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Feature Column

Introducing the SEA System: Interview with EPA Department of Planning

Background of Strategic Environmental Assessment

The first strategic environmental assessment (SEA) system originated in 1970 with the US' National Environmental Policy Act (NEPA), and was the main purpose behind implementation of that

act. NEPA stipulates that all federal and state government legislation, mandates, rules, treaties and official plans or special policy programs should undergo strategic environmental assessment. Since then, numerous other countries including Holland, Germany, the Czech Republic, Canada, and New Zealand have successively implemented similar systems to assess the environmental impact of government policy.

The SEA system provides a systematic and comprehensive framework for assessing the environmental impact of policies, plans and programs (PPP). SEAs are unique in that they bring potential environmental impacts into consideration at the early stages of each department's policy drafting process. The comprehensive nature of the SEA system helps overcome the limitations of assessing individual development activities, allowing reflection on accumulative environmental impacts from a holistic perspective.

From 1985, the Executive Yuan initiated archetype environmental impact systems through special administrative programs. Public construction projects were the primary targets of the first environmental impact assessments and government policy was not originally included in the scope of assessments. Afterwards, when the draft proposal of the *Environmental Impact Assessment Act* (環境影響評估法) was under review in the Legislative Yuan, the EPA considered other countries'

experience with implementing EIA systems, as well as the need to strengthen Taiwan's EIA system. Government policy was thus included into the scope of EIAs this time through a new strategic environmental assessment system. According to Article 26 of the *Environmental Assessment Impact Act*, "The central government competent authority shall stipulate environmental impact assessment working procedures for all government policy that has an impact on the environment."

Thus granted with authority, the EPA drafted the *Working Guidelines for Strategic Environmental Assessment of Government Policy* (政府政策環境影響評估作業要點) to provide a course of action for carrying out strategic environmental assessment. The name of this legislation was changed on 20 December 2000 to *Regulations Governing Strategic Environmental Assessment of Government Policy* (政府政策環境影響評估作業辦法). However, most content remained the same.

SEA Implementation Status

In the first draft of the *Working Guidelines for Strategic Environmental Assessment of Government Policy* in 1997, relevant policy items were defined as policies, plans and programs that directly involve development activities and require Executive Yuan approval. Therefore, those items not directly related to development

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activities, such as trade or taxation, or any affairs that need not obtain Executive Yuan approval were not considered "policies" under this system.

To avoid impacting policy implementation, it is expressly stipulated that the types of PPPs requiring strategic environmental assessment (SEA) shall be discussed and drawn up by the EPA and related departments, and finally submitted to the Executive Yuan for approval. On 3 August 1998, the Executive Yuan approved a proposal for ten specific types of PPPs under nine policy headings to undergo SEA. One more type of policy was added to the mandatory screening list in 2001.

Procedures for conducting SEAs on policies are different than those for conducting EIAs on development activities. For example, it is the policy-making agency that carries out the assessment and writes up an SEA Statement. The SEA Statement is first submitted to an environmental competent authority

for consultation. Recommendations may also be sought from other agencies or organizations. The policy-making agency then revises its SEA Statement and submits the policy and the revised statement to the Executive Yuan for approval (see flowchart).

The flowchart shows that from the very start of SEA procedures it is the policy-making agency that carries out the assessment, seeks consultation, revises the SEA Statement and sends it to the Executive Yuan for approval. This process ensures that environmental protection is considered throughout the process of policy formulation, and that sustainable development is put into practice. Taiwan's SEA procedures are different from EIAs on development activities in that the function of the EPA is to provide recommendations; it does not have decision-making power. Whether and how the policy is revised are up to the policy-making agency and the Executive

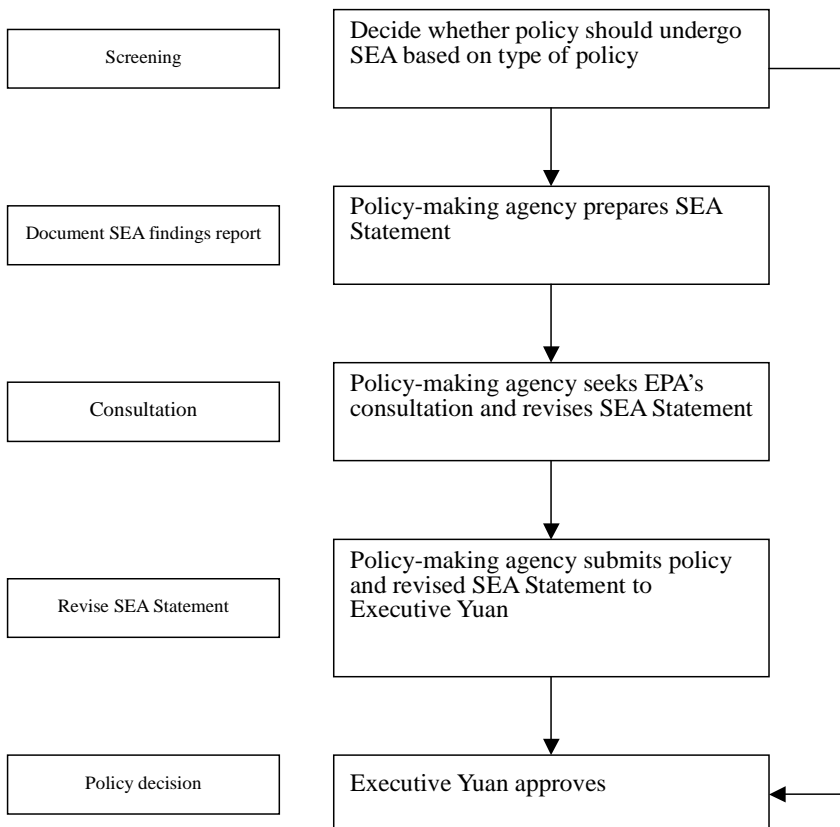
Yuan.

