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Draft of Industrial Waste Reuse Regulations Proposed

The EPA proposed a draft of *Regulations Governing the Reuse of Industrial Solid Waste.* The management structure proposed is largely similar to the one currently in place, however permit approval for the reuse of general industrial waste will be turned over to county and city governments. Reuse of hazardous wastes will be reviewed by the EPA. When industries are engaged in reuse, they must comply with approved management methods and regularly submit reports and records.

To encourage industrial waste minimization, recycling and reuse, on March 8 the EPA proposed a draft of *Regulations Governing the Reuse of Industrial Solid Waste.* The draft has its basis in the *Waste Disposal Act.* The EPA further invited relevant agencies to begin discussion on the contents of the draft.

According to the draft proposed by the EPA, if in the future an enterprise reuses solid waste they have generated, after registration of the waste as a product, the environmental authority will immediately recognize it as a valued commodity. For this reason, although the enterprise must abide by regulations set by the competent industrial authority, it will no longer be necessary to abide by disposal methods as stipulated in the *Waste Disposal Act*.

For industrial wastes with reuse value, the draft stipulates that the EPA, in conjunction with the competent industrial authority, may list classifications for reusable wastes and their management methods. For designated general industrial wastes, the generator may carry out reuse based on listed management methods without application to the environmental authority for permission.

If a waste generator plans to reuse a non-listed industrial waste, they must separately apply to the local county or city government for a permit. Application for reuse of hazardous wastes must be reviewed by the EPA.

In addition, industrial wastes reused onsite as production material need only receive approval from the competent industrial authority. Approval by the environmental authority for onsite reuse is not required.

Certain industrial wastes, whose reuse falls in line with principles of sustainable resource use, may be designated and listed by the EPA and competent industrial authority. Such designated materials must be reused and other methods of final disposal will be prohibited.

Furthermore, reuse applications for general industrial wastes which will be reused by the raw material producer may be filled out by the raw material producer. The application form is then sent to the environmental authority in the raw material producers jurisdiction.

However, to ensure that industries comply with regulations, the draft requires either written or online submission of waste generation, storage, clearance and reuse conditions. Furthermore, relevant information must be recorded and kept on reference for five years.

Industrial reuse permits obtained thus far are valid for a maximum of five years, but may be extended before their expiration. However, environmental authorities may at anytime revoke the permit of anyone found in violation.

The EPA stated that because the contents of the draft do not differ significantly from the current system, there is already a general consensus between relevant agencies. After discussions are wrapped up, the regulations should be announced sometime in the near future.

EPA Lists 53 New Toxic Chemical Substances

The EPA has listed an additional 53 types of toxic chemical substances, bringing the number of listed toxics to a total of 252. The names of toxics in this listing include substances such as 1,1-dichloroethylene, organic tin (35 types), and MTBE. Users of Class I, II, and III toxic chemical substances listed therein must complete changes in their handling of such substances as required by regulations.

To raise the standard of toxic chemical substance (TCS) management in Taiwan on a par with advanced countries, the EPA has made a number of TCS listings in the past year. And, on March 15, 2000 the EPA further listed 1,1-dichoroethylene and 52 other chemical substances as toxic.

Different types of organic tin (35 in all) made up a large portion of the chemical substances listed in this round. The EPA's Bureau of Environmental Sanitation and Toxic Chemical Control noted that organic tins are mainly used as an anticorrosive or antifungal additive in paints, particularly on ships. Because research has revealed the serious impact these substances have to marine ecologies, most countries have begun to consider methods for their control. In addition, the International Maritime Organization (IMO) has decided to prohibit use of ship paints containing organic tin beginning in 2003. For

these reasons, the EPA included the different types of organic tin in this round of TCS listings.

The EPA also chose to follow international trends set by the listing of phosphorous trichloride in the United Nations Chemical Weapons Convention. Regulations in Taiwan will now prohibit using substances which exceed concentration standards for phosphorous trichloride in the manufacture of chemical weapons.

In addition, in this round the EPA also listed methyl tert-butyl ether (MTBE) as a toxic chemical substance. MTBE is most commonly used as a gasoline additive to replace lead in fuels. However, because the toxicity of MTBE is not yet certain, the EPA has chosen to list MTBE as a Class IV suspected toxic.

According to regulations, enterprises that used any of these substances prior to their listing now have six months to submit their basic handling information. Further, within one year they must provide a record of use and quantity of releases, and must propose plans for emergency response and installation of detection and warning systems. At the same time, users must complete site and container labeling, and material safety data sheets. Eighteen months after listing, the user must either obtain a permit, register, or get government approval. They must also install detection and warning systems and qualified environmental personnel.

The EPA expressed that together with this latest round of listings, a total of 252 TCS are now regulated in Taiwan. After this past round, there are no plans in the near future for any more large listings.

