



General Policy

Diverse Environmental Measures Initiated in 2003

EPA is geared up to implement numerous environmental measures in 2003 to kick off the New Year. This month's issue focuses on the content of these new policies.

The EPA is preparing to enact several significant environmental measures in 2003, which will include the second stage of the policy to restrict the use of plastic shopping bags and plastic (including polystyrene) disposable dishes, implementation of total quantity control (TQC) of air pollution emissions in the Kaohsiung-Pingtung Air Quality Zone, launching the construction of Environmental Technology Parks, and enforcement of standards on dioxin emissions for medium-scale waste incinerators. Articles in this issue will introduce the second stage of restrictions on disposable dishes, TQC implementation, and the establishment of Environmental Technology Parks. This issue also touches on other upcoming environmental measures for readers to gain a better understanding of the focus of EPA policies in 2003.

Dioxin Emission Controls Implemented for Medium-scale Incinerators

In October 2000, the EPA announced *Dioxin Emission Standards and Control Standards*

for Medium- and Small-scale Incinerators, which stipulates that dioxin emission levels of medium-scale incinerators (those designed to incinerate between 4~10 metric tons of waste per hour) must be below the standard limit of 0.1 ng-TEQ/Nm³ from January 1, 2003. Additionally, medium-scale incinerators must adhere to control standard regulations pertaining to operating conditions, effective stack height, and rules on regular inspections and reports. The main content of this newly effective

regulation is as follows:

1. Combustion temperature cannot fall below 850°C; flue gas detention time must be at least 1 second; the hourly mean level of oxide emissions should be above 6%; and the hourly weighted moving average of carbon monoxide should be below 100ppm.
2. Medium-scale incinerator stacks must either exceed a height of 50m or operators must carry out

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From 2003, EPA subsidizes purchasing of LPG for use in automobiles.

cancer risk assessment of dioxin emission levels to show that less than one person in one million is potentially subject to cancer risk.

3. Medium-scale incinerators must undergo regular annual emission analysis of dioxin concentrations.

Additionally, this regulation stipulates that from 2004, dioxin emission levels of small-scale incinerators (those designed to incinerate under 4 metric tons of waste per hour) must comply with the standard limit of 0.5 ng-TEQ/Nm³. Dioxin emission standards set by the EPA for small- and medium-scale incinerators are based on considerations of technological feasibility, improvement costs, and public cancer risk assessments. Control standards set by other advanced nations are also referred to. Taiwan's regulations on emission standard limits and operation facility norms are comparable to those of other advanced nations. It is estimated that the toxicity equivalency factor (TEF) of annual dioxin emissions of small- and medium-scale incinerators will decrease by 0.1g, which is 76% lower than emission levels under original controls. Also, the potential cancer risk to the public will drop to below one in one million

people.

For more information, please call 02-2311-7722 ext. 2773.

Large Stationary Sources Required to Report Annual Emission Amounts

Taiwan's *Air Pollution Control Act* was revised in June 2002. Among revisions made, the 21st article requires that stationary pollution sources appointed by the EPA must report last year's total amount of air pollutant emissions from stationary pollution sources to the local responsible agencies before the end of January each year.

On December 31, 2001, the EPA announced the first group of stationary pollution sources that must report annual emissions. Starting in 2004, public and private operators are required to report total levels of the previous year's emissions before the end of January if permissible emission amounts on the operating permit of any one stationary source exceed any one of the following amounts:

1. 40 metric tons of nitrogen oxides.
 2. 60 metric tons of sulfur oxides.
 3. 30 metric tons of volatile organic compounds (VOCs).
 4. 15 metric tons of particulates.
- Starting in 2003, before the end of every April, July and October, these operators must fill in air pollution

emission amounts of the entire industrial unit for the previous quarter via Internet. Before the end of January of each following year, each operator is required to report emission amounts for the entire year. According to estimates, around 1,200 companies in Taiwan will be required to begin reporting emission amounts. For more information, please call 02-2311-7722 ext. 2682.

LPG Vehicle Fuel Subsidized at NT\$3 Per Liter

To reduce the price of liquified petroleum gas (LPG) as well as promote the use of LPG vehicles, the EPA announced on December 11, 2002 that it will provide subsidies of as much as NT\$3 per liter until December 31, 2005 for the purchase of LPG for use in automobiles.

...EPA decided to provide subsidies for the purchase of LPG for use in automobiles...

The funding source for this subsidy comes from the Air Pollution Control Fund, which is sufficient to subsidize sales of an estimated 22 million liters of LPG in 2003. Any legal operator of a filling station (whether it is a gas station, an LPG station, or LPG bottling company) can sell LPG fuel to owners of legal LPG vehicles at a lower price, and then receive reimbursement through this subsidy. On the 25th of every month, LPG merchants can apply for reimbursement for the previous month. For more information, please call 02-2311-7722 ext. 2780.

