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Amended Waste Disposal Act Passes

An amended *Waste Disposal Act* was recently passed by the Legislative Yuan (LY) and includes new stipulations on full "waste life-cycle" responsibility, waste clearance and treatment reporting, and transport vehicle tracking. Further revisions include more severe penalties for violations of the Act and provisions requiring new industrial parks to include plans for waste treatment facilities. Governmental responsibility for waste treatment has also been raised to the county/city level.

On June 22, in the midst of public uproar over the many recent incidents of illegal waste disposal, and in light of the international disturbance caused by the Formosa Plastics Group's mishandling of mercury-tainted sludge, the Legislative Yuan (LY) passed amendments to the *Waste Disposal Act* as proposed by more than thirty legislators. The new amendments make major revisions to both the structure and focus of industrial waste management in Taiwan.

This round of amendments to the Act still mainly addresses the problems of industrial waste clearance and treatment. First, the number of approved methods for industrial waste clearance and treatment has been increased. According to the previous version of the Act, companies were required to clear and treat waste themselves or contract legal clearance and treatment organizations. But, much waste was actually dealt with through methods such as joint treatment and reuse. In light of this, the EPA issued orders to allow these de facto treatment channels. The newly amended Act, however, now provides the legal basis for waste reuse, joint clearance and treatment, and entrusting relevant government agencies to install treatment facilities. The Act requires, for example, that regulations governing waste reuse permitting be established by the EPA.

Furthermore, stipulations regarding "industrial waste life-cycle responsibility" have been formally inserted into the Act. The amended Act states: "if a contracted waste firm clears away, treats or disposes of waste in an illegal manner, then the waste generator and the contracted firm shall be held jointly liable for the waste at issue and any necessary environmental remediation efforts."

In terms of industrial waste management, the current Act lacks provisions for waste disposal reporting requirements. Here again, it was necessary for the EPA to rely on executive orders requiring waste reporting. The new amendments now provide a regulatory basis for this requirement. Specifically, firms must report the status of waste production, storage, clearance, treatment and reuse in accordance with EPA guidelines. Moreover, designated waste transporters will be required to install real-time tracking systems and vehicles must carry documents describing the source and destination of the waste being hauled.

The new amendments further require that new in-

dustrial parks or science parks incorporate plans for waste treatment facilities either within or outside the proposed park. Relevant government agencies or park developers must also submit treatment facility plans and receive necessary permits. Only after treatment facilities have been completed may the industrial or science park at issue begin operations.

The Act's penal codes have also been significantly modified and made more severe. Violators whose actions result in human fatality shall be sentenced to a prison term of between seven years and life, and may also be fined up to five million NTD. If actions result in serious injury, violators shall be given a prison sentence of between three and ten years, and/or fined up to three million NTD. If actions threaten human health resulting in sickness, violators shall be sentenced up to five years, and/or fined up to two million NTD.

The violations listed below shall be met with between one and five year prison sentences and/or fines of up to one million NTD:

1. Wanton disposal of hazardous industrial waste.
2. Illegal storage, clearance, treatment or reuse of waste that leads to environmental pollution.
3. Providing land for burial or dumping of waste without government permission.
4. Handling industrial waste without proper permits or documentation
5. Public clearing agencies of local governments contracting unlicensed public or private waste clearance and treatment firms, or contracting parties to dispose of waste in full knowledge that the party engages in illegal dumping.
6. Falsely claiming that waste has been treated when it actually has not.

Following the lead of the recently amended *Air Pollution Control Act*, the amended *Waste Disposal Act* also includes stipulations allowing injured parties or public interest groups to sue government agencies for neglecting to enforce regulations. Once a formal notification of suspected negligence is filed, the government agency has 60 days to initiate the proper enforcement activities. If enforcement is not forthcoming, the injured party or group may file a lawsuit with the Administrative Court against the agency in question. If the plaintiffs' claims are found to be true the agency at issue will be ordered to carry out enforcement activities. A portion of the fine levied against it will also be used as a reward for the plaintiff.

