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Review Guidelines Set for Tier 2 Eco-Products

The EPA has finished the *Guidelines for the Review of Tier 2 Eco-Products*. According to the guidelines, overall planning of review work will be added to the responsibilities of the Green Mark Review Committee. In the future, review of Tier 2 eco-products will be decided on a per case basis and judged in terms of life-cycle pollution and energy consumption. Administrative and technical support for reviews has been commissioned to the Industrial Technology Research Institute's Union Chemical Laboratories.

Green procurement in Taiwan has taken a big step forward. After six months of research the EPA recently completed a draft of the *Guidelines for the Review of Tier 2 Eco-Products*. The guidelines were promulgated on November 20, 1999, allowing manufacturers to begin applying for Tier 2 eco-product status.

To encourage the practice of green procurement, Taiwan's Legislative Yuan included a special "green procurement clause" when setting the *Government Procurement Act* in 1996. According to this clause, all products that have obtained the Green Mark, Taiwan's eco-label, or that are environmental-friendly, may enjoy special priority or a 10% price advantage when bidding for government procurement contracts.

Shortly after this Act was passed, the Public Construction Commission and the EPA promulgated the *Regulations for the Priority Procurement of Eco-Products by Government Organizations* based on this clause. In the regulations, eco-products are divided into Tier 1, products bearing the Green Mark, and Tier 2, products and their raw materials whose manufacture, use, or eventual disposal meet criteria for reused material, recyclability, low-pollution, or energy conservation. Overall responsibility and planning for the review of Tier 1 & 2 products was given to the EPA.

The EPA pointed out that the spirit of reviews for Tier 2 products differs significantly from that of Tier 1 products, which are based on the rigorous Green Mark product reviews to see if a product meets predetermined specifications. But for Tier 2 there are no preset specifications for different product types, and decisions are made based entirely on materials provided by the applicant. Only if it is determined that the


product has special environmental qualities, or is superior to products of a similar nature, is the product certified.

According to the guidelines, future reviews will be the responsibility of the Green Mark Review Committee. Applicants may not have had any serious violation of environmental regulations within the past year, and must meet national standards if they exist for that product. Application for Tier 2 status will also be restricted to products for which there are no applicable Green Mark specifications.

In the future the EPA will review enterprises' applications for Tier 2 status on a case-by-case basis. First a technical review committee will be formed to look for large environmental impacts from the product, based on information provided by the enterprise on production process, raw materials, and other environmental characteristics. Reviews will be assessed from a product "life-cycle" point-of-view to avoid unnecessary pollution or energy tradeoffs during the products life-cycle.

For imported goods, the applicant must make a declaration and provide documents from a third party agency meeting international and domestic standards, to verify the products' unique environmental qualities. The applicant must also prove that they have not had any serious violations of environmental regulations over the past year in the country of production.

The EPA noted that although regulations give equal privileges to Tier 1 & 2 products, if Green Mark application has been opened for a product, the product may not apply for Tier 2 status.

The Industrial Technology Research Institute's Union Chemical Laboratories (UCL) were commissioned by the EPA to undertake the reviews for Tier 2 products. UCL points out that review of Tier 2 products are intended to supplement insufficiencies in the number of products included in the Tier 1 (Green Mark) specifications. The focus of future reviews will be on the reduction of pollution during the product life-cycle. Also, if it is discovered that there are repeated applications for the verification of a certain product type, UCL will recommend that the EPA open a category for it in Tier 1. 

Administrator Tsai Reports to Legislative Yuan on EPA

Achievements and Future Efforts

EPA Administrator, Tsai Hsung-hsiung, recently presented a report to the Legislative Yuan explaining current EPA involvement in disaster relief. He also related future EPA efforts, such as the reuse of construction wastes from the quake and improved treatment capacity and tracking of industrial waste. Within this fiscal year the EPA plans to pass measures to allow reuse of eight more industrial wastes.

The Legislative Yuan's Health, Environment and

Social Welfare Committee convened on November 11 to listen to a report by the EPA Administrator, Tsai Hsung-hsiung, on general EPA activities and environmental affairs related to the Chichi Earthquake. Administrator Tsai stated that after the occurrence of the Chichi Earthquake, the EPA invested significant human and material resources to establish a disaster relief command center, supply portable toilets to disaster areas, sanitize disaster areas to prevent the

outbreak of disease, and clear construction rubble from the quake. As for the future focus of environmental protection work, aside from other important continuing EPA efforts, the report by Administrator Tsai dedicated the greatest amount of time to waste management.

Administrator Tsai stated that to come up with final disposal channels for construction rubble from the earthquake, the EPA has already entrusted a Taiwanese construction research institute to call together experts and begin research on reuse possibilities. A plan should be brought forward by the end of November. Future reuse of construction rubble will mainly be for the filling of public roads, filling material for new oceanside industrial parks, and non-structural concrete or temporary facilities.


After passage of the revised *Waste Disposal Act*, industrial waste management has come under the national spotlight. The administrative report listed efforts for waste reduction and recycling, the simplification of the application process for industrial waste reuse, and the continued opening up of reuse categories for general industrial wastes. Among items that should be opened for reuse in this fiscal year are: slag from arc furnace smelting, tobacco leaf processing wastes, waste masonry material (slabs, fragments and sludge), bagasse, residue from pig excrements, filter sludge, metal filings, and organic sludge from the foodstuff and paper production industry. The above items consist of a total of eight new general industrial waste reuse categories.

