



Environmental Policy Monthly

Environmental Protection Administration, R.O.C. (Taiwan)

Feature Column

Industrial Park Wastewater Management-Improving Manufacture Processes and Minimizing Waste

Domestic industrial parks have gradually responded to changes to strengthen industrial wastewater management strategies throughout the evolution of Taiwan's industry structure. The current guiding concept is "improving manufacture processes and minimizing waste." The emphasis is on self-management and resource reuse to achieve sustainable development.

Authority over Taiwan's industrial wastewater pollution prevention and control mechanisms were first under jurisdiction of sanitation agencies and switched to the jurisdiction of the EPA. Systemized management mechanisms were gradually made into one comprehensive whole. After the establishment of the EPA, Taiwan's industrial wastewater pollution control strategy evolved with changes in industry and people's expectations for environmental quality (see chart). In the seventies and eighties, traditional industries were the mainstream and pollution control mainly entailed enforced inspections and monitoring of factories to ensure pollution control facilities were installed. Pollution sources were thus included under regulatory control one location at a time.

Achieve Sustainable Development

In the nineties, the EPA established a system for effluent management, permits, test reporting, technician accreditation and specialized personnel. This was assisted by computerized information management systems. These advancements greatly reinforced industrial wastewater pollution control as industries were obliged to update pollution control equipment or abandon highly polluting processes. The turn of the century saw the expansion of high-tech industries, while governments, civil organizations and enterprises around the world began to pay more attention to various environmental issues. The overriding concept of pollution improvement was to improve manufacture processes to reduce industrial waste, with an emphasis on self-management and reusing resources. From an environmental and

Self-Management and Resource Reuse to

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economic perspective, wastewater minimization is more economical than end-of-pipe treatment. Wastewater reduction prompts industries to upgrade wastewater control facilities and is an important goal of sustainable development.

By 2008 there were 53 listed industrial parks with sewer systems installed, accounting for over 10,000 factories. Of these, over 3,000 factories are listed as water polluting industries. These industrial park factories account for around 20% of Taiwan's 15,000+ factories that are listed as water polluting industries.

Refining and Strengthening Management System

Already 97% of industrial park factories are serviced by wastewater sewer systems and already 630,000 CMD of the nation's industrial park wastewater is handled in joint treatment plants. This accounts for about 28% of the nation's industrial wastewater and shows that although there are only 53 industrial parks with sewer systems, they are centralized and account for a large portion of wastewater. It is therefore especially important to address pollution controls at these locations.

Statistics show that the designed water usage rate is 57.5%, which is noticeably far from the ideal designed treatment capacity usage rate of 70%. This shows that industrial joint effluent treatment plants are still not working up to their full potential

and more effort is required. Wastewater discharge is frequently discovered in the rainwater channels of some industrial parks during clear days. This shows industrial park pre-treatment is still not being carried out and industrial wastewater within the parks is secretly being discharged into rainwater channels. This situation requires aggressive control measures.

Existing standards for industrial park wastewater quality control have proved inadequate in recent years. Moreover, existing effluent standards are not improving actual day-to-day operations. Promises made in environmental impact assessments on effluent quality are getting stricter, and there are wide variances between categories of industries and designated restriction values within industrial parks currently under control. Looking at current treatment status there is much room for further waste minimization. Effluent standards alone are insufficient and there is an urgent need to use control methods different from traditional effluent standards.

Upholding sustainable development as the top priority of environmental protection trends, industrial wastewater pollution control work will continue in the following directions:

1. Graded management for different industries

Increased specialization of industrial means greater differences in kinds of industrial wastewater. Therefore

 Evolution of industrial wastewater control strategies

Era	Beginning of systems (70s)	Development of concepts (80s)	Reinforcement of controls (90s)	Current (2000s)
Representative industries	Traditional industries, processing for export	Heavy industry foundations established	Strategic industries, manufacturing flourishes	High-tech industries, biotechnology
Control strategies	Water Pollution Control Act promulgated, system established	EPA established, enforced inspections	Permit system established and guidance provided to facilitate improvements	Manufacturing improved, industry standards

industrial wastewater treatment or pollution control management should target different industries and scales and set different control strategies appropriate for each target. Different grades of models should also be established to manage industrial wastewater according to type of industry. For example, large-scale factories or heavily polluting industries' permits can be handled through inspection systems to ensure management of pollution control. Small-scale industries, service industries, or other low-polluting industries can use a registration system to simplify permit management. After applying optimal management methods, management can be conducted through regulations on facilities. And can complement different types of industries or adopt different water pollution control measures and set different standards for each case.