In addition to industrial waste issues, new amendments to the Act also address general refuse management. Specifically, responsibility for treating municipal waste has been taken out of the hands of village and town governments and made the responsibility of county and city governments. However, village and town governments will still oversee recycling and collection activities. 

EY Gives Green Light to Draft of Soil Pollution Act

The Executive Yuan (EY) recently completed its review of the proposed *Soil Pollution Control Act*. During review, the EY changed the name of the draft act to the "*Soil Pollution Remediation Act*" in order to clearly define the Act's focus on standardizing soil pollution remediation. Changes to the Act's content include narrowing of soil pollution liability and basing collection of soil pollution control fees on specified soil pollutants. The Act's framework and other provisions shall remain as found in the EPA's submitted version.

In August 1998, the EPA submitted a draft *Soil Pollution Control Act* to the Executive Yuan (EY) for review. Following extensive discussion with related agencies, the EY completed its review of the now-entitled "*Soil Pollution Remediation Act*" draft, which was then sent to the Legislative Yuan on June 24 1999 for deliberation.

The Executive Yuan Review Committee's first decision was to change the original name of the Act, from "Soil Pollution Control Act" to "Soil Pollution Remediation Act." Although this may seem like a minor change, the new name more accurately expresses what the EY sees as the Act's key point — the remediation of soil after it has been contaminated.

In terms of soil pollution prevention, the role of the Act will be to work in conjunction with other environmental regulations. That is to say, if soil contamination is discovered, control and removal of the pollution source should be in accordance with other environmental regulations. For example, an incident of industrial waste dumping should be handled according to the *Waste Disposal Act*, even though the incident results in soil contamination.

The greatest differences between the draft of the Act reviewed by the Executive Yuan and that originally submitted by the EPA lie in the much disputed issue of liability for soil cleanup and in the issue of sources for the soil pollution control fund.

As for the scope of cleanup liability, the EPA's original draft defined liability very broadly. In addition to placing liability with the polluters, it also placed liability with the land owners and users. As such land owners and users do not necessarily possess the capabilities necessary for pollution prevention, the use of this method to expand liability was met with fairly extensive opposition.

Following EY review, the new version of the draft Act sees land owners and users as "relevant parties." Even though they must do their best to properly manage related affairs, land owners and users will not be held jointly liable for cleanup and compensation, unless an egregious violation on their part leads to contamination.

As for the sources of the soil pollution control fund, the EY ruled out establishing the fund by drawing yearly payments from funds set up by other environmental

laws. Instead, the EY adopted a model based on the Superfund model in the U.S. "Soil remediation fees" will be collected from importers and manufacturers of specified chemical substances according to the imported or manufactured quantity. Categories of specified chemical substances will be established based on considerations of the soil contamination risks of the substances in question. Chemical substances will be separately specified and announced by the EPA (according to the EPA's initial description in the Act, this will likely include benzene, vinyl chloride, cadmium, mercury, and many other chemical substances).

To enhance the effectiveness of applying the Act, the EY maintained the retroactive model, whereby cases of soil pollution discovered or under remediation prior to the Act coming into effect must still abide by the Act's clearance, treatment and compensation clauses.

Future soil remediation efforts will still proceed on a dual-track system. When contamination is discovered, liability will lie mostly with the polluter. However, so that remediation may occur as soon as possible, under special circumstances the local competent authority should act to determine remediation plans, which will be implemented after approval by the central competent authority.

Because soil pollution can easily lead to groundwater contamination, the spread of contamination must be stopped as soon as possible. The draft Act stipulates that, following evidence of groundwater contamination at listed sites, plans for groundwater remediation must also be established. The EPA is currently drafting amendments of the *Water Pollution Control Act* and has already included provisions concerning groundwater contamination.

Remaining details of the draft Act, such as soil pollution monitoring standards, soil pollution control standards, and soil analysis methods will be drafted by the EPA. 

Draft of Marine Pollution Control Act Submitted to EY

A draft of the *Marine Pollution Control Act* has been completed and submitted to the Executive Yuan (EY) for approval. The draft act is divided into nine chapters and 61 articles. It comprises six major parts and targets numerous major sources of ocean pollution for regulatory control, including land-based sources, marine and coastal area construction, waste treatment at sea, and marine vessels. The draft approaches pollution control both in terms of prevention and clearance/treatment. It also sets compensation and penalty guidelines for pollution related damages.

