



Feature Column

Hau's Third Year in Office: Reflections on the Past and Visions for the Future

During the Amorgos oil spill incident, Dr. Hau Lung-bin was chosen as administrator of the EPA due to his professional background, and has served this post for two full years. Looking back at the last two years of trials, Administrator Hau repeatedly mentions how fortunate and grateful he is to be the leader of such an exceptional team. Hau looks forward to continuing on with the plastic bag restriction policy, and expects that Taiwan's new environmental technology parks, which will begin construction in July this year, will successfully attract firms to set up within the parks.



EPA Administrator Hau appeared on TV news several days ago, resolutely expressing that he will not yield on the plastic bag restriction policy, and firmly standing by his principles while confronted with protestors from the plastics

industry. Few days later, Hau accepted an invitation to meet with reporters on March 7, where he calmly expressed how he felt about his work over the past two years.

Hau said he felt "very lucky" in his first term as a government official, to be able to work with the highest degree of professionalism and organization as is present among his peers in the EPA. Hau said that he is deeply moved and appreciative of the high level of cooperation that his colleagues have shown while he serves as their leader through sometimes quite arduous missions.

Dr. Hau Lung-bin told reporters that over the past two years, the issues that have left the greatest impression on him have been the Amorgos oil spill, elimination of illegal smelting operations near the Erren River, remediation of heavy metal contaminated farmland throughout Taiwan, and the plastic bag restriction policy. In the future, Hau is determined to continue on with current policies, putting special emphasis on creating environmental technology parks and expanding employment

opportunities in the environmental sanitation field. Previous milestones and future visions for these key policies are explained in detail below.

Amorgos Spill Accelerates Establishment of Marine Pollution Control System

Former EPA Administrator, Edgar Lin left office just after the Amorgos oil spill occurred, and when Dr. Hau Lung-bin stepped in, his first task was to handle this incident. On his first day in office, Hau immediately went to the Lungkeng locale in Kenting to get a practical understanding of the extent of oil pollution. Hau instructed the EPA to establish two specialist task forces to handle the tasks of oil pollution cleanup and compensation.

All agencies joined forces to clean up a total of 917 tons of oil from the polluted area, which covered 6,987 square meters of intertidal zone. Work to recover fuel and ore sand from the wreckage was finished in June 2001, and the ecology is gradually recovering now that all oil pollution has been removed from the site.

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After talks with the ship owner's insurance company concerning damage compensation, both sides reached an initial stage of agreement in April 2002 that the insurance agency would pay compensation of NT\$61.33 million to cover government expenses toward pollution cleanup work. As for ecological restoration expenses and economic losses incurred, the two sides were unable to come to a consensus. As a result, in January this year the EPA filed lawsuits in the local court in Pingtung County and the court in Norway, where the insurance company is located. (see EPM Vol. VI, Issue 2)

Dr. Hau Lung-bin emphasized that although the Amorgos oil spill caused immeasurable loss by seriously polluting the shores near Kenting, it helped to spark a sense of emergency to solidify disaster response mechanisms. The EPA took painstaking effort to complete regulations in the *Marine Pollution Control Act* and took initiatives to purchase and install the necessary marine pollution emergency response equipment. The EPA also now cooperates with local governments to carry out regular marine pollution emergency response drills. Such measures guarantee the gradual maturation of national pollution emergency response

capabilities. For instance, two accidents occurred in May and July 2002 involving power loss of two oil tankers upwards of 200,000 tons in the ocean near Taiwan. In both cases, the government had a firm grasp of emergency response mechanisms and was able to resolve potential marine pollution crises.

Illegal Smelting Operations Removed From Erren River

The task of remediating the Erren River came to the forefront after Administrator Hau stepped into office, and he put emphasis on a concrete plan calling for strict implementation. Illegal smelting operations in the Erren River basin were located on the jurisdiction boundaries of the local, county and city governments, and therefore had slipped through loopholes and were not being managed effectively by any of these levels of government. As a result, the situation had carried on for over a decade without seeing any improvement. In early 2001, Administrator Hau instructed the EPA to establish the Erren River Remediation Task Force and take immediate action upon citizen phone calls as an emergency measure to ensure thorough pollution remediation and prevent illegal

smelting businesses from continuing operations.

After several onsite investigations and negotiations with the local governments, the EPA ordered the removal of nearly 70 illegal smelting operations in the Erren River in June 2001. Before these operations were shut down, Hau made a special visit to the south to convene a press conference where he emphasized the EPA's determination to clamp down on illegal smelters. As a result, owing to cooperation with local governments, all such operations were completely removed before the end of June 2001. Since then, environmental agencies have continually carried out inspection rounds to enforce the ban and prevent any other industries from starting up again. After continual crackdowns and enforced dismantling of illegal smelting operations, all aluminum smelting industries in that area closed down and either switched to another line of business or relocated to industrial parks. This has led to significant improvement of the ecology of the Erren River.

