



Noise Control

Noise Control in Taiwan

Noise is intangible yet nearly ubiquitous throughout every corner of our modern society. Due to noise's unique characteristics, noise control is more difficult than other types of pollution control. Nevertheless, the EPA is still determined to control noise in Taiwan as much as possible within the constraints of its limited manpower and funding. This article presents an overview of the current state of noise control in Taiwan.

Taiwan's noise control efforts began as early as 1983 with the promulgation of the *Noise Pollution Control Act* (噪音管制法). After the Bureau of Environmental Protection, a bureau under the Department of Health, was upgraded to the Environmental Protection Administration (today's EPA) in 1987, the EPA Bureau of Air Quality Protection and Noise Control (空氣品質保護及噪音管制處) was assigned responsibility for noise control duties.

Because of Taiwan's rapid economic development, the prevalence of commercial and industrial activity, and the public's desire for a better quality of life, the number of noise complaints has climbed steadily and now exceeds 20,000 cases annually. Noise is currently the leading cause of environmental complaints. For the EPA, one of the greatest challenges is how to deal with such a vast number of complaints.

Not revised since its first revision in 1992, the existing *Noise Pollution Control Act* is unable to fully regulate the noise problems that have emerged in today's fast-changing society. For instance, residences, schools, hospitals, public agencies, military installations and transportation systems are not included within the scope of its control measures. In addition, because the existing law does not require specific measures to alleviate transportation noise from ordinary railways, high-speed railways, rapid transit systems and

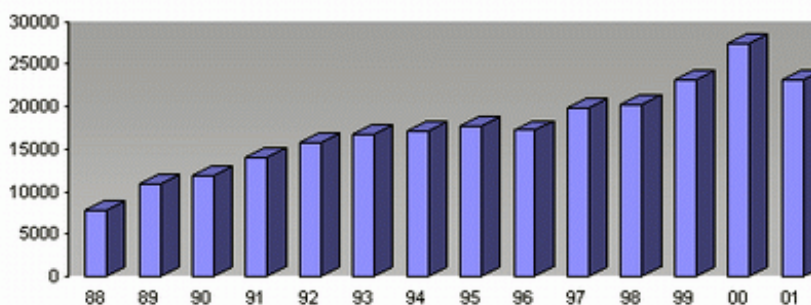
freeways, the government has been unable to demand that transportation authorities improve transportation noise within a specified period of time. Furthermore, sections of the *Noise Pollution Control Act* concerning the rights and duties of individuals as yet lack any explicit definitions of such matters as the management of inspection organizations, motor vehicle inspection procedures and vehicle noise inspection documentation. Because of these flaws, the revision of the *Noise Pollution Control Act* to make it meet today's needs has become a matter of utmost urgency.

However, even before the revision of the act has been completed, the EPA will strengthen coordination with other government agencies in order to tighten joint enforcement and implement effective noise control. For instance, the EPA has suggested to the National Police Administration that it list "nearby noise" complaints among police performance assessment items so

In this Issue

Noise Control in Taiwan	1
Radical Overhaul of Water Pollution Control Act Enforcement Rules	4
Strengthened Auto Fuel Quality Standards Coming in 2007	5
Zone Classifications Updated to Reflect Improved Air Quality	6
Taiwan Prepared to Respond to Major Marine Disaster	8
Disposable Dishes Restrictions Introduced Smoothly	10
Taiwan Participates in UNFCCC COP 8 Activities	11
Waste Dumps Removed from Riverways	12
News Briefs	7
Activities	4, 9

Noise Complaint Cases in Taiwan



Noise complaints have exceeded 20,000 annually since 1998.

as to encourage police personnel to actively address this type of case. As far as airport noise is concerned, the EPA has asked the Ministry of Transportation and Communications (MOTC) to coordinate with airlines in order to accelerate the replacement of old aircraft, and has asked airports to adjust takeoff and landing times and routes and place restrictions on stationary engine testing and training flights. It is expected that these measures will limit the impact of aircraft noise on the surrounding environment.

Noise Control Approaches

Noise control is implemented in Taiwan employing seven different approaches that depend upon the source and type of the noise:

1. **Nearby noise:** Nearby noise refers to sounds that, although ordinarily discontinuous or difficult to measure, are sufficient to disturb the peace and quiet of other people, such as the sound of interior design work. As it now stands, the *Noise Pollution Control Act* calls for police units to investigate and deal with nearby noise complaints in accordance with relevant parts the *Social Order Maintenance Law* (社會秩序維護法) and the *Apartment Building Management Statute* (公寓大廈管理條例).
2. **Folk noise:** Folk noise refers in general to noise generated by private temples, temple festivals, weddings and funerals, etc. In accordance with law, all city and county governments have announced controls on this type of noise. The EPA will oversee the implementation of control measures by local environmental protection bureaus.
3. **Noise from announced construction projects, facilities and installations:** The sound emitted by all construction projects, fa-

cilities and installations located within noise control zones and publicly announced by the competent authorities, such as factories, entertainment venues, business facilities, construction projects and amplifier equipment, may not exceed noise control standards.



Taiwan will tighten its vehicular noise control standards to put them in line with European Union directives.

4. **Noisy facilities:** Noisy facilities so designated by the EPA and located within specified control zones must apply to the local environmental protection bureau for an establishment permit prior to installation. Such facilities must apply for an additional operating permit after installation and before operation.
5. **Vehicular noise:** As part of the commitments made by Taiwan at the time of WTO membership, the EPA will tighten noise control standards to bring them in line with European Union directives. The EPA has announced that phase 3 and 4 motor vehicle noise control standards will be implemented on July 1, 2005 and January 1, 2007 respectively.
6. **Aircraft noise:** The *Noise Pollution Control Act* currently regulates only noise generated by civil aircraft. The EPA has additionally drafted the *Airport Environs Aircraft Noise Control Regulations* (機場周圍地區航空噪音防制辦法) as a basis for controlling aircraft noise and improving the quality of life for people living near airports.