2. Continuous automatic sampling and monitoring

Traditional inspections and controls adopt random sampling and testing methods and do not reflect the long-term quality of effluent discharged by industries. Faced with limited manpower for inspection work, unscrupulous industries often secretly pipe effluent into the environment. In the future, automatic continuous sampling of water quality will ensure more effective monitoring of pollution sources. Inspection methods should also be improved to make the best use of manpower, and to enhance the efficiency of inspections and sampling. The first stage calls for

river sampling and analysis. The midterm stage calls for effluent inspection and control in small industrial parks. Later stages call for gradual expansion to be implemented at unspecified points nationwide or regions with severe pollution.

3. Evaluation of functions to integrate inspection and punishment

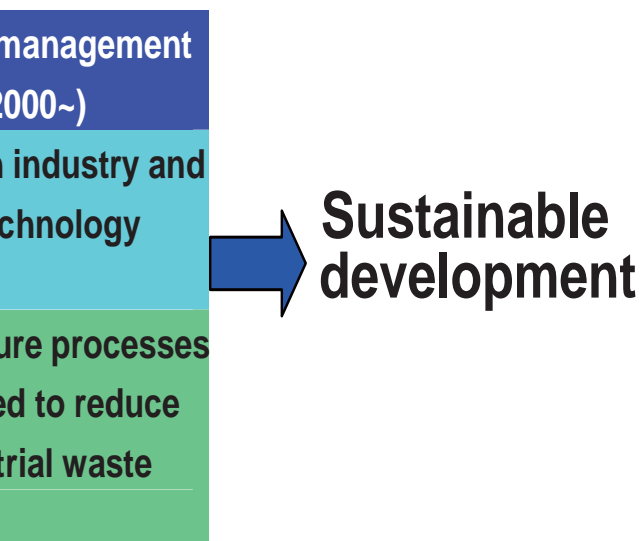
In the future inspection methods will focus on function assessment to confirm wastewater treatment facility functions are operating normally. All levels of environmental agencies are now recognizing the importance of evaluating functions of wastewater treatment facilities as this can effectively enhance normal operations. The future calls for continuous sampling and confirmation of average water quality to facilitate penalization of serious violations.

4. Encourage voluntary pollution reductions

In step with the development of high-tech and newly emerging industries, currently some industrial wastewater contains materials that are not yet included in effluent standard controls. Some of these materials are not easy to detect in wastewater. The EPA will adopt pollution risk and prevention methods to reduce the use of such agents, reduce discharge (through recycling of solvents), change manufacture processes, enhance the function of wastewater treatment facilities, promote self-administered tests, and sign agreements with related industry organizations to voluntarily reduce wastewater and cooperate in promoting water quality protection and sustainable development.

5. Total quantity control

Heavy metal pollutants tend to accumulate and cause environmental pollution at river mouths where fish or agricultural crops are raised. Therefore industrial wastewater pollution reductions should be integrated with total quantity controls. However, it is not easy to implement total quantity control management of river basins and so total quantity controls have first been implemented in industrial parks. As industrial parks are listed as independent pollution control zones, total quantity controls set single pollutant restriction discharge amounts for individual pollution sources. This is taken a further step by complementing water body water quality monitoring data to gradually adjust



permissible discharge amounts for each pollution source and thereby achieve the goals of water quality standards for different classes of water bodies.

6. Collection of water pollution control fees

Collection of water pollution control fees not only give those discharging wastewater short-term incentives to proactively reduce pollution but also provide long-term incentives to research and develop effective pollution control technology. This results in concrete tools that can be used to improve water body water quality

Comprehensive Planning to Improve Life, Ecology, and Production

Due to the complexity of issues surrounding pollution from factory wastewater, comprehensive planning will facilitate the transition of the economy, industry and environment toward more sustainable trends. Principles of resource conservation and sustainable development will prompt industry to strive for clean ecological production through the recycling of wastewater, normal operation of wastewater treatment, reasonable inspection and control, and reduced discharge through total quantity controls.