Large-Scale Soil Pollution Surveys In Progress

Cadmium contaminated rice was discovered in Huwei Township, Yunlin County, in August 2001, causing great public concern. The



Erren River before cleanup.



Erren River after cleanup.

EPA actively developed follow-up handling measures and immediately initiated full-scale investigations for heavy metal pollution in agricultural land throughout the island, in order to ensure the health of the nation's citizens. After carrying out surveys of 319 hectares of farmland throughout Taiwan suspected of heavy metal contamination, a total of 245.7 hectares of farmland were ascertained to contain heavy metal pollution. After determining the extent of pollution, local governments were instructed to dispose of agricultural food products and burn crops that had come from contaminated land. Environmental protection agencies also carried out inspections of industries that were possible sources of such pollution, to ensure that the situation would not get worse. As for contaminated farmland soils that exceed *Soil Pollution Control Standards*, the EPA will put forth a remediation plan for these control sites.

In addition to farmland, the EPA has also targeted areas where soil contamination occurs at a higher ratio, particularly filling stations over ten years old and large-scale petroleum storage facilities. Comprehensive soil and groundwater surveys are being carried out in these locations and should be completed by the end of 2003.

Plastic Bag Restriction to Change Consumer Habits

In light of Taiwan's excessive use of plastic bags and plastic disposable dishes, the EPA introduced an initial stage of control measures in 2002, which restricted the use of such plasticware by government agencies, schools, government-operated enterprises and organizations, and the military.

The EPA then launched the second stage of restriction measures in early 2003, which extended the

target from government organizations to now include shopping malls, department stores, retail mega stores, supermarkets, convenience store chains, fast food franchises, and storefront food & beverage enterprises. Due to the widespread impact of this restriction on plastic bags and plastic disposable dishes, this has become the most debated policy that Administrator Hau has had to face since he stepped into office.

Hau: "If we don't act now, we may never successfully put a cap on our level of plastic consumption."

Hau has countered skepticism about this policy by affirming that this restricted use policy actually is an important milestone in environmental protection. In the past, citizens were going through enormous quantities of plastic bags, polystyrene, and plastic disposable dishes simply for the sake of convenience. In the process, we were creating huge quantities of garbage and pollution, which will only add to the burden of future generations. Hau indicated that while this new policy will, to a certain degree, have a temporary impact on industry operations and consumer habits, it is still definitely worth the trouble to ensure a clean environment for future generations. Hau asks for collective support from the entire nation to carry through with this policy.

With this concept of taking the whole citizenry into account, Administrator Hau is still resolute in carrying out this policy on schedule, despite protest from legislators and the plastics industry. Hau indicated that this policy has been in the planning for a long time and has received support from 70% of the public. If the EPA were to change

its stance and delay the implementation of this policy, this would only result in harming those businesses that have already complied with restrictions, and the public would only doubt the government's determination. Hau said in earnest that, "Our environment cannot wait another five years – if we don't act now, we may never successfully put a cap on our level of plastic consumption."

Environmental Technology Parks Provide Incentives and Stimulate Innovation

At the end of 2002, the Executive Yuan ratified the Environmental Technology Park Plan proposed by the EPA, as a measure to promote recycling and reuse of resources, as well as to encourage technology research and innovation of domestic environmental enterprises. This plan calls for the establishment of three environmental technology parks that will occupy a total of 100 hectares, one each in northern, central and southern Taiwan within the next 10 years. The central government is investing NT\$5.08 billion in this plan to assist local governments in pulling together the needed NT\$12 billion in private capital, and it is hoped that the park will create an annual output value of NT\$35 billion.

After intensive evaluation of proposed park sites, the EPA chose Benjhou Industrial Park in Kaohsiung County as the southern park location, and Fenglin Development Zone in Hualien County as the northern park location (see EPM Vol. VI Issue 2). In the coming months, Kaohsiung and Hualien Counties will carry out infrastructure planning and construction according to design plans, and will invite firms and carry out necessary construction

on areas neighboring the parks. If everything goes as planned, construction on Taiwan's first Environmental Technology Park will commence in July 2003.

The EPA indicated that with the recent trend toward sustainable development goals and establishment of resource-cycling communities, many countries are promoting environmental technology parks. This plan will introduce advanced green technology from abroad and integrate domestic talents and resources to raise the level of technology of environmental firms. This is expected to drive the development of environmental industry, as well as effectively make use of existing space in industrial parks, and promote the cycling and sustainable use of materials. This plan is ultimately projected to attain three important goals: cycling and reusing resources, incorporating ecological concepts in industry, and advancing green technology.