The EPA drafted the *Guidelines for Drafting Strategic Environmental Assessment Statement* (政府政策評估說明書作業規範) in 1988 to delineate the content of the SEA Statement. As the content of development projects differs greatly for each policy, when SEAs are conducted, the EPA can suggest that policy-making agencies invite related agencies, organizations, scholars and experts to scope SEA categories when necessary. Assessment results are compiled into a matrix showing positive environmental effects, significantly positive environmental effects, negative environmental effects and significantly negative environmental effects.

Four assessments have been completed to date since the enactment of the SEA system: 1) The "Policy on Siting Golf Courses" (高爾夫球場設置政策) proposed by the National Council for Physical Fitness and Sports, Executive Yuan; 2) The "Guiding Principles for Water Resource Development in the Taiwan Area" (臺灣地區水資源開發綱領計劃) proposed by the Water Resources Agency, Ministry of Economic Affairs; 3) the Downsizing of Tap Water Source Quality and Quantity Protection Areas (自來水水源水質水量保護區縮編) proposed by the Water Resources Agency, Ministry of Economic Affairs; and 4) the "Policy on Siting Industrial Parks" (工業區設置方針) proposed by the Industrial Development Bureau, Ministry of Economic Affairs. In addition, the EPA's "Waste Management Policy" (廢棄物處理政策) is currently undergoing strategic environmental assessment.

Reviewing and Reforming the SEA System

Since the drafting of the Working Guidelines in 1997 and the promulgation of these guidelines in 1998, only four policies have completely



Strategic Environmental Assessment (SEA) flowchart

undergone the SEA process. Many people have expressed that too few cases have undergone the SEA process and that consideration should be made to expand the system. Referring to European countries with many years of experience implementing SEA systems, the EPA finds it necessary to include "New and Expanded Urban Planning" to the mandatory screening list of policy items. Moreover, while the National Council for Sustainable Development was discussing steel smelting factories and petrochemical factory installation plans (formerly assessed on a case-by-case basis under EIA system), in consideration of the large consumption of energy and water resources as well as generation of greenhouse gas emissions by these industries, the NCSO has requested that steel and petrochemical industry development policies are included in the SEA system.

Therefore, the EPA submitted the revised draft in 2006 and after undergoing review by the Executive Yuan, promulgated revisions to the *Regulations Governing Strategic Environmental Assessment of Government Policy* on 7 April 2006 and revisions to articles in the *Policies Required to Undergo Strategic Environmental Assessment* (應實施環境影響評估之政策細項). Revisions entailed the inclusion of three new policy areas: 1) Policy on energy intensive foundation industries, 2) New and expanded urban planning (of at least 10 hectares), and 3) Changes to boundaries of drinking water source water quality protection areas. Adjustments were also made to the names of existing policy areas.

In addition, the mandatory screening list of PPPs required to undergo the SEA process has been expanded to include not only policies, plans and programs directly related to development ac-

tivities and requiring Executive Yuan approval, but also policy areas under jurisdiction of central government industry competent authorities.

Future Prospects

While Taiwan's current SEA system consists of a sound set of regulations, the system lacks implementation on the intended scale of integration as other government agencies lack full understanding of the SEA working procedures. The EPA states that implementation of the SEA system brings potential environmental impacts into consideration during

the process of policy formulation. In addition to ensuring necessary revisions or modifications to policy content, the SEA system ensures rules are followed for individual development case applications and allows more chances for citizen participation.

In the future the EPA will continue to communicate with other government departments and assist related agencies, such as the Industrial Development Bureau, MOEA, the Ministry of the Interior, and local governments in conducting SEAs on policies related to energy intensive foundation industries, and new and expanded urban planning.