Climate Change

Cross-Ministerial Group Established to Promote LPG Dual Fuel Cars

Working to promote the LPG Dual Fuel Car Promotion Plan, the EPA has established a cross-ministerial joint service group to divide work according to areas of authority and set up liaison windows to answer inquiries. The group will also provide guidance and assistance to counties and cities without LPG filling stations.

The EPA indicates that installation of LPG filling stations is critical to the promotion of LPG dual fuel cars, but it is not easy to acquire land for filling stations due to regulatory complications. Apart from requirements to apply for Filling Station Establishment Management Guidelines, there are also many restrictions regarding urban planning, building management, land use control, and occupational safety and health regulations. Moreover, inspection agencies of each county and city have different standards causing many delays during the inspection process.

Currently the Ministry of Economic Affairs is responsible for planning, establishing and providing assistance for setting up filling stations. It is hoped that the establishment of the cross-ministerial joint service group will help lead enterprises to understand application regulations and processes, and assist county and city governments in becoming more familiar with inspection affairs. This will shorten the inspection process and facilitate the establishment of filling stations in counties and cities that currently have none.

"LPG Dual Fuel Vehicle Promotion Plan" Joint Service Group

Area of authority	Organization	Telephone
Establishment of LPG filling stations	Bureau of Energy, Ministry of Economic Affairs	(02) 27721370 x746
	LPG Filling Station Association	(02) 85122273 x600
Retrofit regulations and testing of alterations to car models	Ministry of Transportation and Communications Automotive Research & Testing Center	(02) 23492165
		(04) 7811222 x2115
	(02) 23113456 x2308	
Retrofit personnel training and conducting exams for retrofits	Directorate General of Highways, MOTC	(02) 22223600
Subsidies for new vehicles or retrofits	EPA	(02) 23117722 x2781

The cross-ministerial joint service group comprises: the Bureau of Energy, Ministry of Economic Affairs, which is the competent authority for filling stations; the Ministry of Transportation and Communications, which is the competent authority for LPG cars; and the EPA, which is responsible for promoting the use of these vehicles. The Filling Station Association was also invited to send a representative to share their ample experience in applying for the construction of filling stations. Apart from actively holding seminars and briefings, and answering inquiries, the group complements local or corporate needs to provide guidance and assistance to speed up the

establishment of filling stations.

There are currently 25 filling stations in operation nationwide, with another 7 expected to be up and running by the end of 2008. Twenty-two stations are currently under construction to service Taiwan's 20,000 LPG dual fuel vehicles. Already 80 car models can be legally retrofitted to accept LPG fuel, and there are now 200 technical professionals certified to retrofit vehicles. These trends have paved the way for the future of LPG dual fuel vehicles, which save energy, are cleaner vehicles, and save on fuel expenses.

Environmental Sanitation

Minister Shen Leads Campaign to Keep Public Toilets Clean

As part of the EPA's pledge to keep public toilets clean and properly maintained, EPA Minister Shen and Taoyuan County Commissioner Chu personally demonstrated how a public toilet should be cleaned on 6 September 2008. The EPA is leading the drive by local authorities to promote cleanliness of all public toilet facilities around the island.

Minister Shen has pointed out that Taiwan is a splendid place for sightseeing and other leisure activities, as proven by the fact that millions of overseas visitors come to the island each year. In order to encourage return visits to the island, not only are high standards of food and accommodation necessary, but the visitor should also leave with a good overall impression of the island. Hence the importance now being placed by the relevant officials on improving the quality and cleanliness of public toilet facilities. One of Taoyuan County's most popular tourist destinations – Tzu Lake, in Dashi – was chosen for the pledge event on September 6, which was also attended by Taoyuan County government officials, local mayors and village headpersons, and volunteer monitors.

As the EPA points out, Taiwan's citizens have put a lot of effort over the past few years into raising general standards of cleanliness but there is still room for improvement. Public toilets are like a window on the nation and it is thus desirable that they are not thought of as being wet, smelly, dirty places. In recent years, local authorities have made great strides in upgrading toilet facilities and improving the way the toilets are maintained. Much effort has gone into educating the public in their use and perception of facilities, but Taiwan is still lagging behind developed nations. A pressing imperative for the EPA is to improve the maintenance and cleanliness of public toilets in order to provide citizens and visitors with more comfortable facilities.

Waste Management

Waste Import, Export and Transshipment Regulations Revised

In the interest of managing waste export and import and enhancing the efficiency of applications and inspections, the EPA promulgated revisions to the Waste Import, Export, and Transshipment Regulations on 5 September 2008. The revisions were posted on the EPA's website (<http://w3.epa.gov.tw/epalaw/index.aspx>) for citizens to peruse.