5,000 Jobs Provided to Clean Up Environment

The EPA has put forth the Environmental Sanitation Maintenance Plan to work in concert with the Executive Yuan's NT\$20 billion policy to expand employment programs. A fund of NT\$1.6 billion will be set aside by EPA for public service jobs in the area of environmental sanitation. The EPA indicated that citizens have not entirely developed trash reduction and resource recycling practices in terms of consumer and lifestyle behavior. This is leading to problems with a great deal of garbage and a decrease in the quality of life. The EPA is therefore promoting this new plan to employ more temporary workers to upkeep environmental sanitation. On one hand, this will assist the government in carrying out environmental sanitation work, and on the other hand, it will help

to educate the public to develop better habits of environmental cleanliness.

Of course, this plan was not created just to fulfill EPA motives; its

main purpose is to expand employment opportunities. According to estimates, this plan will open up 5,000 extra job opportunities and will help boost the domestic economy.

Water Quality

Year of River Cleanup Shows Results

2002 was the Year of River Cleanup, and an investment of nearly NT\$600 million toward the restoration of 13 rivers helped to bring about ecological parks, drinking water source protection facilities, the greening of riverbanks, and visible improvement to the water quality of many rivers in Taiwan.

EPA Administrator Hau officially pronounced 2002 as the Year of River Cleanup in February 2002 as a way of protecting and improving river water quality and creating better living environments. The Tamshui River and 12 other rivers were among those prioritized for restoration. A total of NT\$585 million was set aside for this project in 2002.

The EPA indicated that river restoration planning work focused on greening riversides, creating ecological parks and river access areas, safeguarding drinking water sources, protection and improvement of river water quality, cleanup of trash and unkempt areas, and citizen participation in helping raise awareness. As for

actual measures taken, different actions were required depending on the priorities and particular pollution sources of each river.

As for providing public river access, greening and beautification projects were carried out over a total of 330 hectares of shoreline in the Erchong Floodway in Taipei County and the Gaoping River in Yanpu in 2002. Designs were drafted for another 37 hectares spread throughout 8 locations along six rivers including the Nankan River. Construction on these areas is expected to begin in 2003. As for setting up ecological parks and carrying out conservation work, rehabilitation work was done on 15 hectares of estuary mangrove ecological parks in three



Erchong Floodway's greening and beautification.

river basins including the Puzih River. Construction on plans drawn up for 10 locations at three other rivers including the Keya River is slated to begin this year.

...a budget of NT\$895 million has been set aside to invest in substantial development of related follow-up construction plans in 2003.

Aiming to safeguard the water quality of drinking water sources, the EPA has already completed an upstream non-point source pollution interception demonstration site for the Puzih River. Designs have also already been drafted for a non-point source pollution prevention demonstration site on the Gaoping River in Meinong Township and on the Puciang River Drainage. Special attention has been made to effectively reduce runoff pollution at the onset of heavy rains. As a further measure to sustain the results of the *Prohibition and Compensation of Pig Farm Closure in Water Source Zones* in five large river basins including the Gaoping River, the EPA has completed a series of water source maps compiled from 500 aerial photos and geographic databases. The maps cover a total land area of 360,000 hectares and serve as an information reference tool for environmental protection authorities when carrying out inspections.

Domestic wastewater is the leading cause of river pollution. To address this issue, the Ministry of the Interior has cooperated to speed up the construction of sewer systems. Construction has

already been accelerated in 2002 on 20 drainage areas including Taoyuan City on the Nankan River. In areas where sewers have not been designed yet, the EPA is promoting natural purification construction designs to handle daily water pollution and intercept the flow of water bodies as a measure to reduce pollution.

As a necessary measure to maintain and improve river water quality and reduce the amount of dustrial pollution, the EPA commenced eight trial sets of remote monitoring systems on five river basins in 2001, including the Nankan River. This system uses high-tech instruments to help reinforce inspection and control of industries located in river basins. At the same time, 91 volunteer patrol crews were organized in 7 river basins including the Jhonggang River. These patrols work to curb illegal dumping of waste or wastewater. In addition to carrying out inspections and controls, the EPA has also devoted efforts toward promoting low pollution pig manure management technology to sharply reduce pollution amounts.

Thanks to participation by several departments throughout the year, the water quality of these 13 rivers has seen noticeable improvement. For example, the percentage of water quality standards met for dissolved oxygen content of the Puzih River rose from 52% in 2001 to 71% in 2002. The percentage of water quality standards met for ammonia nitrogen in the Beigang River increased from 2% in 2001 to 11% in 2002. Moreover, the percentage of water quality standards met for biological oxygen demand (BOD) of the Kaoping River rose from 44% in 2001 to 52% in 2002. These examples illustrate that river water quality in Taiwan has already been improved to a great extent.

The EPA has indicated that the

results of actions taken in 2002 have been promising, and many in more project designs have been finalized as well. Therefore, a budget of NT\$895 million has been set aside to invest in substantial development of related follow-up construction plans in 2003. It is hoped that the results of river restoration work will become even more visible in the near future.

