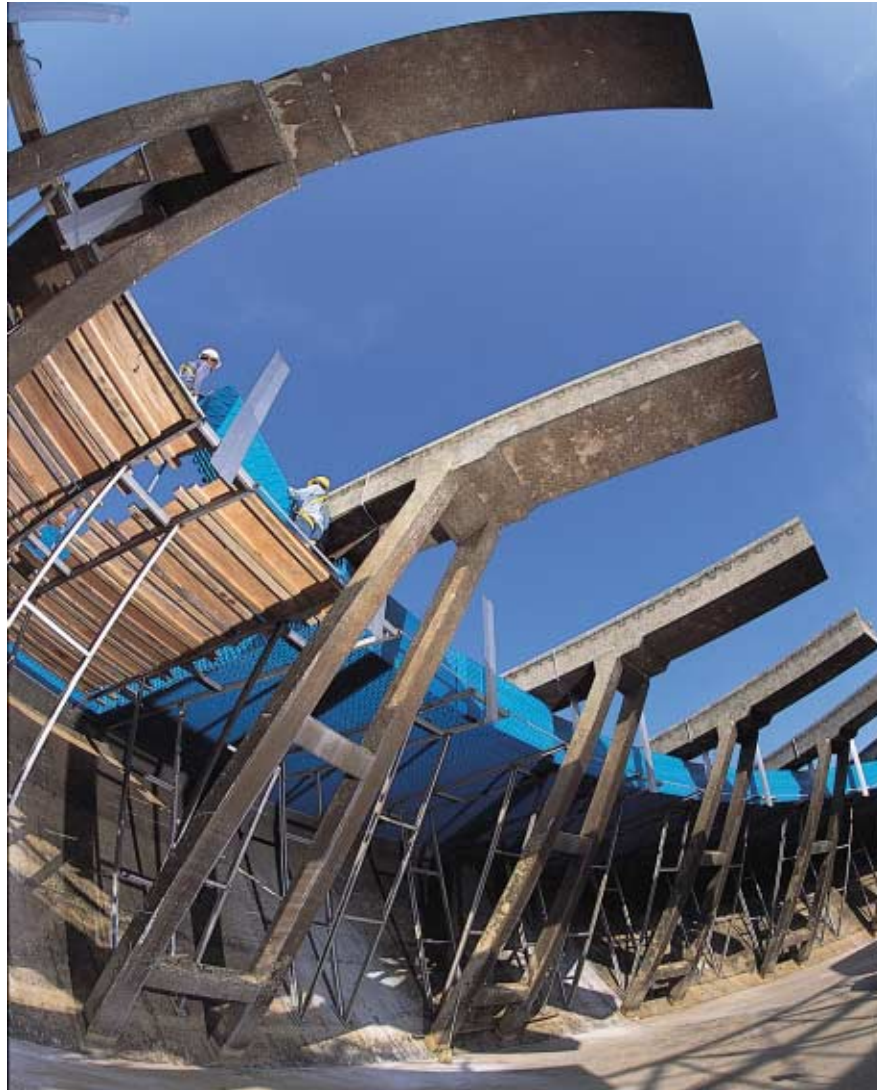
組織架構檢討

為配合新資訊科技系統的使用，前身為「供應及分配科」、「行政及策劃科」的3個科別，在二零零二年九月改組為「運作科」、「發展科」和「客戶服務科」。原來的5個運作分區，亦重組為香港及離島區、九龍區、新界東區、新界西區這4個分區。

在二零零三年年初，本署設立了「組織架構及效率檢討工作小組」，由水務署主要職工會代表及管方代表組成。工作小組現正就本署的組織架構進行研究，主要的研究對象是「設計及建設科」、「運作科」和「機械及電機科」。工作小組的主要目標是通過檢討工作量，精簡工作流程、政策和管理措施，以及合理精簡架構，制定一個最理想的組織架構，俾能更符合客戶目前及日後的期望與需要。同時，各有關科別亦分別成立附屬工作小組，負責草擬有關建議。附屬工作小組提交的數項建議，已由工作小組在會議上提出討論。

自動化

經廣泛使用「監控及資料收集系統」後，我們可遙遠監控供水網絡400多座設施，當中包括運作分區內的濾水廠、抽水站及配水庫。通過採用這類系統，將抽水站改以無人操控方式運作，我們得以節省大量人力資源。現有的180多個抽水站中有超過140個已經全面自動化，無須人手操控，其餘一些抽水站現正進行改裝工程，以便減低人手水平。



工作人員正於沙田濾水廠一個澄清池內安裝斜管，藉以改善沉澱程序的效率。
Inclined tubes being installed in a clarifier of Sha Tin Water Treatment Works for improving efficiency of the sedimentation process.