Ban Against Tributyltin Oxide Paint on Ships

To reinforce controls over environmental hormones, Taiwan has prohibited ships under 24 meters from using paint that contains Tributyltin oxide (TBT), starting from January 1, 2003. Taiwan has always listed

Control and Emission Standards for Dioxin				
Control Target	Applicable Conditions	Emission Standard (ng-TEQ/Nm ³)	Effective Date	
Waste Incinerator	Over 10 tons/hr or 300 tons/day	0.1	New	8/8/1997
			Existing	8/8/2001
Medium- and Small-scale incinerators	Over 4 tons/hr	0.1	New	1/1/2001
			Existing	1/1/2003
	Under 4 tons/hr	0.5	New	1/1/2001
			Existing	1/1/2004
Steel Industry Arc Furnaces	New	0.5	1/1/2002	
	Existing	5.0	1/1/2004	
		0.5	1/1/2007	

TBT as a toxic chemical substance, and is now adhering to IMO regulations by banning the use of TBT paint on ship hulls of newly manufactured vessels. This measure shows Taiwan's determination to comply with international controls on organotins. Ultimately, from 2008, all paint used on ships in Taiwan will be TBT-free. For more information, please call 02-2311-7722 ext. 2870

Soil and Groundwater Pollution Survey Completed for Major Petroleum Storage Facilities

Starting last year, the EPA began carrying out a comprehensive soil and groundwater pollution survey targeting a total of 400 filling stations throughout Taiwan that have been in operation for over ten years, as well as 2,170 petroleum storage facilities with holding capacities of over 100 kiloliters. The survey will be completed in 2003 and if survey results show facilities with higher pollutant concentrations than soil and groundwater pollution control standards, environmental agencies will publicly announce those facilities as pollution control sites and proceed with pollution remediation work.

The EPA will also carry out pollution remediation work plans for agricultural land discovered in 2002 to be contaminated with heavy metals. As for farmland soils with heavy metal contamination levels already in excess of control standards, government agencies will proceed with remediation work and it is hoped that this land can be recovered for future agricultural use.

For more information, please call 02-2383-2389 ext. 821

EPA Reinforces Reuse of Incinerator Bottom Ash

The EPA will compile a budget to help local governments resolve

problems concerning the final processing of incinerator bottom ash. This plan entails that in 2003, 10 cities and counties finalize bids to seek operators that can begin construction within the year on final disposal sites for general industrial waste (including incinerator bottom ash). This year the EPA will also begin planning and implementing the "Green Resource Reuse Plan", as well as begin construction on an "Incinerator Bottom Ash Screening Demonstration Plant".

Waste Management

Hau: "Plastic Bag Restriction Policy to be Implemented On Schedule"

Faced with opposition from plastic bag manufacturers and some legislators who have even demanded a 5-year buffer period on the restriction, EPA Administrator Dr. Lung-bin Hau said with conviction that, "the EPA will absolutely not budge in its determination to follow through on this policy."

In 2002, the EPA effectively advocated the first stage of the policy restricting the use of plastic shopping bags and plastic (including polystyrene) disposable dishes. January 1, 2003 marked the beginning of the second stage of restriction measures, which expands the first stage restriction target from government organizations to now include six large business groups: shopping centers, department stores, retail mega stores, supermarkets, convenience chain stores, fast food chain stores, and food and beverage shops.

However, plastic bag manufacturers and a number of legislators have voiced opposition to this policy and have appealed for a 5-year grace period on the restriction measures. The EPA has responded that the second stage of restrictions will definitely be implemented on schedule so as to safeguard a healthy and safe living environment for the nation's citizens. As for the possibility of plastic industry workers losing their jobs,

For more information, please call 02-2311-7722 ext. 2648

10 New Regulated Recyclable Waste Items Planned

To further carry out sustainable reuse of resources, reinforce source reductions, and recycle resources, the EPA also plans to add 10 new regulated recyclable waste items, increasing the number of regulated recyclable waste items in Taiwan from 32 to 42.

For more information, please call 02-2370-5888 ext. 3301

the EPA has already prepared comprehensive plans and job-finding assistance as a support measure. The EPA is confident in bearing the responsibility to help workers find employment and in leading everyone through initial difficulties.

The EPA expressed that this policy has already been in the planning for quite some time, and with the enthusiastic advocacy of all ranks of environmental organizations. The policy received support from nearly 70% of the population and many businesses cooperated by investing capital toward the purchase of dishwashing equipment. If the EPA were now to delay the implementation of this policy, not only would the businesses cooperating with the policy be hurt, but the public would also have serious doubts about the EPA's convictions. It is likely that this policy may never be as successfully promoted a second time around, and therefore the EPA

will not consider delaying its implementation. Put simply, the environment cannot wait another five years - if we don't act now, we may never be able to successfully implement such measures. To reduce the impact that this restriction policy has on the plastics industry, the EPA has planned to carry out this policy in two stages. The first stage was carried out last year and only targeted government organizations. Starting this year, the second stage of restrictions now includes private enterprises as well, and doesn't target those businesses that go through the greatest number of plastic bags, such as traditional markets, street vendors and retail stores, all of which are still not subject to the restriction. Based on statistics, there are a total of 200,000 food and beverage establishments in Taiwan, and around 20% of these are affected by restriction measures. Meanwhile, the output value of Taiwan's plastic bag industry is currently around NT\$4 billion, and the output value of plastic disposable dishes is only NT\$1.5 billion. Together, the two have a total output value of NT\$5.5 billion. It is estimated that around 450 plastic bag manufacturers and 50 disposable dishes enterprises are affected by the policy, and the two combined employ upwards of 10,000 workers.

To tackle the potential problem of unemployment for these plastics industry laborers, the EPA ensures that it will provide all possible assistance. The EPA has already formulated an employment support plan together with the Council for Labor Affairs and the Small & Medium Enterprise Administration, MOEA, to assist those non-voluntarily unemployed workers with skills or desire to work. This plan consists of three work plans including assistance to affected workers to transfer to dishwashing related work, other traditional industries or types of

small and medium scale enterprises. This entails that employers will receive remuneration for each plastic bag/dishes industry worker that transfers jobs. The fund will also be put toward subsidies for local governments to employ jobless workers in environmental protection related fields, and will be able to assist a total of 8,400 unemployed workers to transfer jobs. To assist related industry workers in transferring or upgrading employment, the EPA has established framework for loan interest subsidies to compensate for reduced finances. Thus, the EPA will bear a portion of interest accrued by plastics industries. This subsidization measure will last for a maximum of three years, and can subsidize a total loan amount of around NT\$2.5 billion.