Air Quality

Filling Stations in 9 Counties/Cities to Install Vapor Recovery Equipment

Filling station vapor recovery controls have already been extended to include existing filling stations. The EPA announced that the previous law, *New Filling Station Vapor Recovery Equipment Standards*, has been modified and renamed as the *Regulations for Filling Station Vapor Recovery Equipment*, which sets controls for filling stations in nine cities and counties, including Taipei City, where ozone emissions are relatively higher, as well as for filling stations in areas of high population densities.

The number of filling stations throughout Taiwan has continued to grow along with the number of automobiles on the island. By early January, there were a total of 2,268 filling stations in Taiwan. It has been estimated that over 30,000 metric tons of volatile organic compounds (VOCs) escape from filling station fuel pumps in

Taiwan every year, accounting for approximately 6% of total emissions in Taiwan. These emissions comprise of benzene, toluene, xylene, ethylbenzene, and other hydrocarbons. In addition to being harmful to human health, these compounds undergo a photochemical reaction to create ozone, one of the main pollutants contributing to poor air quality in Taiwan. This illustrates the gravity of the problem and indicates that improve-

These figures demonstrate that the installation of vapor recovery equipment really works to reduce fuel vapor emissions.

As the installation of vapor recovery equipment has been a remarkably effective way of reducing pollution, the EPA promulgated the *New Filling Station Vapor Recovery Equipment Standards* on February 27, 2002. This stipulated that newly established filling stations are

in areas of high population density as priority control targets. Such areas include the following nine cities and counties: Taipei City, Kaohsiung City, Taichung City, Jiayi City, Tainan City, Taipei County, Taichung County, Tainan County and Kaohsiung County. Existing filling stations in these areas are now required to install fuel vapor recovery equipment.

According to the new regulations, existing filling stations in the above mentioned nine counties and cities are required to complete testing for air to liquid volume ratio and gasoline dispensing facility static back pressure after installation of vapor recovery equipment by July 1, 2004. They are also required to record these test results and make them available during future inspections. Filling stations with substandard test results must make improvements within 10 days. Those that are unable to adequately improve the situation should apply with the authorized agency for an extension before the deadline is up, or be subject to penalties.

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ments are necessary.

In its first effort to improve the problem of VOCs escaping from filling stations, the EPA subsidized a portion of costs to encourage filling stations to step up the pace in installing vapor recovery equipment. As of December 31, 2002, already 1,819 filling stations, or 80% of all, had installed the required equipment. At these stations, VOC measurements taken near fuel nozzles when filling automobiles showed an average of 250 ppm, while concentrations at filling stations without this recovery equipment reached up to 30 times higher at 7,500 ppm.

required to install vapor recovery equipment and maintain a specified rate of vapor recovery.

After this regulation was in effect for over a year, the EPA decided to extend controls to include existing filling stations as well. On March 12, 2003, the EPA announced that the above-mentioned standards, *New Filling Station Vapor Recovery Equipment Standards*, had been revised under the new name of *Regulations for Filling Station Vapor Recovery Equipment*. These guidelines select filling stations that release excessive ozone concentrations or that are

Air Quality

Majority of Packaged and Dispensed Water Sources Meet Water Quality Standards

There are upwards of 4,000 listed regulated water packaging and dispensing enterprises in Taiwan. In addition to establishing a management information system, the EPA has required county and city governments to reinforce inspections and ensure safe drinking water. In 2002, EPA carried out 809 inspections of firms that do not use tap water as their product

Status of filling station target regions under new regulations

County / City	Total Filling Stations	Recovery Equipment Installed	Installation Ratio (%)
Taipei City	73	72	99
Kaohsiung City	98	94	96
Taichung City	98	86	88
Jiayi City	26	16	62
Tainan City	59	45	76
Taipei County	190	187	98
Taichung County	185	152	82
Tainan County	191	121	63
Kaohsiung County	151	119	79

source, and only 9 inspections showed substandard results in the category of water source quality.

To ensure safe drinking water for the public, the EPA has requested county and city environmental protection authorities to strengthen management work on water source quality for packaged and bottled drinking water, in addition to formulating a special inspection control plan. The EPA has also finalized the compilation of management data regarding packaged and bottled drinking water. This includes both building up basic information on businesses as well as clarifying and establishing links between upstream water source firms and midstream water filling stations, so as to effectively keep track of firms undergoing inspection.

The EPA has stated that the management of drinking water packaging and dispensing firms involves many authorized agencies, and therefore most counties and cities adopt joint inspection methods toward managing these enterprises.

According to statistics, of the 215 water sources for packaged and dispensed drinking water currently listed by counties and cities in Taiwan, 123 of these come from tap water sources, while the remaining 92 use non-tap water sources. As for midpoint water filling stations, there are a total of 3,935 listed firms throughout Taiwan, with 886 taking from tap water sources and 3,049 using non-tap water sources.