As for the severe shortage of industrial waste treatment facilities, Administrator Tsai said that the EPA will work actively with the Industrial Development Bureau and other relevant authorities to make plans for the installation of joint clearance and treatment sys-

tems. Furthermore, in August the EPA formally requested that all county and city governments help in the disposal of the daily garbage and harmless sludge produced at industrial parks. The EPA is also coordinating enterprises with government incinerator contracts to expand treatment capacity to be used in treating industrial wastes. It is estimated that by 2004 they will be able to help treat an annual 1.92 million tons of general industrial waste.

In the section of the report pertaining to waste control, to raise online reporting rates the EPA will continue to carry out inspections and controls on industrial waste pollution. Future inspections will focus on industries that have not yet reported, clearance industries exceeding permitted capacity, and industries with incomplete waste flow reports.

As for transboundary waste management, the Administrator said that they will work to quickly complete revision of the *Regulations Governing the Import, Export, Transit, and Transshipment of Hazardous Industrial Wastes* in order to build a complete framework to control the import/export of industrial waste. Administrator Tsai pointed out that final disposal of the waste from the Formosa Plastics case, which has dragged on for so long, will be completed before the end of the year. When the time comes, if disposal has not been completed, the most severe penalty in accordance with the law will be handed down.

In the section dealing with recycling, Administrator Tsai listed comprehensive implementation of recycling as the most important task ahead. He said that in the future 100 townships will be selected as key targets for assistance aimed at strengthening trash separation and recycling. By the end of the year 2000, recycling rates in these 100 townships should be raised to 10% or above. 

Air Pollution Fee Tied to Gasoline Constituent Standards

In the future, the EPA will use a combination of economic incentives and command-and-control tactics to raise the quality of petroleum products in Taiwan. These tactics will lead to a differential air pollution fee based on constituent standards for gasoline products. In the future, the air pollution fee will be waived for the highest quality gasolines, and gasolines meeting normal standards will be levied 0.3 NTD per liter. There will also be a mechanism for penalizing gasolines that do not meet standards. The new fee rate and constituent standards will most likely come into effect January 2000.

To control the quality of petroleum products and encourage the public to use clean fuels, on October 29 the EPA brought forward separate drafts regarding gasoline air pollution fees and control standards for gasoline (diesel and unleaded) constituents and properties. The two drafts make use of both economic incentives and command-and-control tactics to comprehensively improve the quality of automotive fuels.

In terms of the air pollution fee rates for gasolines, according to the drafts proposed by the EPA, in the future gasolines will be divided into three categories according to constituent and property standards. Gasolines falling under category one will be exempted from air pollution fees, category two gasolines will be charged 0.1 NTD per liter, and category three gasolines will be charged 0.3 NTD per liter. Constituent standards include benzene, sulfur and oxygen content as well as Reid vapor pressure (RVP). Property standards include volatile organic compounds (VOCs), nitrogen oxides (NO_x) and hazardous pollutant emissions factors (see table).

Current air pollution fees are directed at high grade leaded fuels, which are charged 0.2 NTD per gallon. Unleaded fuels, however, are not charged an air pollution fee. But, due to the fact that beginning next year

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even high grade leaded fuels will be banned across Taiwan, the EPA has designed a differential fee to be used for unleaded fuels.

While working on the differential gasoline air pollution fees, the EPA has also proposed a draft of constituent and property control standards for gasoline (diesel and unleaded). The standards will provide a future basis for controls on vehicle fuel quality.

The EPA noted that the Taiwan domestic oil market is liberalizing, and predictions are that by June 2000 all petroleum products will be open for import. Without proper controls inferior petroleum products will be a danger to air quality. For this reason, when the

are concerned, the draft only sets an upper limit for sulfur content of 0.05%.

In addition, the draft stipulates that in the future, domestic oil refiners or oil importers must perform random sampling on each batch of oil products, and test records must be reported each quarter to the EPA. The EPA's Bureau of Air Quality Protection and Noise Control emphasized that although the draft does not require gas stations to obtain permits, the oil products they sell must still meet requirements stipulated in the drafts. In the future environmental protection agencies will perform random samples on refineries and gas stations alike. If it is discovered that an enterprise is not in compliance with standards they may be fined


Fuel Category		One	Two	Three
Fee Rate (NTD/Liter)		0	0.1	0.3
Constituent Standards	Benzene (%)	1	1	1
	Sulfur (ppm)	100	150	275
	Oxygen (%)	2	2	2
	RVP (psi)	8.5	8.5	8.9
Property Standards	VOCs + NO _x Emissions Factor (mg/km)	1,500	1,570	1,770
	Hazardous Air Pollutants Emissions Factor (mg/km)	41.5	45.8	49.8*

*Raised from 48.2 after suggestion by CPC

Legislative Yuan revised the *Air Pollution Control Act* in January 1999, a clause was added specifically to establish restrictions on constituents and properties of vehicle fuels. The current drafts proposed by the EPA are based on this clause.

