Environmental Policy Monthly

Environmental Protection Administration, Taiwan, ROC

Volume VI, Issue 5 May, 2003

Feature Column

Environmental Technology Incubation Center Plan Kicks Off

The EPA has initiated the Environmental Technology Incubation Center Plan as a strategy to upgrade technology for domestic green industry and complement the Executive Yuan's "Challenge 2008: National Development Key-Point Plan"(挑戰2008國家重點發展計畫). The incubation center plan has already entered the stage to select from over 60 incubators competing for the opportunity to contribute innovative research and development in the area of environmental technology.

Integrating Incubator Resources to Upgrade Green Technology

Innovative incubation centers were created in the U.S. in 1980 and soon became one of the key mechanisms for generating applications of technology research and development. After coming out with the *Guidelines for Encouraging Public and Private Organizations to Establish Incubation Centers for Small and Medium Enterprises*（鼓勵公民營機構設立中小企業創新育成中心要點） in 1996, Taiwan created many small enterprise innovative incubation centers which make use of university and research organization resources to help small enterprises carry out technology innovation and cultivate talented specialists. According to Ministry of Economic Affairs' Small and Medium Enterprise Administration statistics, 64 incubation centers have been established in the last six years, 52 of which are ancillaries of colleges or universities. The majority of industries either stationed at or working together with these centers is involved in information, electronics and communications fields. Precision machinery and biotech medicine are the second most prolific industries, while environmental-related industry currently remains a minority.

As for current domestic pollution control industries, imported pollution control equipment accounts for over 70% of expenses toward major environmental engineering equipment in Taiwan. Meanwhile, major domestic equipment makes up about NT$300 billion of all environmental engineering equipment used in

Innovative treatment technologies of recycling resources are included in subsidy plans.

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Taiwan. This market is showing great potential for development and there is substantial room to upgrade national production of environmental facilities and equipment. According to a research investigation commissioned by the EPA in 2000, environmental engineering construction and installations make up 63% of the total value of the domestic environmental market. As for the remainder, environmental services make up 34%, and the manufacture of environmental equipment and materials accounts for 3% of the total value. Therefore Taiwan still needs to build its capacity to manufacture environmental equipment and materials. Currently, only 16% of pollution control industries have capital investments of over NT$60 million, and this low percentage indicates that small and medium enterprises make up the majority of domestic environmental companies.

Besides certain advantages, Taiwan's entry to the WTO last year helped domestic environmental industry enter the international market.

Compared to competitor nations' green technology and industry, Taiwan's current status presents certain advantages including: adequate talented human resources with high level education and training; a high degree of precision in machinery, fabrication and processing; automated integrated technology; more competitively priced products than Europe or the US; and environmental protection laws close to perfection. As for business opportunities, Taiwan's entry to the WTO last year helped domestic environmental industry enter the international market as well as allowed more foreign technology enter Taiwan. This situation has expedited further advancements in domestic technologies including biotechnology, nanotechnology, information technology and others, which will be the focus of future green technology. There is a relatively small gap between the levels of such technology in Taiwan and other advanced nations. Moreover, Taiwan's manufacture industry is continually investing in and establishing factories throughout Southeast Asia and China, which is advantageous in expanding overseas markets and ensuring fairness in public works procurements. These trends also increase opportunities for participation by domestic environmental industry.

In response to development demands for domestic green technology, the EPA proposed the Environmental Technology Incubation Center Plan（環保科技育成中心計畫）in November 2002. After obtaining Executive Yuan ratification, this plan to actively promote advanced environmental technology was formally launched in January 2003.

Development Focus: Resource Recycling & Reuse and Advanced Treatment Technology

The EPA related that starting in the 1990s, environmental technology in the international arena shifted its development focus from end-of-pipe treatment of wastewater and exhaust to waste disposal, industrial waste reduction, cleaner production, product resource recycling and reuse, and soil remediation. Environmental technology development trends therefore began focusing on resource recycling and reuse as well as advanced pollution treatment technology (including biotechnology and nanotechnology). Industries involved with specialized separation technology or resource recycling and reuse equipment were well suited to this emerging environmental technology market. Currently, domestic environmental industries specializing in biological treatment of general wastewater, chemical coagulation technology and small-scale stationary incinerators are nearly on the same level as other advanced nations. However, technologies that specialize in the area of recycling, soil remediation and large-scale facilities still have room for improvement.