As water source quality of firms that use tap water sources already accords with drinking water standards, environmental protection agency inspections mainly focus on the firms that use surface or ground water sources (non-tap water). In 2002 for example, environmental protection agencies carried out 809 inspections of firms

that do not use tap water sources.

In the aforementioned inspections by city and county environmental protection agencies throughout Taiwan, 277 inspections of water source quality were carried out and 268 of these met standards – a pass rate of 96.75%. The nine inspections with substandard results failed to meet qualifications in the categories of turbidity, colon bacillus, ammonia nitrogen, and nitrate nitrogen.

EPA officials have pointed out that there is great inconsistency in water source quality of packaged water from the various coin-operated water filling stations commonly seen on the market. Moreover, as there are no attendants at such stations, it is not easy to verify the water source, and some disreputable firms take advantage of this situation to avoid water quality inspections of water sources or end products. Some firms go so far as to mix tap water into products sold under the name of mountain spring water. As the water source quality of water filling stations is regulated under the *Drinking Water Management Act*, water packaging firms found to have substandard water quality may face fines between NT\$60,000 to NT\$600,000. They will also be notified that they must discontinue selling such water as drinking water, and those who disobey regulations may face up to one year in jail as well as another fine of up to NT\$60,000.

The EPA has indicated that environmental protection authorities of all levels have already reinforced water source quality controls for packaged and dispensed water, and have called on firms to carry out scheduled water source quality inspections on their own to ensure that water source quality is up to par with the *Drinking Water Quality Standards*. The EPA has also called on the public to take note of the source of purchased water, and make sure that it ac-

cords with water source quality standards. If citizens have doubts about the water quality of packaged and dispensed drinking water, they can check with their local environmental protection bureau or with the EPA's website at <http://www.epa.gov.tw/j/drinkwater/>.

Waste Management

Restaurants to Receive Up to NT\$40,000 to Purchase Reusable Tableware

The EPA now provides a special subsidy for storefront restaurants as a method to achieve waste reduction and encourage the public to use reusable tableware. Restaurants that comply with subsidy requirements can apply with the EPA for subsidies of up to NT\$40,000 for the purchase of reusable tableware or for employing a dishwashing service. Applications for this subsidy will be accepted till the end of June.

Since the implementation of the second stage of restrictions on the use of disposable dishes, the EPA has announced subsidy guidelines for businesses that switch over to reusable tableware. The goal is to help businesses adapt to the policy and reduce the impact that it has on citizens. It is anticipated that subsidization of a portion of costs will encourage restaurants to switch over to reusable tableware and lower costs of equipment, dishes, and dishwashing services. This will help achieve the goals laid out in the plastic disposable dishes restriction policy.

The EPA indicated that any business (including restaurants, snack outlets, ice shops, breakfast shops, etc.) that complies with the subsidy guidelines can apply with the EPA for subsidization toward purchasing reusable tableware or hiring a dishwashing service. Upon obtaining approval, each restaurant is eligible for allowances up to NT\$40,000. The application deadline is June 30, and subsidies will be available on a first come first serve basis until the NT\$10 million budget reserved for this purpose is used up.

This plan comprises of two types of subsidies. One type of subsidy is for restaurants that have purchased reusable tableware or washing equipment after October 2002. These restaurants are eligible for a 20% allowance towards the cost of those purchased items, up to a total allowance of NT\$40,000. The other type of subsidy is for operators that have commissioned a dishwashing service. These businesses can apply for one month's compensation of dishwashing fees, also up to a total allowance of NT\$40,000.

At the same time, restaurants that have received subsidies from the EPA are required to give their word that they will thoroughly wash dishes with sterilization products and methods. They must also promise to eliminate, within one year, the use of plastic (or polystyrene) disposable tableware when serving customers. Violators must return the entire subsidy amount received. Restaurants that take the lead in using reusable chopsticks and spoons will be given priority when handing out subsidies.

The EPA emphasizes that the main purpose of this policy is to reduce waste, rather than have operators switch over to any particular alternative material for dishes. The EPA has provided the above-mentioned measures and

asks operators to promptly apply as subsidies are only available on a first-come-first-serve basis. Application information can be found

on the EPA website at www.epa.gov.tw/bag. Questions can also be directed to the toll-free line at 0800-085717 or to 02-2370-5888 ext. 3600.

Waste Management

Solid Waste Export Report System Goes Online

The EPA has completed the new online *Solid Waste Export Report System*, which will be integrated with the Industrial Waste Control Center system in order to effectively manage the transboundary movement of waste. This measure makes waste control information more comprehensive and simplifies waste transport reporting regulations. As this is the world's first initiative toward a transnational waste export reporting system, Taiwan relishes the opportunity to share its experiences with the international community.