Soil and Groundwater Pollution

Major Revisions to Soil Pollution Act Underway

With the *Soil and Groundwater Pollution Remediation Act* in effect for already six years, the EPA is reviewing and revising ambiguities and areas difficult to implement in the current system. Focal areas include adjustments to the scope of polluting behavior, industrial park pollution prevention measures, and the remediation fee collection system. Due to the extensive degree of revisions, the EPA is expediting the revision process and soliciting opinions from all circles regarding the preliminary draft.

In effect for six years since 2 February 2000, the *Soil and Groundwater Pollution Remediation Act* (土壤及地下水污染整治法) has led to the announcement of 1,784 pollution sites, including seven pollution remediation sites and four groundwater pollution restricted use areas. Already 1,201 locations have been removed from the list of control sites. With six years of implementation experience, the EPA has decided to extensively revise the Act in hopes of mending areas with dubious interpretation and areas that have proven difficult to implement.

Based on the EPA's proposed draft revisions to the *Soil and*

Groundwater Pollution Remediation Act, the number of articles will increase from 51 to 58, leaving only 12 of the existing articles unchanged. With about 80% of the former content modified, this is a major update to the current soil and groundwater pollution remediation system. After finalizing revisions, the EPA held public hearings and discussions in May and June to incorporate suggestions from other parties.

Many cases of soil and groundwater pollution arise due to long-term accumulation of pollution rather than legal or illegal discharge of pollutants. Moreover, many international examples attest that while polluters' emissions originally com-

ply with standards, they must still shoulder responsibility for remediation of subsequent soil or groundwater pollution incidents. This revision of the Act has modified the definition of polluters, establishing the polluter's identity based on polluting activities and causes and effects of pollution. This ensures regulations are better suited to the current situation.

In terms of pollution prevention, as industrial parks and science-based parks are likely to generate pollution, the draft revision has added that every year the management organization of industrial parks or science-based parks should examine their soil and groundwater. Test results should be sent to the relevant environmental agency for reference. Those management organizations failing to conduct examinations according to regulations will face fines and penalization.

In setting objectives for pollution site remediation, the EPA has taken into consideration the different nature of industrial parks and residential areas and the different degree of urgency for remediation in these different areas. Current regulations on preliminary assessment of soil and groundwater pollution control sites include risk assessment mechanisms. A distinction has been made between acceptable carcinogen risk tolerable values and related exposure pathways for residential areas and industrial parks. Thus the draft revision clearly introduces risk management mechanisms in a way that does not impact citizen or environmental safety. Remediation goals are set based on the results of health risk assessments in order to reduce costs for remediation of polluted land, accelerate remediation progress and ensure discrete management of polluted land based on different land use classifications.

Another important area of revision is the expansion of the soil and

groundwater pollution remediation fee base. Current remediation fees only target "chemical substances" (a total of 125 substances in 6 main categories). Based on past implementation experience, most of the nation's 1,784 pollution sites are a result of heavy metal contamination of farmland. However, about 90% of remediation fees are paid by petrochemical enterprises. To make fee collection more reasonable, fee collection won't be restricted to "chemical substances," and other substances or products likely to generate pollution will be included in the scope of fee collection.

To ensure remediation of polluted land, articles have been revised to stipulate that when land developers submit remediation plans and land development plans, they must at the same time add 40%

to the announced price of the land and pay 30% of this amount to the Soil and Groundwater Pollution Remediation Fund. Based on actual experience, pollution remediation frequently requires high overhead investment, and it is not necessarily easy to recover the difference after remediation. Therefore, the "return-on-investment" clause has been deleted in the revision to provide incentives for remediation organizations to redevelop polluted land.

The EPA Soil and Groundwater Pollution Remediation Fund Management Board indicates that the content of the revised Act has already been posted on the Internet and all are invited to review it and offer suggestions. The EPA will make further revisions based on recommendations by all parties and expects to soon submit the draft revision to the Executive Yuan for review.

Waste Management

Disposable Dishware Banned in Government and School Cafeterias

The EPA has announced that cafeterias in government agency buildings and public and private schools will not be allowed to provide disposable dishware of any type from July and September, respectively. County and municipal EPBs will conduct inspections and penalize repeat offenders.

The EPA announced on 9 June 2006 that cafeterias of government agency buildings and public and private schools will not be allowed to use any kind of disposable dishware from 1 July 2006 (government buildings) and 1 September 2006 (schools). Dishware is defined as cups, bowls, plates, saucers, lunch boxes, inner trays of lunch boxes, chopsticks, spoons, knives, forks, and stirrers, etc. Cafeterias will not be allowed to provide dishware that is intended for disposal after just one use regardless of its material composition. It

is expected that this measure will reduce the disposal of 2,600 tonnes of disposable dishware.