According to the Environmental Technology Incubation Center Plan, the EPA will use specially designed subsidies to promote the development of three new types of innovative or applied environmental equipment or technology each year from 2003 to 2007. This plan targets incubation centers established by domestic public and private organizations. Incubation centers are required to link up with at least one legally established domestic environmental company through a binding contract. The cooperating company is required to sign this contract after January 1, 2003 in order to meet application qualifications. In keeping with principles of fairness and equity, each incubation center is limited to proposing only one design with the companies it has allied with under contract. The incubation center plan has marked out the following 13 areas of innovative technology or equipment that will be openly sought after during these five years:

1. resource recycling and reuse
2. advanced pollution treatment
3. organic vapor adsorption/ desorption
4. biological deodorants
5. control and removal technology for dioxin

6. heavy metal extraction

7. soil and groundwater monitoring and remediation

8. biological restoration of soil and groundwater

9. methods for turning incinerator ash residue into a resource

10. advanced wastewater treatment and recycling

11. biological and bacterial screening

12. membrane filtration

13. solid-liquid separation

Innovations in these environmental-related areas of technology will be able to enter this plan as long as they have already been proven applicable and have been commodified.

After assessing the current status and requisites of domestic environmental technology, the EPA began offering the following three types of subsidy plans:

1. Innovative treatment technologies or products for hazardous waste: Applicants must submit basic data on waste and items that they can handle expenses for. Incubation centers must provide a final report on treatment engineering parameters, construction costs, operational fee estimates, and technology or product test reports. Centers are also required to assess feasibility of treatment technologies and products.

2. Innovative treatment technologies or products for soil and groundwater: Underground oil tanks that have begun to leak petroleum products due to aging or corroded pipelines could lead to soil and groundwater pollution. Applicants for this plan are required to submit basic data, an analysis of treatment technology, on-site treatment procedures and analysis of pollution potential, an emergency response plan, treatment efficiency certification plans and recommended follow-up control plans.

3. Innovative treatment technologies or products for recycling or reusing resources: This plan targets technologies or products that involve the recycling and reuse of air, wastewater, discarded items or kitchen scraps. Plan content should include a comparison of the said technology or product with foreign equivalents, cost of treatment technology, treatment efficiency and items covered under treatment, treatment concentration scope and response mechanisms, operational procedures and assessment of scale-up, assessment of economic benefits, and assessments of continuous development or commercialization in the future.

Subsidy Application Procedures Officially Released

The EPA expressed that the above subsidies can be openly applied for, and applying organizations should put together an environmental research and development plan and send to the EPA for review and approval. The subsidy amount applied for in each plan may not exceed 50% of the total budget which has been approved by the EPA. The remainder of funding should be raised by the organization itself. A ceiling of NT$4 million in subsidy funds has been set for each plan in the year of 2003. If there are enough funds leftover after the EPA approves plans, the EPA can open up another round of soliciting for subsidy plans in the same year.

An outline has been drawn up for the method of cooperation between EPA, incubation centers and environmental enterprises regarding the appraisal and selection of applicants. Specialized academia from incubation centers shall first assist environmental enterprises to proceed with on-site treatment tests of environmental-related technology to confirm the developmental status of technology and its treatment efficacy. When this first step is completed, a report of technology test results shall be submitted along with any other potentially applicable evaluation reports. The EPA will subsidize expenditures for personnel, materials and operation fees involved with these tests.

So far, briefings on this subsidy application plan have been held in northern, central and southern Taiwan, and the plan has already entered the stage of soliciting applications, which will last until May 5. After applications are reviewed, those accepted applicants will be granted subsidies to cover costs. NT$5 million has been set aside for carrying out this plan this year, and a total of NT$95 million in subsidies is slated for the 5-year period from 2003 to 2007.

As this plan has only just begun, after the EPA has reviewed research and development plans submitted by incubation centers, it will grant subsidies to cover a portion of costs as a way of assisting environmental technology research and development. To ensure that this plan is effectively put into practice, the EPA will implement review procedures, carry out evaluations of implementation results, as well as conduct annual reviews regarding implementation status.

In the "Challenge 2008: National Development Key-Point Plan," the Executive Yuan has called for the establishment of an International Innovative Research and Devel-

opment Base. While this initiative pulls together cooperative efforts between industry and academia in technology innovation, the EPA is keeping its eye on the future objectives of building up capacity for environmental research and development in domestic innovative incubation centers. The ultimate aim is to step up improvements in domestic environmental quality by promoting industry-academia partnerships that can develop practical environmental technologies and products. As for building the capacity for research and development of environmental technology standards and environmental industry, the EPA hopes to increase the number of partnerships between green enterprises and innovative incubation centers, as well as develop practical environmental equipment and products. It is hoped that such partnerships will expand domestic and foreign environmental markets and increase the output value of domestic green industry.

For more information, please call 02-2311-7722 ext. 2207

General Policy

Environmental Agencies Prepared to Battle SARS

As a response measure against the spread of the SARS epidemic, the EPA has established a taskforce to assist with comprehensive epidemic prevention work. In addition to focusing on special disposal measures for medical and residential wastes and making every effort to promptly resolve this crisis, this team will also urge each local environmental agency across Taiwan to initiate environmental clean-up and disinfection measures.