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Over the years, Taiwan's waste disposal problems have become more severe, and the demand for open ocean dumping and treatment has become stronger. Moreover, soil from construction sites is created in huge quantities with no place for disposal. Reclaiming land from the sea seems the best option, and the cities of Taipei and Hsinchu are already drafting plans for this approach.

Current laws, however, do not contain criteria for how to control and monitor the impacts on the marine environment caused by waste dumping and land reclamation. Facing this need the EPA recently completed a draft of the *Marine Pollution Control Act* and submitted it to the Executive Yuan for review.

Development of Taiwan's coastline has proceeded rapidly and with very little planning. Many coastal wetlands have been destroyed, and the release of wastewater, oil pollution, and the ocean dumping of industrial waste have severely impacted the ecological environment of the sea surrounding Taiwan. The proposed Act legislates controls on several major sources of marine pollution, including land-based sources, coastal and marine development activities, waste treatment at sea, and pollution from marine vessels. The Act takes both a preventative approach and a pollution control approach. It also includes provisions for pollution damage compensation and fines.

The draft contains nine chapters, 61 articles and includes six major sections. Chapter One, "General Provisions," stipulates that the agency responsible for implementing marine environment protection and preservation efforts is the Ministry of the Interior's Bureau of Maritime Police. Environmental protection of ports and harbors is slated to fall under the jurisdiction of Taiwan's port authorities.

Chapter Two, "Basic Measures," sets the framework for classifying and designating marine environmental control regions and establishing environmental standards. In light of recent discussions regarding the need for marine pollution emergency response plans, this chapter also provides for the establishment of a "Marine Pollution Control Committee" under the Executive Yuan to handle severe ocean pollution issues. The draft Act also stipulates the collection of marine disposal fees. Once collected, these fees can only be used for marine pollution control and ecological restoration purposes.

In terms of pollution control provisions regarding land-based sources, Chapter 3 of the draft Act regulates against the discharge of wastewater into specified areas without proper permits. These areas include ecological preserves, special scenic areas, recreational areas, wild animal conservation areas, aquatic animal preserves, and other areas specified by the central government.

Chapter 3 also regulates coastal construction ac-

tivities and at-sea waste treatment. The draft empowers and requires local competent authorities to actively respond to pollution incidents caused by the activities of public or private construction and waste treatment sites. When these sites do not implement necessary pollution control measures, local-level governments can perform such measures and levy necessary fines. Moreover, ocean dumping and at-sea incineration activities can only be performed in EPA-designated areas. Ocean dumped substances will be classified into three regulatory categories: Type A, B and C. Type A substances cannot be ocean dumped. Type B substances require special EPA approval prior to dumping; and Type C substances can be dumped only in accordance with time periods and total quantity controls set by relevant regulations.

Chapter 6 addresses marine vessel pollution and requires that all ships be inspected for compliance with pollution control equipment standards. All ships must obtain marine pollution control certification from relevant marine authorities.

As for damage compensation liability, the draft Act assigns liability for marine pollution and sets joint liability stipulations. Firms will be required to take out liability insurance or provide adequate financial guarantees.

To expedite the passage of the Act, the EPA has already allocated 1.4 million NTD to develop the Act's enforcement rules, plan emergency response measures, and draft marine environment standards. 

Medical Waste Management Regulations to be Amended

The EPA recently held discussions on amending regulations concerning the storage, clearance, and treatment of infectious medical waste. The draft amendment proposes loosening medical waste storage requirements. Moreover, the EPA will set different storage requirements according to storage site characteristics and functions. And, in order to maintain full knowledge of the destination of hazardous waste, the EPA will enforce regulations requiring medical institutions, waste clearance firms, and waste treatment firms to sign three-way agreements.