..."EPA will absolutely not budge in its determination to follow through the policy on plastic bag restriction" ..

The second stage of this policy began with an advisory period that lasted from January 1, 2003 to February 15, 2003, during which environmental agencies first notified establishments that were not following the new measures. Starting from February 16, establishments will be warned the first time they violate regulations. Violations beyond the first warning will receive fines. The EPA points out that from February 16, environmental agencies will inspect establishments that had received previous warnings, and those who commit a second violation may be fined. The EPA anticipates that the industries for which the policy applies have already prepared and will not be subject to penalties. For more information, please call 02-2370-5888 ext. 3600.

Soil Pollution

Soil and Groundwater Pollution Remediation Fee Collection Regulations to be Simplified

Based on a year of experience collecting soil and groundwater remediation fees and based on feedback from industries, the EPA has completely revised fee collection regulations to streamline fee collection work.

Taiwan has been collecting soil and groundwater pollution remediation fees since November 2001, however, certain unclear regulations concerning fee collection made it difficult for enterprises to report fees. To solve this problem, the EPA has completed a draft revision of regulations concerning soil and groundwater pollution remediation fee collection. Revisions were made to 8 of the 10 articles included in current regulations, while 5 new articles were added and one article was deleted. The revised regulations now entail a total of 14 articles.

As for the calculation of fees for soil and groundwater remediation, the draft revision retains the original collection of a quarterly fee, the calculation standard of which is based on either the production volume or the input volume of chemical substances. However, in this revised version, the format of the final figure clearly indicates the calculation procedure for the production volume and the input volume of chemical substances, and figures must be rounded off to the third decimal place. Calculated totals of fees accrued for each individual chemical substance

should be rounded off to the nearest integer. This format will help to prevent discrepancies when reporting fees.

In the past, some companies have expressed that the deadline, which requires fees to be reported 20 days after the end of each quarter, does not allow adequate time. Therefore, in the draft revision the EPA has adjusted the fee-reporting period to coincide with the timeline stipulated in air pollution fee-reporting guidelines. That is to say that the deadline for reporting fees has been extended to 1 month after the end of each quarter, giving enterprises ample time to complete calculation work. Compensatory fee procedures have also been simplified for manufacturers. The draft revision adjusts the 20-day rule on collecting additional payments from those companies whose review results show that not enough fees have been paid. The collection of these fees is now deferred to the next reporting time in the following quarter.

As for export remunerations on remediation fees already paid for chemical substances, current fee collection regulations do not specify an application deadline for export remunerations. The revised regulations have set clear standards, which specify that the application deadline for export fee remunerations should coincide with the time of reporting remediation fees, on a quarterly basis. Also, export fee remunerations of remediation fees can be earmarked as a portion of remediation fees to be paid next quarter.

According to current fee collection regulations, when enterprises are insured for environmental liability, or when companies invest in equipment or construction to prevent the pollution of soil or groundwater, the calculations of those expenses should be based on the fiscal year and applications

can be submitted to collect reimbursement for a portion of remediation fees that have already been paid. In the draft revision however, the period in which to apply for reimbursement has been adjusted from the current timeframe from October 1 to December 31, to the revised timeframe from February 1 to March 31. This is in better accord with the time in which fourth quarter remediation fees are levied.

To reduce the administrative workload of the EPA, and in con-

Waste Management

Environmental Technology Park Sites to be Chosen in January

The central government has invested NT\$5.08 billion toward the EPA's Environmental Technology Park plan, to help localities attract NT\$12 billion in private capital investment. It is hoped that this plan will have an annual worth of NT\$35 billion. Seven county and city governments have submitted applications to participate in this plan since it was initiated, and all have already passed the initial audit on paper. The EPA will now promptly begin on-site surveys and it is anticipated that optimal park locations will be chosen by the end of January.

To promote the recycling and reuse of resources and encourage technology research and innovation of domestic environmental enterprises, the EPA has initiated the Environmental Technology Park Development Plan. This plan calls for the establishment of three environmental technology parks that will occupy a total of 100 hectares, one each in northern, central and southern Taiwan within the next 10 years. The central government will invest NT\$5.08 billion in this plan to assist localities in pulling together the needed NT\$12 billion in private capital, and it is hoped that the park will bring in an annual worth of NT\$35 billion (please see EPM Volume V, Issue 9).

After this plan was ratified by the Executive Yuan, the EPA began accepting applications from local governments since October 25,

sideration of the administrative costs involved with fee collection, the draft revision stipulates that enterprises whose quarterly remediation fees amount to under NT\$100 are not required to pay remediation fees for that quarter. However, to ensure accurate data, all enterprises are still required to report relevant data for the EPA to use as a reference when carrying out further controls.

For related information, please call 02-2383-2389 ext. 821

2002. On December 6, the EPA announced relevant work management guidelines and rules regarding subsidies.

As part of this plan, the EPA will provide many kinds of subsidies to local governments as well as many bonus incentive measures for factories applying to set up within the parks. As a result, many local governments expressed a high degree of interest in this plan when the screening process was announced. Up until the deadline for applications, a total of seven cities and counties had submitted applications to establish parks in their area. These seven areas are Tainan City, Tainan County, Kaohsiung City and Kaohsiung County in the south; and Hualien County, Keelung City and Hsinchu County in the north. No applications were received from city or

county governments in central Taiwan.

