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As part of this effort, elementary school course materials on tree planting have been developed. To assist with the dissemination of these course materials, "seed teachers" are being trained in the delivery of the materials.

Container Recycling Regulations to be Overhauled

The EPA recently released draft amendments to the *Waste Article and Container Recycling, Clearance and Treatment Regulations*. The amendments call for both manufacturers and enterprises contracting manufacturers to be brought within regulatory scope. They also allow for avoidance of collection and treatment fees for objects and containers that create waste below specified levels. The draft amendments further require retail stores to set up takeback systems, and if necessary, the EPA will enforce the provision of facilities for consumers to deposit recyclable goods.

The *Waste Article and Container Recycling, Clearance and Treatment Regulations* were promulgated in August 1998. After a year and a half of the regulations being on the books, on April 12 the EPA convened a public hearing on proposed amendments. EPA officials indicated that this round of amendments is aimed at increasing the efficiency of the island's recycling system and taking it to a more sophisticated level of management.

According to the proposal put forth by the EPA, both manufacturers and enterprises contracting manufacturers of specified goods will be brought within the scope of regulation. Identification of contractors will be made by considering the trade mark on the manufactured good or container.

Although importers of recyclable goods already fall within the scope of the regulations, the new amendments will expand their reporting requirements. Because different kinds of imported goods – ranging from computer parts to tires – have different recycling fees, the draft amendments require importers to list the item's name, specifications, and description (if the item is a container, the importer must include container type and contents). These details will form the basis for setting respective recycling fee rates.

Efforts will also be made to gain a better understanding of production volumes. The current guidelines require firms to report to the EPA pro-

duction and import volumes prior to the 15th of each month. The proposed amendments would take this requirement one step further. Firms must keep on hand for a period of three years related reporting documentation, and the EPA may audit firms for compliance.

Some firms may be exempt from having to pay recycling fees. If the goods or containers they manufacture do not eventually become refuse, or if the resulting waste is below a specified level, then recycling fee requirements may not apply. The detailed regulations concerning fee exemptions will be promulgated separately by the EPA.

The EPA has also proposed modifications to labeling requirements. Firms will still be required to print Taiwan's recycling logo on product packaging, but products destined for export will be exempt from these requirements.

As for product vendors, the draft amendments require stores to put in place takeback channels for recycling. When necessary, stores shall provide containers or other equipment that allows consumers to properly deposit recyclable goods. Retailers shall not refuse to recycle specified articles.

The draft amendments also require better systematization of recycling operations on the part of collection and treatment firms and factories which reuse waste material. These sites will be required to comply with EPA mandated assistance guidelines and operational criteria.

Because the proposed amendments are large in both scope and number, it is anticipated that concerned parties will have many comments. EPA officials have stated that they will take relevant suggestions into consideration as the drafting of the amendments moves forward. Once enacted, the EPA expects the proposed amendments to greatly enhance the effectiveness and efficiency of Taiwan's recycling system. 

EIA Review Criteria for Land-based Gravel Extraction Drafted

The importance of land-based gravel extraction increases daily, but to protect against environmental repercussions the EPA has recently completed a draft of *Criteria for the Review of Environmental Impact Assessment for Land-based Gravel Extraction*. In the future, the draft will constitute the EPA's minimum standard for passing EIAs

for gravel extraction. In addition to clearly defining areas restricted from gravel extraction, the draft also includes detailed regulations regarding quarry setup and pollution prevention facilities.

As an island nation, Taiwan's gravel resources

are highly limited. Rapid economic development has heavily taxed the gravel supply available from Taiwan's streambeds, jeopardizing the needs of future construction development. As a result, land-based extraction has come to be considered as the next major source of gravel. However, the EPA is highly concerned with possible environmental repercussions.

For this reason, the EPA has recently completed draft *Criteria for the Review of Environmental Impact Assessment for Land-based Gravel Extraction*. After consulting past cases, the EPA formulated the draft criteria to improve the efficiency and quality of EIA reviews for land-based gravel extraction. The draft is also aimed at preventing or alleviating the environmental impact of land-based gravel extraction.

The EPA's Bureau of Comprehensive Planning noted that the draft constitutes the minimum requirements to be used by the EPA's EIA Committee in their review of similar cases. In the future, during review adjustments will be made according to the individual characteristics posed by each case.

According to the EPA draft, in the future, unless special permission is granted by the EIA Committee, land for gravel extraction may not be situated in the following areas:

1. Non-urban forest areas
2. Watershed areas for major reservoirs
3. Protected source areas for drinking

water, or within specified distances from points of drinking water extraction

4. Areas legally designated or restricted from development

Besides the designation of necessary quarry sites, the draft also requires the delineation of non-extraction or conservation zones to preserve vegetation and improve ecological welfare. In addition, a buffer zone must be established around all quarry sites to protect the surrounding environment. The width of the buffer zone may not be less than 5 meters on level ground, and not under 10 meters on slope land.