According to the EPA drafts, different upper limits will be put in place for benzene, sulfur and oxygen content, RVP, VOCs, NO_x, and hazardous air pollutants. These standards will correspond with the category three air pollution fees. As far as diesel fuels

between 100 thousand and 1 million NTD.

From the industry side, in the opinion of China Petroleum Corp., (CPC) the drafts are overly strict, and they requested that the EPA relax the standards. CPC pointed out that the limits on hazardous pollutants is tighter than even that of the European Union's petroleum quality standards for the year 2000. The EPA has accepted CPC's opinions and loosened the standard for hazardous pollutants. The standards will come into effect on January 1, 2000. 

Legislative Yuan Requests Formation of Environmental Police Bureau Speeded Up

The Environmental Police Force was established in July of this year. Due to its effectiveness to date, at a joint meeting of the Legislative Yuan's Committees for Organic Laws and Health, Environment and Social Welfare on November 15, the first review of a proposal by Eugene Jao and 37 other legislators to revise the structure of the EPA and allow it to deploy the Environmental Police was passed. The Legislative Yuan also requested that within one year, the Ministry of the Interior complete necessary laws regarding the establishment of an Environmental Police Bureau.

On November 15 the Legislative Yuan's (LY) Or-

ganic Laws and Health, Environment and Social Welfare Committees held a joint meeting to review a proposal brought by Eugene Jao and 37 other legislators to revise statutes pertaining to EPA organizational structure. The proposal will increase the EPA's legal basis for deploying the Environmental Police Force (EPF).

In regards to this proposal by the LY, EPA Administrator, Hsung-hsiung Tsai, who attended the meeting to present a report, expressed optimism on its success. He pointed out that besides the EPA Inspection Team, established in 1992, local governments also have


manpower available for inspections. However, because environmental inspectors are not invested with judicial authority, during inspections of severe pollution or illegal activities, inspectors are often unable to clear investigative obstacles in time to obtain necessary witness and material evidence.

To improve the situation, under the direction of Premier Vincent Siew, the EPA and Ministry of the Interior (MOI) coordinated to officially establish the EPF on July 1, 1999. The current task force is made up of 96 persons, and is divided into three corps, which help in coordination with the three districts covered by the EPA's Inspection Team.

Administrator Tsai pointed out that after its establishment, the EPF was first given intense training on environmental laws and regulations, and began assisting in enforcement during August of this year. By the end of October, the new force had tracked down a total of 77 serious violations, and a total of 138 persons were charged with punishable crimes and the

cases transferred to the judiciary for further investigation. On the whole, the results have been quite impressive.

Because the Force has already been established, the meeting on the 15th went very smoothly, and the additions proposed passed the first legislative review. The new statutes will allow the EPA to deploy the EPF to help enforce environmental laws and regulations, and remove barriers to inspection of any violations. The EPA will now be among one of the agencies that have powers to direct and supervise the EPF while carrying out their duties.

In addition to the statutes pertaining to EPA organizational structure, the committees also requested that within one year the MOI complete and present to the EY for review, necessary laws pertaining to plans to establish a national environmental police bureau. Also, the LY requested the EY thoroughly review and revise the conditions under which public servants require judicial powers or permission. 

EPA Urges Local EPB Labs to Obtain CNLA Certification

Due to recent controversies over the accuracy of environmental testing data, and in order to raise the testing capabilities of local environmental agencies, the EPA has decided to urge the eight county/city governments with the largest environmental testing volumes to obtain CNLA certification for their labs by the end of next year.

To enforce pollution control, environmental agencies must often analyze and test pollutants. As a result, both the EPA and county/city environmental protection bureaus (EPBs) have established specialized environmental testing units to perform pollution sampling and analysis activities. As environmental agencies gradually establish testing capabilities, both private sector manufacturers and contracted testing organizations are also in the process of raising their testing capabilities.


Now that government agencies and manufacturers have their own testing capabilities, firms will often perform sampling along with environmental agency personnel. These firms will then either internally analyze the samples or contract a licensed testing lab to perform analysis. The results obtained by the firm will then be compared with those found by the government agency. If the two findings vary significantly, a firm that has been fined will often use its own sampling and analysis data as evidence in support of its case.

Occurrences of this sort have been increasing in recent years. In response, the EPA's National Institute of Environmental Analysis (NIEA) stated that because sampling and testing activities performed by environmental agencies are granted public authority by law, they are not required, in theory, to

seek any type of certification. However, the credibility of government lab findings is frequently challenged because most private labs are certified. Recent regulations concerning administrative appeals and procedures are also placing pressure on government labs to obtain certification.

In order to raise environmental testing capabilities, NIEA recently drafted a plan to assist eight county and city EPB testing labs to receive certification under the China National Laboratory Accreditation (CNLA) program over a time period of a year and a half.

An official at NIEA recently indicated that of the local-level labs, those in Taipei City, Kaohsiung City, and labs formerly under the Taiwan provincial government have already received CNLA certification. Future assistance will be directed at those cities and counties whose labs have sufficient staff and large testing volumes. These will include the eight environmental labs of Keelung City, Taipei County, Taoyuan County, Taichung City, Taichung County, Chang-hwa County, Tainan County, and Kaohsiung County. It is hoped that by the end of 2000, these labs will have successfully received CNLA certification.