The EPA states that in its effort to manage waste import and export, and raise the efficiency of related application and inspection work, as well as clarify certain areas of dispute, it has undertaken a full review and promulgated revisions to the Waste Import, Export, and Transshipment Regulations (廢棄物輸入輸出過境轉口管理辦法). Revisions were made to 39 articles, with the main points explained as follows:

1. An explanation was added to clarify that the transport of waste at bonded warehouses, bonded factories, logistics centers, agricultural and technology parks, free ports, domestic tax zones, and bonded zones are not considered import or export activities.

2. In response to the promulgation of revisions to hazardous industrial waste definition standards on 4 July 2007, mixed metal wastes originally designated as hazardous industrial waste have mostly been excluded from the definition of hazardous. Considering past import/export practices and the fact that most cases of illegal waste import/export have involved mixed metal wastes, and considering the different health and environmental risks posed by hazardous waste and general industrial waste, different regulations have been made regarding the allowable number of cases of illegal conduct involving hazardous waste and general industrial waste.

3. Regarding articles specifying situations in which the EPA may not issue import/export permits, it has been added that permits may not be issued “within two years of cancellation of import/export permit” and “if the applicant has ever lent an import/export permit to another party.” Situations that have been deleted, meaning that it is now okay for the EPA to issue a permit, include, “if the applicant has ever had its import/export permit terminated, or if falsified

documents have been used to apply for an import/export permit” and “applicants that have been issued penalties ordering them to halt operations or shut down business.”

4. It has been added that enterprises must send personnel to a recipient country within five years of application to inspect the treatment plant, treatment capability and operation status, and guarantee that report content is accurate. This ensures exported waste receives appropriate treatment overseas.

5. Due to the different criteria involved in revoking and annulling permits, Article 28~2 stipulates relevant regulations and delineates the scope of falsified documents.

6. It has been added that when there are doubts about waste management for operators with permits, power of decision will reside with the local competent authority where the original permit was issued.

7. When there are bilateral, multilateral or regional agreements on waste import and export, the content of such agreements shall be given priority.

8. A special permit can be obtained to provide regulated import and export waste samples to related clearance technology researchers. The EPA can request applicants to provide necessary documents according to management needs.

9. Considering stricter requirements regarding attached documents for export permit applications, a grace period is allowed to avoid implementation difficulties.

For more information, please call 02-23117722 ext. 2600

Recycling

Plans to Recycle Drug Containers from January 2010

The EPA issued a preannouncement of a revision stating that “manufacturers and importers shall be responsible for recycling, clearance, and disposal of their products and/or containers; and must uphold responsibility for recycling, clearance, and disposal.” Containers of “patent drugs” and “drugs prescribed by a physician or pharmacist” (drugs indicated for medical use) will be included as items in the declaration. These revisions could be implemented as early as 1 January 2010.

The present recycling channel for waste drug containers is in accordance with the regulations mandated by the Department of Health (DOH) and

covers waste produced by medical care facilities. The DOH stipulates that “the medical care industry shall practice reusability and establish control methods for

their waste products." Such waste will be transferred to recycling mechanisms that can process waste into raw materials that can be made into new products. Household disposal of medical waste can simply be handed over to the community sanitation crew for recycling and disposal.

Medicinal products that require loading into containers often have residual amounts of medicine leftover. If this leftover medicine is carelessly disposed of or incinerated along with other trash it can pollute the environment, thus recycling channels must be improved. Once these revisions are implemented, manufacturers and importers of medicinal products must comply with Article 16 of the Waste Disposal Act by registering as a responsible manufacturer, reporting the quantity manufactured (imported), and paying a recycling and treatment fee. These fees will be used to subsidize recycling operators, thus making this industry more attractive and expediting the proper

recycling of waste drug containers.

The EPA emphasizes that the principal targets of this revision are limited to medicine containers (empty bottles) labeled as "patent drug" and "indicated for use as medicine," while drug containers labeled as "prescription drug" are not included. Also, if the public has outdated or unused medicine they must first comply with the drug control authority regulations to recycle the medicine, and then handover the medicine container to the community sanitation crew or recycling operator for recycling.