善用資源

隨著北港濾水廠人手水平的善用資源試驗性研究順利完成，本署現已把這項研究推展至其他濾水廠及使用人手操控的抽水站，務求在水務設施的運作和維修保養方面，能夠達到善用人力資源的目的。有關研究在二零零二年展開，預期在二零零三年年底完成。

資訊科技

我們認識到，資訊科技對我們提供物有所值的服務日益重要。因此，我們已制定一套資訊系統策略計劃，第一階段主要是設立「客戶服務及發單系統」，預期在二零零四年年底完成。策略計劃的第二階段是推行供水及分配運作計劃，現正進行招標，有關系統

Meanwhile, several proposals drawn up by sub-groups from the respective Branches have already been raised for discussion by the Working Group.

AUTOMATION

The Supervisory Control and Data Acquisition (SCADA) systems are widely used for remote monitoring and control of our some 400 installations in the water supply network covering water treatment works, pumping stations and service reservoirs in the operation regions. There have been significant manpower savings through the use of the SCADA systems to enable unmanned operations of pumping stations. Of the existing some 180 pumping stations, more than 140 are fully automatic and unmanned, while some others are being modified to reduce manning levels.

OPTIMAL UTILIZATION OF RESOURCES

Following the successful Optimal Utilization of Resources (OUR) pilot study on the manning level at the Pak Kong Water Treatment Works, the OUR study has been extended to other water treatment works and manned pumping stations to optimize staff resources deployed in the operations and maintenance of these installations. Commenced in 2002, the OUR study will be completed by the end of 2003.

INFORMATION TECHNOLOGY

In recognizing the increasing importance of Information Technology to our success in providing value-for-money services, we have developed an Information Systems Strategy Plan. The first stage of the Plan mainly consists of the Customer Care and Billing System (CCBS) will be completed by the end of 2004. Tendering is underway for the second stage of the Water Supply and Distribution Operation Programme which will be commissioned in phases by 2004 and 2005. Plans have, meanwhile, been drawn up for undertaking feasibility studies on the third and fourth stages of the Plan.

ENERGY EFFICIENCY

Cost saving measures have been put into effect based on the recommendations of the energy audits conducted at 44 major waterworks installations during the year to identify areas for improvement of energy efficiency. These measures include increasing off-peak pumping, reviewing design standards, the use of more durable stainless steel pumps in place of cast iron ones to boost the energy efficiency of existing salt water pumping stations under a five-year replacement programme. Two pilot schemes are also being designed for use of variable-speed pumps that can better suit changing demand and increase pumping efficiency. Replacement of pumping plant in 28 aged installations continued and will be completed by 2006.



員工正積極檢討和簡化濾水廠的運作程序以提升工作效率。

Staff actively reviewing and streamlining the operations of water treatment works for efficiency improvement.



採用最先進的電腦科技控制濾水廠的運作。 Making use of latest computer technology for controlling operations of water treatment works.

生產力及服務質素 PRODUCTIVITY AND SERVICE QUALITY

將分期在二零零四及二零零五年投入服務。同時，我們亦訂有計劃，會就策略計劃的第三及第四階段進行可行性研究。

能源效益

年內，本署44座大型水務設施曾進行能源效益審核，以找出可作改善之處。我們按照審核所得建議，實施了多項節省成本的措施，其中包括：增加非用電高峰時間的泵水量、檢討設計標準，以及在為期5年的水泵更換計劃下，使用更耐用的不銹鋼水泵代替鑄鐵水泵，藉以提高現有海水抽水站的能源效益。此外，我們正在擬定兩項試驗計劃，以便採用既可更妥善配合不斷轉變的供水需求，又可提高抽水效率的變速泵。為28座老化的水務設施更換水泵的工程正繼續進行，將於二零零六年完成。

遙遠視像監察裝置

為加強無人操控的抽水站的保安，我們推行一項試驗計劃，在選定的抽水站安裝約30套遙遠視像監察裝置，讓控制中心人員監察抽水站的情況。我們現正檢討監察系統的成效。

研究及發展

為追上濾水科技的最新發展(包括薄膜過濾法的使用)，我們正在牛潭尾濾水廠安裝一個超濾裝置，以試驗這類裝置在本港操作的效果。研究所得資料會在設計新濾水廠或把現有設施現代化時，用作參考。