7. **Road, railway and other transportation noise:** To ensure that noise generated by roads and railways meets relevant regulations, the agencies in charge of roads and railways must adopt necessary noise control measures in accordance with law.

Future Priorities

The EPA's noise control duties are currently the responsibility of the fourth section of the Bureau of Air Quality Protection and Noise Control, which commands an annual operating expense and equipment investment budget of approximately NT\$10 million. Although constrained by limited funding and manpower, the bureau continues to draft noise control laws and regulations, and implements routine vehicular noise inspections. In addition, operating within the existing legal framework, the EPA is actively coordinating the implementation of relevant noise control regulations with the relevant agencies. Hoping to reduce the impact of noise on people's lives, the EPA has made the following noise control tasks its future priorities:

1. The EPA will draft revisions to the *Noise Pollution Control Act* to raise its legal status and improve its authorization basis. Revision of the act will then facilitate the review and revision of related regulations and the tightening of noise control standards.

2. It will oversee the revision and announcement by local environmental protection bureaus of various types of controlled times, areas or facilities in which noise-producing behavior is prohibited in order to maintain a quiet living environment.
3. It will establishment of an installation and operation permit system enhancing the management of noisy facilities.
4. The EPA will supervise county and city environmental protection bureaus when they review actual land use and determine various types of noise control zones in accordance with land use plans in local urban development plans.
5. To reduce the number of noise complaints, the EPA will ask city and county environmental protection bureaus and local police departments to establish joint investigative teams responsible for strengthening noise inspection of entertainment venues.
6. To encourage police personnel to respond to nearby noise complaints, the EPA will continue to coordinate with the National Police Administration by listing nearby noise among police units' routine tasks and performance assessment items.
7. The EPA will continue to assist the Ministry of National Defense in drafting subsidy principles for military airport aircraft noise improvement plans, which will enable aircraft noise alleviation work at military airports to proceed smoothly.
8. The EPA will implement legal revisions so as to compel transportation authorities to bear responsibility for improving transportation noise and reducing ambient noise levels.

Current State of Aircraft Noise Control

The control of aircraft noise in Taiwan consists of two main aspects. On one hand, the *Civilian Aircraft Noise Control Regulations* (民用航空器噪音管制辦法) and *Civilian Aircraft Noise Control Standards* (民用航空器噪音管制標準) regulate noise produced by civilian aircraft. On the other, the *Airport Environs Aircraft Noise Control Regulations* is intended to control ambient noise in areas adjacent to airports.

As far as civilian aircraft noise controls are concerned, apart from asking individual airlines to accelerate the replacement of aging aircraft, the EPA is also asking airports to adjust takeoff and landing times and routes and place restrictions on stationary engine testing and training flights. It is hoped that these measures will lessen the impact of aircraft noise on the surrounding environment.

To control aircraft noise in the vicinity of airports, the EPA has specified that all 16 of the nation's major airports, including Sungshan Airport in Taipei, C.K.S. International Airport in Taoyuan and Kaohsiung International Airport, must install automatic aircraft noise monitoring equipment to monitor aircraft noise in the surrounding area, and must submit quarterly monitoring data reports. For their part, local environmental protection bureaus must designate aircraft noise control zones on the basis of the noise monitoring data submitted by the airport in question. Apart from Kaohsiung Kangshan Airport, which is still in the midst of drawing up noise control zones, the other 15 airports have all completed the delineation and announcement of aircraft noise control zones. There are three grades of aircraft noise control zones:

1. Grade 1 aircraft noise control zone: The volume of aircraft noise during the day and night is in the range of 60dB-65dB.
2. Grade 2 aircraft noise control zone: The volume of aircraft noise during the day and night is in the range of 65dB-75dB.
3. Grade 3 aircraft noise control zone: The volume of aircraft noise during the day and night is greater than 75dB.

To facilitate the installation of noise abatement equipment by buildings in aircraft noise control zones of various grades, the MOTC has successively drafted the *Aircraft Noise Control Funding Allocation and Use Regulations* (航空噪音防制經費分配及使用辦法) and *Airport Compensation Fund Allocation and Use Regulations* (機場回饋金分配及使用辦法) as authorized by the *Civil Aviation Law* (民用航空法). In addition, all airports and city/county governments have established "aircraft noise control enforcement task forces" responsible for allocating subsidies for the installation of aircraft noise control equipment at schools, libraries, medical organizations and homes located in the three grades of aircraft noise control zones.

Taking Taipei's Sungshan Airport as an example, the aircraft noise control zones around this airport encompass nine districts (區) and 131 boroughs (里) in Taipei City and Taipei County. Sungshan Airport allocates roughly NT\$130 million per year for noise abatement; the top priority assistance recipients include schools, libraries, medical organizations and homes in grade 3 aircraft noise control zones and schools in grade 1 and 2 zones. Funding is given for noise abatement equipment and its operating and maintenance costs.

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

Water Quality

Radical Overhaul of Water Pollution Control Act Enforcement Rules

In conjunction with the revision of the *Water Pollution Control Act*, the EPA has completed a new and radically streamlined draft of the *Water Pollution Control Act Enforcement Rules* reducing the number of articles from the current 71 to only 23. However, while these rules have been streamlined, there has been no significant change to Taiwan's water pollution control system.

The revised *Water Pollution Control Act* (水污染防治法) was announced in May of this year (see EPM Vol. V, Issue 5). In accordance with the content of the new act, the EPA has recently been revising related regulations, the most important of which is the *Water Pollution Control Act Enforcement Rules* (水污染防治法施行細則). The EPA announced on October 7 that it would accept public comments concerning the new draft of the enforcement rules, and pre-hearing negotiations were completed on October 18.