NIEA further noted that to achieve certification, each lab should establish a certification task force and complete related handbooks, procedural manuals, and records. The training of lab personnel should also be a key element. Because the stability of lab personnel is a primary factor in passing certification, NIEA recommends that county and city EPBs increase lab personnel and resources, and provide any necessary administrative support. 

Feature Article

EPA Moves Forward on Comprehensive Battery Recycling

After a long deliberation on how to lower heavy metal content in batteries and encourage their recycling, the EPA decided to formally move ahead with comprehensive battery recycling beginning in November. In the future, recycling fees will be staggered based on heavy metal content, and cadmium and mercury containing batteries must carry the recycling mark as according to regulations. The EPA will increase the number of recycling points and hopes to raise recycling rates above 25% by the end of next year.

After a period of deliberation, on October 28 the EPA formally announced that all batteries would be recycled starting in November. In the past only mercury and nickel cadmium batteries, the batteries with the highest heavy metal content, were listed for recycling. However, consumers were always unclear as to which batteries they were required to recycle, making efforts to raise recycling rates difficult. It was against this background that comprehensive battery recycling was proposed.


Currently, a mere 29 tons of batteries are reported for recycling each year, in contrast to the average of 3,500 tons sold in Taiwan each year. This large percentage of un-recycled batteries contributes a significant environmental burden. In addition, EPA market samples revealed that heavy metal content in batteries not mandated for recycling is still very high. In light of these facts, the EPA chose to begin comprehensive recycling of batteries to both increase battery recycling and encourage enterprises to lower heavy metal content.

The EPA pointed out that after comprehensive re-

cycling of batteries begins, the public will no longer be required to separate different battery types and will be able to bring them to recycling points set up in large vendors, supermarkets, retailers and pharmaceutical stores. After receiving validation, recycling vendors can receive a obtain of 5 NTD per kilogram of batteries recycled.

Furthermore, after comprehensive recycling of dry-cells begins, in the future a differential recycling fee will be applied to encourage industries to manufacture products with lower heavy metal content. If mercury, cadmium or lead contents surpass certain base values, then recycling fees will be doubled.

According to the EPA announcement, enterprises must turn in recycling fees based on business volumes and the differential fee rates. They will also be required to place the recycling symbol on either the battery cell or packaging of mercury and cadmium batteries. In addition to individual battery cells, battery packs and batteries sold with a product are also included in recycling standards. However, batteries only offered for export are not subject to restrictions listed in the announcement.

For public convenience, in addition to the current 5,000 recycling points located at large vendors, supermarkets, wholesalers, and pharmaceutical stores the EPA will subsidize the Clocks and Watches Association to set up 1,000 recycling points for button-style batteries. In the future, the EPA will also promote the set up of other recycling points. The EPA hopes that by the end of next year battery recycling rates will exceed 25%. 

Consensus Reached on EIA Criteria for Industrial Parks

The EPA has drafted criteria to increase the transparency and consistency of EIA reviews in industrial parks. They stipulate that development of industrial parks should conform with plans in the *National Environmental Protection Plan*, and that the development zone should not take up more than 1/3 of the total area in important ecological areas. Also, developing industrial parks must set total quantity control plans for air and water pollution. The draft is expected to be announced soon and become a basis for future EPA EIA reviews.

Taiwan's environmental impact assessment (EIA) review system is a committee-based system. Reviews rely on committee members' professional capacities as the main basis for reviewing development activities. To increase the consistency of EIAs and to increase understanding of the EIA standards, after collecting a number of review cases, the EPA has completed *Criteria for the Review of Environmental Impact*

Assessments for Industrial Park Development. The criteria will be used as the future basis for EPA EIA reviews. On November 20, the EPA invited relevant agencies to discuss the contents of the draft.

According to the draft, future EIA reviews of industrial development should still consider compliance with relevant environmental regulations, but also take into account time scales and goals laid out in the *National Environmental Protection Plan* (NEPP).

The draft stipulates that in areas with important nesting grounds, ecosystems or water resources, development may not hamper the regular operation of natural mechanisms.

The draft also states that for hillside industrial park projects, areas with an average slope of 30-40% may only be used for open air public facilities. In areas where the slope exceeds 40%, the original terrain must be preserved on 80% of the total surface area, and the

remaining 20% may only be used for road development, parks, or green areas.

In addition to the zoning and phased construction of hillside industrial parks, foliage coverage rate for the whole year must be over 95% of the total surface area of exposed land. Also, the foliage coverage rate after park completion must be at least 50% of the total park area. For important water resource areas this number is raised to 60%.

To deal with policies that liberalize the use of agricultural lands, the draft also stipulates that for future industrial parks situated in areas zoned for general agricultural use, the dividing "green belt" must be 15 meters or greater. Development areas in special agricultural zones where industry is incompatible with agricultural production for land of that character, the green belt must be 30 meters or greater. As far as park wastewater, in principle parks may not discharge into agricultural irrigation and sewage systems. Parks with special circumstances requiring discharge into irrigation systems must at least conform with irrigation and sewer water quality standards, according to the draft.