Domestic medical enterprises often comment that currently enacted medical waste management regulations are not suitable to all situations and are more stringent than those in other countries. Previously, in response to the suspension of operation order given to Jih-you, Taiwan's largest medical waste disposal firm (over 50% of all medical wastes) for illegal waste handling, the EPA actively met with relevant firms to communicate and plan response measures. At this time it was discovered that current regulations governing the storage, clearance, and treatment of medical waste had some room for modification. The EPA therefore

proposed amendments to the *Standards for Industrial Waste Storage, Collection and Treatment Methods and Facilities* and called together academics and experts and representatives from local-level environmental agencies, waste clearance firms, medical practitioner representatives to discuss the contents of the draft amendments.

The draft proposes loosening the time limitations on storing infectious medical waste. Articles have been added stipulating that infectious waste stored below zero degrees Celsius can be stored for up to 30 days.

However, local-level representatives have questioned this approach. They have requested the EPA to properly consider the ramifications on bacterial growth of low-temperature storage and freezing of infectious waste. They also requested the EPA to consider the ability of clearance firms to upgrade their transportation and storage equipment.

EPA Bureau of Solid Waste Director General, Shuh-Chiang Fu, stated that the EPA will fully consider the concerns raised. Director General Fu further revealed that the EPA is currently developing plans to separately establish storage criteria based on storage facility characteristics and functions. And future regulations may set different waste storage temperature and time criteria for medical institutions and clearance processes.

In addition, the EPA proposed replacing the practice of using different colored receptacles to distinguish wastes with a system which would directly separate medical wastes into two general categories: those which can and cannot be incinerated. These wastes would be separately collected and regulated. However this proposal met with opposition from industry members who expressed that the current system using red and yellow containers has been in effect for some time already and is easy to distinguish and manage. Any hasty decision to scrap it would be inappropriate. In light of this the EPA decided to adopt industry members opinions and continue use of the red and yellow containers.

Apart from items slated for amendment, EPA officials also expressed that in order to control the final storage site of hazardous waste in the future there will be compulsory regulations for three-sided agreements between medical establishments, collection firms and treatment organizations. Presently the majority of contracts signed between medical institutions and contracted collection and treatment firms are two-sided agreements. After a medical institution entrusts waste materials to a contracted collection institution for removal and transportation they assume they are absolved of all responsibility for the wastes. This has resulted in a number of difficult situations for the contracted firms and is equally difficult to supervise. For this reason the EPA is drafting strengthened legal regulations and in

the future the subcontracting of industrial waste materials will require the industrial institution, the contracted collection firm and the contracted treatment institution to form a single body, signing a contract together and bearing joint responsibility.

In response to this decision by the EPA, attendees of the meeting suggested that the central government determine a model contract which would clearly normalize the rights and obligations of the three parties and provide specific channels for industry members to resolve future disputes.

During the meeting Chairman of the Chinese Doctors Association, Chao-Geng Lin, pointed out that for the infectious wastes produced every month by Chinese medicine institutions, such as the mere 100 to 200 needles used per week for acupuncture, according to current regulations not only is the cost of disposing of the wastes more expensive than the needles themselves, but the containers required at storage sites create more pollution than the wastes themselves. Mr. Lin suggested that the EPA formulate a set of reasonable practices for use by medical establishments that generate small amounts of waste, such as extending the time limit for storage in order to reduce the frequency of clearance and treatment.

In response to this the EPA expressed that if supporting measures could be improved they would not rule out considerations of extending the time limits for storage. Another possibility would be to draw up a plan similar to the joint water processing systems used by small-scale factories. Medical institutions within a given area could collectively sign a contract with clearance and treatment firms to jointly undertake related environmental responsibilities. However, this method is not in accordance with current inspection regulations so it would be necessary to revise these regulations.

Furthermore, scholars in attendance once again called for the loosening of regulations for long disputed medical waste items such as wooden tongue depressors and blood stained cotton balls by classifying them as common waste materials. The scholars expressed that according to scientific principle, by treating them with a high temperature sanitation process, these materials can be rendered harmless to the environment and common burial or incineration practices can be used for their disposal.

The EPA believes though that the sanitation disposal equipment currently used at most domestic county and city burial sites are not yet perfect, furthermore total implementation of the use of incinerators will not be completed until 2003. In order to ensure the safety of public sanitation, in principle the EPA leans towards classifying the disputed materials as infectious waste for treatment purposes and it is unlikely that there will be future revisions to this policy. 