Detailed information regarding these revisions have already been posted on the EPA's website and can be found on the "Draft Regulation Preannouncement" webpage (<http://ivy3.epa.gov.tw/epalaw/index.aspx>). For more information, please call 02-2311-7722 x 2600.

Air Quality

Dioxin Emission Standards Tightened for Steel Smelters

On 14 August 2008, the EPA ratified the "Kaohsiung City Steel Smelting Plant Dioxin Controls and Emission Standards," which tightened dioxin control standards for Kaohsiung City's four steel smelting plants from 1.0 ng I-TEQ/Nm³ to 0.5 ng I-TEQ/Nm³ (average concentration). The new standards will become effective in 2010.

The EPA indicated that tighter standards will reduce dioxin emissions from steel smelters in Kaohsiung City from 23 g-TEQ/year to 15.7 g-TEQ/year. Not only will this reduce dioxin emissions in the air but will also ensure better air quality for citizens. The measure will reduce dioxin emissions by 32% and can be seen as a major advancement for dioxin controls in Taiwan.

From 1996, the EPA has set six sets of dioxin controls and emission standards for emission sources. From 2002, dioxin emissions have followed a gradual decline each year (see chart). An analysis of emissions from emission sources shows that steel smelting furnaces are Taiwan's main source of dioxin emissions. On June 2004, the EPA promulgated the Steel Industry Smelting Plant Dioxin Controls and Emission Standards (鋼鐵業燒結工場戴奧辛管制及排放標準), requiring all existing pollution sources dioxin emission standards from 2008 to be under 1.0 ng I-TEQ/Nm³. Newly established pollution sources of dioxin emission concentrations should meanwhile be under 0.5 ng I-TEQ/Nm³. Currently, there are only four steel smelters in the Taiwan area. From 2010,

control standards will be the same for new smelters to ensure strict control over all emissions.

EPA research shows annual dioxin emissions from Kaohsiung City smelters in 2004 and 2005 to account for 61.2% and 63.0% of total dioxin emissions in Kaohsiung City. As these smelters are the largest stationary pollution sources in the city, there is a clear need for tighter standards to safeguard the health of residents in Kaohsiung City and Taiwan.

The Kaohsiung City Environmental Protection Bureau drafted the Kaohsiung City Steel Smelting Plant Dioxin Controls and Emission Standards in accordance with the Air Pollution Control Act (空氣污染防制法). The Standards were passed to the EPA for ratification in July 2007. After convening discussions with scholars and experts, consensus was reached with the decision that Kaohsiung City's four steel smelters shall be subject to the same pollution source dioxin control standards for newly constructed smelters: 0.5 ng I-TEQ/Nm³. The EPA ratified these stricter standards and promulgated them on 10 September 2008.

The EPA indicated that the stricter standards will become effective in 2010. China Steel has invested at least NT\$3.2 billion on improving dioxin emissions and has successfully reduced the dioxin emissions of

its smelters from 23.0 g I-TEQ/year in 2007 by 32% to 15.7 g I-TEQ/year at present. This represents a significant improvement in terms of environmental loading and health risks of residents in nearby regions.

 "LPG Dual Fuel Vehicle Promotion Plan" Joint Service Group

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
	(estimates)								
Kaohsiung City steel smelter dioxin emissions (g I-TEQ/year)	29.4	29.3	30.3	26.7	20.1	23.0	18.1	18.1	15.7
Kaohsiung City dioxin emissions (g I-TEQ/year)	48.8	48.5	49.5	42.2	35.3	35.3	30.4	30.4	28.0

Noise Control

Draft Bill to Provide Assistance for Preventing Noise Pollution

On 2 October 2008, a preliminary review of the Noise Control Act Draft Revision passed the Legislative Yuan's Health, Environment and Labor Committee. The draft specifies measures to reduce noise pollution at places where noise levels exceed approved standards. Such places include highways, freeways, railways, MRT systems, and civil and military airports. The draft also provides for one-off subsidies toward improving noise prevention facilities at places where noise pollution cannot be reduced.

The Legislative Yuan's Health, Environment and Labor Committee sat in response to a request from the Executive Yuan and also in response to legislators' proposed Noise Control Act Draft Revision. The draft passed the preliminary review, stipulating that private operators or the administering authorities shall draw up plans to reduce noise pollution at places where noise levels exceed approved standards. Such places include highways, freeways, railways, MRT systems, and civil and military airports. For those places where noise pollution cannot be improved, subsidies can be provided to local competent authorities for one-off improvements to noise control facilities.