SARS prevention has already become an international issue. In response to the spread of SARS in Taiwan, the EPA has specially established the Task Force for Strengthening Control Measures for Infectious Medical Waste, and urgently convened the first meeting on April 28, 2003 with the intention of resolving this emergency situation at the outset. The meeting focused on SARS-related waste issues, especially collection problems regarding household waste from home-quarantine cases, and the drafting of a concrete disposal program.

The EPA pointed out that although home-quarantine residential waste is classified as general waste under current regulations, based on prevention considerations the EPA has decided to refer to regulations for infectious industrial waste, and accordingly adopt higher regulatory standards for the storage, clearance and disposal of this waste. Moreover, as sanitation crews are under-staffed, the EPA has decided that environmental agency personnel should be responsible for waste collection. Currently only one county, due to a smaller population and lack of resources, is still temporarily using sanitation authority workers to collect its low levels of waste from quarantined residences.

With regards to expenses for infectious waste clearance and disposal enterprises commissioned by counties and cities, the EPA will subsidize each local government after the Executive Yuan special budget is passed. As for waste from hospitals that accept SARS patients and waste from quarantined medical institutions, the EPA has issued a circular order requesting commissioned disposal enterprises and local environmental protection agencies to follow the EPA's standard operating procedures. These procedures entail reinforced disease prevention countermeasures during clearance and disposal, including disinfection operations and use of protective equipment. Regarding the collection and storage of residential waste within quarantined households, the EPA has already drawn up a list of do's and don'ts, and has provided them to the public. These can be found on the EPA website: http://www.epa.gov.tw/epasars/index.htm

Despite these measures, while en-

Environmental disinfection is an important job for all in order to thoroughly prevent SARS.

vironmental agencies have become actively involved in waste disposal, residents of Yuanjhang Township, Yunlin County (雲林縣元長鄉), who were worried about effects of medical waste on their health, surrounded their medical waste treatment plant in protest against receiving SARS-infected waste. In response, EPA Administrator Dr. Hau Lung-Bin headed south on April 29 to talk with the people and explain the procedures the government is following in properly treating medical waste, hoping the people will not have unwarranted fears. The EPA also explained that if in the future people were to protest unreasonably, the use of government authority to mandate the treatment of the waste would not be ruled out.

Apart from waste clearance and disposal, the EPA is also focusing on enhancing disinfection work in public areas through the specially drafted Environmental Agency Standard Operating Procedures for Environmental Disinfection in Response to SARS. These procedures have local environmental protection sanitation crews coordinate with sanitation agencies to promote epidemic countermeasures and disinfect specially designated public places and areas near suspected SARS cases. Primary targets for disinfection include areas 200 meters around buildings with SARS cases, drainage ditches, public toilets, sidewalk and stair railings, public benches, mail boxes, and public garbage cans.

General Policy

Government Agencies Reach 2002 Green Procurement Target

Taiwan is the first country in the world to implement a green procurement law. Following the lead of this dynamic policy, government organizations in Taiwan spent over NT$2.65 billion on green procurements in 2002. In fact, 65.5% of all designated items for government procurements were environmentally friendly products, far surpassing the 50% target set by the Executive Yuan. The number of product applications for Green Mark labels has increased fourfold compared to previous years. The government hopes to double the amount of green procurements this year to reach a target of NT$5 billion.

Aiming to encourage companies to produce green products as well as give authority to government agencies to prioritize the purchase of green product, the Legislative Yuan added a green procurement clause to the Government Procurement Act. As a result, Taiwan became the first country to establish a green procurement law. The new legislation permitted government agencies to prioritize procurements of environmentally friendly products that are low-polluting, recyclable, use renewable materials and conserve resources.

To further promote green procurements by the government, in 2001 the Executive Yuan approved the *Program to Promote Green Procurement in Government Agencies* (機關綠色採購推動方案) proposed by the EPA. After a half-year trial run, this program officially went into effect in 2002. The program applies to all departments under the Executive Yuan, and all levels of agencies and county and city offices. The purchase items specified in 2002 included office paper, stationery, computer equipment, printer toner cartridges, refrigerators, and air conditioners, as long as such products have been certified as environmentally friendly. Such green purchases were to make up 50% of the total value of all such products purchased during the year.

According to statistics regarding the total value of procurements made during the year of 2002, 29 of the 36 departments under the Executive Yuan reached the 50% target for a combined average of 66.04% green purchases at a total value of NT$1.77 billion. Twenty-three of Taiwan's 25 counties and cities also reached this target and averaged out at 64.98% green purchases worth NT$880 million. Therefore, NT$2.65 billion out of the total NT$4.34 billion in government procurements of the above designated items was spent on green products, for an average of 65.6% of all purchases. This far surpassed the 50% target determined at the outset.