To ensure that extraction does not create an excessive blow to local environment, the draft places a 10 meter limit on the depth of gravel extraction on flat land. However, if drilling shows that gravel resources exist beyond 15 meters, extraction may be permitted to continue to a maximum depth of 15 meters.

The draft also addresses concerns over water pollution at quarries. The draft stipulates that a silt basin and wastewater treatment facilities should be installed, and that wastewater must be reused and recycled. Additionally, the quantity of water in silt basins and settling tanks must not exceed 70% of their installed capacity.

An EPA official pointed out that after this draft is passed by the EIA Committee it will be formally included as a basis for EIA reviews. 

1999 Performance Evaluations of Local EPBs Completed

On April 8th the EPA released performance evaluations of local environmental protection bureaus (EPBs) for 1999. Of the EPBs assessed, Taoyuan County, Chia-I County, Taichung City, and Taipei City received top rankings. Each will receive a commendation plaque and an award of one million NTD.

Each year the EPA undertakes a performance evaluation of local environmental protection bureaus (EPBs) to help motivate them to make necessary improvements. The result of such evaluations for the year 1999 were just recently released.

Director General of the EPA's Bureau of Performance Evaluation and Dispute Settlement, Te-Po Tung, pointed out that the EPBs assessed were divided into four groups based on their administrative systems, pollution loading,

manpower, and difficulty of enforcement. The assessment period spanned the 1999 calendar year. Evaluation items were broken into two categories. The first, pollution prevention, accounted for 80% of all evaluation items, and included eight subjects, such as control of air and noise pollution, water pollution control, solid waste management and soil pollution control. The second category of evaluation items, integrated work practices, accounted for 20% of all evaluation items, and included five subjects, such as information affairs, environmental education, and routine reporting. Because EPA bureaus were responsible for this effort, the evaluations were

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Environment Opened as Alternative to Military Service

As a means to shore up environmental protection human resources, environmental protection has been specially listed as one of the alternative national service options. The EPA recently consulted with various local government agencies and confirmed that this year 200 people will sign on for environmental protection service for a period of two years and two months. The EPA expects that, following promulgation of related regulations, environmental protection service should be formally implemented in July of this year.

Taiwan will soon be implementing an alternative national service program to provide individuals with options other than military service. Statutes formally establishing this new policy will go into effect in July. Last month, the EPA proposed the *Draft Guidelines for Managing the Environmental Protection Alternative Service Program* and invited discussion and feedback from local level environmental agencies. The EPA also confirmed that from July to December of this year, 200 people will sign on to the service. These individuals will be assigned to various county and city environmental protection bureaus (EPBs) to perform their duty.

Earlier this year, the Ministry of the Interior promulgated statutes for alternative national service which stipulate the establishment of two types of alternative service: public safety service and social assistance service. The latter type includes environmental protection, social, medical and educational services.

EPA officials indicated that environmental service and traditional military service have different time requirements. The former requires two years and two months of duty, while the latter requires one year and ten months. And, the nature of the duty is different in that it involves the carrying out of environmental protection activities. Officials further

revealed that environmental service selection criteria will give priority to those with professional environmental certification. Individuals with general qualifications will be chosen through drawing lots.

In addition to receiving military basic training, inductees will receive "professional environmental protection training" for 70 hours over a three week period. Training will include exposure to regulations such as air pollution control laws, public dispute settlement laws, and resource recycling legislation. EPA officials pointed out that the training program will give inductees a basic understanding of environmental protection activities and services.

The EPA has approved the induction of 200 men, with the expectation that this number will rise to 400 next year and 600 per year between 2002 and 2004. In terms of assignments, the EPA is currently giving priority consideration to assigning inductees to various EPBs. However, if special circumstances arise, the EPA can call up those in the service and assign them to different missions. The EPA is hoping that this year's inductees can be sent to the areas hit hard by last year's giant quake. Activities would include safeguarding solid waste storage areas and checking and confirming devastated areas. Once work in the area has been completed, inductees can be stationed under the jurisdiction of various EPBs.

The EPA further noted that the alternative service system is entirely new, and as such shall prove to be an important moment in political history. In addition to the statutes mentioned above, a series of related regulations must still be passed. The officials further noted that regardless of whether the environmental services proceed smoothly or not, supporting measures must still be enacted in order for the July implementation deadline to be met. ♻️

Development Activities Requiring EIAs to be Modified

The EPA will revise the *Standards for Determining Detailed Items and Scope of Environmental Impact Assessments for Development Activities*. The revisions will expand the range of activities necessitating EIA to include military installations, tourist hotels, and solid waste treatment facilities. However, EIA criteria for temporary concrete facilities will be relaxed.