A number of articles in the existing enforcement rules that have been incorporated into the *Water Pollution Control Act* have been deleted from the new version. The draft also leaves out many regulations and standards that had been added without authorization from the original law. Examples include water pollution control plans, permit application and review procedures, monitoring reports and regulations governing retroactive

per-day fines. The number of articles in the enforcement rules has been drastically trimmed from 71 to the current 23.

With regard to the definition of wastewater sewers, the new draft changes the indirect definition in the existing enforcement rules in consideration of the subjects of effluent standards, explicitly defining the "special purpose sewers" referred to in the act as:

1. Special purpose sewers used in various types of industrial parks.
2. Special purpose sewers used in communities and having a maximum design or actual wastewater capacity in excess of 250 CMD.
3. Special purpose sewers installed by areas or facilities required to use such sewers by the regulations of the *Sewer Law* (下水道法). The maximum design or actual wastewater capacity of the sewer is in excess of 250 CMD.

To facilitate the collection of water pollution fees, the draft enforcement rules add plans for a water pollution fees collection system. While the EPA is responsible for fee collection and management, the governments of special municipalities, cities and counties will plan and implement the use of the fees. The draft explicitly specifies that the establishment of wastewater sewers and wastewater disposal facilities must seek to improve the quality of drinking water sources and rivers and waterways severely polluted by household wastewater as a first priority. The governments of special municipalities, cities and counties must formulate priority remediation projects, and the managers of wastewater sewers and wastewater disposal facilities must cooperate in project implementation.

Because data items are different for the various kinds of bodies of

water, the draft enforcement rules simplify common water quality monitoring station data items from the current ten to just water temperature, pH, dissolved oxygen and heavy metal concentration. The EPA will specify other items to reflect the characteristics of different bodies of water, and monitoring frequency is kept at the current once per quarter.

Because some articles of the existing enforcement rules, as authorized by the original act, require the additional drafting of regulations and standards, the EPA has further drafted related regulations, such as the *Review Regulations for Water Pollution Control Plans* (水污染防治措施計畫許可辦法) and *Permit Regulations for the Discharge of Industrial Effluent into Surface Water* (事業廢(污)水排放地面水體許可辦法), to regulate water pollution control plans. Related regulations including the *Permit Regulations for the Storage and Dilution of Wastewater* (廢(污)水貯留或稀釋許可辦法), *Wastewater Soil Treatment Standards* (土壤處理標準) and *Management Regulations for the Analysis and Reporting of Industrial and Sewage System Effluent* (事業及污水下水道系統廢(污)水檢測申報管理辦法) are meant to respectively regulate the storage or dilution of effluent, the discharge

Activity

TIER Conducts EIA Conference

Commissioned by the EPA, the Taiwan Institute of Economic Research (TIER) held a two-day conference on environmental impact assessments (EIAs) October 21-22 at National Taiwan University. Specific topics covered at the conference included international comparisons of EIA systems, policy EIAs and Taiwan's EIA system and its implementation. Representatives from industry, government and the academic community gave lectures and discussed in depth Taiwan's EIA system.

of effluent into the soil and monitoring and reporting work in connection with industrial and household effluent. *Management Regulations for the Manufacture, Approval, Registration and Inspection of Effluent Treatment Facilities for Prefabricated Buildings* (預鑄式建築物污水處理設施製造、審定、登記及查驗管理辦法) and *Rules for the Construction, Management and Cleaning of Effluent Treatment Facilities for Buildings* (建築物污水處理設施建造與管理及清理規定) are meant to regulate the management of building effluent handling facilities.

Other regulations that have been made independent of the existing enforcement rules are the *Regulations for the Determination of Suspected Threats to Human Health, Agricultural/Fisheries Production or Drinking Water Sources* (嚴重危害人體健康、農漁業生產或飲用水水源之虞認定辦法), *Management Regulations for the Installation of Groundwater Pollution Control Facilities and Monitoring Equipment* (防止污染地下水體之設施暨監測設備設置管理辦法) and *Regulations for Continuous Daily Fines after Violation of the Water Pollution Control Act* (違反水污染防治法按日連續處罰執行辦法) .

For more information, please call 02-2311-7722 ext. 2822.

Air Quality

Strengthened Auto Fuel Quality Standards Coming in 2007

The EPA plans to introduce more stringent standards for automobile gasoline and diesel in 2007 in order to reduce the pollution generated by automobiles. These standards will greatly reduce the allowable level of sulfur in auto fuels.

The EPA has revised the *Standards for the Composition and Properties of Automobile Gasoline and Diesel Fuels* (車用汽油成分及性能管制標準) by adding control standards for the composition of automobile gasoline and diesel that are to go into effect in 2007. These new standards, which were implemented on November 6, are aimed at getting Taiwan's regulations in line with the international trend of lowering sulfur levels in fuel products and the future activation of Taiwan's phase 4 emissions standards for diesel automobiles. The EPA devised these standards based on European Union standards. Composition controls have been adopted for gasoline. Also for gasoline, this draft replaces performance control standards with the

two control items of aromatic hydrocarbons levels and olefin levels. For diesel, these new standards lower the allowable level of sulfur and, as the Ministry of Economic Affairs' Bureau of Standards, Metrology and Inspection already has Cetane Index controls, replace these controls with controls on aromatic hydrocarbons levels.

With the goal of limiting the emission of sulfur oxides (SOx) and particulate pollution from diesel vehicles, the EPA started regulating the sulfur content of high-end diesel when it set the maximum allowable level of sulfur in diesel at 0.5% in July 1989.

Subsequently, it further lowered this limit to 0.3% in July 1993, 0.15% in July 1997, 0.05% in July 1997 and 0.035% in January 2002. The EPA later announced the *Standards for the Composition and Properties of Automobile Gasoline and Diesel Fuels* in December 1999. The implementation of these standards in January 2000 marked a new era for the control of mobile pollution sources in Taiwan. Additional revisions in December 2002 further strengthened these standards. These newly announced standards for diesel composition controls for 2007 reflect the EPA's mid-term planning for Taiwan's mobile pollution source control policy.