Based on selection guidelines set by the EPA, the selection process will proceed in three stages. The first stage is a review on paper. After passing this initial audit, applicants qualify for the second stage, which entails an on-site inspection. For this, committee members pay a visit to the city or county to make a ground survey of the proposed park location. The final stage is a multipart evaluation, at which time the optimal locations are chosen.

To hasten the establishment of environmental technology parks, the EPA promptly set the evaluation process in motion according to the above guidelines upon receiving city and county applications. Initial auditing of city and county applications began on January 6 and 7 for proposed sites in southern and northern Taiwan, respectively.

In principle, the EPA hopes to choose one park location for each region in northern, central and southern Taiwan, and as a result, competition has been very intense. Kaohsiung and Tainan county chiefs, and Tainan and Keelung city mayors as well as high-level authorities from other

counties and cities have all personally come forth to lead relevant parties to participate in the screening examination. After two days of examination, all seven of the cities and counties that applied effectively passed the audit on paper and qualified for the second stage, which is an on-site survey.

Keeping with the original timeline, the initial audit stage concluded in early January, after which a cross-departmental steering committee established by the EPA began visiting each city and county to proceed with rigorous on-site surveys. This stage takes one week, and is followed by a multipart evaluation, which is to be finalized by the end of January.

...Taiwan's first environmental technology park will be inaugurated by the end of 2003...

Counties and cities chosen by the EPA to establish environmental technology parks will immediately begin inviting businesses to set up within the parks, and in the meantime will proceed with the planning and construction of park infrastructure. If everything goes

smoothly, Taiwan's first model environmental technology park will be inaugurated by the end of 2003.

For more information, please call 02-2311-7722 ext. 2640.

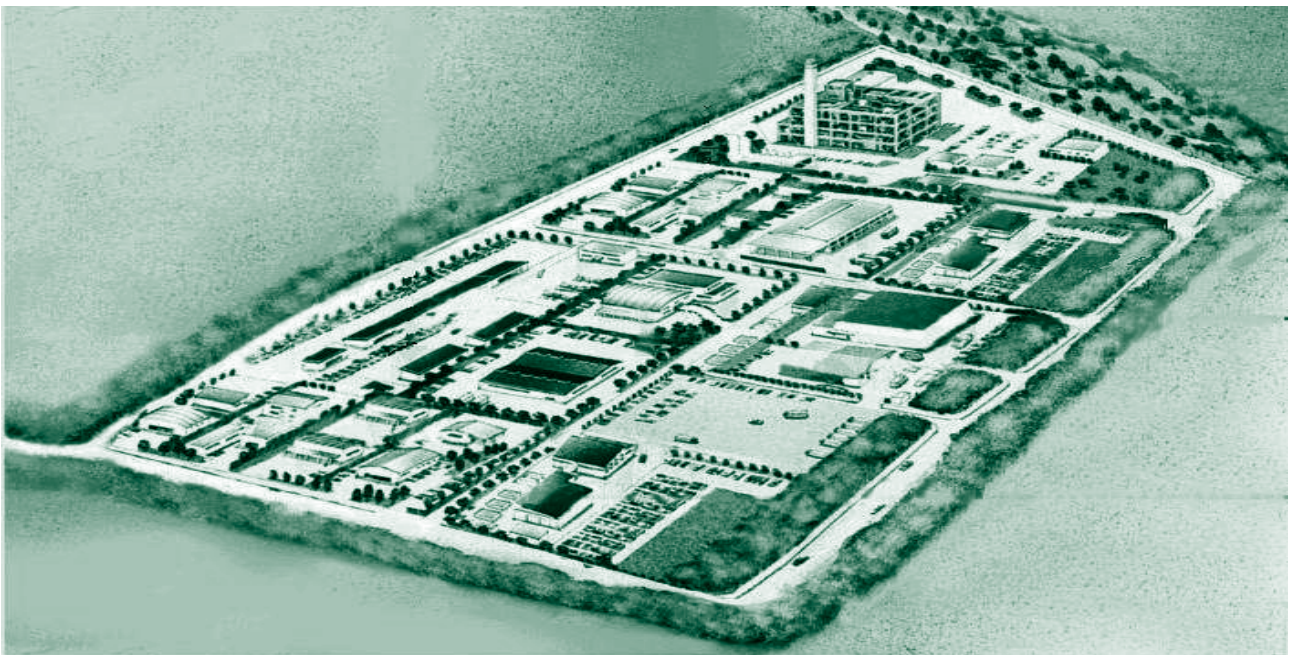
Air Quality

Revisions to Air Pollution Control Act Implementation Rules Drafted

The EPA revised Implementation Rules of the *Air Pollution Control Act* to complement new regulations drawn up in a June 2002 amendment of the *Air Pollution Control Act*.

Since the revision of Taiwan's *Air Pollution Control Act* was announced on June 19, 2002 (please see EPM Volume 5, Issue 6), the EPA has been busy working on the revision of related regulations. A draft revision has just been completed for the most important of these regulations - the *Air Pollution Control Act Implementation Rules*.

The revised Implementation Rules designate volatile organic compounds (VOCs) as one of the air



Draft concept plan for Environmental Technology Park

pollutants subject to regulation under the *Air Pollution Control Act*, which gives the EPA solid legal backing to strengthen regulation of VOCs. This draft also more concisely defines the term "vehicle" in the *Air Pollution Control Act*. The draft revision lists three categories of vehicles: those with gasoline and gasoline alternative clean-fuel engines, those with diesel and diesel alternative clean-fuel engines, as well as motorcycles.

In compliance with the 18th article of the *Air Pollution Control Act* concerning the adjustment of air pollution control expense items, the draft revision has added air pollution health risk assessment, clean energy, promotion research and incentives. Therefore, the EPA and city and county governments will have jurisdiction over these additional items. In the future, the EPA and local governments will be able to use air pollution funds to carry out health risk assessments related to air pollution, and promote the use and development of clean energy.