To conform with the Basel Convention and prevent the illegal transboundary movement of hazardous wastes, Taiwan began placing controls on the export and import of hazardous waste in 1993. The amount of hazardous waste being exported for disposal has seen a gradual increase in recent years, and in order to get a better handle on the situation and raise the efficiency of government management, the EPA completed the online Solid Waste Export Report System, which was officially launched on September 16, 2002 (Website: <http://waste.epa.gov.tw/>

<http://waste.epa.gov.tw/export/main.asp>).

The EPA indicated that in the past, waste exporters were required to report clearance procedures through a three-copy manifest system, in addition to the four-copy manifest for domestic transport procedures. This only resulted in redundancy of information and complicated reporting procedures. The new system, however, has integrated Industrial Waste Control Center data, and now waste exporters need only report the serial number of their three-copy manifest together with waste amount.



EPA's newly completed Solid Waste Export Report System website.

In this way, information concerning the whole progression, from production to export and disposal, can be recorded in one system.

...since the launch of the online Solid Waste Export Report System, already 412 national export manifests and 381 overseas delivery manifests have been received.

Additionally, during the process of export for disposal, in the past it was stipulated that waste exporters were required to submit seven-copy manifests for overseas transport, describing the complete three-stage process including national export, foreign import and overseas disposal. This report was to be submitted to both local and central environmental agencies. Now through the online reporting system, operators need only make two copies of the report, keeping one copy for themselves and retaining one for overseas waste disposal agencies to refer to. This makes it easier to report information online regarding import and disposal status.

To confirm the identification of overseas disposal firms, the new system requires overseas disposal agencies to first submit their user registration number and password. Only after verification of registration are international disposal firms allowed to resume reporting retrieval and disposal status.

The EPA pointed out that since the launch of the online Solid Waste Export Report System, already 412 national export manifests and 381 overseas delivery manifests have been received. Also, already 12 disposal enterprises in six countries have completed registration work, operating

in coordination with the online report system.

The EPA indicated that the Industrial Waste Control Center's data system has been in operation for years, and has greatly assisted domestic waste control procedures. However, if the traditional written reporting method for waste exportation continued on any further, this would have resulted in gaps to the whole control of waste export's system. The new online Solid Waste Export Report System has compiled the waste control system into one complete whole. In the future, the EPA will continuously upgrade the system's functions and also revise related waste report regulations so as to offer

Air Quality

Inspections Show 30% of Motor Vehicle Diesel Fuel to Exceed Sulfur Limit

Most domestically produced motor vehicle diesel fuel meets the decreed regulatory standards. However, random roadside inspections conducted by the EPA over the past six months have revealed that some diesel fueled motor vehicles were using illegal fuel containing sulfur contents as high as 0.774%--far exceeding regulatory standards. Over 30% of the diesel fueled motor vehicles tested exceeded the sulfur limit. Exhaust emissions from the illegal sale and use of illicit fuel has already had a serious impact on ambient air quality.

The number of automobiles in Taiwan is on the rise and causing an escalating pattern of air pollution. Air pollution from motor vehicle exhaust is not only attributable to

even greater effectiveness of waste controls.

EPA officials emphasize that the Solid Waste Export Report System has successfully installed a report system for foreign waste disposal firms, which is a first in the international arena and affirms Taiwan's initiatives to comply with the Basel Convention. Nowadays when the international arena discusses issues related to the Basel Convention, ever more importance is being placed on the report systems of foreign disposal agencies. Taiwan takes satisfaction in cooperating with other countries or organizations and sharing the results and experience gained through this new report system.

the vehicle's functioning but also the quality of fuel used. In an effort to improve the air pollution caused by poor quality fuel, the *Air Pollution Control Act* spe-

News Brief

Subsidy for Restaurants to Provide Discounts for "BYOT" Customers

The EPA continues efforts to reduce the use of disposable tableware by creating ways to encourage the public to get into the BYOT habit, that is, to "Bring Your Own Tableware." The EPA has announced its ongoing search for 1000 storefront restaurant operators who are willing to provide discounts to BYOT customers. Each business can receive a subsidy of NT\$10,000, and the funds will be distributed to each local city and county environmental protection authorities by ratio. Those interested can download application forms from the EPA's website: www.epa.gov.tw/bag. The application deadline is June 30, 2003.

Activities

Individuals, Organizations, and Communities Awarded for Dedication to Environment

The EPA held an award ceremony on February 20 honoring outstanding individuals, organizations, volunteers, EPA employees, environmental protection professionals, and model environmental communities whose exceptional contributions during 2002 made a positive impact toward protecting the environment. Ten organizations were honored for their dedicated efforts toward environmental protection and for coordinating with communities to carry out environmental protection work.