For more information, please call 02-2311-7722 ext. 2780.

Current Control Standards for the Composition of Gasoline and Diesel				2007 Control Standards for the Composition of Gasoline and Diesel (draft)		
		Control Item	Limit		Control Item	Limit
Gasoline	Composition Standards	Benzene	1.0 vol%, max	Gasoline	Benzene	1.0 vol%, max
		Sulfur	180 ppmw, max		Sulfur	50 ppmw, max
		Reid vapor pressure	8.9 psi, max		Reid vapor pressure	8.7 psi, max
		Oxygen	2.0 wt%, max		Oxygen	2.7 wt%, max
	Performance Standards	VOC and NOx	1700 mg/km, max		Aromatic hydrocarbons	37 vol%, max
		Toxic air pollutants	48 mg/km, max		Olefin	18 vol%, max
Diesel		Sulfur	0.035 wt%, max	Diesel	Sulfur	50 ppmw, max
		Cetane Index	48, min		Aromatic hydrocarbons	35 vol%, max

Air Quality

Zone Classifications Updated to Reflect Improved Air Quality

The EPA has announced new air quality control zone classifications, reflecting a general improvement in PM_{10} and O_3 concentrations in Taiwan. The number of counties and cities listed as Class 3 air quality zones has declined.

The EPA on October 15 announced a draft of new air quality control zone classifications based on the latest air quality monitoring data. This monitoring focuses separately on PM_{10} , O_3 , SO_2 , NO_2 and CO concentrations in the air. For PM_{10} concentrations, Taipei County and Taichung County, which were previously Class 3 zones for PM_{10} , have both been

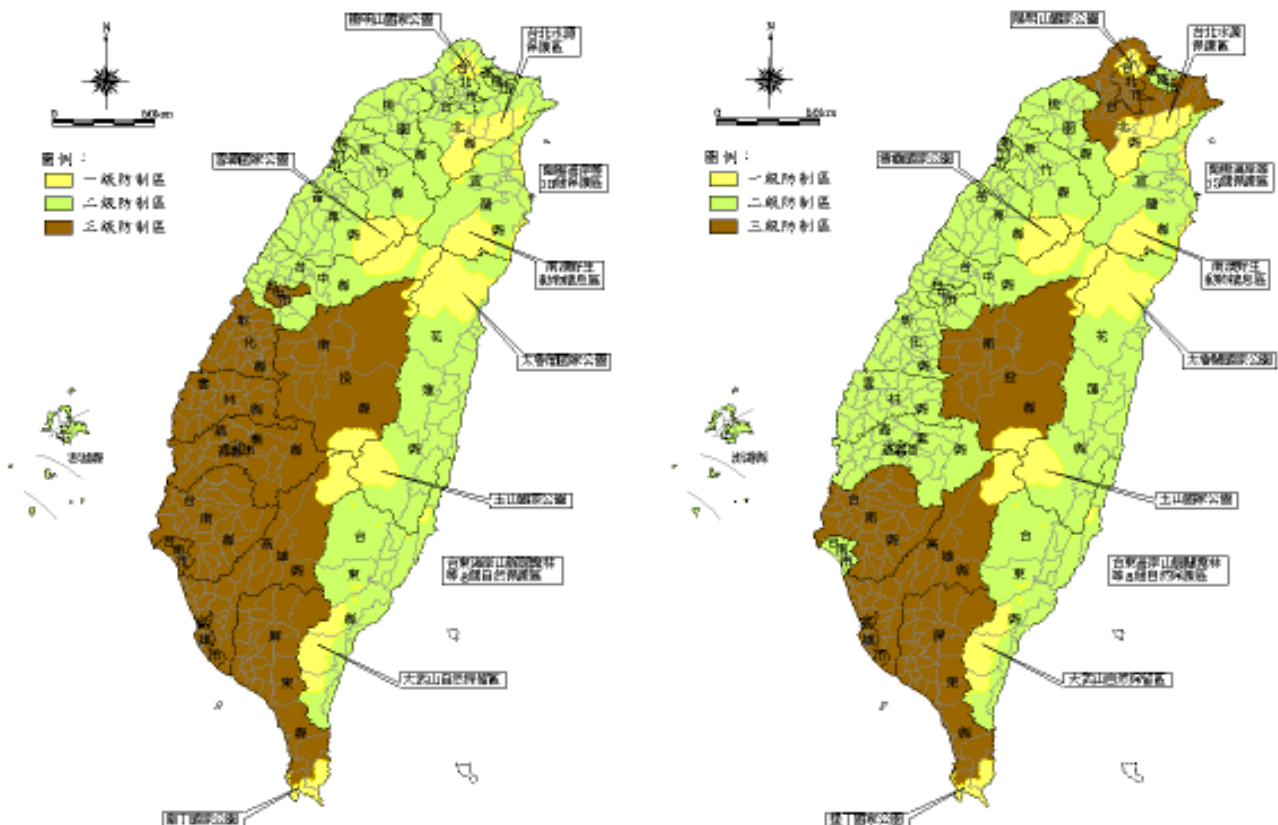
reclassified as Class 2 zones. For O_3 concentrations, Taichung County, Taichung City, Chiayi City and Tainan City, which were previously Class 3 zones for O_3 , have been reclassified as Class 2 zones. Only Taipei City has seen its zone classification for O_3 concentrations drop from Class 2 to Class 3. Regarding SO_2 , NO_2 and CO concentrations, all areas of Taiwan, except for national parks and nature conservation areas which are all Class 1 air quality control zones, have remained classified as Class 2 zones. With a greater number of areas meeting air quality standards, these reclassifications show that the EPA's air quality control efforts targeting PM_{10} and O_3 concentrations have already begun to pay off. These new classifications will be effective from January 1, 2003 to December 31, 2003.