The range of activities requiring environmental impact assessment (EIA) is to be revised. The EPA recently proposed a revised draft of the *Stan-*

dards for Determining Detailed Items and Scope of Environmental Impact Assessments for Development Activities, and invited relevant agencies to make comments.

An EPA official noted that in the past, after promulgation of EIA standards for development activities, there has always been a degree of controversy over the definition of certain development activities. Precisely for this reason, the EPA has proposed the current revisions to avoid the constant need for ad-

ministrative interpretations.

In the EPA's draft revisions, military ports and military construction projects that exceed a certain scale or, in specified areas, will require an EIA. Similarly, tourist hotels or vacation centers above a certain scale or in restricted areas must also perform an EIA.

The draft also addresses the controversy created over the need for EIA of temporary concrete mixing facilities. The draft stipulates that EIAs are not necessary if the area of the facility and the amount of concrete mixed meet specified standards, or if the facility is being used for disaster recovery or emergency construction projects.

In terms of landfills or incinerators for general wastes, in addition to the regular requirements, the draft includes three new criteria used to determine

the necessity of performing an EIA:

1. Facilities located in industrial parks and processing over 100 tons of solid waste per day
2. Facilities located on urban land and processing over 50 tons of solid waste per day
3. Facilities located on non-urban land and processing over 200 tons of solid waste per day

In the past the EPA had already announced EIA requirements for adjacent gravel extraction operations, petroleum product storage tanks, and liquid natural gas receiving stations. These requirements were also formally included in the draft revised standards.

An EPA official stated that after discussions with relevant agencies are wrapped up, the revisions will be completed and announced sometime in the near future. 

Audits of Container Reporting to be Beefed Up

To fortify the recycling system for waste containers, the EPA has been assisting container enterprises to complete registration procedures and has strengthened auditing of the information they report. From 1999 to the present, report omissions have been discovered by enterprises totaling over 200 million NTD. The EPA will continue to strengthen auditing, legal enforcement and penalization of violators in accordance with the law.

From its establishment in July of 1998 to the present, the Recycling Fund Management Committee has worked to strengthen management of enterprises involved in the container recycling and manufacturing industry (PET, plastic, glass, or aluminum bottles and packaging, etc.). In this time, the Recycling Committee has assisted a total of 637 enterprises complete registration and reporting procedures, and increased the number of listed container manufacturers from 1,648 to the current 2,258.

In addition to assisting with registration procedures, the Recycling Committee has worked to ensure the accuracy of information reported by these enterprises. For this reason, in 1999 the EPA began to perform audits of enterprise reporting. As of the present, audits have already been completed on 655 of the listed container enterprises. These audits revealed reporting errors or false reporting by 265 enterprises that amounts to over 259 million NTD in unpaid recycling fees.

Because problems were discovered with nearly 40% of all those audited, the EPA made a special effort to increase the rate of enterprises au-

dated this year. The EPA hopes that expanding the scope of audits will effectively root out violators and maintain the equitability of the system.

But because it also plays the role of a mentor, the EPA said that enterprises guilty of reporting errors may supplement any fees mistakenly omitted within a limited "improvement period" to avoid being fined. However, for those that do not comply with improvement requests, suit will be filed with local executive agencies in accordance with regulations pertaining to Article 23-1 of the *Solid Waste Disposal Act*. Furthermore, the suit will be referred to the courts to request legal enforcement.

According to EPA statistics, a total of 45 cases have been filed with local executive agencies. In addition, the EPA has collected financial information on another 25 enterprises unwilling to cooperate even after repeated urgings, and will request the local executive agency to begin legal enforcement procedures. In total, cases with a value of 57.7 million NTD will be submitted for legal action.

The EPA repeated its call for enterprises to faithfully file reports and not to rely on a sense of luck or a "wait and see" attitude. After expiration of the assistance phase for container enterprises, discovery of underreporting will be followed by strict punitive action. In addition to fines and mandatory enforcement, enforcement personnel may be stationed at factories to oversee stop work or shutdown orders. The EPA truly hopes that all enterprises will abandon this flagrant disregard for the law. 

Feature Article**Premier Siew Makes Farewell Visit to the EPA**

With the transition to a new cabinet approaching, Premier Vincent Siew took an inspection tour of the EPA and expressed his approval and thanks for EPA efforts. EPA Administrator Tsai Hsung-hsiung indicated that due to the Premier's support, the EPA has made extensive progress in several key areas, including improvement of air quality, promotion of recycling, incinerator construction, and the establishment of an environmental protection police force.