Reservoir Eutrophication Improves in 1999

The EPA has finished compiling results from 1999 monitoring of reservoir water quality. The results show that water quality has improved since 1998, and six reservoirs, including Shimen reservoir, no longer show signs of eutrophication. However, there are still seven remaining reservoirs in eutrophication. While performing water quality monitoring, the EPA also evaluated the suitability of different assessment indicators for use in future monitoring work.

The EPA has released results from 1999 monitoring of reservoir eutrophication, which reveal that of twenty reservoirs, seven are in eutrophication, twelve show normal nutrient levels, and one is oligotrophic (a lack of sufficient nutrients). Of the fourteen eutrophic reservoirs in 1998, nutrient levels have returned to normal in the Shimen, Baoshan, Yungho Shan, Mingteh, Tsengwen, and Nanhwa reservoirs.

Monitoring was carried out through tests at Taiwan's twenty major water reservoirs. Test items included common physiochemical and eutrophication indicators. In addition to these tests, at the Liyu Tan (Miaoli) and Nanhwa (Tainan) reservoirs, monitoring of biological indicators was also carried out. Samples taken at three different times during the year1999 led to the following conclusions: water quality was highest at the Tehchi reservoir; water quality at the Sun Moon Lake and Nanhwa reservoirs was good, on the border between normal and oligotrophic; eutrophication is most serious at the Fengshan and Chengching Lake reservoirs, and is also serious at the Liyu Tan reservoir; changes in water quality were most dramatic at the Fei-Tsui reservoir; and the Chingmian and Baihe reservoirs also exhibited eutrophication. Water quality at other major reservoirs was normal.

To better understand results from different assessment methods, the Trophic Diatom Index (TDI) was also experimented with as an expression of eutrophication conditions. The TDI series utilizes the phosphorous endurance of different diatoms (a type of algae) as an indicator to judge levels of eutrophication. In particular, the reaction of cohesive diatoms is able to show water quality over a relatively longer period of time. Analysis of diatom community structures reveals that eutrophication at Liyu Tan is more severe than Nanhwa, a result concurrent with assessment results from the commonly used Carlson Index.

Looking at single and composite indicators from the Carlson Index over the years, most reservoirs in Taiwan tend towards low levels of chlorophyll. This means that most of Taiwan's reservoirs are easily affected by heavy rains that can wash large amounts of sediments and nutrient salts into the reservoir. This results in low transparency and overly high phosphate concentrations. However, chlorophyll concentrations, which should reflect the actual amount of eutrophic algae (and thus the degree of eutrophication), still tend to stay relatively lower in Taiwan, so the EPA is searching for locally feasible eutrophication indicators.

The EPA pointed out that within the watersheds of most reservoirs, polluting activities such as the planting of fruit trees and chumming for fish are still common. The EPA will send monitoring results to reservoir managers and request their attention in reducing such sources of watershed pollution.

Deliberation of Draft Recycling Act Begins Anew

The EPA has re-proposed a draft of the *Resource Recycling and Reuse Act* for deliberation with relevant agencies. The overall recycling framework remains similar to the current system, with collection of clearance and treatment fees for designated recyclables and EPA use of a recycling fund. However, enterprises with takeback channels in place may choose to pursue recycling independently, and those with good recycling achievements may reduce or be exempt from recycling fees. Enterprises engaged in recycling or reuse may enjoy tax offsets, preferential financing or guarantees, and assistance in land acquisition.

On March 14 the EPA called relevant agencies to begin deliberation on a new draft of the *Resource Recycling and Reuse Act*, which contains a number of additional recycling incentives. Such large incentives, as included in the draft, will make recycling an even more profitable endeavor in the future.

In terms of production side management, the draft empowers the EPA and other central competent industrial authorities to request compliance with the following items for designated industries:

1. Selection and adoption of cleaner production technology
2. Use of a specific proportion of recycled material
3. Use of designated materials or specifications for products, containers and packaging
4. Use of manufacturing or assembly methods that facilitate product disassembly or separation of recyclable materials
5. Recycling of reusable materials
6. Prohibit or limit use of designated materials in products, containers, or packaging
7. Limit package size and layering

The overall recycling mechanism stipulated in the draft will basically maintain the current recycling framework. Thus, products, packaging, or containers that are difficult to clear or dispose of, or containing hazardous materials, will be listed by the EPA. Enterprises dealing in these items must pay a recycling clearance and treatment fee based on business volumes. The EPA will also continue use of a recycling management fund to finance recycling work.

Besides passive acceptance of government mandates, the draft also stipulates that with EPA approval, enterprises with takeback channels for existing consignment systems may propose independent recycling plans that they feel to be more economically feasible. If approved, such enterprises will be exempt from recycling fees for the portion recycled through the takeback system, but must still report recycling records in accordance with regulations.

In addition, certain items with recycling value may be listed for recycling by the central competent industrial authority after joint review with the EPA. The recycling of these listed waste items will no longer be subject to restrictions laid out in the *Waste Disposal Act.* However, reuse methods, reporting, and testing must all comply with EPA regulations.