Taiwan's air quality control regulations classify all national parks and nature conservation areas as Class 1 air quality control zones. Class 2 zones include all areas that meet

air quality standards except for those listed as Class 1 zones. Class 3 zones indicate all areas that do not meet air quality standards except for those listed as Class 1 zones.

The EPA has implemented necessary control measures for stationary pollution sources within these different zones in accordance with regulations. For example, in Class 1 zones the establishment of new or modification of existing stationary pollution sources is prohibited, except for those facilities required by residents living in the area, national park operations or military operations. In Class 3 zones, stationary pollution sources of a certain size are required to utilize BACT. Regulations also require the governments of special municipalities and counties and cities that are listed as Class 3 zones to formulate air quality control plans specific to their zone classifications and to revise these plans every two years.

For more information, please call 02-2311-7722 ext. 2769.



Updated air quality control zone classifications for PM_{10} (left) and O_3 (right). Note: yellow areas indicate Class 1 zones, green areas Class 2 zones and brown areas Class 3 zones.

News Briefs

Applications to Establish Environmental Technology Parks Now Accepted

Announced by the EPA on October 25, the *Establishment Application Notes for Environmental Technology Park Promotion Projects* (環保科技園區推動計畫設置申請須知) specifies that all special municipalities and city or county governments interested in establishing an environmental technology park must submit a proposal in accordance with requirements contained in the Notes prior to December 25 of this year. The EPA will select a city and county in northern, central and southern Taiwan on the basis of the proposals before January 31, 2003, and establish environmental technology parks at the proposed sites (see report in EPM Vol. V, Issue 9).

Administrator Hau: Sand and Gravel Extraction Requires Policy EIAs

EPA Administrator Hau Lung-bin gave a service report to the Legislative Yuan Environmental Sanitation and Social Welfare Committee on October 7. During this report Hau stated that the EPA has arranged with the Ministry of Economic Affairs to add the policies regarding the extraction of sand and gravel from rivers and waterways and the reduction of water source areas to future policy environmental impact assessment (EIA) items. In accordance with the *Regulations for Environmental Impact Assessments of Government Policies* (政府政策環境影響評估作業辦法), the government has already conducted policy EIAs addressing golf course and industrial park development policies.

National Day Decorations Very Environmentally Conscious

Since the EPA took charge of environmental decoration work at the National Day festivities in 1995, it has striven to incorporate the environmental protection philosophy. Apart from using recyclable materials, this year no balloons were released at the celebration, and a large solar-powered "Double-Ten" lamp was installed to meet the needs of the event. Three by six



A large solar-powered "Double-Ten" lamp installed by the EPA.

meters in size, this lamp was assembled from ten 75-watt solar panels and red and yellow LED lights. The lamp stayed lit for upwards of six hours after sunset.

Environmental Public Interest Trusts Given a Legal Basis

To provide a legal basis for the establishment and oversight of environmental public interest trusts, the EPA has drafted the *Permit and Oversight Regulations for Environmental Protection Public Interest Trusts* (環境保護公益信託許可及監督辦法(草案)) as authorized by Article 85 of the *Trust Law* (信託法). Containing 28 articles, the draft regulations explicitly specify permit application procedures and operation oversight and management guidelines. Except in cases where the trust's assets are greater than a certain value, an application must be made to the EPA whenever a party wishes to establish an environmental public interest trust. Upon receiving the EPA's approval, the trust may be established after applying to the local county or city government.

EPA Allows Laundries to Apply for Green Mark Certification

The EPA has formulated *Laundry Industry Green Mark Standards* (洗衣業環保標章規格標準). Laundries that wish to obtain the Green Mark must comply with power and water conservation standards, and may not use relatively toxic chlorine-containing solvents such as tetrachloroethylene. When petroleum derivatives are used as dry cleaning solvents, at least 90% of all fumes must be recovered.

Recycling of PET Bottles Increases 16%

Although refunds for waste PET plastic bottles were terminated in June of this year, the recycling of these plastic bottles has actually increased since that time. EPA statistics indicate that 47,629 metric tons of PET bottles were recycled from January to September of this year, which works out to an average of 5,292 metric tons per month. The latter figure represents an increase of 16.6% over the 4,538 metric tons recycled per month last year. It is estimated that as much as 64,000 metric tons will be recycled throughout the entire year. The reason for this increase in recycling is the greater demand for secondary PET material, which has significantly raised the price of waste PET bottles.

Science Park Air Permit Applications Simplified

The EPA has recently taken steps to simplify stationary pollution source permit application procedures for companies located in science-based industrial parks. It was announced that, starting from November 1 of this year, all companies located in the Hsinchu Science-based Industrial Park and the phase 1, phase 2 and Luchu sites of the Tainan Science-based Industrial Park may apply directly to the management bureaus of these parks for the review, issuance and extension of stationary pollution source establishment and operating permits.

Water Quality

Taiwan Prepared to Respond to Major Marine Disaster

The EPA has been working aggressively to upgrade Taiwan's marine pollution emergency response capabilities since the Amorgos oil spill in 2001. Now, almost two years later, Taiwan possesses the personnel and resources to handle a major marine oil pollution incident.

Taiwan formally promulgated its *Marine Pollution Control Act* (海洋污染防治法) in November 2000. Then, on January 14, 2001, no more than three months after the introduction of this act, the Greek-registered cargo ship MV Amorgos ran aground in waters just outside of the Kenting National Park (墾丁國家公園). The oil spill resulting from this accident severely polluted the park's sensitive coastal ecosystem and exposed Taiwan's lack of adequate marine pollution emergency response capabilities. As it set about the task of cleaning up the pollution from this disaster, the EPA began working on the establishment of Taiwan's marine oil pollution emergency response system.