Following the results of the March national election, an entirely new cabinet will be appointed by the incoming president when he takes office on May 20. These changes will include the appointment of a new EPA Administrator. On the morning of April 15, outgoing premier Vincent Siew and vice-premier Chao-Shiuan Liu visited the EPA to express their appreciation to Administrator Tsai and all EPA colleagues. Premier Siew indicated that during the past two and a half years of his term, he has had full approval of EPA efforts. He also added that following his retirement, he would like to become an environmental protection volunteer.

Administrator Tsai pointed out that over the past two and a half years, the EPA's budget has increased from 4.3 billion NTD in 1997 to 26.8 billion NTD during the latter half of 1999 and 2000 (due to changes in the government budget cycle, the current fiscal year is composed of 18 months). Tsai also indicated that the policies implemented during this time have met with wide approval from society, and that Premier Siew's support has been instrumental in this achievement.

Administrator Tsai further noted that during Siew's watch, the EPA greatly increased public participation in the 4-in-1 recycling program. The number of bottles and containers recycled increased 40% over 1998 levels, and the recycling rate of unwanted vehicles increased 1.86 times. During this time the scope of Taiwan's electrical appliance recycling program became the second largest in the world. These achievements mean that the amount of refuse being sent for final disposal has already hit zero growth.

In terms of incinerator construction, 11 facilities have already begun operations, and another three are in the trial burn stage. This will bring island-wide trash incineration rates to 60%.

Achievements have also been made in the

area of air quality. Administrator Tsai noted that between 1997 and 1999, the quality of Taiwan's air markedly improved. The percentage of days in a year that air monitoring stations recorded unhealthy air quality dropped from an average of 6.2% between 1994 and 1996 to 4.9% in the 1997 to 1999 period. This indicates a gradual increase in air quality of about 7% per year.

Tsai further pointed out that air quality has also benefited from enhanced efforts to clean roadways and strengthen controls on construction sites, motor vehicles, and fuel sulfur content. In addition, the economic incentives provided by the collection of air pollution fees have dramatically reduced concentrations of particulate matter and sulfur oxides (SO_x). In fact, measurements indicate that Taipei has one of the lowest concentration of sulfur dioxide (SO₂) for any major city in the world.

As for protection of drinking water, the Executive Yuan approved in December 1998 a 43.2 billion NTD plan to prevent pollution of the Kao-Ping River and four other river basins across the island. By May 1999, 65 protected areas had been approved, comprising a total surface area of 350,000 hectares.

Great strides have also been made in the area of industrial waste controls. The EPA has established an industrial waste control center and has gradually imposed requirements for industrial firms to report on-line industrial waste clearance and treatment status. Of the firms targeted by the first three rounds of reporting requirements, 99% have complied; and 50% of the firms targeted in the most recent round have already submitted reports. The EPA will be able to use these reports to greatly improve its handling of industrial waste streams.

Significant steps in improving the organizational effectiveness of the EPA have also been achieved. To strengthen the investigation and prosecution of environmental violations, the EPA and the Ministry of Interior cooperated to establish the Environmental Protection Police Force in July 1999. In less than a year, the Environmental Police have already acted on 192 cases of environmental violations, sending a message that such transgressions will not be tolerated.

Premier Siew expressed his approval of the EPA's achievements over the years and recognized

the hard work of all EPA personnel. He further indicated that he personally supports the promotion of environmental protection activities and that after he retires he would like to become an environmental volunteer and work to protect the nation's environ-

mental resources.

At the conclusion of the meeting, the Premier took a group photo with EPA personnel in attendance, and the meeting adjourned with an air of good will and appreciativeness. 

Environmental Complaints in 1999 Still Highest for Urban Areas

In 1999, environmental agencies across Taiwan received a total of 93,555 complaints. Most of these came from residents of urban areas. Broken down by type of pollution, complaints about solid waste and environmental sanitation were the most in number. The second and third most common complaints targeted noise pollution and odors, respectively. Environmental agencies have recently established dedicated inspection units and have thereby greatly reduced the time it takes to respond to a complaint. In addition to more aggressively listing factories that have had complaints filed against them, environmental authorities have also strengthened the professional training of individuals who receive environmental complaints.

Statistics on island-wide environmental complaints were recently compiled. In 1999, environmental agencies at all levels of government recorded 93,555 environmental complaints – the second highest number of complaints received in a year. This amount was 10.9% above the 1998 figure of 85,768, but lower than the 1997 number of 95,711. Broken down by level of agency handling the complaints, county and city level environmental protection bureaus fielded 90% of all complaints while the remainder were fielded by town and village public works departments.

Analyzed by geographic region, complaints were still concentrated in urban areas. Complaints in Taipei city totaled 21,202, or 22.6%. Taipei County witnessed 17,624 complaints, second highest at 18.8%. Kaohsiung City was at 5,979 (6.3%), Taoyuan County had 5,191 (5.5%), and the remainder of Taiwan's counties and cities received less

than five thousand complaints.