The draft clearly defines *Air Pollution Control Measures* by adopting manufacture improvements, low-pollution source material, fuel, operation maintenance management, and other proven methods of controlling or reducing air pollution emissions. In the future, stationary pollution sources located within total quantity control (TQC) areas will be subject to stipulations in the above-mentioned Air Pollution Control Measures to accord with TQC demands.

Aiming to simplify procedures, the draft revision stipulates that six applications can be combined under the application for a stationary pollution source operation permit. These six applications include: best available control technology (BACT), permissible air pollution increase limits, installation of continuous automatic monitoring

equipment, improvements to total quantity and concentration of air pollution emissions, permits to buy and sell material that is likely to produce air pollution, and arrangements for specialists or specialist joint application, it is not necessary to submit the same information twice for different permits. However, required permit fees must still be paid according to regular fee amounts for each individual permit.

According to the 25th article of the Air Pollution Control Act, certain public and private operators may be required to reapply for operation permits due to either the newly announced implementation of TQC or due to revisions of operation permit standards whereby existing permits do not accord with new stipulations. If either of

Air Quality

Kaohsiung-Pingtung Region TQC Plan Launched

To improve air quality in southern Taiwan, the EPA began carrying out total quantity control (TQC) measures on air pollution in the Kaohsiung-Pingtung region from January 1, 2003. The four types of air pollution targeted in this pollution reduction measure are suspended particulate matter (PM₁₀), sulfur diox-

The Kaohsiung-Pingtung Air Quality Zone includes Kaohsiung City and County and Pingtung County. This area is an intensive hub for the nation's high pollution industries such as petroleum, steel and power industries. The region also has very high densities of people and vehicles, and is responsible for a fourth of the nation's total air pollution emissions. Topographic and climatic factors of the region worsen conditions by making it difficult for air pollution to disperse, resulting in air pollution problems much more severe than other regions.

For many years, the government has continually promoted various improvement measures to recover the air quality of the Kaohsiung-

these is the case, operators can use simplified procedures to change their stationary source operation permit. Among other newly added regulations includes details regarding cases of air pollution damage that involve two or more cities or counties. In such a case, the injured party must file a petition with the central agency in authority and apply for an authorized assessment of the cause of damages to ensure the victim's rights.

The EPA has already submitted this draft revision to the Executive Yuan for examination and after the related clauses are ratified, it will be officially implemented.

For more information, please call 02-2370-5888 ext. 2648

Pingtung region. These efforts have already worked to reduce the percentage of days of poor air quality (PSI > 100) in the Kaohsiung-Pingtung region, from 18% in 1996 to 8.13% in 2001, or a 55% improvement rate. Nonetheless, this is still far from the national average of poor air quality days of 3.03% in 2001.

In light of this problem, the EPA decided to implement the Kaohsiung-Pingtung Air Quality Zone TQC plan from January 1, 2003. This plan stipulates that different control measures are to be adopted for stationary pollution sources, mobile pollution sources, fugitive emission sources and during seasons of high pollution levels. The four main types of air

pollutants targeted in this reduction plan are suspended particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and ozone (O₃).

In the future, newly installed or modified stationary pollution sources that discharge a specified scale of air pollution emission volumes in the Kaohsiung-Pingtung Air Quality Zone are required to carry out air quality simulation models of pollution emissions. Increased volumes of air pollutants must comply with permissible increase limits before environmental agencies will allow a permit for the newly installed or modified stationary pollution source (please see EPM Vol.5 Issue 6).

Specified levels are delineated as follows:

1. Newly installed stationary pollution sources or modified existing ones for which annual SO_x emissions exceed 60 metric tons, annual NO_x emissions exceed 40 metric tons, VOC emissions exceed 30 metric tons, or total suspended particle (TSP) emissions exceed 15 metric tons.
2. Modified stationary pollution sources for which increased annual emissions volumes of any one air pollutant exceed 20% of annual emissions permissible as stated in the installation or operation permit, and for which the annual emissions of any one air pollutant exceeds the following limits: annual SO_x emissions: 250 metric tons; annual NO_x emissions: 200 metric tons; annual VOC emissions: 200 metric tons, or annual TSP emissions: 200 metric tons.

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

Public Dispute Settlement

Bulk of Environmental Complaints in 2001 Concern Waste Disposal

According to a white paper announced by the EPA regarding environmental complaints in 2001, most complaints concerned issues of waste and public sanitation, while the second largest number of cases concerned noise pollution. The fastest growing complaint concerns cases of odorous air pollution and the second fastest growing complaint issue is waste disposal.

On December 31, 2002, the EPA announced a white paper on environmental complaints filed in 2001, and explained the EPA's policy of handling environmental complaints as well as presented statistical analysis of issues covered in complaints in 2001. According to statistics, environmental agencies in Taiwan received a total of 90,032 environmental complaints. This means that one environmental complaint is filed every 5 minutes and 50 seconds.

Quantitative analysis of complaint cases reveals that among all the different types of environmental pollution complaints, waste and environmental sanitation cases are the most numerous at 30,462 or 33.8% of all cases. Upon further analysis of the different types of complaints concerning waste, the most prominent issues are waste disposal on public lands, and discarded vehicles. The most common types of environmental sanitation complaints were roadside litter, pet animal droppings and the capture of stray dogs. The sec-

ond most numerous complaint was noise pollution, at 22,776 or 25.3% of all cases. The third most numerous complaint was odorous air pollution, at 20,637 or 22.9% of all cases.