In terms of pollution control, the draft standards up for deliberation incorporate total quantity control (TQC) measures. They request that TQC plans be drafted for air and water pollution in developing industrial parks. In the section on air pollution TQC, in the

future, in districts that do not meet air quality standards or that exceed standards because of industrial park development, the developing agency for the park must obtain air pollution offsets before they may continue with park development. Ways of obtaining offsets include:

1. Setting total quantity reduction measures
2. Helping other air pollution sources reduce emissions
3. Negotiate with local governments to reduce overall emissions. After improving air quality the industry park may make use of available emissions offset quantities.

For the water pollution TQC, the draft standards request development agencies set an industry park TQC water pollution plan as the basis for introducing new industries or distributing land usage. If the park wastewater plant is at capacity, then no new industries should be allowed in. Also, in the future, water recycling rates for the entire park must reach 70% or above.

The EPA pointed out that because the current draft act is only a summary of past review requests, during deliberation agency representatives did not have any strong doubts about the content. After reviewing various opinions and making necessary revisions, and then obtaining EIA Committee approval, the new standards should be announced sometime in the near future. ♻️

Local Govts to Take Charge of Incinerator Operation Bids

As public trash incinerators are completed and come on line, the EPA is revising standards for privately contracted operation of incinerators in the light of growing domestic experience and to boost policies encouraging private ownership and operation. In the future contracting powers will be transferred to local governments, and the time limit for operation will be extended up to 20 years.

To solve domestic trash disposal problems, in accordance with Executive Yuan national plans for the construction of waste treatment facilities, beginning in September 1991 the EPA began work pushing the construction of 21 incinerators nationwide. After eight years of work 9 incinerators have been completed, and the remaining 12 will be completed in turn.

After completion of an incinerator plant, with the exception of early plants such as Neihu and Mucha (Taipei City), that are government run, beginning with the Hsindian (Taipei County) plant, operations have been contracted to private firms as one way to encourage private investment in this sector. To date, the operations of Hsindian, Shulin, Taichung City, Jia-I City and Tainan City incinerators have all been contracted to domestic companies with good results. In the future, the completion of public incinerator projects should further expand the market for contracted operations by a large margin.

To ensure the smooth completion and operation of incinerator projects, and pave the way for a smooth

transition of the incinerator building and operation system from public to private ownership and operation, the EPA recently revised a document detailing contracted private management of public incinerators. The revision officially transfers the responsibility to administer contract bids to county and city governments.

The EPA pointed out that domestically Taiwan has accumulated ample experience in incinerator operations. According to policies encouraging domestic ownership and operation of incinerator plants, in the future construction bids for incinerator projects will also be the responsibility of local county and city governments. Since this is the case, local governments taking the lead in issuing bids for private operation is a necessary step.

The EPA also noted that these revisions also extend the contracted operation time limit from the original 6 years to 20 years. This will ensure that participating enterprises can concentrate on operations and not worry about the extension of contracts.

In terms of the credentials of private operators, the EPA will loosen restrictions on participation in contract bidding. Besides requiring capital over 150 million NTD, contract bidders must have the following credentials:

1. Five years domestic or foreign experience in

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- the management of medium and large scale trash incinerators equipped with pollution control, steam co-generation and electrical distribution equipment.
2. Accumulation of over one year of experience operating and maintaining parallel boiler facilities (two or more boilers) with a minimum total heat conductivity surface above 500M² per boiler.
 3. Has taken responsibility for design, supervision, building and test burn of two or more

boilers, each with total heat conductivity surface above 500M² within the last five years, plus over one years experience in commercial operation and maintenance.

4. Has a bidding partner possessing all of the above credentials.

The revised document applies to a total of nine incinerators, including those in Keelung City, Houli (Taichung County), Hsichou (Changhua County), Lutsao (Jia-I County), Yungkang (Tainan County), Renwu (Kaohsiung County), Kangshan (Kaohsiung County), Kanting (Pintung County), Litzi (I-lan). 🌐

Environmental Nuisance Complaint System to be Overhauled

To raise public satisfaction regarding environmental nuisance reporting, the EPA has drafted measures to improve the complaint system. By analyzing actual cases, the EPA will critique and compare the responsiveness of environmental agencies to nuisance complaints. As for individuals who do not leave contact information when filing complaints, environmental agencies will implement a proactive case-tracking system.

In order to evaluate general public sentiments on the processing of environmental nuisance complaints by environmental agencies, the EPA entrusted Fu-Jen University to carry out a public satisfaction survey during the first half of 1999. The results of the survey indicate that 53% of the people filing complaints felt satisfied. 70% of those polled wished that environmental agencies would inform them of the results of the complaint processing. Other results were not ideal, however. Only 30% of those surveyed felt satisfied with the attitude of the inspectors handling the cases and the results of the cases. Only another 30% felt satisfied with the timeliness and improvements that resulted from the complaints.

Because public satisfaction in this area has room for improvement, the EPA recently drafted measures to strengthen environmental nuisance complaint processing and follow up. The EPA will also encourage local-level environmental agencies to place greater emphasis on handling complaints.