In an attempt to reduce the growing number of

reported cases of automobile noise pollution, the draft also stipulates that once an offending vehicle has been reported by a member of the public to the EPA, the owner must be informed by the EPA that they are legally bound to take the vehicle to an approved noise testing station within a given time limit.

For businesses that produce noise pollution exceeding control standards, the EPA has adopted a policy of setting time limits for them to reduce noise to acceptable levels. These are: 90 days for factories; 30 days for places of business or entertainment; 4 days for construction sites; and 10 minutes for loudspeakers. Businesses that do not make improvements within the stated time limits will be penalized.

Environmental Sanitation

Biting Midge Control and Education Center Officially Established

To resolve the growing biting midge (*Forcipomyia taiwana*) problem, in 2008 the EPA specially commissioned teams to draft a "biting midge control action plan" and establish the "Biting Midge Control and Education Center." These efforts were formally launched on 22 September 2008 at National Chung Hsing University.

The Biting Midge Control and Education Center was established to create a platform mechanism that would open up bilateral communication channels between central and local (city and county) governments and the public. The center provides specialized consulting services that can answer questions and offer effective methods to control the biting midge.

In recent years, the biting midge has seen a rampant upsurge in Taiwan. Since their spread has seriously impacted the people's quality of life as well as the tourism and leisure industry, the government is taking this issue very seriously. The biting midge problem is an ecological and environmental issue, and the appropriate control method should "focus primarily on cleaning up the environment, and spraying disinfectants as an auxiliary measure." The success of these efforts relies heavily on the government's ability to encourage community resident involvement in biting midge control work. Residents must take the initiative to clean up the surrounding environment, because eliminating biting midge breeding habitat is the only way to resolve this situation.

Working to advance biting midge controls, this year the EPA specially commissioned teams from National Chung Hsing University and Central Taiwan University of Science and Technology to draft a "biting midge control action plan," which must be completed within three years. By integrating the human, economic, and technical resources of governmental departments and academic institutions we can more effectively monitor the density of biting midge, conduct surveys on ecological distribution and habitat, and search for control methods. This collaboration of energies will provide a more systematic, efficient, and comprehensive plan that offers a diverse spectrum of communities with effective biting midge control methods, prevention education counseling and academic discussions.

To ensure that biting midge inquiry service channels are available to promptly assist the public answer questions, the EPA has requested the local environmental protection authorities to establish specialized consulting services. The public can also contact the Biting Midge Control and Education Center by telephone at (04-22852473) or send inquiries via e-mail (info@bitingmidge.gov.tw).

International Affairs

APEC Marine Environmental Sustainability Roundtable Held in Taipei

The 9th APEC Roundtable Meeting on the Involvement of the Business/Private Sector in the Sustainability of the Marine Environment was held from 16~17 September 2008 in Taipei. Domestic and foreign experts from the public and private sectors were invited to attend, including participants from Canada, Indonesia, Japan, Peru, Singapore, and Vietnam. Participants discussed issues concerning the protection of marine resources and the strengthening of cooperation between governments and the private sector.

As the EPA has pointed out, APEC members are bound by their proximity to the Pacific Ocean, a priceless natural resource that all the members share. Conserving this resource, while still exploiting it on a sustainable basis, is undoubtedly in the best interests of the APEC member states. APEC Ocean-Related Ministerial Meetings held in 2002 and 2005 further emphasized the importance of the ocean to sustainable development in the region. The declaration issued by the ministers also stressed the importance of building working partnerships between governments and the private sector.

Besides the attendance of marine experts and scholars, this year's meeting of the roundtable was also attended by Mr. Hector Soldi, from Peru, Lead Shepherd of the APEC Marine Resource Conservation Working Group, who spoke about some of the effects that climate change is having on marine resources. Other issues that were discussed included technology for prevention and treatment of marine pollution, measures to protect Indo-Pacific humpback dolphins (*Sousa chinensis*), and new methods involving marine protection areas and marine resource conservation.

EPA Minister Shen gave a speech during the opening ceremony in which he specially mentioned the 2007 online competition run by Standard Chartered Bank and the WWF in which 1.45 million Taiwanese pledged to protect the environment, the second highest proportion among the nations that participated. Taiwan was awarded US\$350,000 by the bank, and this money will be given to the WWF's Coral Triangle Initiative. Minister Shen praised the fine example set by the bank and expressed his wish that more corporations would take more active participation in environmental protection activities.