The EPA has promoted the "restriction on plastics" policy since July 2002 originally targeting plastic bags and disposable dishware. However, to fully ensure source reductions, the EPA is also encouraging or assisting agencies and schools to switch over to using reusable, washable dishware. In 2002 and 2003, the EPA subsidized certain public and private high schools and vocational colleges to switch to using reusable, washable dishware. The EPA also held the

Dishware Washing Workshop in 2004 and 2005. After four years of extensive promotion, surveys show already 80% of cafeterias in government agency buildings and vocational colleges have made the switch to using all or some washable dishware for in-cafeteria use.

Since the promotion of the "restriction on plastics" policy, the dishwashing service industry has undergone progressive development. Current figures show over 30 dishwashing service enterprises in operation. These enterprises have gradually diversified their services, evolving from just selling or renting dishwashing equipment to offering off-site dishwashing service.

The EPA states that due to the

progressive development of the dishwashing service industry, the time is ripe for stepping beyond the plastic disposable dishware restriction and proactively encouraging the use of reusable washable dishware. This begins with requiring the personnel and trainers at cafeterias of government agency buildings and schools to avoid using all disposable dishware. The reason for choosing these targets at the outset is because they are public food service organizations, welfare organizations or nutritionists and able to effectively ensure that dishes are washed in a sanitary manner. The Department of Health will complement this policy by conducting sanitation checks at restaurants to ensure this source reduction measure is carried out successfully without sanitation

problems.

To complement this new policy, the EPA has already coordinated with each county and municipal EPB on conducting overall inspections at the targeted cafeterias and holding successive public briefings on the new policy. Inspections will begin on 1 July 2006. Violators will be given a grace period in which to make corrections. However, if they are found violating the rules a second time, EPBs are authorized to impose fines. The EPA has set up a special website (<http://211.20.123.92/9511/>) to provide contact information of dishwashing service enterprises.

Comprehensive Planning

2005 Sustainability Index Results Released

The National Council for Sustainable Development, Executive Yuan has released the 2005 Taiwan Sustainable Development Index. Results show domains such as social and economic pressures are heading toward sustainability. However, the state of environmental pollution and ecological resources is worsening.

Working to enhance people's awareness of sustainable development, and keep people up to date regarding progress toward sustainable development in Taiwan, the National Council for Sustainable Development held the 2005 Taiwan Sustainable Development Index press conference on Earth Day this year. NCSDDirector Lin Hsi-yau (林錫耀) expressed that the NCSDD approved of the national level Taiwan Sustainable Development Index System in June 2003 to help measure sustainable development in Taiwan. The NCSDD has used this system each year for the past three years to calculate sustainable development indexes for the prior year. 2006 marks the fourth years of using this system.

The Research, Development and Evaluation Commission, Executive Yuan, is responsible for calculating the sustainability index. This index is divided into two parts: Island Taiwan and Urban Taiwan, and further divided into six domains (environmental pollution, ecological resources, social pressure, economic pressure, systematic response, and urban sustainable development) under which there are a total of 42 indicators.

According to the Research, Development and Evaluation Commission, Taiwan is diverging from sustainable development in two of the six domains, and heading toward sustainability in the other four domains.

Apart from overall development trends, the Research, Develop-

ment and Evaluation Commission indicates the government should watch out for current diverging trends in particular indicators, such as carbon dioxide emissions, ratio of cultivated land area, and cancer death rates. EPA Minister Chang Kow-lung has shown concern about these indicators, pointing out that Taiwan's carbon dioxide emissions are high and the government should quickly make reductions.

Taiwan's 2005 sustainability index showed both positive and negative aspects, and many scholars and experts have expressed grave concern about the current state of the nation. NCSDDirector Lin states that consideration will be given to stipulating yearly goals that promote national sustainable development through concrete action.

2005 Sustainable Index Results	
Domain	Trend
Environmental pollution	diverging from sustainability
Ecological resources	diverging from sustainability
Social pressure	less pressure, heading toward sustainability
Economic pressure	less pressure, heading toward sustainability
Institutional response	diverging from sustainability
Urban sustainable development	diverging from sustainability



Minister Chang warns that the current status of Taiwan's sustainability index should behoove the people of Taiwan to place more importance on sustainable development

Waste Management

More Recyclable Industrial Waste Exempt from Export/Import Permit

While permission is required for the export and import of industrial waste, no permission is required for the export or import of post-industrial recycled (PIR) materials. Days ago, the EPA announced the addition of 10 categories of substances including magnesium residues to the list of acceptable PIR materials. Moreover, the scope of single-metal ingredients exempt from the export and import permit process for PIR materials has been broadened to 17 categories.

The EPA announced the revised *Categories of Post-Industrial Recycled Material Requirements* (屬產業用料需求之事業廢棄物種類) on 27 June 2006. Ten categories of industrial waste may now be considered post-industrial recycled (PIR) materials, including magnesium residue, used catalyzer, waste plastic, fiberglass fabric trimmings and leftovers, mixed aluminum and copper, and residues from agricultural or food industry processes. These items will be exempt from Article 38 of the *Waste Disposal Act* stipulations requiring application for import and export permits.