Feature Article

National Council for Sustainable Development Elevated and Reorganized

Reorganization of the National Council for Sustainable Development (NCSO) was recently completed. In addition to a general revision of the committee member list, R.O.C. Vice Premier Liu Chao-shiuan was appointed as council chairman. The EPA shall maintain its role as the NCSO secretariat, but some working groups have been restructured. The previous Social Development Working Group was dissolved and working groups for sustainable urban development, health and welfare, technological development and green GDP have been added.

The reorganization of the NCSO was carried out under the direction of Executive Yuan Premier Vincent Siew to improve the working effectiveness of the Council and strengthen its ability to follow through on resolutions. Vice Premier Liu will now serve as chairman of the NCSO while the position of vice chairman shall remain with EPA Administra-

tor Hsung-Hsiung Tsai. The list of committee members has been slightly reduced and now includes the heads of central government agencies, such as the Ministry of the Interior (MOI), the Ministry of Economic Affairs (MOEA), the Council for Economic Planning and Development (CEPD), the Council of Agriculture (COA), the National Science Council (NSC), the Department of Health (DOH), and the Directorate General of Budget, Accounting and Statistics (DGBAS). In addition, the professional committee members will include nine prominent Taiwan scholars.

In terms of organizational structure, the NCSO committee will not establish any advisory team and the Social Development Working Group will be removed. Four new working groups will be added including the Sustainable Urban Development Working Group, the Technological Development and

Post-restructuring Make-up of the National Council for Sustainable Development

<u>Working Group</u>	<u>Chairing Agency</u>	<u>Issue Areas</u>
Atmospheric Protection and Energy	EPA	Montreal Protocol; Treaty on Global Climate Change; Energy Issues; etc.
Waste Management and Resource Recycling	EPA	Basel Convention; Waste Recycling; Industrial Waste Minimization; Radioactive Waste Management; etc.
Marine and Land/Water Resources Management	MOEA	Marine Resources; Water Resources; Land Resources; etc.
Ecological Preservation and Sustainable Agriculture	Council of Agriculture	CITES Convention; Convention on Bio-diversity; and related Agriculture and Forestry items.
Environment and Policy Development	EPA	Macro-level environment and development issues such as Agenda 21, green consumerism, and environmental education.
Trade and the Environment	MOEA	Environmental protection and trade issues addressed by international economic and trade organizations; etc.
Sustainable Industries	MOEA	ISO-14000; Development of EP industries; ISO-9000; Cleaner Production; etc.
*Sustainable Urban Development	MOI	Sustainable cities; social development; sewerage construction; development of greenbelts and parks; etc.
*Technological Development and Advisory Support	NSC	R&D of sustainable development technology and technology transfer; set up of sustainable development research network and related strategy and advisory support; etc.
*Public Health and Social Welfare	DOH and MOI	Citizens' health protection; issues related to health insurance and drafting and promotion of sustainable strategies related to citizen sustainable annual money; poverty eradication; etc.
*Green GDP	DGBAS & CEPD	Investigation and Compilation of Green GDP.

**Newly Added Working Groups*

Advisory Support Working Group, the Citizens' Health and Welfare Working Group and the Green GDP Working Group. In total, the NCSD will be composed of eleven groups (see the attached chart), and the Council's secretarial affairs will be handled by the EPA.

According to the guidelines establishing the NCSD, the Council will be convened once every three months. Because the Council's status has been

raised within the government, the heads of the CEPD, DGBAS and other agencies related to resource management now sit on the Council. This change will strengthen the NCSD's policy-making ability. Because the Council's post-restructuring operational model has yet to be established, however, the actual effect on Taiwan's sustainable development efforts remains to be seen. 

Islandwide Inspection of Gravel Extraction Sites to be Promoted

The EPA is promoting a plan to thoroughly review and inspect gravel extraction sites across the island. This work is focusing on the air and noise pollution created by such sites. Local-level environmental agencies will perform detailed review of all sites and submit pollution source data to a database.