The Coral Triangle lies between Indonesia, Malaysia, the Philippines, Papua New Guinea, the Solomon Islands, and Fiji, and covers approximately 6 million square kilometers of ocean. Seventy-five percent of the world's species of coral are found in this area and the coral is home to countless species of marine life, hence its nickname: "Amazon of the Oceans." During the 2007 meeting, APEC leaders issued their Declaration on Climate Change, Energy Security, and Clean Development, in which they gave their full support to the Coral Triangle Initiative, stating their belief that the area is an important link in the carbon cycle.

Toxic Substance Management

2008 POPs Forum Held on September 5

Control over persistent organic pollutants (POPs) is an international trend. To show the outcome of Taiwan's determination to control POPs, the EPA held the 2008 POPs Forum on 5 September 2008. EPA Minister Stephen Shu-hung Shen spoke at the forum, which was attended with great enthusiasm by over 300 participants from industry, government and academic fields as well as environmental organizations.

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EPA Minister Shen spoke at the opening ceremony about Taiwan's actions toward international trends to control POPs. The EPA jointly held the POPs forum with cooperation the Council of Agriculture, the Department of Health, and the Ministry of Economic Affairs. The main purpose of the event was to show the concrete measures taken by environment, health and agriculture factions of Taiwan's government in implementing the "POPs Stockholm Convention National Implementation Plan." This plan was jointly carried out by the EPA, COA, DOH and MOEA over the past two years in the first time for government agencies to integrate efforts toward this purpose. The concrete measures taken over the past couple years were shown during the forum.

The EPA indicated that in order to strengthen exchange and communication amongst industry, government, academic and environmental groups,

Dr. Mori Chisato from Chiba University was invited to speak on the extent of POPs in the environment and current control measures. Many eminent domestic scholars and experts in the fields of environmental engineering, agriculture, and health were also invited to give special topic lectures on POPs issues including policy, technology, risk assessment and risk communication.

The EPA intended for this forum to achieve the objectives of policy promotion and domestic exchange so that citizens and government agencies place importance on POPs comprehensive control measures, and further jointly strive to reduce POPs in the environment.

Additionally, in order to strengthen liaison, communication and coordination between government agencies, the EPA, the Department of Health, and the Council of Agriculture have established a regularly scheduled "DOH, EPA and COA Deputy Ministers Food Safety and Environmental Protection Liaison Meeting" and "DOH, COA and EPA Environmental Protection and Food Safety Report and Emergency Response Management Procedures." These mechanisms will help government agencies work together toward handling food safety and environmental protection issues.

EIA

EPA Requires Exposed Land at Hushan Reservoir Works to Be Remedied

The Hushan Reservoir works have been found to have exposed much more land than was agreed upon in the environmental assessment report that was part of the Hushan Reservoir Engineering Plan. As a result, the development unit has been fined and ordered to submit a suggested improvement plan within a set time limit. A deadline will also be set for improvements to be carried out.

After the EPA discovered the scale of land exposure, in accordance with the Environmental Impact Assessment Act, a fine of NT\$500,000 was handed down on 2 September 2008 to the development unit, which in this case was the Central Water Resources Bureau, a department of the Water Resources Agency, under the Ministry of Economic Affairs. The CWRB was also ordered to carry out improvements before 30 September 2008.

In order to ensure that the land exposure problem was brought under control and subjected to gradual improvement, the EPA asked the CWRB to submit a specific improvement plan to reforest the area of land that had exceeded the legal limit before 10

September 2008. The EPA hopes that by stipulating that the work be completed before September 30, the negative impact of the reservoir project on air quality, drainage, and the ecology close to the site will be reduced to a minimum.

According to the regulations laid out in the Environmental Impact Assessment Act, if the development unit does not make improvements within the stipulated period then the EPA can give out fines every day for up to 30 days. After 30 days the EPA can then request the industry competent authority to have the development unit stop all work until improvements have been made. More information can be obtained by calling 02-2311772 ext 2500.