As for the growth rate of each category reported, the fastest growing issues are odorous air pollution and waste disposal. Data from 1993 to 2001 shows that the number of odorous air pollution complaints increased 146.8% from 1993 to 2001. In the same period, the number of waste disposal and environmental sanitation complaints grew 95.6%, while the third fastest growing issue was water pollution with a 46% growth in complaint numbers. If we look at the region in which environmental complaints occurred, Taipei City accounted for 22.4%, Taipei County accounted for 12.9%, and Kaohsiung City took third place with 7.6% of all cases reported.

Data analysis of environmental

News Brief

68% of Public Supports Restrictions on Plastic Bags and Disposable Dishes

According to the most recent public survey released on December 31, 2002 by the Research, Development, and Evaluation Commission, Executive Yuan, out of 1,092 citizens questioned, 68% supported the usage restriction policy on plastic bags and disposable plastic dishes, while only 14% opposed the policy. Regarding the restriction on plastic bags, 58% of respondents didn't feel that the policy would present negative effects on their lifestyle, while 37% felt the policy would have a negative impact. Regarding the restriction on disposable plastic dishes, 71% of respondents felt that this policy wouldn't present negative effects on their lifestyle, while 23% felt the policy would have a negative impact. 86% of those questioned said that they would bring their own environmental bags or shopping sacks with them when they go shopping. 35% of those questioned said that they would bring their own dishes with them when they go out to eat.

complaints reveals that the most pressing environmental problems for citizens in industrial cities and counties are factory emissions of exhaust and odors, industrial wastewater, factory noise and industrial waste. However, issues of greatest public concern for cities and counties in urban regions are general urban noise, construction noise and vibrations, smoke exhaust from the foodservice industry and black smoke exhaust from scooters and buses. Statistics on pollution sources show that in 2001, over 27.7% of pollution was produced by the general public, while over 25.2% of pollution was from industrial sources and 19.4% was from commercial sources.

Meanwhile, along with ever increasing demands by the general public to improve the quality of life, there is an ever-lower tolerance of pollution created by neighbors. Thus, in addition to further reinforcement of controls on industrial pollution sources, the EPA will also enforce strict controls on pollution generated by the general public. As human senses cannot determine when pollution incidents have occurred, especially in the case of noise and odorous pollution, it is difficult to locate pollution sources or quantitatively detect the extent of pollution. Such cases are the most difficult for EPA inspectors to handle and such cases are also the most prone to cause public dissatisfaction with how environmental agencies handle them. Therefore, in addition to improving inspectors' skills, the EPA will evaluate and revise existing regulations.

To encourage the public to stand up and report incidents of environmental pollution, the EPA has created a toll-free 24-hour hotline (0800-066666) for citizens to report cases. The EPA also welcomes the public to issue a petition on any public nuisances through their website (<http://ww3.epa.gov>.

[tw/index.html](http://www.epa.gov.tw/index.html)). The EPA has also increased the budget for monetary awards given to those who report illegal activities. An NT\$5,000~\$200,000 reward will be given to those who file a petition against a pollution incident that causes serious environmental damage. This

Air Quality

EPA Assumes Control Over HCFCs

According to a 2002 revision of the Air Pollution Control Act regarding change of authority, starting this year the EPA will be responsible for controlling the nation's HCFCs. The EPA will also assume full responsibility for control of the nation's ozone depleting substances (ODS).

Due to international political factors, Taiwan is barred from becoming a signatory nation to the Montreal Protocol. Nonetheless, in order to fulfill our responsibility to protect the ozone layer and carry out control standards set by the Montreal Protocol, Taiwan established a cross-ministerial work group in 1989, which works in concert with the world's developed nations to control and reduce ODS production and consumption levels. Apart from Class I HCFCs in appendix C and Class I methyl bromides in appendix D of the Montreal Protocol, which are provisionally allowed to be produced and imported, Taiwan has already completely banned the production and import of CFCs, Halons, CCl₄ and other listed controlled chemical substances. (Please see EPM Vol.5 Issue 10)

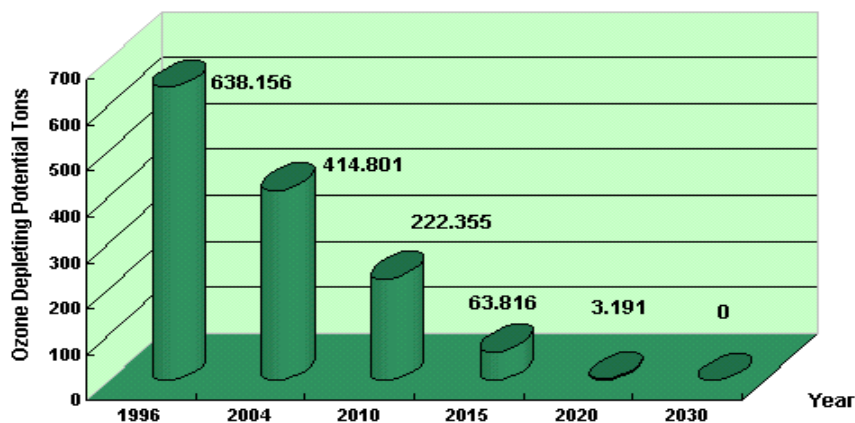
To integrate ODS control work in

will encourage the public to voice their opinions by standing up to report on any illegal pollution activities, and unite in efforts to protect Taiwan's environment.

For more information, please call 02-2311-7722 ext. 2920

Taiwan, the EPA announced the *Regulations on Managing HCFC Consumption Levels* on January 15, 2003, which sets standards for controlling HCFC consumption levels in Taiwan, and controls the import and production of HCFCs through yearly reductions in consumption levels (production amount + import amount – export amount). In principle, current work procedures originally set by the Industrial Development Bureau, MOEA, will be resumed so as to reduce potential problems when enterprises apply for this service.