Most important, the current draft includes a number of new recycling incentive measures. For instance, enterprises with exemplary recycling records may reduce or be exempt from recycling fees. Furthermore, enterprises involved in reuse and recycling may make use of tax offset regulations in the *Statute for Industrial Upgrading*, or preferential financing and guarantees in the development statutes for small and medium sized enterprises.

Because land procurement is one of the greatest difficulties faced by reuse and recycling enterprises, the draft also includes assistance for land acquisition. The draft stipulates that in the future, laws to promote private participation in public construction will be applicable for such enterprises when procuring land.

Due to the fact that the drafts contents contain differences from earlier EPA versions, it is expected that all sectors will have opinions. The EPA noted that after discussion with all concerned parties, it will move as quickly as possible to send the draft to the Executive Yuan for deliberation.

Assistance Program for Waste Clearance and Treatment Organizations Underway

Encouraging the establishment of solid waste clearance and treatment firms has been a key administrative goal of the EPA. Statistics indicate that currently 23 firms have applied with the government to set up clearance and treatment operations. If all applications are accepted, the total area of such operations would expand by 500 hectares. In addition to providing assistance, the EPA is also reviewing related management regulations.

Taiwan has an acute shortage of industrial waste treatment capacity. To remedy this situation, the EPA has set the establishment of more clearance and treatment operationsas one of its key administrative goals.

In fact the EPA recently initiated a plan to provide assistance to sites that establish final waste treatment facilities and temporary storage centers. Through this plan, the EPA is striving to raise the island's solid waste treatment rate and to remedy the lack of final disposal and treatment capabilities. The plan involves the collection and analysis of waste production sources, amounts and compositions. It also evaluates final disposal and temporary storage requirements for different areas of the island. The plan furthermore identifies organizations that can assist in the promotion of various items and which regulations should be amended and/or created, as well as related administrative application forms, procedures and explanatory examples. A service window has also been set up to facilitate the establishment of final disposal sites for industrial waste.

The EPA indicated that in addition to the service window that was opened at the end of last year, various discussions were also held with local-level environmental agencies and concerned businesses. These meetings helped the EPA to understand the difficulties faced by firms in the application processes for establishing industrial waste final treatment facilities. A broad spectrum of opinion has been sought and taken into consideration for further changes to new and existing regulations.

According to EPA statistics, 23 firms have applied for permits to establish and operate industrial waste final disposal facilities. These firms encompass more than 500 hectares of land. Difficulties that firms most frequently face in this regard include limitations on developing slope land, public protests, permit approval delays, locally imposed limitations on operation areas, etc.

Personnel in the EPA's Bureau of Solid Waste Control have emphasized that the EPA is in the midst of reviewing the current system. As stated above, a difficulty commonly faced is the restriction on inter-regional operations. Some towns and cities prohibit local treatment facilities from accepting waste from other administrative areas. These prohibitions place severe limitations on the ability of treatment firms to operate effectively. The EPA has indicated that laws related to the cross-regional treatment of waste will be taken off the books.

Home Appliance Recycling Fee to be Raised

Due to increases in the cost of recycling and processing unwanted home appliances, the EPA recently decided to raise corresponding recycling fees. The EPA is also closely monitoring developments in the market in response to rumors that some appliance vendors are driving up their prices. If unreasonable price hikes are discovered, the case will be forwarded to the Fair Trade Commission.

Following the recommendation of the EPA Recycling Fund Management Committee, the Recycling Fee Rate Committee recently agreed to raise the recycling fee they collect for home appliances. Items targeted for fee increases include televisions, refrigerators, washing machines, and heaters and air conditioners. Rates are to be raised at least 30% for these items (see accompanying table).

Home Appliance Clearance and Recycling Fee Rates

Article	Criteria	Original Fee Rate (per unit)	New Fee Rate (per unit)
Televisions	＞25"	245	420
	≦25"	119	270
Refrigerators	＞250L	427	680
	≦250L	157	440
Washing Machines		272	360
Heaters and Air Conditioners		174	290

In the past, the lack of facilities for processing discarded home appliances meant that after collection these appliances had to be put in temporary storage. However, due to the recent completion of several facilities, home appliance recycling activities are moving forward smoothly. The increase in recycling and processing procedures has raised collection and treatment costs. The EPA realizes that this development necessitates an adjustment in related recycling fees. The adjustments will come into effect beginning May 1, 2000.

There have, in the past, been rumors of some appliance vendors taking advantage of fee rate adjustments and imposing illegal price hikes. EPA officials have emphasized that they will be closely monitoring the appliance market, and if it is discovered that a vendor is unreasonably overcharging, the case will be forwarded to the Fair Trade Commission.

Feature Article

Seven Star Green Building Label Awarded to NIEA Building

Taiwan's Ministry of the Interior has established a program to distinguish buildings that make use of green construction techniques. Because the National Institute of Environmental Analysis building was designed using green construction concepts, it conforms with green building specifications for all categories. After a review of the building, on March 3, the Ministry of Interior issued a seven star green building label, the highest honor possible.