While approving the EPA's internal budget, the Legislative Yuan additionally requested the EPA to work with other relevant agencies to come up with a plan to control and remediate secondary pollution, such as air and noise pollution, created by gravel extraction activities. In response, the EPA recently initiated a nation-wide gravel extraction site review and listing plan and estimates that first-round review and listing activities will be completed by the end of August this year.

EPA databases currently contain data on 552 gravel extraction firms. Of these, four operate illegally, 383 operate legally, and 126 are of unknown legal status. Moreover, according to an investigation performed by the Water Resource Bureau of the Taiwan provincial government, 70% of riverbed gravel extraction operations are illegal, with the most egregious violations occurring in six major rivers such as the Tou-chien, Ta-an, Wu, Chuo-shui, Ba-chang, and Kao-ping.

The current round of review and listing work will focus on controlling air and noise pollution. The *Air Pollution Control Act* and the *Noise Pollution Control Act* will therefore serve as the legal bases for proceeding with enforcement activities. The EPA recently indicated that because the majority of air pollution is created during the transportation, piling, and operation processes, review and listing will primarily focus on whether operations are actually preventing fugitive dispersion of pollutants. Noise pollution control, on the other hand, will focus specifically on production processes.

According to plans, the current round of activity will include thorough reviews and database construction, inspections and the filing of legal charges, and periodical reporting of implementation results and problems. Regular meetings will also be called to report on implementation results, discuss obstacles to implementation, and plan the key points of the

next phase of implementation. Due to their differences in content, each of these activities will be carried out in separate stages.

The first step of the Special Plan will be to perform a nation-wide review of gravel extraction sites and establish related databases. The reviews will concentrate on collection of basic information, such as examining relevant permits and licenses. In reviewing pollution source information, environmental agencies will primarily consider the surface area of extraction operations, gravel piling sites, work areas, other exposed ground surfaces, roads, and pollution control equipment and facilities. Review results will be compiled into paper-based and electronic documents and keyed into EPA databases.

Following completion of the first round of review and listing activities at the end of August, each local-level environmental agency will report on implementation results and call discussion meetings on a bimonthly basis. Officials indicate that only through this type of approach can the EPA immediately grasp the status of enforcement activities, and at the same time understand the difficulties faced by local-level agencies. With this knowledge, the EPA will be able to modify the plan's focus and direction in a timely manner.

The EPA stated that future local-level databases must be developed according to the pollution status of pollution sources and that inspection efforts should proceed accordingly. Sites suspected of polluting should be inspected at least once per month, and sites likely to be free of pollution should be inspected at least twice per month. Sites that are ordered to perform improvement measures, as a result of inspection findings, shall be continually tracked by local-level environmental agencies.

The EPA further indicated that the review and listing of gravel extraction sites will be implemented on a continuous basis. Even if the completion of phase one review and listing work is not completed by the end of August, at least statistics and documentation can be generated for those sites that are reviewed. As for portions unfinished, work will of course continue so that a comprehensive picture can be obtained. 

Pilot Total Quantity Control District to be Implemented in Central Taiwan

The EPA recently selected the Central Taiwan Air Quality Region as the initial region for the demonstration program for total quantity control. It is expected that from July, implementation will move forward stage-by-stage. In the initial stage, newly established pollution sources must adopt best available control technology (BACT), in the second stage they must comply with allowable pollutant quantity increase limits, and in the final stage pollution sources must obtain adequate pollution credits before an installation permit will be granted.

According to air quality targets set by Taiwan's *National Environmental Protection Plan*, the percentage of days given a "poor" air quality rating (PSI) should be below 3%, 2%, and 1.5% in the years 2001, 2006 and 2011, respectively. Even though current improvement efforts have been increasing the severity of emissions concentration controls, this approach is not adequate to restrain increasing total pollutant emissions. With this in mind, the *Air Pollution Control Act*, revised and promulgated January 1 1999 was amended to formally include total quantity control mechanisms.

The newly amended *Air Act* stipulates that within a given district, limits on total allowable pollution quantities will be set for air pollutants that exceed standards for the district at issue.