The EPA explains that Article 38 of the *Waste Disposal Act* requires prior approval from local competent authorities before importing or exporting industrial waste (includes both hazardous waste and general industrial waste). Article 38 also exempts industrial waste that has been discussed by the central gov-

ernment competent authority and the industry competent authority, and listed in compliance with PIR material requirements.

On 7 April 2003, the EPA announced seven categories of recyclable industrial waste exempt from import/export permit procedures in Article 38 of the *Waste Disposal Act*. These were scrap wood, waste heat-formed plastics, scrap paper, scrap steel, scrap single metals (copper, zinc, iron, aluminum, and tin), zinc residue, and ash and residues containing copper compounds. With the additional ten items in the current revision, the total number of categories exempt from import/export permit procedures is now 17.

With the development of production technology in recent years, there is a continually increasing demand by enterprises

for scrap magnesium, titanium, and silver as well as rare metals in scrap semiconductor sputtering targets, used catalyzer and waste materials generated by the agriculture or food industry. It is now economically and technologically feasible to recover and reuse these materials. After discussion with related government agencies and industries, the EPA has agreed to broaden the scope of PIR materials by adding magnesium residue, used catalyzer, scrap plastic, fiberglass fabric trimmings and leftovers, scrap material containing mixed aluminum and copper, and residues from agriculture or food industry production. The original scope of single-metal scrap has also been broadened to include titanium, silver, magnesium, germanium, nickel and tungsten, and the "main metal ingredient" requirement has been relaxed to 40% from the original requirement of 50%.

Noise Control

Low Frequency Noise from Factories to Be Regulated

The EPA has proposed a draft revision to the *Noise Control Standards*, with plans to include low frequency noise from factories under regulations. The revisions also tighten control values for different noise control zones. Moreover, construction noise will no longer be categorized based on type of machinery, but will instead be based on control zone standards.

Working to decrease noise pollution, the EPA has finalized revisions to the *Noise Control Standards* (噪音管制標準). Representatives from all circles were invited to a public hearing held on 22 June 2006 to express their views on the revisions.

The main focus of revisions was to expand the scope of controls on low frequency noise (noise ranging from 20Hz to 200Hz). The EPA points out that many public nuisance complaints about noise have involved low frequency noise. The effect of low frequency noise on different people varies greatly. Many people are more noticeably affected by low frequency noise in normal living environments because such noise is difficult to block out with doors, windows or building structures. Prior noise control measures did not adequately account for the fact that mixed residential/industrial areas are still common in Taiwan and many small home-based factories can be found in residential areas. Moreover, while there are already noise restrictions for industry, there are no regulations

on low frequency noise from factories. Therefore, this revision specifically focuses on establishing control values for low frequency noise from factories.

Furthermore, to effectively improve noise sources in each type of premises, construction site, and equipment, the draft revisions accordingly make adjustments to the second, third, or fourth day and night time periods stipulated in noise control standard values (most have been reduced to 5dB). The revision also includes clearer regulations regarding specific procedures and rules regarding noise volume monitoring.

Recycling

Recycling Fees and Subsidy Rates Adjusted

The EPA has announced the *Container Collection, Clearance and Treatment Fee Rate*, reducing fees in six categories and increasing fees in two categories. Additionally, recycling subsidies have been increased in two categories.

The EPA announced revisions to the *Container Recycling, Clearance and Treatment Fee Rate* (容器回收清除處理費費率) and the *Recyclable Container Collection, Clearance and Dis-*

As for construction noise, control standards are currently based on type of mechanical equipment. Based on actual management practices and what residents actually hear, all types of construction noise can be considered as one single noise source. Therefore, the draft revision has based noise control zones on a comparison of factories, construction sites, and entertainment premises.

Many people voiced differing opinions during the public hearing, with a wide range of requests to either tighten or relax restrictions. The EPA will refer to these opinions in making further adjustments and expects to complete the revision process in the near future.

posal Subsidy Rate (應回收廢容器回收清除處理補貼費率) on 29 June 2006. The new rates will take effect from 1 July 2006.

As for the recycling fee rate to be

Indoor Air Quality Testing Methods Announced

Working to enhance indoor air quality testing technology and quality in Taiwan, the EPA Environmental Analysis Laboratory has made revisions to various testing methods listed in the *Indoor Air Quality Recommended Values* (室內空氣品質建議值). The new methods have been announced and took effect from 30 June 2006. Implementation methods will be consistent for each field and government agency. The methods ensure the maintenance of quality testing data and reciprocal compari-

son of the actual status and improvement of indoor air quality in all buildings.