In September of 1999 the Ministry of the Interiors (MOI) Architecture and Building Research Institute (ABRI) began to accept applications for green building labels. Assessment of green building labels is carried out based on seven general categories: greening; moisture retention; water conservation; carbon dioxide (CO_2) reduction; daily energy conservation; waste minimization; and improvements to handling of trash and waste water. Green building labels are intended to promote efficient use of water, energy, land, and material resources in Taiwan to create a healthy living environment, reduce generation of solid wastes, and support environmental conservation work. Each general category must be assessed on a number of detailed items, and if a candidate is found in compliance with these items it can receive a green label for that category.

The building which houses the EPA's National Institute of Environmental Analysis (NIEA) is located on a plot of 3.7 hectares of land. Planning began in April of 1995 and the building was inaugurated in November of 1998. It has eight-stories and was constructed using only high quality, recyclable, earthquake resistant steel.

The NIEA pointed out that the building itself only occupies 16.67% of the site, much lower than the average building. The remaining area is planted mainly with local trees and plants. Greening plans were designed in mind of biodiversity, localization, and multilevel greening effects. According to estimates from ABRI, the amount of CO_2 fixed from greening of the area is 1.48 times the standard value. In addition, the building exterior and all lights and air conditioning were designed to increase the efficiency of daily energy conservation.

As far as the ability of the land to retain moisture, all paved surface are designed to allow water permeability. Furthermore, the area includes three scenic ponds, an ecological wetland, and rooftop gardens to retain as much rain water as possible. As a result, the moisture retention value for the site exceeds the standard value by 2.87 times.

Water conservation is achieved through the use of water saving toilets and other similar facilities. In addition, a water recycling system reclaims an average of 427 tons of wastewater per month.

The building site is also designed with a special central trash collection area, and kitchens and cafeteria are designed with leftover receptacles that are then used for composting. Reusable office wastes are collected, sorted and sold to recycling vendors. These design innovations ensure maximum recycling and waste minimization.

The NIEA applied to ABRI for a green building label in the second half of 1999. After initial and secondary expert assessment, on February 14, 2000 the MOI issued official approval, and the NIEA building became the first building in Taiwan to receive the honor of a seven star green building label, the fulfillment of all seven green building categories.

1999 Air Quality Analysis Complete

The results of air quality monitoring from 1999 are now available. Although the percentage of poor air quality days rose to 4.87%, slightly higher than in 1998, the overall trend is still one of improving air quality. Due to a daily worsening of ozone pollution, the EPA said that it would strengthen research on pollution control mechanisms, and push forward with total quantity control measures.

The EPA's air quality monitoring report for 1999 is now available. Numbers in the report confirm that air quality in Taiwan is steadily improving. The EPA pointed out that any assessment of overall air quality should be done in comparison with monitoring station results over the past years. Although in 1999 the number of days with poor air quality was 4.87%, slightly higher than 4.61% in 1998, air quality has still been steadily improved from 5.23% in 1997 and 6.83% in 1994. In this timeframe, overall air quality has been improved 30%.

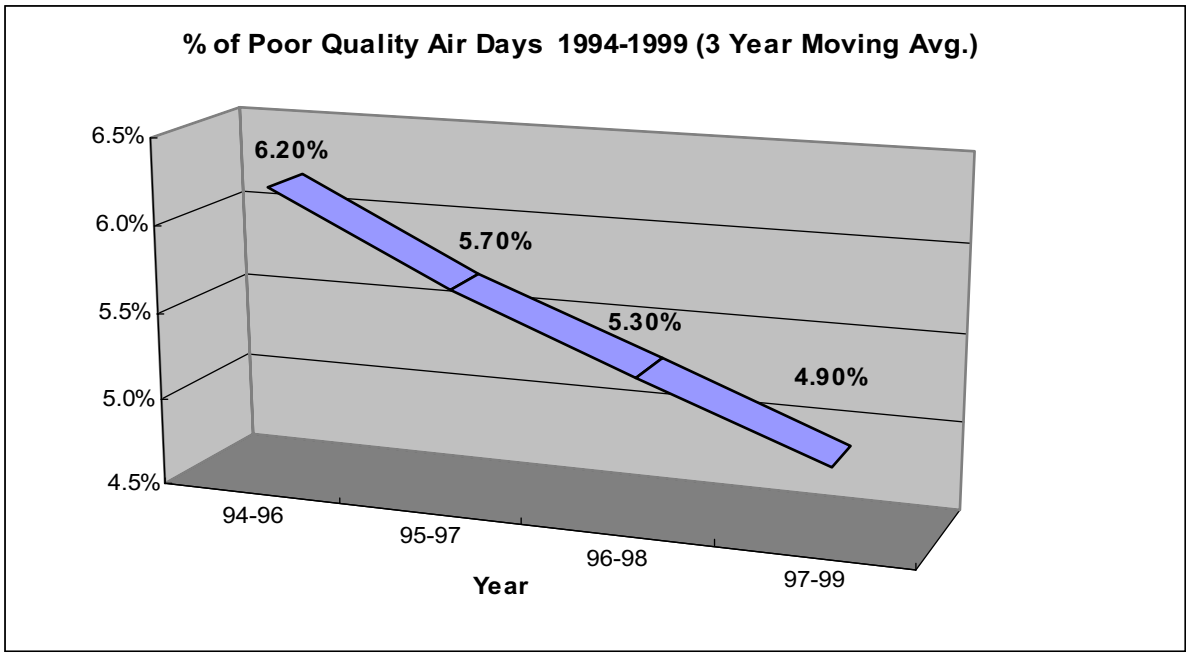
In addition, to present an even more rational assessment of air quality trends, the EPA has begun keeping "moving average" statistics. Results show that the average percentage of poor air quality days has gradually fallen from 6.2% thru 1994-1996, to 4.9% thru 1997-1999. The rate of progressive improvement has been steadily maintained around 7%,