The EPA has extended great effort to promote this policy and increase its effectiveness by holding nearly 100 seminars reaching nearly 10,000 government procurement officials to help them better understand the statutes and procedures involved with making green procurements. Furthermore, to make it easier for agencies to select Green Mark products, the EPA has set up a Green Mark hotline and website as well as issued the Green Consumer Guide (綠色消費指南), all of which provide ample product information to address inquiries made by personnel in charge of making green procurements. (Hotline: 0800-269-945; Website: www.epa.gov.tw/greenmark)

The EPA explained that the *Executive Yuan's Program to Promote Green Procurements in Government Agencies* aims to

use the government's large spending power to put a priority on purchasing green products that have less impact on the environment. By using market mechanisms, the government can directly promote environmental protection and encourage manufacturers to make recyclable, low-polluting and resource-conserving products. The EPA hopes to eventually attain a model of green consumerism for the whole population. Currently in addition to domestic manufacturers, many renowned international firms are joining the ranks to produce Green Mark products. For example, EPSON laser printers and toner cartridges obtained the Green Mark logo last year.

The EPA further pointed out that the Executive Yuan has ratified the new list of additional designated procurement items for the year of 2003, including black and white copy machines, fax machines, notebook computers, clothes washing machines environclothes washing machines, microwave ovens, dehumidifiers, and light fixtures. In addition, to tie in with water conservation policies, Green Mark two-flush option toilet models have been specified as another procurement item. It is hoped that the total value of green procurements can be doubled this year to reach the NT$5 billion target.

Waste Management

Achievements in Industrial Waste Tracking and Investigation

As an aid to effectively and promptly trace the flow of domestic industrial waste the EPA established the Industrial Waste Tracking and Investigation Special Taskforce, which has already turned in over 200 companies that have violated regulations. This taskforce was set up to complement three regulations previously passed by the EPA, which require enterprises to submit Industrial Waste Clearance and Disposal Plans. The system is such that the EPA will approve these plans in advance, as well as carry out routine investigations and notify enterprises of violations. These diverse measures help to finalize basic data on industrial waste throughout the whole country as well as get a better command over the industrial waste flow.

The EPA established the Industrial Waste Tracking and Investigation Special Taskforce in April 2002 to get a practical understanding of the flow of industrial waste. Since its establishment, this taskforce has carried out 1,168 inspections of companies suspected of ambiguous reporting, failing to report or submitting fraudulent reports, or had suspect waste flow problems, did not confirm the delivery of the manifest during or after waste disposal procedures, or refused inspections. Two hundred thirty-nine companies involved in these 1,168 inspections were notified of violations and six of these cases involved criminal behavior and were sent to court for further punishment. For other cases of suspected serious pollution or dumping, the above taskforce coordinated with the Environmental Police Unit to investigate violations and turned in 44 cases, 77 people and 17 confiscated items for court investigation. A total of 72 cases involved violations of environmental protection statutes.

The EPA indicated that over the past year the administration has employed this taskforce to target business organizations suspected of ambiguous reporting, failure to report, underreporting or fraudulent reporting of waste output. The EPA's Bureau of Environmental Inspection and the three regional inspection branches (northern, central and southern) dispatched personnel to make on-site inspections of industrial waste flow and related information. Once a violation is discovered during an investigation, the case is reported according to law and in serious instances of criminal behavior, the case is sent to the judiciary for further investigation.

During the EPA's frequent investigations, in cases of serious pollution or dumping it collaborates together with the Environmental Police Unit to carry out monitoring work. Inspections are then carried out when an opportune moment arrives, and sometimes teams will even hire an excavator to dig up suspected sites in order to gather complete and concrete evidence at the scene of an illegal dumping or other violations.

In order to more effectively manage the flow of industrial waste clearance, Article 31 of the Waste Disposal Act requires that enterprises designated and promulgated as a specific size by the EPA should submit their Industrial Waste Clearance and Disposal Plan（事業廢棄物清理計畫書）for approval within a specified deadline to either responsible agencies at municipal or county (city) level or to the review organization commissioned by the EPA. The plan may go into effect after it is reviewed and approved.

The Industrial Waste Clearance and Disposal Plan requires approval in advance. Despite the fact that this management regulation can assist the EPA to gain a timely understanding of the possible flow of industrial waste, up until March

25, the ratio of business that have reported their Industrial Waste Clearance and Disposal Plans via Internet was only 19.3%. The proportion of businesses that actually submitted plans was even lower at only 3%.