Companies that use or import HCFCs as well as domestic companies that produce HCFCs, can apply with the EPA every July to show that they are qualified to carry out such operations. Before the 5th of every March and September, enterprises should re-



Taiwan HCFC Consumption Control Timeline

port projected purchase quantities for Q3 and Q4 of that year, and Q1 and Q2 of the following year, respectively. Enterprises must also report records of actual production generated from the approved amount for each preceding quarter before the end of each January, April, July and October. In addition, in order to effectively control HCFC use, the EPA will convene experts, scholars and representatives from relevant government agencies to carry out on-site surveys of qualified enterprises either quarterly or when the need arises. Operators of enterprises found violating this regulation may be subject to fines between NT\$100,000 and NT\$1,000,000. Those violating export or import regulations (HCFC smuggling) will receive jail sentences from 6 months to 5 years, and will be fined from NT\$300,000 to NT\$1,500,000.

For more information, please call 02-2311-7722 ext. 2668

Waste Management

EPA to Expand Range of Regulated Recyclable Containers

The EPA will revise existing regulations on enterprises responsible for regulated recyclable waste and expand the range of recyclable containers to include those with aluminum liners. The EPA will also further clarify parts of previously announced articles that were not clear enough, as well as provide NT\$200,000 in rewards to informants who report accountable enterprises that are not accurately reporting management fees.

To reinforce management of enterprises responsible for waste

recycling, clearance and disposal (referred to below as accountable enterprises), the EPA has explored relevant regulations and announced draft regulations on December 18, 2002, which expand the range of containers that must be recycled to include aluminum lined containers, as well as containers for wax, adhesives, sealants, cosmetic make-up products, brine, ethereal oil, contact lens care solution, wet tissue, rubbing alcohol, dessicants, battery fluid, paint, gas, fertilizer, and oxygen.

The draft regulations also give new definitions for items previously announced that were not clear enough or contained ambiguities concerning implementation times. For example, "dry cell batteries" does not include lead storage batteries, "plastic containers" no longer includes plastic bags, plastic wrap or sheets of plastic, "monitors" now include CRT and LCD monitors, "containers" now include container caps, pull tabs, handles, bases, spray heads, squeeze levers, seals and labels. Other clarified definitions: "disposable dishes" includes disposable cups, bowls, plates, saucers, boxes, meal boxes, fast food containers, and noodle bowls as well as their inner liners, inner trays and covers. The "paint" category includes paint, paint thinner, cement paint, and insulating varnish.

To specify recycling, clearance and disposal responsibilities of entrusting and entrusted manufacturers, the draft revision clearly sets forth the following principles:

1. The trademark rights holder shown on the product label is the enterprise liable for recycling fees.
2. For products whose labels do not display the trademark rights holder, the enterprise shown on the label shall be held liable for recycling fees. For those labels

that show two or more companies, the entrusting company shall be held liable for fees.

3. For products whose labels show neither trademark rights holders nor manufacturers, the entrusted container manufacturer shall be liable for recycling fees.

To simplify manufacturer fee payment procedures, after obtaining approval from the EPA, the liable manufacturers as stated above can report operation volume or import volume of products through their entrusted manufacturers, and thereby calculate clearance and disposal fees. This draft revision is slated to go into effect on July 1, 2003, after related procedural work is completed.

Also, to encourage the public to blow the whistle on any inaccurate reporting of recycling fees by accountable enterprises, on December 12, 2002, the EPA announced incentive regulations that went into effect on January 1, 2003, in which the EPA will provide rewards for informants. If informants can provide direct concrete evidence which is then used by the Recycling Fund Management Committee when investigating evasion of payments, and if this evidence leads to the successful tracking of related payment evasions, the management committee will reward 10% of the collected compensation monies to informants, up to a maximum reward of NT\$200,000. If informants cannot provide concrete evidence, and if the management committee finds out that the accountable enterprise has indeed evaded payments, the management committee will reward the informant with NT\$2,000.

For more information, please call 02-2370-5888 ext. 3301

News Briefs

EPA Ranks #1 in Policy Satisfaction Index

The Research, Development, and Evaluation Commission, Executive Yuan announced the results of a policy satisfaction index poll and a high of 77% of the respondents were satisfied with the government in the area of "implementing environmental protection". This is the third consecutive time that the EPA has received the top policy satisfaction ranking on surveys conducted by the Executive Yuan. EPA Administrator Dr. Hau Lung-bin stated that this achievement is attributed to the hard work and efforts of everybody in the EPA, and he thanked the public for their approval and support of environmental protection work. Hau also promised that in the future the EPA will continue to promote environmental policy implementation and efforts that will help to realize a better living environment for the public.

Discharge Permit Application Simplified for Science-Based Industrial Parks

In order to simplify the application of water pollution control permit procedures for firms in Science-Based Industrial Parks, the EPA has announced that starting from January 1, 2003, all legally established businesses in operation at Hsinchu Science-Based Industrial Park and green industries in Chunan and Tongluo Base will be able to process inspection and approval of compliance with the *Water Pollution Control Plan* through management bureaus of the respective technology industrial parks. Operators will likewise be able to apply for review, registration and approval or extension of their discharge permit. However, supervision of follow-up inspections will still be the responsibility of the respective local environmental agencies.