Kaohsiung City Environmental Fair Creatively Promotes Restriction on Plastics

Kaohsiung City held an environmen-

tal fair on February 8 and 9, with its theme based on the daily challenge to take action in support of the restricted use policy on plastic shopping bags and plastic disposable dishes. Kaohsiung City Mayor, Frank Hsieh, EPA Deputy Administrator Chang Juun and other related officials showed up to participate in the event. The fair included 60 stalls in an exhibit to show the diversity of environmental lifestyles. Other attractions included exhibits on how to make environmental substitutions to high quality lifestyles, as well as a "Clean Living Environmental Technology" hands-on area, and "A New Era of Dishes" interactive area. The event also featured an environmental music concert, an environmental percussion jam, an environmental fashion show, an "Environmental Taebo Battle", and many other activities to animatedly promote

the restricted use policy on plastics.

EPA Honors Outstanding Construction Sites of 2002

The EPA sponsored the "2002 National Environmental Protection Outstanding Construction Sites" award ceremony in hopes of encouraging others in the construction industry to make greater efforts on protecting the environment and lowering pollution emissions. Those considered for evaluation and selection were the construction sites that submit air pollution control fees to their responsible city and county authorities. Four outstanding construction sites were chosen for their achievements in preventing pollution, one each in northern, eastern, central and southern regions in Taiwan.

cifically stipulates that the fuel used for transportation vehicles must comply with fuel composition and properties standards established by the EPA.

All of the domestically produced motor vehicle diesel fuel complies with the stipulations set forth in the regulatory standards (a maximum sulfur content of 0.035wt%_{max}). However, results from random roadside inspections of motor vehicles over the past half-year have revealed that some diesel vehicles were using illegal fuel containing sulfur amounts over 0.774%, far exceeding the regulatory standards promulgated by the EPA. To deal with this situation, the EPA has stepped up reinforcement of random inspections in order to track down the source of these petroleum products.

From July to December of 2002 the EPA intensified random roadside diesel fuel inspections in an aggressive effort to clamp down on the use of fishing boat fuel in motor vehicles. The EPA worked together with the environmental police force and local environmen-

tal authorities in conducting random roadside diesel fuel inspections. Out of 1,836 motor vehicles inspected for diesel fuel content, 556 (or 30.3%) were using illicit diesel fuel that exceeded the regulatory standards for sulfur contents by over 0.035%. These figures make it evident that the illegal sale and use of illicit diesel fuel is a serious problem.

The illegal fuel on the market now is believed to come mainly from fuel used in fishing boats (regular diesel fuel containing 1% sulfur content). Fishing boat operators who have attained permits to purchase fuel at discounted prices (NT\$8.754/l) at specially designated harbor filling stations are illegally reselling this fuel. After entering the black market, the fuel is illegally transferred to oil tankers, which sell the fuel at low prices to large diesel truck operators. The current market price of motor vehicle diesel fuel is NT\$15.5/l while illegal fuel is sold at NT\$4~5 lower than the market price. The quantitative incentive for the sellers and users of this illegal fuel is readily

calculable.

The EPA has announced that it intends to enhance efforts to control the use of illicit diesel fuel in motor vehicles and strengthen the protection of the nation's ambient air quality. In order to actualize these goals, the EPA's Bureau of Environmental Inspection will continue to work together with the Environmental Police Force (EPF) to intensify the enforcement of roadside inspections on main roadways, national toll stations, harbor areas, and inland riversides of major rivers. In addition, the EPA will oversee local city and county environmental authorities during periodical inspections of diesel vehicles at dynamometer inspection stations. Any motor vehicle found to have diesel fuel containing sulfur content in excess of limits stipulated in the promulgated regulatory standards will be in violation of Article 36 of the *Air Pollution Control Act* and in accordance to Article 64 of that same Act will be fined a minimum of NT\$5,000 to a maximum of NT\$100,000.

Waste Management

Motor Vehicle Disposal Subsidization Revised

The EPA announced subsidy amounts for motor vehicle recycling, clearance and disposal, also specifying the methods and targets of subsidization. Recycling enterprises will be able to apply for subsidies for vehicles recycled on or after March 1, 2002. Similarly, disposal enterprises will be able to apply for subsidies for vehicles dismantled on or after March 1, 2003. Subsidy amounts are determined and applied for according to the newly announced subsidy chart, which became effective as of March 1, 2003.

In view of the fact that the number of discarded motor vehicles in Taiwan is rapidly increasing, the EPA, apart from providing cash recycling incentives to the public, including cash for trade-ins, has also established channels for recycling discarded vehicles. Since the year 2000, the EPA has provided subsidies to the recycling and dis-

posal industries, offering various economic incentives to encourage industries to enter the path of resource recycling.

In order to increase businesses' willingness to recycle, the EPA has set forth guidelines concerning the new subsidy amounts, which went into effect on March 1, 2003. The original 2002 shredding and sorting subsidy targeted wastes derived from the shredding and sorting of automobiles (automobile shredder residue—ASR) that were sent to public or private incinerators for disposal. Present revisions base subsidy amounts on ASR actual clearance and disposal expenses. They also delineate different classes of subsidies and provide different preferential subsidies based on each enterprise's disposal volume.