The EPA's Bureau of Performance Evaluation and Dispute Settlement, the body responsible for overseeing complaint processing, has indicated that changes will be made to the system. In the past, calls to the toll free number to file an environmental complaint (080-066666) were automatically routed to the proper local-level agency according to the number from which the call was made. To strengthen the handling of complaints and open up reporting channels, the EPA has added new functions to the environmental complaint hotline. Now, after dialing the hotline, if a case needs immediate attention or is being reported for the first time, the call will be routed to the appropriate county or city EPB so that it can be handled as quickly as possible. For serious incidents or cases that have been

reported repeatedly with no results, the caller can choose to report directly to the EPA's Inspection Team. Calls from cellular phones, which the system previously had problems handling, will also be passed on to the Inspection Team. These measures will expand the service side of public nuisance complaint handling.

EPA officials have further indicated that in addition to systemic changes, future performance reviews of local-level complaint processing systems will focus on actual cases to better understand how such cases are handled. Evaluators will assume the identity an individual making a complaint and directly contact local agencies to file a report. In addition to observing the attitude of the official handling the complaint, the evaluator will also be able to assess how long it takes to process the complaint.

Greater effort will also be made to reply to the nearly 70% of individuals not receiving a reply following their filing of complaints. This is difficult, though, because less than 20% of those making complaints are willing to provide their contact information. Nonetheless, the EPA indicated that reporting back to those filing complaints greatly increases public satisfaction with the system. In the future, the complaint processing system will incorporate notification activities.

For individuals who do not leave contact information, environmental agencies will take a proactive approach. Those filing complaints will be instructed on how to use the complaint report hotline to track the status of their complaint cases. Moreover, local agencies will be urged to reexamine complaints that arise repeatedly to understand the crux of the problem.

Public satisfaction on environmental complaint reporting depends on such elements as telephone demeanor, report processing time, confidentiality measures, and reporting back on the development of cases. If one of these links is weak, public satisfaction will drop significantly. The EPA will analyze the development of the complaint processing system on a quarterly basis by surveying public satisfaction on each of the above mentioned points. This will allow environmental agencies to pinpoint areas in need of improvement and facilitate modifications to the system. 🌐

Draft of Toxic Substance Use Regulations Completed

In order to unify toxic substance management models, the EPA recently proposed a draft of the *Regulations Governing the Use of Toxic Chemical Substances*, which will bring toxics management regulations under one framework. Various substance use prohibitions, concentration and quantity restrictions, permitted uses, etc. will be stipulated when the regulations are announced. The regulations also make it easier to obtain qualification to store toxic substances. In addition, the EPA has listed 28 more chemicals, which will bring the cumulative number of controlled substances to 200.

Through the various rounds of listing toxic chemicals, the EPA to date has announced controls on 135 substances. Because the process of promulgating controls differs from round to round, the management system has become very complex, rendering the regulatory process difficult to understand for both firms and environmental agencies. Moreover, the EPA is now increasing the pace of promulgation, making the need for a unified regulatory management system even more pressing. In response, the EPA recently completed a draft of the *Toxic Chemical Substance Use Regulations*, and held a public hearing to gather the views of concerned sectors.

EPA officials indicated that the draft regulations are "cumulative," in that their contents draw together previously promulgated controls and stipulations. Once the regulations are announced, both past and future listings of toxic substances must comply with the contents of the regulations.

Future announcements of toxic substances will only stipulate special management controls placed on a particular substance, such as special prohibitions or use restrictions, control concentrations standards, minimum control quantities, degree of toxicity and permitted uses.

The regulations, as they have been drafted, contain stipulations pertaining to use/operation criteria and quantity limitations, use permitting, shipping controls, prevention and response measures, use records and release quantity records, and improvement time limitations. In the future, the time schedule for making improvements will be divided into three phases set at six, twelve, and eighteen months (see accompanying

table).

In terms of quantity controls, operations that exceed minimum control quantities at any given time must submit an operations record according to regulations. Operations that use more than 300 tons per year or use more than 10 tons at any given time must submit release quantity records. Operations using Class I and II toxic substances in excess of 90,000 tons per year or 300 tons at any give time must, within 18 months, submit release quantity reduction plans for relevant processes, storage facilities and pipelines to local environmental agencies.

In the draft regulations, the EPA has also loosened

Time period following listing of substance	Content of Improvement Measures
Six Months	Submit basic information.
Twelve Months	Complete material data safety sheets (MSDS), submit use/operations records, submit release quantity records, submit toxicology data (Class IV substances), use/operate in accordance with relevant laws, provide response plans, provide monitoring equipment installation plans, prepare emergency response equipment, apply for additional usages.
Eighteen Months	Comply with use/operation criteria (obtain permits and approval, and submit reference materials), complete preparatory and response plans (for Type III liquids or gases plan should be made available for public reference), complete installation of monitoring and warning equipment, employ specialized personnel, submit release quantity reduction plans.

permit requirements for the storage of toxic substances. In the future, any facility storing a single substance in quantities below the minimum control limits may avoid requirements for submitting storage registration documentation, provided it first obtains approval from the local environmental agency.