To avoid business groups from being penalized in an untimely fashion and to avoid a situation that ends up stalling inspection documents, which would have an impact on the rights and interests of businesses, the EPA has appealed for the first group of already-established enterprises to make haste and complete online reporting by May 30 at the latest. At the same time they are required to submit hardcopies of industrial waste clearance plans to the EPA. The second and third groups of already-established enterprises should complete online reporting by the end of July. Please check the following website to find out the date and location of the briefing regarding procedures for submitting actual plans: http://waste.epa.gov.tw/prog/cleanprog.asp

Waste Management

Industries Must Obtain Permits for Self-Clearance and Disposal of Waste

With no exclusive regulations regarding self-clearance and disposal of waste by domestic industries, the EPA promulgated the Regulations Governing Self-Clearance and Disposal of Industrial Waste on April 30, calling for enterprises to first obtain permits from their local government before clearing and disposing of waste independently.

On April 30 the EPA promulgated the *Regulations Governing Self-Clearance and Disposal of Industrial Waste* (事業自行清除處理事業廢棄物許可管理辦法) as a step to strengthen the industrial waste management system and provide guidelines for industries wishing to independently clear and dispose of their own waste. These new regulations are applicable to enterprises that have been required by the EPA to install professional personnel on waste management and have already adopted self clearance and self disposal measures for all or some of their own waste.

In order to qualify for self-clearance and disposal of waste, the new regulations stipulate that enterprises must first obtain a self-clearance permit, a self-disposal permit, or a self-clearance and disposal permit, from their respective county or city government. Each enterprise can apply with local governments according to their own individual circumstances. The three categories of permits include self-clearance, self-disposal, and both self-clearance and disposal.

Permit-issuing agencies should decide whether or not to grant a permit upon receiving permit applications and making an initial review, but may carry out an additional review if necessary. The review period is limited to within 30 days after receiving applications, however this can be extended by 30 days in special cases. In such cases, the time in which it takes the enterprise to submit supplementary information shall not be included as part of the review period.

As for permit duration, the new regulations specify that self-clearance, self-disposal and self-clearance and disposal permits are valid for five years. Enterprises that wish to continue independent handling of their wastes beyond this period should apply for an extension 3~5 months before their permit expiration date. Permit issuing agencies should decide whether or not to grant an extension within 30 days after receiving applications. Again, the authority reserves the right to extend the review period by 30 days for special cases.

To ensure appropriate management of self-clearance and disposal permits, the regulation stipulates that if an enterprise submits any false documentation, if their actual operations differ from those described on their permit, if vacant posts of resigned professional personnel have not been filled in timely fashion, or if the enterprise receives waste from other businesses without legal permission, environmental agencies will revoke or annul its permit, and it may not reapply for another permit until one year's time.

The new regulation stipulates that enterprises must first obtain self-clearance, self-disposal or self-clearance and disposal permits prior to installation of professional personnel on waste management.

News Brief

New Regulations on Imported Car Air Pollution Certification

The EPA began implementing exhaust control measures on new vehicles since 1988 to reduce the detrimental impact of vehicles on the environment. Now the EPA is taking even stricter measures to control pollution at its source by clamping down on emissions of imported cars. According to Article 38 of the Air Pollution Control Act, imported cars are required to obtain car model emission examination certification from the EPA before they are allowed to apply for a license. In accordance with this article, the EPA announced the Draft Regulations Governing Imported Car Air Pollution Certification on April 24, which includes 14 articles. For details regarding the content of these articles, please see http://ww2.epa.gov.tw/announce/092/F0/05410/092F005410.htm.

The EPA indicated that past management efforts toward industrial waste primarily focused on commissioning cleaning work as the norm, and there were no specific regulations applying to enterprises wishing to clear and dispose of waste on their own. Thus the Regulations Governing Self-Clearance and Disposal of Industrial Waste has helped Taiwan's industrial waste management system attain a higher level of perfection.

For more information, please call 02-2311-7722 ext. 2647

Soil and Ground Water

Two Draft Regulations Concerning Water Pollution Fees Announced

The new water pollution fee collection system is still in the midst of compilation despite the fact that some legislators are calling to defer water pollution fee collection. In April, the EPA announced the *Draft Regulations Governing the Collection, Safekeeping and Use of Water Pollution Control Fees* and the *Draft Regulations Governing the Establishment of the Water Pollution Control Fee Evaluation Committee*, which aim to set framework standards for managing and reviewing rates for the Water Pollution Control Fund.

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The topic of water pollution control fee collection was highlighted in the May 2002 revision of the Water Pollution Control Act. The Legislative Yuan passed a resolution in which it was decided that the initial stage of water pollution fee collection would be directed toward industry groups. The EPA then planned to begin collecting water pollution control fees in 2004, with the first stage targeting industry groups. After this first stage is implemented for three years, discussion will then commence regarding the next target group - households. However, this implementation system is currently undergoing modifications, and the Legislative Yuan's Environment and Social Welfare Committee passed a resolution calling to postpone the collection of water pollution control fees originally scheduled to commence in 2004.