and the overall range of change has reached 21%. These numbers are sufficient to demonstrate that air quality has definitely improved.

Looking at the average concentrations of various pollutants, there is also a general trend towards improvement. In six years, greatest gains have been made in concentrations of sulfur dioxide. In 1999 the average concentration was 4.7 ppb, an improvement of 7% compared with 5.1 ppb in 1998, and 42% compared with 8.1 ppb in 1994. Carbon monoxide concentrations dropped 8% to 0.67 ppm last year, from 0.7 ppm in 1998, and a total of 19% from 0.86 ppm in 1994. Nitrogen dioxide concentrations also slightly dropped to 22.3 ppb, from concentrations of 22.5 ppb in 1998, and a total of 9% from 24.4 ppb in 1994. Concentrations of suspended particulates (PM_{10}) slightly increased from 57.6£gg/m^3 in 1998 to 59.8£gg/m^3 in 1999, however still a 20% improvement from 74.2£gg/m^3 in 1994. Only concentrations of ozone showed steady signs of worsening, increasing to 23.6 ppb from 21.6 ppb in 1998, a yearly increase of about 1.6%, and a total increase of 11% from 21.2 ppb in 1994.

The EPA pointed out that the number of rainy days and amount of rainfall in 1999 decreased noticeably from past years, especially in the first and fourth quarters, which are times of high suspended particulate pollution. Rainfall in Taiwan's various regions decreased anywhere from 50 to 90%. This is the main reason air quality in 1999 was found to be slightly below that in 1998. The EPA explained that unusual weather conditions in 1999 were especially disadvantageous for pollution dispersion. However, that the number of poor quality air days was maintained at relatively low levels even under such adverse conditions is proof of the effectiveness of the efforts put into air pollution control.

The EPA noted that although traditional air pollutants have been effectively controlled, Taiwan is experiencing the same problem currently faced by developed nations. Particularly, the increase of ozone, secondary aerosols and other derivative pollutants. For this reason the EPA is working actively to research the local mechanisms for ozone generation and set national reduction strategies for ozone precursors. In addition, the EPA will push forward with the building of total quantity controls and regional air quality improvement plans. And, make efforts to better understand the pollution characteristics for each district and develop local control strategies.



The EPA further pointed out that future air quality management measures will more fully take into account the influence time and location play on air pollution. For instance, the EPA will consider setting differential air pollution fees or initiating reduction negotiations with large air pollution sources for districts and seasons of relatively low air quality. The EPA will also work to create support for the use of low pollution vehicles; develop appropriate economic incentives; effectively raise public willingness to use low pollution transportation methods; and accelerate elimination of old vehicles. The EPA will also strengthen the compilation and use of scientific techniques and data, and improve air quality forecasting techniques to improve air pollution warnings and response measures.

Drinking Water Safety Promoted On-line

The EPA recently announced that the "Drinking Water Management Information System" has been formally put on-line. This system allows for more convenient control and auditing of drinking water enforcement activities. It also assists in the tracking of improvement requirements and helps speed the process for reporting drinking water sampling results. Moreover, by accessing the EPA' s website, concerned parties can keep track of the latest information on drinking water.

Within a year following the promulgation of the *Drinking Water Management Statutes* on May 21, 1997, the EPA announced a number of related regulations and standards. These included enforcement rules, equipment management regulations, standards for quality and sources of drinking water, and control of sanitation chemicals. Furthermore, a range of implementation related activities were given enforcement priority. These included tapwater sampling, equipment inspection, review of water source improvement plans, approval of water quality testing certification and public education on the issue of drinking water safety.