During the November 9 public hearing, the EPA also presented the list of newly controlled substances, including Acetophenone and 37

other toxic chemicals. Of these, nine have been listed as Class I, seven listed as Class II, five listed as Class III substances, six listed as Class IV substances, and one substance was listed as belonging to both Class I and Class III. In the near future, the EPA expects to complete promulgation of the draft regulations and newly listed substances. With that, the cumulative number of controlled toxic substances will reach 200. ♻️

EPA's Electronic Library Comes Online

In support of environmental protection technology research and development, the EPA recently established an electronic library accessible through its website. The library includes items such as published materials, research reports, technical databases, library material search functions, government report search functions, and connections to related library websites.

Internet resources are developing at an incredibly

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rapid pace. Not only are private firms frenetically opening up e-business channels, government websites are also offering an increasingly wide array of publicly accessible information. In the area of on-line library resources, in addition to educational institutions opening up web-based search functions, government agencies in Taiwan have also been expanding the amount of data that is searchable on-line. Some examples include the Directorate-General of Budget Accounting and Statistics' electronic library book search system; the Mainland Affairs Council's search functions for Mainland Chinese research libraries; the Government Information Office's system for searching tables of contents of published materials; and the Mongolian and Tibetan Affairs Commission's system for searching related databases and materials.

After reviewing the library systems of other agencies, the EPA decided to establish an electronic library

webpage. This site draws together EPA library materials and technical research data. These resources are then offered for access by domestic and foreign individuals and organizations.

Officials in the EPA's Bureau of Environmental Monitoring and Data Processing indicated that the EPA's electronic library webpage includes the following six areas: published materials, project reports, technical databases, library material search functions, government report search functions, and links to related library websites. See the accompanying table for detailed description of content.

Officials further indicated that this electronic library provides a comprehensive information service that will soon be accessible by the general public. In the future, the EPA will also gradually place full electronic versions of EPA published materials onto the web. Readers can visit the EPA's electronic library at: <http://simba.epa.gov.tw/electlib/>. 

Content of the EPA's Electronic Library	
Area	Content
Published Materials	On-line indexes of the EPA's 9,000+ published materials, including complete electronic files of seminar presentations, promotional and educational handbooks, electronic periodicals, environmental impact assessment reviews and conclusions, and environmental protection statistics.
Project Reports	Outline reports of projects undertaken by contracted organizations between 1996 and 1999.
Technical Databases	English-language environmental technology databases, water body monitoring statistics, air quality reports and data, toxic substance management data.
Library Materials Search Functions	Engine to search the bibliography of the EPA library's 26,000 volumes of material
Search System for Government Reports	Connection to the National Library's government report search system
Related Library Websites	Links to major libraries and information organizations, both domestic and overseas.

Motorcycle Subsidy Program Extended for One Year

Since the end of last year, the EPA has been subsidizing a program aimed at getting older, more polluting motorcycles off the streets. At the outset, a subsidy of 2,000 NTD was given to motorcycle owners who exchanged their bikes for new ones. This amount was later raised to 2,500 through the support of motorcycle manufacturers. Due to very positive public response to this program, the EPA has decided to continue the subsidies for another year.

Taiwan's excessively large number of motorcycles and scooters are a major source of urban air pollution. Of the vehicles that are in use, older motorcycles are allowed compliance with relatively looser emission standards. Motorcycles that are held to "first-phase" emission standards are typically three to four times more polluting than the newest "third-phase" standards. Moreover, as engine parts age, such vehicles become

the largest source of air pollutants.

In order to accelerate the upgrading to newer, less polluting motorcycles, the EPA has been providing subsidies to motorcycle owners since December, 1998. Monies for these subsidies have been drawn from Taiwan's Air Pollution Fund and Recycling Fund. The EPA's *Guidelines for Subsidizing the Elimination and Replacement of Highly Polluting, Older Motorcycles* stipulate that owners of vehicles manufactured before July 1, 1992 ("first-phase" motorcycles) can receive a subsidy of 2,000 NTD if they purchase a standard bicycle, an electric bicycle, an electric motorcycle, or a standard motorcycle that conforms with current emission standards. Granting of the subsidy is also dependent on the owner turning over the older motorcycle for proper recycling.

Through the support of motorcycle manufacturers, this subsidy has been raised an additional 500 NTD, which is receivable in the form of a rebate or price reduction when a new motorcycle is purchased.


Noise Control indicated that the rate of people upgrading to newer motorcycles dramatically increased following the implementation of the subsidy program. Officials further indicated that in drafting this program,

Number of Motorcycles for Which Use Was Discontinued or Upgrade Sought									
Month/Year	01/99	02/99	03/99	04/99	05/99	06/99	07/99	08/99	09/99
Discontinue use and upgrade	216	5,367	7,777	4,917	8,525	5,365	6,980	6,990	10,916
Discontinue use only	487	5,644	8,319	5,217	3,395	3,966	3,728	3,388	3,063

With this combined incentive of 2,500 NTD encouraging motorcycle upgrades, the response of the public has been very positive. The success of the program is demonstrated by EPA statistics which show that, to date, more than 70,000 motorcycles have been turned in. This figure is expected to exceed 80,000 by the end of the year. The EPA hopes that the estimated hundreds of thousands of older, two-stroke motorcycles still on the road can be completely replaced by the end of 2003.

The EPA's Bureau of Air Quality Protection and

the primary goal was to reduce emissions from older, more polluting vehicles. Because the subsidy increases the demand for new motorcycles, however, the positive effects of the program have exceeded original expectations.