我們正在沙田濾水廠進行一項旨在提高濾水效率的試驗計劃，在廠內其中一個澄清池加設多條斜管，嘗試提升沉澱過程的效率。如試驗成功，便會在更多澄清池進行設施改良工作，為計劃中的濾水廠原址重建工程作好準備。

我們亦會測試遙控清潔器在清除配水庫沉積物方面的表現，以便在進行清洗時無須排走配水庫的存水。

測漏工作

為進一步提高測漏效率，我們把本署部分測漏工作納入現行和日後生效的土木工程設施定期保養合約內。

總水錶

為減少流失水量，我們在年內展開一項計劃，利用總水錶監察新界一些村落的用水量。在二零零三年後期，我們會為大型屋邨推出同類計劃。

報錶研究

我們繼續研究提高效率的方法，並向420個住宅及工業用水帳戶推行自動報錶試驗計劃。所得結果顯示，使用手提電腦進行抄錶工作，依然是較符合成本效益的做法。不過，我們會密切監察自動報錶方面的發展。

自行駕車執勤隊

為了更有效調配人力資源，本署在二零零零至零一年度推行「自行駕車執勤



牛潭尾濾水廠內的超濾裝置。
Ultrafiltration pilot plant at Ngau Tam Mei Water Treatment Works.

獎勵計劃」，鼓勵外勤人員自行駕駛政府車輛，代替專責司機駕駛。員工的反應令人鼓舞，現已成立逾50支自行車駕車執勤隊，節省了不少開支。

品質保證計劃

按照本署的品質保證計劃，「機械及電機科」[保養部]的工地保養工作，將於二零零三年後期取得ISO 9001：2000認證資格。年內，工程管理、斜坡保養及抄錶工作的品質管理系統，已成功由ISO 9000：1994認證資格提升至ISO 9000：2000認證資格。

認可化驗室

本署新界東水質化驗室、北港水質化驗室及水錶測試實驗所，繼續保持在香港實驗所認可計劃下取得的認可資格。

REMOTE VIDEO SURVEILLANCE

For stepping up security control of unmanned pumping stations, some 30 sets of remote video surveillance equipment were installed at selected pumping stations for monitoring at manned control centres as a trial. The effectiveness of the system is under review.

RESEARCH AND DEVELOPMENT

Keeping up with the latest water treatment technology on membrane filtration, an ultrafiltration plant is being installed at Ngau Tam Mei Water Treatment Works for performance tests under Hong Kong conditions. Information derived from this study will be used in the design of new water treatment works or modernization of existing facilities.

A pilot scheme is being conducted in Sha Tin Water Treatment Works to improve the efficiency of water treatment process. Inclined tubes are being installed in one of the clarifiers as a trial to enhance the effectiveness of the sedimentation process. If successful, more clarifiers will be upgraded to make room for the planned in-situ reprovisioning of the water treatment works.

Tests will also be conducted on the performance of remote-controlled reservoir cleaners in removing the deposit in service reservoirs so as to avoid the need to drain them down for cleaning.

LEAK DETECTION WORK

To further improve our leak detection efficiency, we have included part of the in-house leak detection work in the current and future term contracts for civil maintenance work.

MASTER METERS

To reduce unaccounted-for water, a programme began in the year by which master meters are being used to monitor consumption in some villages in the New Territories. A similar programme for large housing estates will begin later in 2003.

METER READING STUDY

In our continuing search for ways to enhance our efficiency, we carried out a pilot scheme on automatic meter reading in 420 domestic and industrial accounts. This showed that meter reading by use of hand-held computers was still more cost-effective. We shall, however, keep a close watch on the development in automatic meter reading.

SELF-DRIVE TEAMS

For better deployment of staff resources, we launched a "Self-drive Incentive Scheme" in the year 2000/01 to encourage site staff to drive government vehicles in place of a dedicated driver. The response has been encouraging and more than 50 self-drive teams have been formed resulting in considerable savings.



化驗室工作人員正測試水樣本。
Testing of water samples in laboratory.

QUALITY ASSURANCE PLAN

In line with our Quality Assurance Plan, the site maintenance function of the Mechanical and Electrical Maintenance Division will achieve ISO 9001:2000 certification in later 2003. During the year, quality management systems for the project management, slope maintenance and meter reading functions were migrated from the ISO 9000:1994 version to the 2000 version.

ACCREDITED LABORATORIES

The Mainland East Laboratory, Pak Kong Laboratory and Meter Testing Laboratory maintained their status under the HOKLAS accreditation scheme.