In the nearly two years since this disaster, the EPA has used a special Executive Yuan budget of NT\$180 million for the procurement of a sufficient stock of marine pollution emergency response equipment and the training of emergency response personnel. The smooth implementation of this plan means that the EPA has already made all the procurements and completed all of the training necessary for the handling of a major marine pollu-

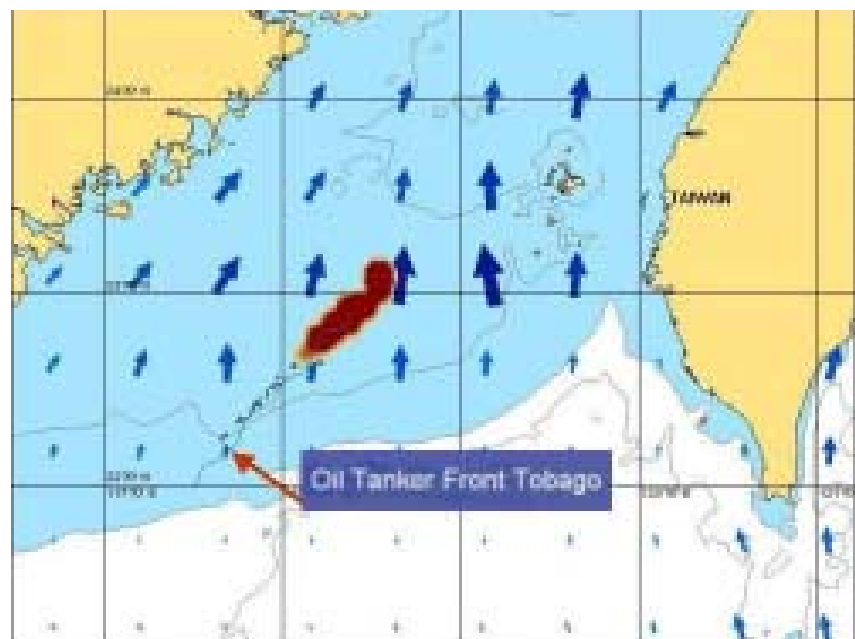
tion incident. The following paragraphs detail some of the results of these efforts.

The EPA has procured a full variety of pollution response equipment. This includes oil absorbent material, oil dispersing agents, oil cleaning equipment and a full range of oil booms with a total length of nearly 20,000 meters. This equipment has been stockpiled at each designated first-line response agency. These agencies include 19 Coast Guard units, ten fish harbors, 21 local government environmental protection bureaus and the Kenting National Park. In addition, the EPA has built two mobile offices which can be dispatched to the scene of a major marine oil spill as soon as it is reported. These offices, cargo containers outfitted with a full range of telecommunications equipment, will allow response command officials to carry out the deployment of personnel and equipment with the greatest efficiency possible.

Another outcome of this plan has been the establishment of a preliminary remote-sensing oil pollution monitoring mechanism. This mechanism relies on both satellites and airplanes to provide real-time

imaging of oil spills from different altitudes. The EPA has also set up an oil spill modeling and forecasting system and a pollution response decision-making support system. The use of computer modeling to forecast the spread of an oil slick is a vital part of the decision making process. Before the end of this year, the EPA will wrap up the creation of a number of other computer-based systems that will provide information essential to the proper handling of marine oil pollution disasters. These include a database of marine water quality in Taiwan, a marine pollution risk indicator and warning system, an Internet-based marine pollution notification and query system and a system that uses satellite imaging and aerial photography to assess economic loss caused by a disaster.

Under this plan, the EPA has also held ten basic training classes in order to enhance the capabilities of marine pollution response personnel at all levels. A total of 710 personnel participated in these classes. The EPA organized five trips overseas to England, Canada and Singapore for classroom and field training. Two hundred response command officials from



The EPA used the BMT oil dispersion model to project the spread of the oil slick from the Liberian-registered oil tanker *Front Tobago*.

various agencies participated in these training trips. Local and overseas experts were also invited to speak at three symposiums, giving local personnel additional opportunities to learn about marine pollution disasters. Of even greater importance than this training was the EPA's mobilization of the Coast Guard, local environmental protection agencies and other relevant agencies in conducting joint response exercises at Taiwan's major harbors. Twenty exercises were conducted, allowing response personnel to gain abundant hands-on experience in carrying out the various emergency response procedures. The EPA believes that these training courses and exercises not only improve the capabilities of marine

pollution response personnel, but that they also foster the ability to communicate and coordinate among the various agencies involved. These efforts will surely facilitate the ability to achieve consensus through the decision making process and improve the overall effectiveness of emergency response efforts.

Owing to the aggressive efforts of the EPA to coordinate with all of the relevant governmental agencies, Taiwan now possesses an emergency response system capable of handling a major marine pollution disaster. When the Liberian-registered oil tanker *Front Tobago* (see EPM Vol. V, Issue 6) and the Panamanian-registered oil tanker *Orpheus Asia* separately lost propulsion in waters near Tai-

wan in May and July respectively, the smooth operation of this system prevented the occurrence of a disastrous oil spill in Taiwan's economic waters, and thus proved the EPA's preparation in establishing Taiwan's marine emergency response system had paid off.

The EPA asserts that being adequately prepared at all times is the best strategy for handling marine pollution incidents. The EPA's preparedness will ensure that the necessary personnel and resources can be mobilized as soon as a marine pollution incident is reported. A quick response means an incident can be handled before it becomes a disaster.

For more information, please call 02-2311-7722 ext. 2840.