Broken down by pollution type, complaints about solid waste and environmental sanitation were the most in number – 32,135 (34.3%); noise complaints totaled 22,036 (23.5%); 19,675 (21%) complaints were filed about offensive odors; and, air pollution complaints (not including odor) equaled 14,411 (15.4%). Other forms of pollution were the targets of relatively few complaints. (See accompanying table).

As for the entities against which complaints were filed, industrial sites were the targets of 23,932 complaints (25.5%). Complaints targeting neighborhood activities totaled 23,088 (24.6%), and

businesses were targeted by 15,679 complaints (16.7%). The remaining targets of complaints included motor vehicles and construction activities.

Of the complaints investigated by environmental officials, 34.37% of the polluting activities were minimal and promises were made to reduce pollution; legal action was taken against 18.6% of the sites or entities; and 5.06% of the sources no longer existed once in-

spectors arrived on the scene to investigate. These three types of outcomes represent 58% of all, while there was no outcome for 41.81% of the cases.

The EPA indicated that the island's 23 city and county environmental protection bureaus (EPBs) have all implemented 24 hour public nuisance complaint hot lines. Twenty-one EPBs have formed

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1999 Environmental Complaints By Pollution Type		
<i>Type</i>	<i>Number of Cases</i>	<i>Percent of Total (%)</i>
Solid Waste and Environmental Sanitation	32,135	34.3
Noise	22,036	23.5
Odor	19,657	21
Air Pollution (not including odor)	14,411	15.4
Water Pollution	5,021	5.3
Vibration	37	0.03
Other	258	0.2
Total	93,555	100

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specialized investigation task forces which can respond, day or night, to complaints as they are filed. As a result, the average response time for handling complaints in 1999 was only 1.1 days, compared to 2.04 days in 1998. Moreover, all cases were resolved within seven days of receiving the complaint.

The statistics clearly indicate that the largest number of complaints were filed against air pollution and noise pollution arising from industrial sites.

The EPA has stated that, in the future, sites against which complaints are filed shall be listed as priority inspection sites. Moreover, the number of cases in which no actual pollution was discovered by inspectors was relatively high at 41.81%. This could be primarily due to the general public's dissatisfaction with complaints. In addition to asking environmental agencies to strengthen enforcement, and in order to prevent incomplete inspection records from being taken, the training of complaint handlers should be strengthened.

Survey of Public Environmental Sentiment Completed

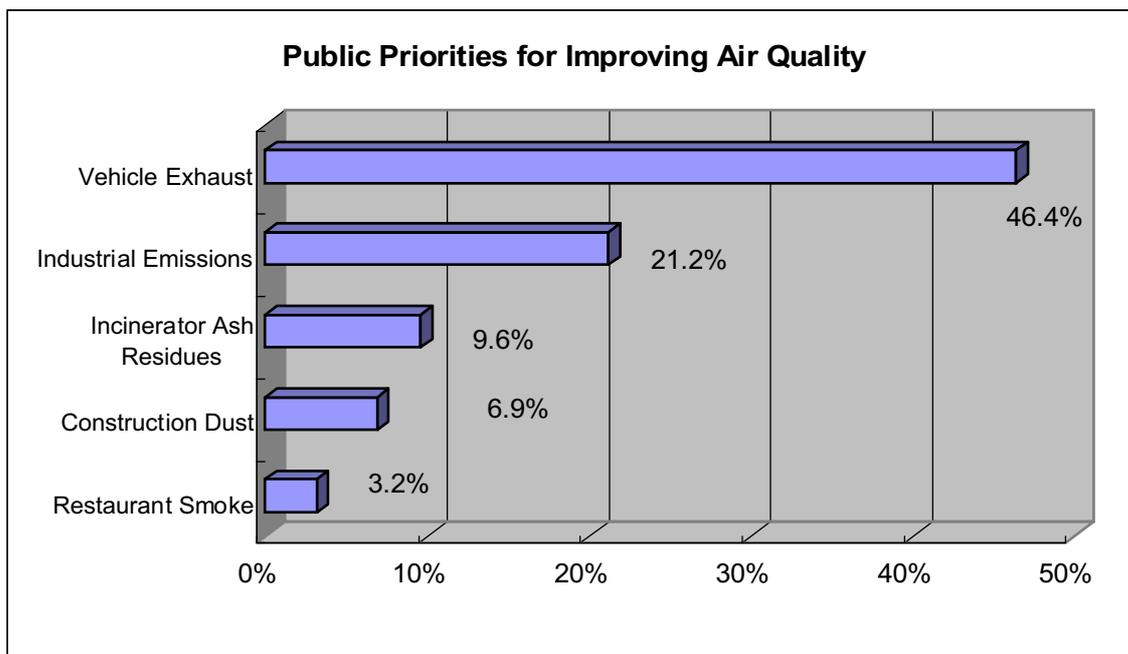
The EPA has completed the first FY2000 survey of public sentiments regarding environmental protection. The survey shows that 92% of those surveyed were willing to support the National Environmental Protection Plan and 57% were willing to participate in environmental volunteer groups. Additionally, 59% felt that vehicle emissions have improved, and 77% felt that air quality was either "very good", "good" or "passable".