Taiwan and US Exchange Experience in Marine Pollution Control

To prevent ocean-going vessels from polluting Taiwan's marine environment, the EPA has integrated six domestic organizations related to marine pollution control and has dispatched 15 personnel to the US to learn about legal response to marine vessel pollution. The EPA indicates that the main purpose of this study is

to learn about onboard pollution inspection procedures and gain related experience. Trainees will also learn how the US conducts ocean pollution sampling, analysis, tracking, identification procedures and emergency response mechanisms. Important emphasis will be given to coordination of different organizations and integration of operations and functions. The EPA also hopes to build up close cooperation mechanisms between Taiwan and the US to effectively deter vessels from illegally dumping oil and effluent into the ocean.

paid by enterprises responsible for containers, this revision has reduced fees for the following six items: steel containers, aluminum packaging, air-tight or liquid-tight paper containers, PET containers, PP/PE containers, non-foam polystyrene (PS) containers. Fee rates have been increased for PVC containers and pesticide containers.

Air Quality

Strong Consensus on Indoor Air Quality Regulations

The EPA recently held a public hearing on the preliminary draft of the *Indoor Air Quality Control Act*. The draft stipulates that indoor air quality of designated premises must conform to standards. Non-compliance will result in fines and those responsible must clearly post notice regarding substandard air quality during the period of improvements. Designated premises must regularly conduct inspections or monitor indoor air quality, the results of which must be publicly announced. Due to strong consensus among all circles, the EPA will soon complete this draft and submit to the Executive Yuan for review.

Taiwan has already set recommended values for indoor air quality. To effectively promote indoor air quality control, the EPA has just finalized the preliminary draft of the *Indoor Air Quality Control Act* (室內空氣品質管理法草案). A public hearing was held on 21 June 2006 regarding the draft. People from all backgrounds reached a consensus on the new regulations regarding indoor air quality and expressed unanimous support of the EPA's legislative efforts. It was recommended that construction agencies strengthen building regulations regarding maintenance and building codes for air conditioning systems and ventilation filters.

The EPA indicates that most people spend 80% to 90% of every day

Recycling subsidy fee rates for most items have remained the same. The only changes pertain to glass containers and foam PS containers. Reasons for changes include enhanced recycling and sorting quality as well as increased willingness to engage in recycling.

The EPA Recycling Fund Man-

agement Board indicates that adjustments of recycling fees and subsidy fees are made by a fee rate review committee established by the EPA. Cost substitution formulas based on actual operations were used to calculate the new fees in order to better suit the current state of recycling affairs.

indoors. Indoor air quality therefore not only directly affects human health but also indirectly affects work efficiency. To effectively improve indoor air quality, hazard risk assessment can work toward improving environmental management and human health.

The EPA's draft Act states that as indoor air quality improvements must begin with good ventilation, interior decor and materials, overall building design, use and maintenance, certain responsibility and authority rests with the Construction and Planning Agency and the Architecture and Building Research Institute (Ministry of the Interior), the Ministry of Economic

Affairs, Department of Health and Ministry of Transportation and Communications. Each relevant department should use its own responsibility and authority to stipulate regulations on indoor air quality. Industry competent authorities are requested to provide guidance on improvement of indoor air quality in public and private buildings over which they have jurisdiction so as to ensure work is carried out according to regulations.

As for regular indoor air quality, in the future regulations will stipulate enforced indoor air quality standards including penalization for noncompliance with standards. A grace period will be given for improvements,

Activities

Premier Su Awards Top Models of Sustainable Development

To encourage full citizen participation in sustainable activities and cultivate the spirit of sustainability, Executive Yuan Premier Su Tseng-chang (蘇貞昌) attended the 2006 National Sustainable Development Award Ceremony on 5 June 2006. Awards were conferred to the most outstanding communities, corporations, educators, organizations, and government plan implementation agencies in terms of promoting sus-

tainable development. In his speech, Premier Su expressed that "In 1987, the UN approved of various sustainable policies to improve and safeguard the natural environment. These policies are still upheld by most nations. It is hoped that the people of Taiwan actively participate and learn about sustainable activities so that the nation and the planet can prosper forever."



Premier Su highlighted the importance of sustainable development while handing out Sustainable Development Awards

during which a notice must be conspicuously posted at the entrance of the premises clearly stating that indoor air quality is in noncompliance with standards. Parties building new buildings or remodeling existing buildings shall submit indoor air quality control maintenance and management plans.

Owners or managers of designated public or private buildings must regularly monitor indoor air quality. When necessary, the EPA may stipulate installation of automatic monitoring equipment to continuously monitor indoor air quality. The results of inspections

or monitoring shall be posted on the premises.

As improvement of indoor air quality involves very professional technology, to build the quality of such personnel the draft revision stipulates that examination and verification should be conducted by certified professionals. All improvement technology must be certified to ensure related hardware and software does not impair indoor air quality.

The EPA indicates that the *Indoor Air Quality Control Act (draft)* will both protect human health and reduce indoor environ-

mental risk. Joint participation by private professionals is expected to drive the development of related service industries involving diagnosis, examination and improvement of indoor air quality.