Activities

Global Ecolabelling Network Conference Held in Taiwan

The Global Ecolabelling Network (GEN) held a conference and its annual convention in Taiwan for the first time this year. This event, which was held from October 29 to November 2, attracted close to 100 delegates from the 17 nations of the US, Canada, Germany, Sweden, Denmark, Norway, Czech Republic, Australia, New Zealand, Korea, Japan, Thailand, the Philippines, Vietnam, Indonesia, India and Taiwan. Delegates discussed the opportunities and challenges facing nations around the world in the promotion of ecolabelling. Apart from highlighting the international recognition garnered by Taiwan's Green Mark program, the event also gave Taiwan a chance to participate actively in international society via environmental cooperation.

Household Wastewater Reduction Poster Contest Held

To publicize the concept of household pollution reduction, the EPA held the "Household Wastewater Reduction Poster Contest" activity and conducted an official judging on October 25. Among the close to 300 posters entered in the contest, three elementary school entries, two junior high entries and two high school entries were granted "outstanding" honors. Another 29 posters winning "superior" and "honorable mention" awards were among the 36 finalist works.

Conference on Canadian Air Quality Monitoring Technology

To promote the sharing of environmental protection technology between Taiwan and Canada, the EPA invited specialists from Environment Canada to visit Taiwan and attend a conference on air quality monitoring technology on October 23. The visiting specialists introduced Canadian air quality monitoring network and air pollutant sampling technology, while sharing their experience with other participants via discussion.



An award-winning household wastewater reduction poster.

Waste Management

Disposable Dishes Restrictions Introduced Smoothly

The EPA implemented its first set of restrictions on plastic (including polystyrene) disposable dishes on October 1. Preliminary statistics reveal that most operators have the ability to adhere to this policy and that implementation is going smoothly.

Having successfully introduced the first set of restrictions on plastic shopping bags on July 1, the EPA implemented the first stage of restrictions on plastic (including polystyrene) disposable dishes on October 1. These restrictions pro-

they were in full compliance with this policy. In addition, demonstrating their determination to coordinate with the implementation of this policy, each local government held a variety of promotional activities in the run-up to its implementation. On the first day of implementation, environmental inspectors around the island inspected 230 targeted establishments. These inspections found only one establishment to be providing disposable dishes in violation of this policy. However, as the period from October 1 to October 7 was a warning period, the inspectors advised the establishment to improve its compliance and put it on a priority list for establishments to be inspected in the future.

has been extraordinary.

The EPA conducted telephone surveys of targeted school cafeterias in order to determine what types of dishes they adopted in response to the introduction of these restrictions. The EPA completed 142 surveys by October 7. Survey results show that 32% of these establishments changed from disposable plastic dishes to washable reusable dishes and 6% began using disposable paper dishes instead of disposable plastic dishes. Another 11% were found to have used disposable paper dishes before this policy and to have continued to use paper dishes, while 51% were using washable reusable dishes before this policy, and still are. This survey reveals that 83% of these targeted establishments are now using washable reusable dishes.

These restrictions prohibit eating and drinking establishments and stores at targeted organizations from providing plastic disposable dishes to their customers.

hibit eating and drinking establishments and stores at targeted organizations from providing plastic disposable dishes to their customers. The targets of this first stage of restrictions include all government agencies, public enterprises, military installations and military stores, public and private schools and public medical facilities. Statistics show that a total of 7,739 eating and drinking establishments and retail outlets at these organizations are subject to this first stage of restrictions.

EPA Administrator Hau Lung-bin paid visits to the activity center at National Taiwan University and the Gungguan annex of the National Taiwan University Hospital on the first day of implementation in order to observe these restrictions in action. Hau found no evidence these establishments were using disposable dishes and that

During this warning period, environmental inspectors checked out a total of 2,312 targeted establishments. Only 17 establishments were discovered to be in violation of this policy. The disposable dishes they were caught using included plastic cups, plastic boxes, cold noodle boxes and meal boxes. With such a low number of establishments in violation of this policy, overall compliance with this policy

Local environmental protection bureaus also inspected a combined 1,806 targeted establishments from October 1 to October 7. These inspections found 67.9% to be using washable reusable dishes and 31.1% to be using non-plastic disposable dishes.

The EPA, emphasizing that the aim of this policy is to reduce plastic trash at the source, has expressed its hope that targeted eating and drinking establishments will chose to use washable reusable dishes instead of non-plastic disposable dishes.

For more information, please call 02-2370-5888 ext. 3601.



The EPA's aggressive promotional campaign, which relies on such vivid posters as the one above, has ensured the successful implementation of the first stage of restrictions on plastic disposable dishes.

Air Quality**Taiwan Participates in UNFCCC COP 8 Activities**

EPA Deputy Administrator Lin Ta-hsiung headed Taiwan's delegation to the UNFCCC COP 8 in New Delhi in October. Demonstrating Taiwan's desire to fulfill its responsibility as a member of the global village, delegates presented reports at conference meetings seeking international cooperation in the fight to reduce greenhouse gas emissions.

EPA Deputy Administrator Lin Ta-hsiung (林達雄) headed Taiwan's delegation to the Eighth Conference of Parties (COP 8) of the United Nations Framework Convention on Climate Change, which took place in New Delhi, India, from October 23 to November 1. Delegates from over 180 nations attended this meeting in order to discuss measures for limiting greenhouse gas emissions and reducing vulnerability to climate change. Taiwan's delegation, consisting of representatives from the governmental, business and academic sectors, participated in the conference in line with Taiwan's status as an observer member. Taiwan's delegates were drawn from such organizations as the Ministry of Foreign Affairs, the Ministry of Economic Affairs Energy Commission, National Science Council, Council of Agriculture, Taiwan Power Co., China Steel Corp., Formosa Plastics Corp., National Tsinghua University, National Taipei University and the Industrial Technology Research Institute. With each nation's industry playing an increasingly important role in the campaign to cut greenhouse gas emissions, Taiwan made a special point of inviting representatives

from major Taiwanese industries to join its delegation. The EPA hopes that industry's participation will open a new channel for Taiwan to pursue in its drive to cooperate in international efforts to protect the environment.

highlighted the abundant experience gained by Taiwan's multinational organizations through participation in international environmental projects and the development of renewable energy resources. Focusing on the establishment of a

...industry's participation will open a new channel for Taiwan to pursue in its drive to cooperate in international efforts to protect the environment.