Through January and February of this year EPA conducted a survey designed to increase its understanding of public sentiments about government environmental protection efforts. The study showed that a majority of those surveyed (74.4%) obtained information about government environmen-

tal policies through the television. Following were newspaper (38.1%), radio (26.8%), Internet (13.8%), and flyers (11.1%) as sources of environmental information.

An overwhelming 92% of those surveyed expressed willingness to support the government's promotion of the National Environmental Protection Plan (NEPP). Another 56% stated that they were willing to apply for an environmental credit card, while 85% said the same for usage of the toll-free 080031531 information line, which can be used to ask questions or solicit information about environmental topics.

In addition, 57% expressed willingness to par-



ticipate in environmental volunteer groups and 59% to be involved in environmental activities. However, the number willing to participate in environmental activities has decreased 20.1 percentage points since a similar EPA survey in January of 1999.

In terms of air pollution, 59% surveyed felt vehicle emissions have improved compared with last year. Similarly, 41% felt that air quality had improved near their home compared with last year.

Furthermore, 36% felt that air quality near their home was good, while 41% felt that it was passable, and 21% felt it to be poor. This 21% (806 persons) felt the priorities for air quality improvement to be vehicle exhaust (46.4%), industrial emissions (21.2%), ash residue from trash incineration (9.6%), dust from construction or roadwork (6.9%), and smoke from restaurants or roadside food stalls (3.2%).

Of families with motor vehicles surveyed, 87.2% said that they took their vehicle in for regular emissions testing, an improvement from 83.5%

in October of 1998. Of all those surveyed, 71% knew that there was a fine of 3000 NTD for not complying with regular inspection requirements. Furthermore, 42% knew that the EPA provided reimbursements for vehicle upgrades, but only 27% knew of the reward available for reporting highly polluting vehicles.

Seventy-six percent of those surveyed knew the EPA gives daily UV forecasts, 69% knew that there are daily air quality reports, and 35% of these felt that air quality reports accurately reflected their experience of changes in air quality. Also, 89% of those surveyed hoped that the EPA would do more detailed monitoring of local air quality in public spaces, such as parks, recreational areas, hospitals or other leisure areas.

The EPA noted that this survey of public environmental sentiments has already been incorporated as a routine EPA activity. Survey results have also been added as an administrative reference to keep EPA efforts close in line with public wishes. 

Sensory Inspection Guidelines for Air Pollution Activities Announced

Article 29 of Taiwan's Air Pollution Control Act targets air pollution sources other than stack or pipe emission sources. To prevent disputes over enforcement of these statutes, the EPA recently announced criteria that place specific requirements on environmental agency personnel. When enforcement is being undertaken, officials must confirm that the air pollution in question is arising from the suspected source, and they must show that air pollution control equipment is not adequately treating the emissions. In addition to making detailed records, inspectors may also consult with those who filed the complaint or members of the surrounding community.

In order to prevent certain activities from polluting the air, Article 29 of Taiwan's Air Pollution Control Act prohibits open-air burning and other non-stack emissions from being undertaken in designated control areas.

In enforcing this Article environmental inspectors mainly depend on their sense of sight and smell to identify pollution sources. Although these methods are convenient and time-saving, the lack of quantifiable data makes it easy for concerned parties to question the objectivity and fairness of the data collected. To remedy the situation, the EPA on

April 19 promulgated the *Sensory Inspection Guidelines for Activities that Pollute the Air*. These Guidelines will now provide environmental inspectors with the standard procedures for inspecting and verifying polluting activities.

According to the Guidelines, inspectors will be required to position themselves either outside the plant or on or outside the plant perimeter. From these positions the inspector must be able to verify that the pollution is emanating from the source being inspected.

When evaluating the release of particulate pollutants, the inspector shall use visual inspection to confirm pollutant emissions. If the emissions contain steam, the inspector must evaluate and record particulate emissions separately from the obstruction of the steam. Moreover, environmental inspectors shall be required to confirm whether the pollution source has installed particulate emissions control equipment, and the inspector must verify

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whether the installed particulate emissions control equipment is effective at treating particulate emissions.