If existing pollution sources effectively reduce emitted quantities below an indicated amount, the resulting difference in emission quantities may be saved, used as offsets, or traded.

After the legal footing for total quantity controls is firmly established, the EPA will begin to draft regional implementation strategies. Within the next five years and in line with regard to actual need, total quantity controls will be implemented in the Central Taiwan, Kaohsiung-Pintung and Yunlin-Chiayi-Tainan regions, and reduction targets and time frames for various types of pollutants will be conferred upon counties and cities within the jurisdiction of these regions. Due to the high rate of industrial development that will occur in Central Taiwan, this region will provide a relatively well rounded case study for the trial of various measures and the accumulation of operational experience. It is for this reason that Central Taiwan has been chosen for the implementation of a pilot total quantity control demonstration program.

The Central Taiwan Air Quality Region includes Taichung County and City, Changhwa County and Nantou County. EPA officials indicated that the total

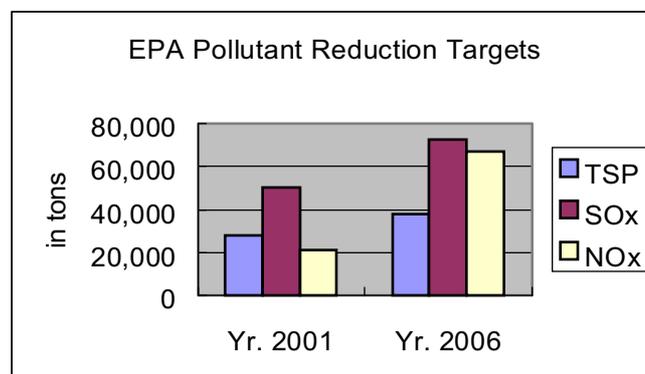
quantity demonstration program officially commenced in July of this year and will continue until December, 2002. During these three years, the program will be divided into four stages, each with different objectives.

Statistics show that in 1998, the percentage of days with a PSI rating of "poor" was 3.67%. In past years, total suspended particulates (TSP) has been the highest of the major pollutant indicators, but monitoring records show this indicator to be on a downward trend. Ozone, on the other hand, has been increasing over the years. As of 1998, days with "poor" rating for TSP and ozone stood at 59% and 41%, respectively. Within the Central Region, the area with the highest number of "poor" days was Nantou County, and the area where air quality has undergone the largest improvement was Changhwa County.

According to air quality improvement objectives as stated by the *National Environmental Protection Plan*, the Central Region should lower the % of "poor"

air quality days of 2.9%, 1.9% and 1.5% in the years 2001, 2006 and 2011, respectively. Based on pollution statistics for 1997 the EPA has set cumulative TSP, SO_x and NO_x reduction targets for 2001 and 2006 (see table).

The EPA further indicated that relevant



agencies should set targets for gradual reduction of pollutants emitted by existing pollution sources in total quantity control districts that do not comply with air quality standards. Within these districts, only when total emission quantities are lower than maximum allowable limits can the establishment of new air pollution sources be allowed. In total quantity control districts that do meet air quality standards, allowable emissions quantity increase limits will be set for various pollutants and plans to prevent deterioration of air quality will be established.

In line with EPA plans, installation permit requirements for newly established pollution sources in the Central Region will develop in three stages beginning in 2000. In the first stage, pollution sources must show that they have adopted best available control technology (BACT). In the second stage, pollution sources must demonstrate BACT and perform maximum allowable pollutant quantity increase simulation modeling. Pollution sources must also possess emission quantity reserves or obtain adequate offsets from other sources. Finally, in the third stage, pollution sources must publicly register emission quantities, and after emission

credits have been obtained, an installation permit will be granted.

All county and city EPB's in the Central Taiwan Air Quality Region must actively formulate local air pollution prevention plans and record reported factory emission quantities. The EPA forecasts that after April

of next year, all factories will have to begin implementing emission quantity reductions in line with relevant targets. Once the Central Region pilot program matures, total quantity controls will be gradually implemented in other air quality zones. 