The collection of water pollution fees involves many aspects, and even though citizen representatives appeal to postpone this measure, preparatory work is still underway. In fact, the EPA announced two new drafts on April 3 and 4, namely the *Draft Regulations Governing the Collection, Safekeeping and Use of Water Pollution Control Fees*（水污染防治基金收支保管及運用辦法草案）, and the *Draft Regulations Governing the Establishment of the Water Pollution Control Fee Evaluation Committee*（行政院環境保護署水污染防治費費率審議委員會設置辦法草案）.

According to the Draft Regulations Governing the Collection, Safekeeping and Use of Water Pollution Control Fees proposed by the EPA, future water pollution control fund sources will include income from water pollution control fees, marine disposal fees, interest accrued on the fund, and other related income sources. A Water Pollution Control Fund Management Committee will be installed to manage this fund, and will be headed by one chairman, to be held by the EPA administrator, and one vice chairman, which will be held by the EPA deputy administrator. Ten to fifteen committee members will be selected by the chairman from representatives of related authorities, academia, experts, and environmental protection groups. Academia, experts and environmental protection group representatives should make up at least two-thirds of the committee, and no fewer than one-ninth of the committee shall be made up of environmental protection group representatives.

As for organization of operations,

Activity

EPA Invites Foreign Firms to Enter Waste Disposal Market

On April 10, AmCham and the European Council of Commerce and Trade joint committee on environmental protection invited EPA Department of Engineering Director Chen Lian-ping（陳聯平）to brief on future business opportunities in Taiwan's waste disposal market. As this topic is the focal point of many foreign firms, those in attendance showed great enthusiasm. Chen expressed that although construction plans for large-scale garbage incinerators have already been drawn up for the most part, follow-up procedures such as incinerator ash residue disposal, incineration pretreatment, and relocation of existing garbage dump sites are all areas in which the EPA is currently focusing efforts. Therefore, active involvement by foreign firms in this market is highly welcomed.

the draft proposal calls for the committee to establish three technical divisions: an integrated planning division, a fee auditing division, as well as a technology research, development and engineering division. The primary duties of this committee include reviewing the maintenance and application of fund revenue and expenditures, reviewing annual budget and annual closing, as well as overseeing fund applications.

The Draft Regulations Governing the Establishment of the Water Pollution Control Fee Evaluation Committee calls for the EPA to establish a water pollution fee evaluation committee to deliberate the setting, calculation, evaluation and adjustment of water pollution control fee rates. Fifteen members shall serve on this committee and half of them must be environmental protection group representatives, academia, experts, or social justice representatives. The chairperson and deputy chairperson shall be elected by the committee from among the committee members in order to ensure fairness and professionalism in reviewing fee rates.

Hopefully economic incentives can be utilized in the collection of fees, then the objective of pollution reduction be achieved at the lowest social cost possible.

The EPA related that these two draft regulations will become part of a comprehensive water pollution fee collection system in the future. Above all, it is hoped that economic incentives can be utilized in the collection of water pollution control fees so that the objective of pollution reduction can be achieved at the lowest social cost possible. It is anticipated that the use of a special fund for water pollution control will double the effectiveness of pollution reduction efforts. The EPA respects legislators' motion to postpone the collection of these fees. If the Legislative Yuan indeed confirms this resolution, the EPA will not submit a draft budget report on water pollution fees during the September Legislative Yuan meeting, and naturally, the fees will not be collected. However, before such time, preparations of related systems will proceed on schedule.

For more information, please call 02-2311-7722 ext. 2825

Water Quality

Marine Oil Spill Emergency Response Plan Shows Second Year of Success

The Emergency Response Plan for Severe Marine Oil Pollution has been in implementation for two years now. As a result of continuous efforts to advance personnel training and build up equipment, all levels of government have improved their capacity to handle marine pollution. In the future, the EPA plans to establish four response centers to effectively dispatch backup response equipment.

Marine pollution responsiveness at once became a focal point of attention after the Amorgos oil spill incident in January 2001. Driven by public expectations, the Executive Yuan ratified the *Emergency Response Plan for Severe Marine Oil Pollution*（重大海洋油污染緊急應變計畫）in April of that year. After two years of implementation, this month the EPA announced the success of Taiwan's marine pollution emergency response system and preparedness efforts.

The EPA stated that at the time of the Amorgos oil spill incident, the nation lacked adequate marine pollution response technology, personnel and equipment, and was particularly unfamiliar with the operation of marine pollution removal equipment, on-site command, and decision-making support skills involving marine pollution. To remedy this problem, the EPA used the framework of the Severe Marine Oil Spill Emergency Response Plan to design training sessions during 2001 and 2002. A step-by-step progression of 20 marine pollution drills was conducted, helping to train over 700 local personnel.