The EPA has stated that these subsidies are available for those motor vehicle recycling and disposal enterprises that meet qualifications. Each enterprise is required to use the independent auditing body, approved by EPA, to certify actual monthly recycling and disposal amounts, and will present the invoices to the EPA when applying for the recycling, clearance and disposal subsidy amounts. Enterprises will receive payments after their applications

have been approved.

Other stipulations include:

1. Shredding subsidy amounts are determined after discarded vehicles have been disposed of, and are derived from discarded vehicle clearance fees, ASR clearance fees, and disposal fees. Shredding and disposal enterprises that wish to receive inspection certification as well as subsidization, are required to present the relevant ASR clearance and disposal fee invoice when undergoing the audit.
2. If the aforementioned enterprises are unable to provide proof of ASR disposal fees, they will be subject to the "NT\$3,000 and under" subsidy rule and receive a disposal subsidy rate of NT\$2,402 per ton, to be applied to their shredding subsidy.
3. If the aforementioned enterprises are unable to provide proof of ASR clearance fees because they have disposed of ASR themselves, or for other reasons, they will receive a clearance subsidy rate of NT\$300 per ton, which will be figured in with their disposal fees and applied to their shredding subsidy.

Discarded Motor Vehicle Recycling, Dismantling and Shredding Subsidy Chart

Item	Subsidy Rule	Subsidy Rate	Target	
Administrative Management Subsidy Amounts	Motorcycles	Public turn-ins and vehicles notified by governmental authorities	NT\$250 / vehicle	
	Cars	Recycling via market	NT\$150 / vehicle	Discarded Motor Vehicle Recycling Enterprises
		Public turn-ins and vehicles notified by governmental authorities	NT\$850 /vehicle	
	Recycling via market	NT\$450 / vehicle		
Shredding Subsidy Amounts	Automobile Shredder	NT\$3,000/ ton and under	NT\$2,402 / ton	Discarded
	Residue (ASR) clearance and	NT\$3,000~3,800 / ton	NT\$2,708 / ton	Motor Vehicle Disposal Industries
	disposal expenses	NT\$3,800 / ton and over	NT\$3,028 / ton	

News Briefs

Revised NO_x Emission Standards for Power Generators on Outlying Islands

The EPA revised the *Air Pollution Emission Standards for Power Generators* to address the problem of diesel and fuel combustion engine generators on Taiwan's outlying islands. Before such facilities are established, they must undergo an EIA to ensure that NO_x emissions are within acceptable limits. The new standard requires new generators; emissions will now be set according to EIA review conclusions. This measure has been taken to avoid contradictions between NO_x emission level restrictions set in EIA review conclusions and those set in the *Air Pollution Control Act*.

EPA: Pay-Per-Bag Fees Will Not Be Imposed Before Yearend

It was reported that before the yearend the EPA would implement the pay-per-bag policy in other selected cities and counties using Taipei City's experience as a model. The EPA clarified that consideration would be made based on whether or not conditions exist that will enable the pay-per-bag policy to be effectively implemented. Successful implementation of the pay-per-bag policy is determined by factors such as whether cities and counties have already implemented the policy to keep

all trash off the ground, whether city and county administrative areas are clearly demarcated, whether adequate local environmental human resources and facilities are available, and whether environmental education is effective or not. Preliminary evaluations by the EPA indicate that with the exception of Taipei City, current conditions for full implementation of the pay-per-bag policy in other cities and counties are not yet suitable. Moreover, as this issue has not been discussed with local governments, the policy will not be rashly implemented before local governments and the public are given adequate time to prepare.

Third Stage of Drinking Water Quality Standards Postponed

The EPA has stated that within the *Drinking Water Quality Standards* currently in effect, there are two categories – total hardness levels and total dissolved solids – that will be implemented in three stages. The third stage of standards was slated for implementation on July 1, 2003, with hardness set at 150 mg/L, and total dissolved solids set at 250 mg/L. However, because water companies expressed that these standards are too severe, the EPA weighed the situation and decided to postpone implementation of the

third stage standards for two years. The EPA asked water companies to use these two years to evaluate public satisfaction towards drinking water in the over 200 areas served by Taiwan's water companies that have not reached the third stage standards. At that time the EPA will check evaluation results and decide whether or not to revise the *Drinking Water Quality Standards* for total hardness and total dissolved solids.

EPA Provides Loan Interest Subsidies to Plastics Industry

The EPA is providing special loan interest subsidies to assist those manufacturers, retailers, and recycling businesses whose operations have been adversely impacted by the use restriction policy on plastic shopping bags. The loan interest subsidies are specifically designed to help those businesses reduce the financial burden of transforming operations and making upgrades. Restrictions on subsidies stipulate that loans must have been approved by a financial institution after April 1, 2002, and that loans can only be used for transforming operations and upgrading needs, or as revolving funds. The loan interest subsidy application deadline is September 30, and operators who do not apply by this date will be considered in forfeiture of this privilege.

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