General Policy

Clean Up the World Day Australia-Taiwan Videoconference

On 16 September 2008, the eve of Clean Up the World Day, the EPA cooperated with the Australian Commerce and Industry Office to organize a Clean Up the World Day videoconference forum, during which Australia and Taiwan exchanged experiences on "carbon reduction, cleaning up beaches, and cherishing the oceans." The founder of Clean Up the World Day, Mr. Ian Kiernan, and Deputy Minister Chiau Wen-Yan were invited to participate in a videoconference discussion where they shared experiences involving "carbon reduction, cleaning up beaches, and cherishing the oceans."

Clean Up the World Day takes place annually on the third weekend of September, and every year over 125 countries and 40 million people participate. The activity's founder, Australian national Mr. Ian Kiernan, originated the "Clean Up Australia" activity, which was promoted throughout Australia and was the largest scale clean up activity of its kind. This activity gained support from the United Nations Environment Programs, and in 1993 was expanded to encompass the entire globe, thus bearing conception of Clean Up the World Day.

The topics of discussion during the videoconference forum were: 1) What is the impact of ocean waste on the marine environment? What are the problems?

How can we resolve these problems? 2) How important is it for each organization and community to implement waste reduction measures? 3) What are the benefits recycling offers the community? 4) How can we confront climate change? 5) Can waste reduction and recycling effectively reduce greenhouse gas emissions?

Deputy Minister Chio expressed that Australia and Taiwan are both island nations. The oceans are a vital and indivisible element in our livelihoods, and as a result of our close proximity and intimate interaction ocean waste disposal has been produced. This forum opened up a channel for Australia and Taiwan to exchange experiences and helped the public better

understand the importance of carbon reduction and cherishing the oceans. The EPA encourages everyone to take part in efforts to reduce global warming-

together echoing the call to: "take joy in cleaning up our world!"

News Brief

National Toxic Chemical Substances Disaster Response Drill in Mailiao

Yunlin County Government held a national toxic chemical substances disaster and marine pollution response drill on 17 September 2008 at the East 10 dock in the Mailiao Harbor.

EPA Minister Shen and Yunlin County Deputy Commissioner Li Ying-yuan (李應元) were present to offer guidance. The EPA stated that this year's national toxic disaster drill simulated a collision between two tankers containing p-xylene and N,N-dimethylformamide at East 10 dock in the Mailiao Harbor, causing a third crash from the rear with another vehicle. The simulation dictated a spill of N-dimethylformamide which ignited into flames. This affected the transport of a ship in the midst of loading n-butylacrylate, which also ignited. Thus the drill necessitated a response for a combination of a toxic disaster and marine pollution, posing a greater degree of difficulty than usual drills.

Apart from the EPA, other agencies undergoing this drill included the environmental, fire, police and health agencies of Yunlin County. The Coast Patrol Administration and Formosa Chemical and Fibre Corporation disaster joint prevention group also provided assistance. A total of 21 agencies and over 200 personnel were mobilized along with equipment and response equipment including 36 vehicles, 6 boats and other support equipment.

2008 World Water Monitoring Day Activities in Yilan

The EPA invited citizens to participate in the 2008 World Water Monitoring Day activities. The activities involve people in testing water quality to get a better picture of the quality of our water environments and inspire people to protect water environments. The activity was held on 19 September 2008 at Yilan County's Dongshan River. Participants included teachers and students of elementary schools in Yilan County, river patrol teams

and local residents concerned about water quality. The EPA indicated that from 18 September 2008 to 18 October 2008, citizens are welcome to participate in local water monitoring activities throughout Taiwan. Monitoring results can be posted online at the US World Water Monitoring Day website to show Taiwan's care for the world's water resources.

Registration is required to upload information onto the US World Water Monitoring Day website. Those requiring assistance uploading data onto the website can contact the EPA at 02-23117722 ext. 2314 or 2310. The US World Water Monitoring Day website is <http://www.worldwatermonitoringday.org>



"The Greener We Live, the Happier the Earth!" Logo Voting Activity

To attract citizens to get to know the Green Mark logo and do their part for green consumption, the EPA held the "Green Living Image Logo Selection Activity" in cooperation with Geant, General Welfare Service Ministry stores and B&Q. From 16 September 2008 to 15 October 2008, people can visit the EPA's website Green Living Information Website (<http://www.eri.com.tw/GreenLife/actions/greenlogo/greenlogo.html>) to vote on the Green Living logo and voice their concept of green living. One hundred of the best entries will be selected and issued prizes. People are encouraged to write down their idea of green living and receive a Green Living Card, which can be posted on their own website, blog or email to show their interest in green living.

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