Taking strides to learn from the international community's experiences in handling marine pollution, the EPA commissioned well-known overseas emergency response training organizations to conduct five overseas training workshops for Taiwan's personnel. Emergency response authoritative bodies dispatched personnel to England, Canada, and Singapore to receive training involving equipment operation, policy making, and management of marine oil spill emergencies. Personnel who have received training abroad now serve as "seed instructors" and human resources for all levels of emergency response agencies.

Regarding marine pollution equipment, over the past two years the EPA has purchased approximately 20,000 meters of oil booms, 21 oil pollution cleaning spray guns, 21 oil collection

pumps, 37 oil storage containers, 22 land-based oil recovery troughs, 2,500 PPEs (personal protective equipment), various oil absorbents, 92 oil leak emergency response kits, seven backpack watercraft leak prevention and rescue kits, and two mobile offices. This equipment will be allocated to 27 coast guard units, ten fishing harbors, 23 environmental protection agencies, and one national park according to risk factors for incidents of marine pollution. Furthermore, a special website has been set up, providing a system for the allocation and distribution of equipment during emergencies, and a reporting network has been finalized letting agencies know who to report to.

Four emergency response centers are installing that backup response equipment can be promptly and effectively dispatched on demand.

The revamped marine pollution emergency response system has been successfully put to the test during two separate incidences in May and July of 2002 when two large oil tankers lost power in Taiwan's waters. The positive outcomes have proven that Taiwan's emergency response mechanism can accurately assess and effectively prevent marine pollution disasters. These cases clearly indicate that the past two years of dedicated efforts have proved successful.

The EPA expressed that it will focus efforts on completing emergency response centers in the north, central, southern and eastern regions of Taiwan so that backup response equipment can be promptly and effectively dispatched on demand.

Air Quality

Noise Pollution Control Act Implementation Rules Revised

Aiming to meet the demands of noise pollution control measures and complement revisions to the *Noise Pollution Control Act*, the EPA has compiled a draft revision of *Noise Pollution Control Act Implementation Rules*. This draft spells out clearer regulations for controlling air traffic noise pollution.

The EPA made an advance announcement of the *Noise Pollution Control Act Implementation Rules* draft revision on April 8 as a follow-up measure to complement revisions made to the *Noise Pollution Control Act* on January 8 and to respond to the demands of noise pollution control operations. Discussions were held on April 18 and 25 to give other parties a chance to voice their opinions on this new draft.

In order to encourage more citizen participation in noise pollution control work, the new draft stipulates that before mapping out noise control zones or announcing new zones, a public announcement should be posted for one month to solicit opinions regarding revisions made. Moreover, a follow-up review should be carried out every two years after revision plans have been implemented.

With regards to monitoring environmental and traffic noise, the draft revision stipulates that noise monitoring stations shall be located in areas of dense population or along major roadways to ensure that each category of control zone has chosen monitoring locations that accurately represent noise levels in that area.

Extensive revisions have been drawn up in this draft regarding air traffic noise controls. The duration for which automatic monitoring systems shall gather data on air traffic noise pollution has been extended from three days to ten days. Furthermore, the draft has clarified the content to be included in improvement plans for military aircraft noise pollution. In the future, noise prevention and control measures for military airports shall be clearly written out as is required for civil airports.

It is expected that these new implementation rules will be ratified and promulgated by the Executive Yuan in the near future as little opposition has been voiced against this draft.

For more information, please call 02-2311-7722 ext. 2790.

Waste Management

Two Waste Import/Export Rules Announced

As a means to appropriately manage the import and export of waste, the EPA has announced Industrial Waste Categories for Use as Industrial Raw Materials, as well as categories of waste that are prohibited from importation according to regulations in Article 38 of the *Waste Disposal Act*.

To appropriately control the import and export of waste, the *Waste Disposal Act* explicitly stipulates that permission must be obtained before industrial waste can be imported or exported. However, as a great deal of waste is actually used by industry as raw

materials, in order to strike a balance between the economy and environmental protection, the *Waste Disposal Act* also specifically states that after the competent authority for target industries and the EPA have discussed requirements for industrial raw materials, those approved materials can be imported or exported without a permit.