Because the results of implementing the guidelines mentioned above have been so successful thus far, the EPA has decided to extend the subsidy time limit one more year beyond the November, 1999 deadline. The target recipients and subsidy amount shall remain the same. 

News Briefs

Halon Fire Extinguishers Banned for Import Beginning January 1, 2000

To support international efforts to protect the ozone layer, the EPA recently announced a new regulation which will ban the import of chemical fire extinguishers using Halon 1301, 1211 and 2402, beginning January 1, 2000.

EPA to Install High Speed Electric Charging Stations In Taipei, Hsinchu, and Kaohsiung

This year the EPA has made extensive efforts to promote the use of electric motorcycles. Statistics show that as of September total sales of electric motorcycles exceeded 6,000. Of these 4,964 were awarded subsidies after an initial investigation. The EPA has already commissioned the Industrial Technology Research Institute (ITRI) to carry out an initial assessment of high speed recharge technology and a demonstration project. It is estimated that before March 2000 Taipei, Hsinchu and Kaohsiung will all have installed high speed recharge stations.

Reporting of Shipping Manifest Mandated for Land, Ocean and Air Transport of Toxic Chemicals

After revision of the *Regulations Governing Transportation of Toxic Chemical Substances*, the EPA recently announced revisions to the format the shipping manifest for toxic chemical substances. The EPA pointed out that in the past report of the shipping manifest was only required for rail or road transport. In the future the expanded reporting scope will include air, ocean and pipeline transport. In addition, to support tracking controls for toxic chemicals, on the new shipping manifest the shipper will be required to fill in detail

the origination and destination of the shipment.

EPA Plans Awards to Encourage Environmental Volunteers

To encourage the public to take part in environmental volunteer work, on October 26 the EPA invited relevant environmental protection units to discuss setting guidelines for awarding badges to environmental volunteers. The EPA pointed out that the badge model is based on the way boy scouts get promoted. The environmental badge will be divided into three levels. When an environmental volunteer participates in a recognized educational or conservation activity he/she will be awarded a certain number of points. After enough points are collected, depending on the level of badge to be awarded, the director general of the county environmental protection bureau, the county chief or city mayor, or the EPA Administrator will present the badges and a public commendation. To promote this effort, the EPA will print standardized "Environmental Merit Books" and stamps for keeping track of points, which will be distributed to county and city EPBs.

Inspection of Oil Quality on Diesel Trucks Begins in Taichung County

The black market in petroleum products is flourishing in Taiwan. Smuggled oil products, distribution of leaded gasoline used by fishing boats, the import of solvent oils and dilution of oil products keeps a large quantity of inferior oil products on the market. In response, beginning November 9, the EPA and the Taichung County EPB worked together to inspect 100 diesel freight trucks on major roads in Taichung City. Those not meeting standards were reported and fined.

EPA Appeals to Vehicle Owners for Voluntary Participation in Exhaust Testing


If, due to design or manufacturing flaws, vehicles do not comply with air emissions standards, manufacturers are required to recall and repair such vehicles. In Taiwan, there have been four vehicle recall cases to date, and in the new fiscal year, the EPA plans to randomly test 30 car models and 10 motorcycle models. To expand the scope of testing in-use vehicles, the EPA has appealed to vehicle owners to participate. Monetary incentives have also been offered.

In the pursuit to control vehicle-emitted air pollutants, the *Air Pollution Control Act* mandates that all new vehicles models, whether manufactured in Taiwan or imported, must pass local emissions standards. The Act further requires in-use vehicles to remain in compliance for a given period of time or for a given number of kilometers (five years or 80,000 km for automobiles; 15,000 km for motorcycles).

If a vehicle model in-use does not comply with the standards mentioned above, and it is determined that this is due to a design or manufacturing flaw, then the manufacturer or importer is required by the *Guidelines for Recalling and Repairing In-use Vehicles* to recall all vehicles of the model in question within a specified time period. To ensure that the cause for lack of compliance is due to design or manufacturing flaws, the EPA yearly implements tests on key models of in-use vehicles.

EPA officials recently indicated that since this policy's inception in 1996, a total of 15 vehicle models have been tested so far. In the years 1997 and 1999, recall and repair actions were required for the following four car models: GM's Opel Astra, Ford Festiva, Mitsubishi Eclipse (1995), and Isuzu Rodeo (1998). Repairs have already been completed on the Astra, Festiva, and Eclipse, and it is expected that the Rodeo will be brought into compliance with standards by the end of this year.

By the end of 2000, the EPA will complete in-use vehicle testing for 30 models of automobile and ten models of motorcycle. Tests will be divided into two stages. First, initial investigations will target five vehicles of each model. If non-compliance is found in the initial stage, in-depth tests will be run on 10 vehicles of the model in question.

As the testing program is already underway, the EPA has appealed to vehicle owners to participate. The requirements for participation are very simply: one must be an owner of one of the vehicles currently being tested, and the vehicle owned has been operated and maintained in accordance with the owner's manuals. To compensate participating vehicle owners for their inconvenience, the EPA is offering a monetary incentive of between 1,000 and 4,000 NTD per vehicle per day. 

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