With consensus on legislation of the *Indoor Air Quality Control Act (draft)*, the EPA will refer to the opinions of relevant parties when revising the content of the draft, which will be completed soon and submitted to the Executive Yuan for review. Once the legislation is enacted, indoor air quality will be managed in gradual stages in public and private buildings, with priority given to public buildings.

Environmental Sanitation & Toxic Substance Management

Vector Control Industry Regulations Revised

The EPA has promulgated revisions to the Regulations Governing the Disease Vector Control Industry, requiring enterprises to report annual operation records to local governments. Upon conducting operations, vector control enterprises must clearly post an announcement onsite to ensure that citizens understand related information and to minimize risks or problems during operations.

On 29 June 2006, the EPA promulgated revisions to the *Regulations Governing the Disease Vector Control Industry* (病媒防治業管理辦法). EPA officials state that in addition to complementing modifications to the *Envi-*

ronmental Agents Control Act (環境用藥管理法), this revision also strengthens management mechanisms of vector control enterprises.

Former stipulations required vector control enterprises to report op-

erations to the EPA every year. As permit certification has since been relegated to county and municipal governments, the new regulations require vector control firms submit operation records to the county or municipal

Forum on Environmental Hormones and POPs

The EPA and the Environmental Quality Protection Foundation jointly held the "4th Forum on Environmental Hormones and Persistent Organic Pollutants" on 9 June 2006. EPA Deputy Minister Lin Ta-hsiung (林達雄) pointed out that Taiwan's environmental regulations currently prohibit nine of the twelve POPs regulated by the Stockholm Convention. Regulations also exist to ban, control or reduce emissions of the other three "dirty dozen." Keeping in step with international trends, Taiwan will also gradually tighten management of hazardous chemical substances. The EPA publicly announced in June that nonylphenol (NP) will soon be

regulated. Please see EPM Vol. 9, Issue 6.

Japan's Experience Consulted in Managing Compound Traffic Noise

The most frequently mentioned locations in public nuisance complaints of traffic noise are areas of mixed transportation systems. During inspections, environmental agencies often find that combinations of sounds frequently exceed the *Noise Control Standards*, even though the volume of each vehicle alone conforms to standards. To strengthen management of compound traffic noise, the EPA and the Chinese Institute of Engineers jointly held the "26th Taiwan-Japan Engineering Technology

Forum" on 13~14 June 2006. The invited Japanese experts made onsite surveys of mixed traffic areas in Taipei City to determine noise sources. It is hoped that this exchange will facilitate improvements to compound traffic noise in Taiwan and serve as a reference for noise control regulations governing land transportation systems.

government. This not only ensures unification of permit issuance and management, but also allows local governments to manage enterprises more strategically.

In the past, vector control enterprises hired by citizens to apply pesticides often neglected to inform the customer in detail regarding procedures and comple-

mentary response measures. This made it difficult for customers to take appropriate actions, sometimes even leading to increased risk of exposure.

Therefore, the revised regulation expressly requests vector control enterprises to clearly post a notice on the premises stating the enterprise's own information as well as control target (pest),

boundary and time of application, and important things to observe after application, as well as contact persons and telephone numbers.

Additionally, to prevent enterprises from using expired agents, the regulation stipulates enterprises may not use environmental agents past the printed expiration date.

Waste Management

International E-Waste Forum Successfully Held in Taipei

Responding to the Basel Convention, the EPA has invited foreign experts to Taiwan for the 2006 International Forum on Management and Transboundary Movement of E-Waste on 20 June 2006. Roundtable discussions were held before and after the forum to allow for further discussion between industry, government and academic participants. The foreign experts affirmed Taiwan's results in managing e-waste affairs.

The EPA indicates that a great degree of international attention has been placed on electronic waste (e-waste) environmental issues. It is thus important to ensure all circles in Taiwan are familiar with the overall current status and future development trends of the Basel Convention, the EU's directives on WEEE, RoHS, and EuP, as well as e-waste management and extended production responsibility

(EPR) within the Asia region and OECD. The EPA has therefore specially invited related experts from the Secretariat of the Basel Convention, Germany, Switzerland, Japan, and the Basel Convention Asia-Pacific Regional Center to Taiwan for a whole day of discussion in their areas of expertise. EPA Minister Chang Kow-lung gave the welcoming remarks during the opening ceremony to kick off a

day of enthusiastic exchange among the nearly 150 attendees representing industry, government and academic circles.

The EPA also held two roundtable discussions before and after the forum, inviting related representatives from industry, government and academia to join in further dialogue. During the discussions, everyone showed strong interest in participating in the computerized Basel Convention Partnership Programme (BCPP). For example, foreign experts and scholars pointed out that the BCPP can facilitate dialogue with other industries as well as allow participants to receive first-hand information. Moreover, many participants discussed Taiwan's method of participation in the BCPP. Several foreign scholars suggested that Taiwan should be able to participate under the name of an industry group, association or non-profit organization.