As for evaluation of odors, environmental inspectors shall sketch or otherwise record the area where the odor is detected. As stated above, the inspector shall also confirm whether the pollution source has been fitted with pollution control equipment, or whether the equipment is properly treating the odorous substances.

When evaluating the emissions of toxic gasses, the inspector must, from within the plant, verify the raw materials, fuels, and other toxic substance containing materials in use at the site. The inspector must also confirm whether the pollution source has installed the necessary preventative equipment and the op-

erational status of the equipment.

To reduce the number of disputes that arise over inspection findings, the implementation criteria also require environmental personnel to keep records of enforcement activities. These records shall contain a number of details pertaining to the observed pollution, including name of source, location of source, time, location of inspector, related properties of the pollution source, the facts regarding the pollution, method of evaluation, and status of the pollution control equipment.

Because many instances of pollution control arise due to public complaints, the criteria also stipulate that, when necessary, environmental agencies can confer with the individuals filing a complaint or the residents of the community surrounding the pollution source. Joint action can then be taken to control polluting behavior. 

News Briefs

Executive Yuan Passes Draft of the Marine Pollution Control Act

On April 20th a full meeting of the Executive Yuan (EY) passed a draft of the *Marine Pollution Control Act*. The draft Act delineates marine control zones, establishes marine environment control standards, and a mechanism based on pollutant type and volume for collecting marine disposal fees. Furthermore, in the future, enterprises discovered illegally disposing of wastes in the ocean will be assessed harsh penalties. Serious pollution of the marine environment can result in a fine of up to 100 million NTD and 10 years in prison. (please see EPM Vol. III Issue 9 for more details about contents of the draft)

EPA to Strengthen Auditing of EIA Violations

Statistics from the EPA's Bureau of Comprehensive Planning reveal an increase in the number of EIA violations this year. The EPA points out that development agencies only care about quickly passing the EIA review, but put no stock in conclusions reached during the review. The EPA noted that it will strengthen auditing and require development agencies to make a detailed reading of EIA review conclusions.

Environmental Protection Police Force Legally Institutionalized

On April 18th the Legislative Yuan (LY) finished its final reading of amendments to Article 17-1 of the EPA's organizational statutes. The amendments firmly institutionalize the legal roots for the Environmental Protection Police Force. In the future the Environmen-

tal Protection Police will have legal authority to accompany EPA inspectors in jointly investigating or taking prohibitive action in cases of serious pollution. Cooperation with the Environmental Protection Police will resolve a long standing enforcement problem resulting from EPA inspectors lack of judicial authority.

Year 2000 Evaluation of EIA Consultants Underway

In 1997 the EPA began to carry out yearly evaluations of the EIA consulting industry to help raise the standards of Taiwan's EIA professionals and to reduce average EIA review time. Evaluations for the year 2000 have just recently been brought underway. The EPA commented that the results of past assessments are all available on the EPA website, and should be used by developers as a reference to select EIA consultants.

Restrictions on Use of Incinerator Reimbursements Loosened

In order to ensure the smooth completion of Taiwan's incinerator projects the EPA had set regulations requiring 5% of the contract price for an incinerator bid to be used to reimburse local communities. However, local governments have complained that there are too many restrictions placed on their use of the money. After discussion with the parties involved, the EPA agreed to amend the regulations. Now, an amount not to exceed 35% of the reimbursement funds may be used on non-infrastructure projects. This model will also be used for future BOO-BOT incinerator projects the EPA is promoting.

(continued from page 2)

generally carried out through document reviews, with personal audits, inspections or testing when necessary.

After completing comparative reviews of the 23 EPBs involved, only those in Keelung City and Nantou County were given a B-grade ranking, showing need of improvement. The remaining EPBs were all listed as A-grade, or demonstrating good performance. Taoyuan County, Chia-I County, Taichung City and Taipei City each obtained a No. 1 ranking in one of the four evaluation groups. Of these, Taipei City demonstrated the highest level of performance and was ranked as the national leader.

EPA Deputy Administrator, Ta-Hsiung Lin, pointed out that Taiwan's environmental protection budget has increased substantially, from 4.3 billion NTD in 1997 to 26.8 billion for the current 18 month fiscal year. Similarly, local EPBs have, on the whole, significantly raised their levels of performance. In particular, the only slight disparity in performance between different city and county EPBs shows their great efforts to promote environmental work. Each EPB taking a No. 1 ranking in one of the evaluation groups will be presented a commendation plaque and an award of 1 million NTD. Second and third place agencies will receive 500 and 400 thousand NTD respectively to encourage them to continue their hard work. 

EPA Steps Up Monitoring of the Effects of Sandstorms

With the right meteorological conditions, particulate matter created by severe sandstorms in Northwestern China can have a serious impact on air quality in Taiwan. In addition to tracking the development of such sandstorms, the EPA has already begun research on long-range transboundary pollution transfer to better understand the trends involved and to help the public to take precautionary action.