To raise administrative efficiency, the EPA has over the past year been planning the establishment of a "Drinking Water Management Information System." This system can expedite the compilation and review of drinking water enforcement results, as well as facilitate the tracking of mandatory improvement activities. In the future, all city and county environmental protection agencies will use this on-line system to report results from water quality sampling, equipment inspection, water source sampling and use of sanitation chemicals. Such reporting procedures will gradually move from the use of traditional forms to the use of electronic media. This change should greatly reduce administrative time.

EPA officials pointed out that this system provides information on all parties that are the targets of drinking water controls and standards. Basic information has already been established on government tapwater utilities, rudimentary tapwater and community based public water supplies, fixed equipment for continuous water supplies, and drinking water bottling facilities. Environmental agencies regularly key-in water quality inspection results on a monthly basis and the automated system can judge whether drinking water providers are in compliance or not. For cases not in compliance, the system provides several helpful functions. It urges local environmental agencies to pursue follow up punishments and tracking of improvement activities. Local environmental agencies will also be able to use the system to efficiently dispatch inspectors. And, the EPA through the on-line system can quickly obtain drinking water inspection results, recipients of fines, and improvement situations.

As the public is the party most concerned with the results of drinking water inspections, the EPA website now provides a convenient portal for the public to access and monitor drinking water inspection results, as well as the certification of water bottlers (the website is http://www.epa.gov.tw/j/drinkwater/). Once the second stage of installing the system has been completed (sometime before May of this year), the web-based system will further promote drinking water safety through allowing the general public to view inspection and enforcement results on a city-by-city and source-by-source basis. In addition, the public will also be able to logon and understand tapwater quality and learn which water bottlers have received relevant certificates, and other such valuable information.

The EPA invites all interested parties to logon and see the new system. If there are any drinking water related questions, the EPA urges all parties to use the site's e-mail function to contact dedicated personnel.

Testing Procedures Set for Heavy Metal in Batteries

The EPA has set a differential fee rate for batteries to encourage manufactures to reduce heavy metal content. A draft of testing guidelines has been formulated, and if samples sent by manufacturers exceed base standards, the recycling fee rate collected for that battery type will be doubled. However, if the testing value exceeds the standard but is below 120% of the base value, a retest may be performed.

To reduce the heavy metal content of batteries, the EPA has set a differential recycling and clearance fee rate based on heavy metal content. On March 17 the EPA proposed a draft guideline for related testing procedures.

According to the EPA draft, the base standards for heavy metal content in batteries are,

respectively: mercury— 5 ppm, cadmium— 250 ppm, and lead— 4,000 ppm. If test results for any of these items exceed the base standard, the recycling fee rate charged for that battery will be doubled.

The base standards are directed at batteries types such as zinc-magnesium and cylindrical alkaline. In principle, battery tests will be performed with samples sent by the enterprise upon notification by the EPA. Tests should be carried out by certified EPA organizations using approved testing methods.

The EPA has set up a retesting mechanism if test results exceed the base standard, but are within 120% of the base value. If the resubmitted sample does not exceed the base standard, then that battery type will be treated as normal.

In addition to charging a higher recycling fee rate, the EPA will also set a time limit for improvements to be made on batteries that exceed base standards. If said battery poses a serious threat of environmental pollution, the EPA will also consider a prohibition on it's manufacture, import and sale.

Management Guidelines for Vehicle Emissions Inspection Stations Promulgated

As part of its efforts to implement large-scale remote sensing of vehicle emissions, the EPA has asked vehicle inspection and maintenance companies to set up on-site emissions inspection stations. In the future, vehicles identified through remote sensing as not being in compliance with emissions standards can go to certified inspection stations to receive free inspection.

In order to locate high polluting vehicles, the EPA has begun heavily promoting the use of remote sensing technologies. Vehicles identified through remote sensing as being out of compliance with emissions standards are notified by environmental agencies that they must have their emissions analyzed. This policy has created the dire need for the establishment of vehicle testing stations. To set the necessary legal bases, the EPA recently announced the *Management Guidelines Concerning the Establishment of Vehicle Emissions Inspection Stations*.

In the past, all vehicle emissions inspection occurred through periodic testing performed by either motor vehicle departments or by contracted testing firms. Since the EPA began implementing remote sensing, however, follow up testing at approved inspection stations has been required for a large number of vehicles. This trend has necessitated the strengthening of the oversight of such inspection stations.

According to the recently announced guidelines, regular inspection facilities, class A and B repair shops, maintenance shops, and service stations can all provide emissions testing services if they receive approval from the EPA. Inspection stations must not only employ certified personnel, every inspection line must also utilize emissions analysis equipment.

EPA officials emphasized that testing shall be provided free of charge. When vehicle owners take their vehicles in for inspection, the relevant inspection station shall perform the testing in accordance with required procedures. Inspection stations shall also be required to enter inspection results on the proper forms and submit them to the EPA on a monthly basis.