Foreign Ships Must Obtain Consent to Carry Hazardous Substances into Taiwan's Waters

Foreign shipping vessels carrying hazardous substances through Taiwan's waters must first apply with the EPA for permission ten days prior to entering the nation's waters. On December 4, 2002, the EPA issued a document to explain key items to

note when applying for this permit. Hazardous substances are defined according to classifications set by the *International Maritime Dangerous Goods Code, IMDG Code*. In addition to radioactive matter, the 8 types of substances specified in the *IMDG Code* are explosives, gases, flammable liquids, flammable solids, oxidants and organic peroxide, toxic and infectious substances, corrosive substances, and miscellaneous dangerous substances.

Subsidy for Dishes and Dishwashing Equipment in Restaurants

The EPA will allocate NT\$10 million in subsidies toward purchases of dishes and dishwashing equipment by restaurant operators. The EPA has established these funds to encourage operators to switch over to washable dishes and dishwashing equipment. Subsidies will be provided to those operators applicable to the second stage of the policy on plastic disposable dishes. Operators opting to purchase reusable dishes and dishwashing equipment are eligible for a 20% allowance for those purchases. For operators that would rather entrust a cleaning service to wash their dishes, the EPA will subsidize one month of dishwashing expenses. Each operator will have an allowance limit of NT\$40,000 with either of the above subsidy plans. The application period for subsidy assistance is from December 15, 2002 to June 30, 2003.

Mobile Phone Base Stations in Eastern Taiwan Meet Electromagnetic Radiation Standards

The EPA announced results of random testing for electromagnetic radiation at mobile phone base stations throughout Ilan, Hualien, and Taitung in eastern Taiwan, and all test readings were lower than the EPA's *Recommended Environmental Nonionizing Radiation Values*. The results of this survey were similar to those found in the EPA's June 18 announcement on the results of the three greater metropolitan areas of Taipei, Taichung, and Kaoshiung. There was no indication of comparably higher electromagnetic radiation of either the outlying regions or the more densely populated western part of Taiwan. Both regions recorded measures far below the standards set in the *Recommended*

Environmental Nonionizing Radiation Values.

2002 Environmental White Paper Goes Online

Taiwan's 2002 white paper on the environment has been officially made public. This white paper presents the status of environmental protection in Taiwan from the government's standpoint. The 557 pages of content focuses on three main topics: environmental policy and current status, review of environmental strategy and measures, and implementation schedule and prospect of related projects. In addition to continuing providing a hardcopy version as in previous years, the public can also access this information online by downloading the document from the EPA's website

(http://www.epa.gov.tw/e/write_paper/w-p%20for%20view.pdf)

Fast Food Chains to Recycle Disposable Dishes

To actualize resource recycling policies, the EPA will require fast food chain operators to provide recycling bins in their stores for customers to throw away disposable dishes. Separation and storage of collected of disposable dishes must accord to stipulations in the Waste Disposal Act. Recyclable waste cannot be mixed together and thrown away with garbage, and it should be handled by either authorized recycling and disposal enterprises or the recycling truck of the local waste disposal crew.

Taoyuan County Toxic Chemical Disaster Response Drill

Taking concerted steps to strengthen responsiveness in the event of a disaster caused by chemical substance leakage, the Taoyuan County government, the EPA and the Industrial Technology Research Institute's Northern Taiwan Disaster Response Consultancy Center jointly sponsored a toxic chemical substance disaster response drill on December 9, 2002 at the Kuanyin Industrial Park in Taoyuan County. Over 600 personnel from government agencies, military chemical troops, and professionals from the petrochemical industry participated in this drill.

Activities

“Sustainable Taiwan, Beautiful Earth” Promotion Activity

In order to promote the *Second Stage of the Plastic Shopping Bag and Plastic Disposable Dishes Use Restriction Policy*, on December 29, 2002 the EPA sponsored the “Sustainable Taiwan, Beautiful Island” promotional activity. EPA Administrator Dr. Lung-bin Hau received help from other notable figures in attendance as they revealed a beautiful Earth sculpture by tearing down plastic shopping bags and polystyrene dishes covering the Earth prop on stage. This was a symbolic action signaling the commencement of the second stage of the policy and the EPA's determination to protect the environment.

2002 Taiwan-U.S. Environmental Databank Joint Technology Forum

The 2002 Taiwan-U.S. Cooperative Environmental Databank Joint Technology Forum on Environmental Data Management and Stakeholder Involvement was jointly sponsored by the EPA and the U.S. EPA Office of Environmental Information on December 11, 2002. Two senior specialists from the Office of Environmental Information, Mr. Pat Garvey and Mrs. Lyn V. Burger, accepted invitations to attend the forum. They lectured on the design of specialized technology involving environmental databank and environmental information systems, and also shared their practical expe-

riences with experts in Taiwan.

EPA Presents 2002 Outstanding Green Office Awards

To encourage businesses and governmental agencies to fully promote environmental protection at the office, and work hard to take more progressive steps towards reducing waste, resource recycling, and environmental beautification, on December 13, 2002 the EPA awarded offices with outstanding environmental performance records in 2002. A total of 24 governmental agencies and private businesses received awards with Fubon Property Insurance Inc., Fubon Commercial Bank, Taiwan Matsushita Electronics Inc., United Microelectronics Corp., Ford Motor Inc. Taiwan, and Formosa Petrochemical Inc. among the private companies that were awarded.

Results Are Out for Environmental Lantern Crafting Contest

The Lantern Festival is an important traditional holiday in Taiwan. To promote environmentalism during this year's Lantern Festival, the EPA has sponsored the “Environmental Lantern Crafting Contest”. Twenty-six lanterns were selected, all meeting the “recyclable, low pollution, and resource conservation” criteria, and were displayed during the Lantern Festival sponsored by the Tourism Bureau to promote environmental consciousness.



“Strolling with bird” takes first place in environmental Chinese New Year lantern contest.

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