Air quality in Taiwan is not only affected by local sources of pollution, such as factories and automobiles. Each year, pollution from transboundary sources can have a tremendous impact on air quality in regions of Taiwan. The largest of such pollution sources originate from both manmade and natural phenomena in mainland China.

In one such instance, on the morning of March 24, Taiwan began to suffer the effects of a severe sandstorm in mainland China. Persistent weather conditions resulted in poor air quality until rains on April 1st brought some relief.

Deserts in Northwestern China occupy a vast expanse of territory around 600,000 square km. Low rainfall and uneven seasonal distribution make this area the primary originator of sandstorms in East Asia. These storms occur most frequently through the end of winter and during the spring months, peaking between March and May.

When sandstorms occur, the proper meteorological conditions can extend their influence all the way to Taiwan, sometimes as quickly as 36 to 48

hours. The EPA uses information from atmospheric circulation and satellite imagery to decide whether a sandstorm will influence the Taiwan region. This decision is then used as a reference for daily air quality forecasts.

Sandstorms of the scope and persistency witnessed this year very seldomly occur. Since completion of the Taiwan national air quality monitoring network in September of 1993, the EPA's ability to extrapolate possible sources of air pollutants was raised significantly. The air quality monitoring network is especially useful in providing up-to-date information for space/time analysis of transboundary air pollutants. Because of the tremendous impact of this year's storms on Taiwan air quality, the EPA closely monitored developments and issued warnings when needed to help protect public health.

To strengthen verification of long-range pollutant transfer, in 1999 the EPA setup the Matzu off-island monitoring station to provide the earliest possible information about the effects of dust and haze on Taiwan. According to monitoring results for this year, after particulate concentrations at the Matzu station rise due to sandstorm activity, the same effects will be felt in Taiwan roughly eight hours later. The EPA also reminds the public to check the latest air quality developments online (<http://www.epa.gov.tw>) or by dialing the toll-free EPA hotline (080-231260). 

In Support of Earth Day, EPA Promotes Tree Planting Activity

In support of the 30th anniversary of Earth Day, the EPA, the Ministry of Education and other organizations are promoting a tree planting activity. As part of this effort, elementary school course materials on tree planting have been developed. To assist with the dissemination of these course materials, “seed teachers” are being trained in the delivery of the materials.

April 22 marked the 30th anniversary of the first Earth Day. Across the globe, 180 countries and 4,500 organizations put on festivals and activities. As part of Earth Day activities in Taiwan, the EPA, the Ministry of Education, the Council of Agriculture and several public groups organized a program to disseminate “Plant Trees to Save Water” environmental education materials. Workshops to train “seed teachers” in the dissemination of the materials is also part of the agenda.

This series of educational materials was developed to promote the concepts of tree planting and environmental beautification. Domestically, these materials are ground-breaking. The education materials themselves support the Ministry of Education’s most recent nine-year course curriculum. Environmental awareness and education have been combined together. In the future, through seed teachers, this set of materials will be introduced to other teachers. The materials are intended to be part of educational activities. In this way, the seeds of environmental awareness will be planted in all elementary schools throughout Taiwan.

Since 1992, the EPA, MOE, COA and several other agencies have jointly promoted the activity entitled “Plant 20 Million Trees to Save Taiwan’s Water Resources.” Every year different major tree related activities are arranged in hopes of arousing greater social support for protection and rebuilding forests.

In addition, supporting courses where students can observe the growth of plants and trees, the EPA and other agencies have promoted “Grow up with a tree” activities. With the assistance of academics, a complete set of tree planting educational materials have been developed. These materials introduce children to and promote protection of forests and trees and concern for the environment. Such teaching materials also help school children get started in tree planting and conservation activities from an early age.

The Ministry of Education indicated that “Planting Trees to Save Water Resources” is one of the most important environmental education activities. Through the continued promotion of this activity, people are awakened to the beauty of Taiwan and the importance of protecting trees, forests, water resources and the wider environment. And, the compilation of educational materials can help further environmental education at the primary level. It can also offer elementary school teachers a reference for teaching environmental issues and awareness. 

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Dr. Hsung-Hsiung Tsai, Administrator,
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Editor-in-Chief

Dr. Chea-Yuan Young, Director General,
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Environmental Protection Administration

Editors

Dr. Y.F. Liang, Dr. Shawn Chang,
Lee-Kuo Hsiao, Bruce Berkman

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Office of Science and Technology Advisors

41, Sec. 1, Chung-Hwa Rd.

Taipei, Taiwan, R.O.C.

tel: 886-2-2311-7722, ext. 2203

fax: 886-2-2311-5486

e-mail: umail@sun.epa.gov.tw

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