Towing of Abandoned Vehicles Accelerated

To ameliorate the environmental problems caused by the dumping of unwanted vehicles, the EPA, in cooperation with local police agencies, is accelerating efforts to tow unwanted vehicles. At a recent awards ceremony, EPA Administrator Tsai recognized the efforts of personnel working to tow away unwanted vehicles and reported that in 1999 the 48 hour towing rate of unwanted vehicles increased to 85%.

Efforts to facilitate the towing of abandoned vehicles are currently underway. At a March 10 ceremony, EPA Administrator Tsai Hsung-Hsiung presented achievement awards to local-level environmental and police agencies for their efforts in implementing recycling activities for unwanted vehicles. The Administrator also presented an overview of the current vehicle recycling situation in Taiwan.

Administrator Tsai explained that unwanted and abandoned cars not only clog road-ways but also created environmental pollution and public

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eyesores. Currently, local-level environmental protection and police agencies are working diligently at implementing a 48-hour notification and towing policy. According to 1999 statistics, the 48 hour tow rate for vehicles that had been served notification hit 85%, a nine percent increase over the 1998 rate. For this reason, Administrator Tsai commended environmental and police agencies on their diligence and contribution to society.

Because motor vehicles are seen as the property of individuals, the previous procedure for towing cars from roadways was a laborious one. In 1997, however, traffic management and penal statutes were amended to give implementing bodies the legal authority to remove cars from roadways.

Administrator Tsai pointed out, nonetheless, that the wanton abandonment of vehicles is still too commonplace. Of the 700,000 vehicles recycled each year, 12% are towed from roadways by environmental and police agencies. Tsai further called on vehicle owners to abide by proper vehicle disposal regulations, emphasizing that individuals who do so may enjoy an EPA subsidy.

At the meeting on the 10th, not only were 16 environmental and police agencies given awards, a discussion seminar on the topic was also held.

EPA to Continue Assistance to Vehicle Dismantling Industry

To raise the operating quality of the vehicle dismantling industry, and to reduce pollution caused by vehicle dismantling operations, the EPA plans to continue its vehicle dismantling assistance program. In addition to providing training and discussion opportunities, the program also helps firms implement materials management systems, as well as achieve ISO 14000 certification.

Since amendments to Taiwan's *Waste Disposal Act* were passed in March of 1997, the number of firms engaging in motorvehicle dismantling has greatly increased. This development has had a definite impact on the existing domestic vehicle recycling and processing system. Since the general public's demands for improved environmental quality are becoming louder, existing vehicle dismantling firms are feeling pressure to improve their environmental performance.

To effectively manage firms engaged in vehicle dismantling, the EPA has been continuously arranging various training and assistance activities, in addition to providing technical experience. One assistance and evaluation method used is "joint implementation". This method involves an expert actually providing a firm assistance for areas that need improvement during regularly conducted on-site evaluations. There are currently 185 firms participating in this program.

In 1999, the EPA also developed a structure and operational description for a materials management system. Following recent modifications made to an initial test model, the EPA has been promoting the system to interested dismantlers island-wide. This year, the EPA will focus on assisting dismantlers achieve ISO 14000 certification and promote the implementation of voluntary continuous improvement measures.

Efforts to transfer into Taiwan dismantling technology and management experience from abroad are also being pursued. As part of its training program, the EPA has been demonstrating the status of dismantlers in other countries, and in 1999 a demonstration dismantling facility was establish to provide a model to local firms. This year, the EPA will continue to provide assistance and evaluation as a means to help outstanding firms meet the criteria of demonstration facilities.

During the implementation of the training and assistance activities, data on dismantling firms will be collected and a geographic information system (GIS) database will be established. This data will also be used to track the waste generated from vehicle dismantling and to identify weak points in the waste treatment system. This data will be used as reference for the establishment of future policies.

In the future, the goals of the program shall be to establish a localized database on manufacturers and to gain a better understanding of basic information. Furthermore, it will encourage firms to upgrade their operating environments.

News Briefs

EPA Promotes Management of Community Sewage Infrastructure

On February 29, the EPA announced the results of an analysis of the community wastewater system in the Tamshui river basin. Sixty percent of the communities evaluated were in need of improvement, and eight of the worst off communities were identified. Last year, the EPA began promoting wastewater system improvement through an evaluation mechanism. Of the 57 communities evaluated by environmental agencies, 60% (35 in total) had been slated by initial evaluations as needing improvements. The most common problems included lack of water treatment capacity, poor installation or operation, sludge clearance and treatment, odor, and poor management.

Outstanding Environmental Protection Volunteers to be Awarded Medals of Recognition

In order to encourage environmental volunteers to participate in environmental study and service activities, the EPA recently approved guidelines for awarding medals of recognition to environmental protection volunteers. In the future, environmental volunteers that apply to environmental agencies or environmental protection groups can be eligible to receive a medal and environmental protection account book. Individuals that participate in approved environmental protection activities can receive points. People who have logged 1000, 500 or 200 points can receive gold, silver or bronze medals, respectively.