At the conference, discussions on the highly symbolic Delhi Declaration became bogged down. However, during these discussions, some developed countries demanded persistently that the second commitment period, which would require developing nations to make commitments to reducing their greenhouse gas emissions beginning in 2013, be discussed. Despite the intense opposition of developing nations to this proposal, the EPA believes that the issue of the responsibility of developing nations to limit greenhouse gas emissions will be raised repeatedly by developed nations at meetings from now on and that, consequently, developing nations will no longer be able to avoid addressing their responsibility in mitigating climate change. The EPA says that this is of particular importance to Taiwan and that it should begin formulating strategies that would allow it to maintain pace with the international trend of lowering greenhouse gas emissions.

Taiwan's delegates attended numerous meetings where they were able to hold discussions with delegates, experts and scholars from around the world. Taiwanese delegates also presented a special report entitled "The Role of Multinational Organizations in the Greenhouse Gases Market" at the "Outlook for the Greenhouse Gases Market" meeting sponsored by the International Emissions Trading Association. This report

multinational greenhouse gases reduction regime currently being discussed by nations around the world, the report also demonstrated that multinational organizations can play active roles as mediators in promoting global environmental projects. The International Emissions Trading Association is an important international organization participating in the search for effective ways to reduce emissions of greenhouse gases. Its members include such global enterprises essential to the current stage of discussions as British Petroleum and Shell. The Industrial Technology Research Institute joined this association with the assistance of the EPA two years ago.

After signing a cooperation agreement with Inter-American Association of Sanitary and Environmental Engineering in 2000, Taiwan has helped Central American nations set up a regional MARKAL model for projecting emissions of greenhouse gases. In addition, Taiwan's participation at the COP 8 shows that it is adopting an increasingly aggressive role in discussions on greenhouse gas reduction. Taiwan intends to play an active and positive role at international conferences on greenhouse gases, emphasizing the importance of international cooperation in seeking greater opportunities for cooperation.

For more information, please call 02-2311-7722 ext. 2760.

Waste Management

Waste Dumps Removed from Riverways

The EPA has been supervising local governments in conducting removal and revegetation work at township and city garbage dumpsites located in riverway areas. The EPA expects final work on these sites to be completed before the end of 2003.

The presence of township and city garbage dumps in riverway areas can severely interfere with the function of flood control measures. Therefore, the EPA has teamed up with the MOEA's Water Conservancy Agency in order to jointly implement the *Plan for the Removal of Township and City Garbage Dumps from Riverway Areas* (河川行水區內鄉鎮市垃圾棄置場處置計畫). Under this plan, the EPA is supervising the removal of six garbage dumps that directly impede water flow in riverways around Taiwan. It is estimated that approximately 2.3 million square meters of decomposed garbage and soil will ultimately be excavated from these sites. This will require a budget of

NT\$1.5 billion. The EPA is also overseeing revegetation work on another fourteen dumpsites that do not directly interfere with river flow.

Regarding the status of the six dumps to be completely removed, as of October, the EPA has completed the removal of two, is working on one, has halted work on one, is taking bids on one and is conducting planning work on one. The EPA expects to have wrapped up removal work on three of these sites before the end of the year, taking away a com-

of these sites, which occupy around 17.3 hectares, by the end of the year.

The EPA is pressing on actively with the implementation of the *Plan for the Removal of Township and City Garbage Dumps from Riverway Areas* and expects to complete all related work before the end of 2003. By removing garbage dumps from the banks of riverways, this plan will allow rivers to flow unobstructed and ensure that riverbanks and levees remain strong, thereby protecting the lives and property of local

It is estimated that approximately 2.3 million square meters of decomposed garbage and soil will ultimately be excavated from these sites. This will require a budget of NT\$1.5 billion.

bined 1.35 million cubic meters of decomposed garbage and soil. As for the fourteen dumps that will be revegetated rather than removed, the EPA has completed revegetation work on seven, has determined that the natural growth of vegetation at six dumps has already returned them to a natural state and is conducting planning work on one. The EPA intends to have completed work on thirteen

residents. These removal and revegetation projects will also prevent the further seepage of dump wastewater into rivers and reduce the amount of waste floating on river surfaces. This will improve the quality of riverwater and make riverways more useful, ultimately raising land value in these areas.

For more information, please call 04-2252-1718.

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

Publisher

Dr. Hau Lung-bin, Administrator

Publishing Directors

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

Advisors

Lu Chiao-song; Chen Chau-teh; Fu Shu-chiang; Chen Shis-how; Yueh Chang-shya; Chang Hoang-jang; Ni Shih-piao; Chen Shean-rong; Chen Lian-ping; Leu Horng-guang; Tung Te-po; Huang Wan-chu; Young Chea-yuan; Chen Hsiung-wen; Wang Lung-chic; Chang Shen-ho; Horng Yuh-fen; Pong Sheng-ming; Wang Pih

Editor-in-Chief

Roam Gwo-dong

Executive Editors

Y.F. Liang, Chang Shiuan-wu,
Hsiao Lee-kuo, Lin Char-hung,
Stan Blewett

Editorial and translation support provided by:

Hui-kuo Consulting, Ltd.,
Pristine Communications

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

For inquiries or subscriptions to the printed version, please contact:

Environmental Policy Monthly
Environmental Protection Administration
Office of Science and Technology
Advisors
41, Sec. 1, Chung-Hwa Rd.,
Taipei, Taiwan, R.O.C.
tel: 886-2-2311-7722, ext. 2207,
fax: 886-2-2311-5486
e-mail: umail@sun.epa.gov.tw

GPN: 2008600068
Contents Copyright 2002.



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