After the EPA held discussions with the Industrial Development Bureau, it announced the Industrial Waste Categories for Use as Industrial Raw Materials on April 7, which includes the following categories:

1. Scrap wood
2. Heat-molded scrap plastic
3. Waste paper
4. Scrap steel
5. Scrap single metals (copper, zinc, iron, aluminum, tin)
6. Scrap zinc residue
7. Ash or residue containing copper compounds [commonly referred to as "鐵渣" ("iron residue"); only cement companies can import this]

In addition to clearly stipulating which secondary materials can be imported for industrial use, on April 22 the EPA also announced import bans on industrial waste and general waste categories, including the following:

1. Hazardous industrial waste, excluding waste that has been classified and announced as Industrial Waste Categories for Use as Industrial Raw Materials, scrap non-oiled wire and cable, and waste materials not listed in the Basel Convention excepting mixed scrap metal
2. Scrap leather (inappropriate for making leather goods) and scrap leather powders
3. General waste containing household trash and its ash residue after incineration

For more information, please call 02-2311-7722 ext. 2655

Activities

Kaohsiung Environmental Technology Park Officially Commences Operations

Taiwan celebrates the formal kickoff of the nation's first environmental technology park, part of a program to promote the concept of ecological cycles in industry. The Kaohsiung Environmental Technology Park located within the Benjhou Industrial Park (本洲工業區) commenced operations on May 11, with EPA Deputy Administrator Chang Juu-en (張祖恩) and Kaohsiung County Chief Yang Chiu-hsing (楊秋興) presiding over the opening ceremony. At the outset, the Kaohsiung Environmental Technology Park has the capacity to accommodate 30 large-scale environmental-related firms, and is anticipated to generate an annual output value in the tens of billions of NT dollars. In the future, this park will work together with academic institutes including the Industrial Technology Research Institute, Chengkung University, National Kaohsiung First University of Science & Technology, and National Sun Yat-sen University, as well as install an incubation center to develop innovative environmental technology products.

Forum on Applications of Nanotechnology in Environmental Protection

TThe EPA held its first forum on nanotechnology applications in environmental fields and related topics on April 9. Key organizers of this event were the Office of Science and Technology Advisors and the Center for Environmental, Safety and Health Technology Development, ITRI. Nearly 100 people attended including industry, government and academic representatives in the domestic environmental protection field, which made for a lively discussion. Several research papers were delivered at the forum, including topics on nanotechnology applications of virus sampling and control, air pollution detection, air pollutant removal, and treatment of chromium polluted water. These studies showed some of the newest development trends in environmental protection applications of nanotechnology.

Kaohsiung Envrionmental Technology Park formally opens its doors for business.

News Briefs

Revisions Made Regarding Reuse of Incinerator Bottom Ash

The EPA has submitted a draft revision regarding the management methods for reusing incinerator bottom residue as a measure to increase safety and efficient management of incinerator bottom ash. The new methods require that reused products comply with the following regulations.

1. Application site should be at least 20 meters from drinking water sources and wells
2. Application location should be higher than the groundwater table.
3. Application thickness should be within 2 meters, and the area of one single application in construction should be under 2,000 square meters.

Development, the Institute for Environment and Resources, and the Taiwan Steel & Iron Industries Association. Domestic and foreign experts and scholars were invited to engage in international exchanges focused on dioxin control technology. Domestic firms that have shown success in improving dioxin pollution were also invited to share their achievements and experience in this National Status Report on the Implementation of Stationary Pollution Source Dioxin Emission Controls by the EPA's Department of Air Quality Protection. This report showed Taiwan's substantial achievements in reducing pollution levels in recent years, as well as pointed out that the focus of future efforts will be to reduce the levels of dioxin emissions.

Pretty Eco-friendly Solution: Colored Glass Reused in Road Pavement

In 2000, the EPA commissioned the National Yunlin Technology University to conduct an experiment to incorporate glass in 200 meters of asphalt roadway on the County Road 158 in Dongshih Township, Yunlin County（雲林縣東勢鄉）. Glass sand was substituted in the asphalt mix, using up 120 tons of waste glass per kilometer of roadway. In addition, two sections of roadway in Taipei have been paved with 278 tons of discarded colored glass. Moreover, there is now one domestic brick manufacturer that has been qualified as a discarded glass container disposal facility. It is estimated that each year domestic companies can use up several tens of thousands of tons of colored glass in roadway asphalt in addition to making glass bricks as building material.

Reused colored glass on roadways assists nighttime visibility for drivers.

Environmental Policy Monthly, Taiwan, R.O.C.

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Dr. Hau Lung-bin, Administrator

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Chang Juu-en, Lin Ta-hsiung, Chen Yeong-ren

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Editorial and translation support provided by:
Hui-kuo Consulting, Ltd., Sustainable Earth Network

The EPM has been published monthly since July 1997. The EPM is available on the EPA website at www.epa.gov.tw/english/EPM/.

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GPN: 2008600068

printed on recycled paper

行政院新聞局出版登記證局版北市誌字第壹陸壹壹號

中華郵政北台字第6128號執照登記為雜誌交寄