Taipei City to Implement Per-Bag Trash Collection Fee Beginning in July

Director of Taipei City's Department of Environmental Protection (DEP), Dr. Stephen Shen, announced on March 10 that Taipei City will officially implement a per-bag trash collection fee. In the past, trash collection fees had been assessed through a surcharge on water use fees. Because this surcharge system provided no incentive to reduce trash generation, however, public representatives and environmental groups suggested the adoption of a bag-based system. To familiarize city residents with this system, the public education phase of the program began in April and will continue to June. In this phase, various channels will be used to raise public awareness about the new system. The Taipei City DEP will soon issue trial bags and coupons in order to build public familiarity with use of the new bags.

Guidelines for 921 Earthquake Reconstruction EIAs Announced

In conjunction with temporary statutes for post-quake reconstruction, and to ensure that rebuilding of the areas devastated by the 921 quake last year can proceed smoothly, the EPA announced on March 15 guidelines for performing EIAs related to reconstruction efforts. The guidelines stipulate that for certain construction projects, environmental impact response measures may be submitted in place of the environmental impact statement usually required during permit application. This includes temporary housing projects, community reconstruction activities, and rebuilding of transportation infrastructure, educational facilities or other public works.

Data Management System for Environmental Agents Goes On-line

To enhance management efficiency and provide a convenient window for public comment, the EPA recently completed an on-line data management system for environmental agents. In the three years since it began operations, the system has grown to offer data on 465 raw materials (and active ingredients). The EPA can now gain a fuller grasp of the types of materials and quantities factories in Taiwan import. The EPA plans to put a range of related data and processes on the Internet. These include such activities as permit management, operations management, customs related procedures, and electronic document transfer. Both factories and the public can browse the EPA's webpage for information on legally registered permits to ensure safe purchases.

Fei-Tsui Reservoir Pollution Control Plans Proposed

Taipei City's major source of water – the Fei-Tsui Reservoir – has gradually become more polluted. To specifically target pollution control efforts for this reservoir, the EPA has drafted best management practices for non-point source pollution control in the reservoir's catchment basin. Major measures include promoting rational fertilizer use, expanding sewage hookup rates, promoting proper management of solid waste, installing man-made wetlands, and construction of water and soil protection conservation areas. The EPA will also designate the Fei-Tsui reservoir catchment basin as a demonstration planning area. Discussions will be held with interested parties, and it is hoped that consensus can be reached on what steps need to be taken.

Environmental Protection Policies Accept On-line Challenges

The content of the EPA website is undergoing rapid expansion. In order to facilitate environmental decision making capabilities, the EPA is planning to place on its website an "Environmental Protection Policy Challenge" link. Some environmental policies in the draft stage will be made available for public review, and opinions and suggestions on the draft polices will be sought.

As the development of the Internet accelerates, the content of the EPA's website is likewise growing rapidly. The EPA's Bureau of Environ-

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mental Monitoring and Data Processing pointed out that the EPA website provides information on several topics such as environmental policies, administrative developments, environmental quality, and environmental regulations. Moreover, in April 1999, as part of a "one-stop shop" philosophy, the EPA began providing updated news on its home page as a means to strengthen communication with the general public.

In terms of the volume of content provided on the EPA website, since June 1997 when an updating and maintenance system was put into place, content has been continually added. As a result, total data has rapidly increased from 300 megabytes in 1997 to 1600 megabytes today. In total, the EPA website has been accessed more than 1.38 million times.

To assist in policymaking, and to ameliorate policy implementation difficulties, the EPA plans to install a new "Environmental Policy Challenge" link in its website. Like an on-line public hearing, this link will provide concerned parties with draft policies and regulations, and solicit relevant feedback.

Officials in the Bureau of Environmental Monitoring and Data Processing have indicated that the Environmental Policy Challenge link will provide a forum for discussing proposed policies and regulations. Furthermore, since this forum will be for discussing single topics, it will be different from the EPA's existing "Environmental Protection Forum." Officials further indicated that the EPA is currently selecting "fitting and proper" discussion topics, but that the date for establishing this new on-line forum has not yet been confirmed.

Upcoming Activity Notice

Seminar on Environmental Product Design Specifications
Open to anyone involved in product R&D, production, quality or environmental management
Time: April 20th and 25th , and May 4th
Location: Taichung, Taipei, and Kaohsiung respectively
Sponsor: Taiwan Electrical and Electronic Product Development Association
Contact: L.Y. Weng ( )
Tel. (02) 2999-3600 xt. 109

Technicians Seminar on Clearance and Treatment of Electronics in the Taiwan Region.
Aimed at raising local recycling, clearance and treatment skills for electric and electronics products in Taiwan
Time: June 13th and 16th
Location: Grand Formosa Regent Hotel, Taichung
Sponsor: General Waste Recycling, Clearance and Treatment Fund
Contact: W.C. Chang ( ),
Tel. (02) 2375 3013 xt. 155

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