After the forum, several international specialists took the time to visit a waste electronics recycling factory and a waste vehicle shredding and sorting plant. These visits left a strong impression regarding



Taiwan held its first major international forum on the Basel Convention

the promotion of recycling work in Taiwan.

This international event not only gave Taiwan's industry, government and scholars a chance to directly ask questions of international ex-

perts and scholars, but also allowed Taiwan to show its achievements in recycling efforts. The event moreover widely publicized Taiwan's perseverance and accomplishments in implementing the spirit and

regulations of the Basel Convention, while also providing opportunities for international experience sharing and technology exchange.

Waste Management

EPA Urges Local Governments to Strengthen Landfill Management

Excessively localized management of public garbage landfills has highlighted the need to enhance quality of operations. The EPA recently held separate regional briefing and coordination meetings concerning landfill management and operations. In addition to lectures on technology and experiences in landfill management and operations, the meetings helped to coordinate management measures with local governments. Counties and municipalities were called on to strengthen management and take steps to upgrade landfill management to the next higher level of government.

Working to enhance quality of construction and management of operations at public garbage landfills, the EPA held separate regional "Landfill Construction Auditing and Operation Management Service Coordination Meetings" in May and June 2006. The final coordination meeting was held on 19 and 20 June 2006 in Keelung City's Tianwaitian Incinerator (天外天掩埋場) for the northern region of Taiwan. Apart from learning about the audit system for construction of environmental facilities, participants discussed future management of operations at landfills.

According to the results of a nationwide overall inspection of public landfill management in 2005, the EPA found that township management of general waste landfills frequently lacked leachate treatment systems and had problems with management of overall operations. To assist local governments improve these deficiencies and to provide hands on experience to the nation's landfill management personnel, the EPA invited 90 officials and personnel from local environmental protection bureaus and township landfills required to conduct the 2006 construction audits to participate in

the coordination meetings. Time was arranged for these personnel to discuss common deficiencies in construction audits. A field trip was also made to the Keelung City Tianwaitian Landfill to better understand the landfill construction audit system and management of landfill operations.

The EPA highlights the importance of sanitary landfill operation management. Sound management is the only way to re-

lieve citizen concerns and advance planning for transformation of landfills into parks is the only way to get citizens to wholeheartedly accept landfills in their area. Thus in addition to regularly conducting annual evaluations of management of landfill operations, the EPA has also allocated a large budget for improving landfill facilities through the "Waste Management Follow-up Plan."

Townships have been responsible for management of public landfill



Landfill management personnel and related authorities meet to exchange experience and technology

operations in the past. Management at the township level has proven to be too localized and too limiting in resources. The EPA will therefore improve landfill operations by revising the *Waste Disposal Act* (廢棄物清理法) to upgrade landfill management to the county/municipality level. To date many county

and municipal governments are still relegating landfill management to townships, posing difficulties for implementing this new policy. In light of this obstacle, the EPA will require each county and municipal government to transfer the management of at least one landfill under their direct

jurisdiction. Meanwhile, county and municipal governments must strengthen their own landfill management and maintenance checks to effectively enhance the quality of landfill operations.

News Briefs

Firms Must Apply Before Developing Genetically Engineered Environmental Microbial Agents

The EPA has promulgated revisions to the *Regulations Governing Development of Genetically Engineered Environmental Microbial Agents* (遺傳工程環境用藥微生物製劑開發試驗研究管理辦法) on 12 June 2006 to complement revisions to the *Environmental Agents Control Act* (環境用藥管理法) promulgated in January 2006. In the future those using genetic engineering or other technology to develop environmental microbial agents must apply for permission according to regulations.

Study Shows Dust Storms May Introduce Microorganisms to Taiwan

The EPA Environmental Analysis Laboratory has conducted a study on the transport of microorganisms to Taiwan from dust storms in East Asia. Airborne dust samples were taken during this year's dust storms using high altitude sampling technology. Findings show amounts of bacteria and fungal spores in the atmosphere above Taiwan are five to six times greater than normal when dust storms hit. Findings of 20 times more fungal spores than bacteria indicate that dust storms have the potential to transport microorganisms to Taiwan. The degree of danger that these foreign microorganisms could pose on Taiwan will be given priority focus in future research according to regulations.

Prohibited Ingredients in Environmental Agents Announced

In accordance with the *Environmental Agents Control Act* (環境用藥管理法), the EPA announced the *Prohibited Ingredients in Environmental Agents* (環境用藥禁止含有之成分) on 5 June 2006. The list comprises the two main categories of chemical substances and microorganisms. The document is available online at <http://w3.epa.gov.tw/epalaw/docfile/100091.doc>

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