Green Product Procurement Criteria Announced

On June 26, regulations regarding the Government Procurement Act's provisions for priority purchasing of environmentally-friendly goods were announced. The Tier 1 classification will be open to foreign-made products provided they bear eco-labels from countries that have established joint eco-label recognition with Taiwan. The authority for identifying Tier 2 products will remain completely with the EPA, which will also set related identification parameters and processes. Tier 3 products will be identified through approval documentation provided by the competent authority associated with the product at issue.

The era of green purchasing in Taiwan is off to a formal start. The R.O.C.'s *Government Procurement Act* (hereinafter referred to as the "Act") came into effect on May 25. On June 26, in accordance with Article 96 of the Act, the EPA and Public Construction Commission (PCC) promulgated regulations concerning priority purchasing for environmentally-friendly products. From now on, environmentally friendly products can enjoy a 10% price advantage when participating in government bids.

In final discussions on priority purchasing regulations, the PCC and EPA dispensed with the EPA's previously proposed suggestion that a "technical committee" be established to qualify green products. Rather, this responsibility will be entirely given to the EPA.

Initial attempts at setting priority purchasing regulations went through many twists and turns, and the primary stumbling block was how to set "green product" qualifications. Provisions in the Act regarding products that can enjoy priority purchasing and price advantage rights state that products that qualify for Taiwan's eco-label, the "Green Mark," automatically qualify for such rights. If a product does not bear the Green Mark, then the product itself or its manufacture, use or disposal must meet criteria based on the principles of reusability, recyclability, low pollution and/or resource conservation (considered Tier 2 products). Or, the product must benefit society or reduce social costs in some manner (considered Tier 3 products).

The EPA had originally proposed that a technical committee be formed by representatives from the PCC, the EPA and other agencies to handle review of potential Tier 2 products. However, at further meetings between the PCC and EPA it was decided that the authority should be unified into a single body, and the EPA was chosen to handle all matters related to qualifying Tier 2 products. Qualification methods and

procedures will be separately established by the EPA. As for Tier 3 qualification criteria and procedures, these will be set by the competent authority for the industry associated with the product (i.e. the Ministry of Economic Affairs in the case of most manufactured goods).

In addition to this change, the final draft of the procurement regulations also more heavily emphasizes international interaction. To qualify for Tier 1 status, a product only has to comply with Green Mark criteria as announced by the EPA – it does not have to actually bear the Green Mark. Products that bear eco-labels from countries that have joint eco-label recognition with the R.O.C. are also eligible to receive Tier 1 status.

Guidelines concerning bid competition between "green" and "non-green" products will remain the same as those originally proposed by the EPA. There are two principles. The purchasing organization can choose one as needed:

1. If a non-green product bidder has the lowest price bid, and this bid is below the bid floor price, the purchasing organization can grant the green-product bidder the choice of rebidding at the lowest price.
2. If a non-green product bidder has the lowest bid price, and this price is below the bid floor, but the green-product bidder's price bid is within the specified preferential pricing range, the bid shall be awarded to the green-product bidder.

If more than one green product from multiple firms meet the requirements stated above, the Regulations stipulate that the organization issuing the bid shall grant priority bid status to products of Tier 1 and 2. If the bid is still not decided, then it will be awarded to Tier 3 products.

Even though the green purchasing regulations have already been established, many firms are closely watching the government's resolve to implement them and any future developments that may arise. According to reports, many of the measures being planned by the EPA's Recycling Fund Management Committee to encourage recycling and reuse will be driven primarily through green purchasing mechanisms.

The EPA further indicated that in order to satisfy the requirements of all interested parties, it will promulgate Tier 2 product qualification criteria, relevant administrative procedures and work standards as soon as possible. Whether these green purchasing policies can stimulate a shift toward green consumerism and green manufacturing largely depends on government actions at the current juncture. 

21 Additional Chemical Substances Listed as Toxic

The EPA plans to list as toxic over 200 chemical substances before November 1999. On August 16, as a step toward this goal, 1,2-Dichloroethane and 20 other toxic chemicals were listed and the first Class IV toxic chemicals were announced. To date, the total number of listed toxic chemicals is 135.

In response to demands by the Legislative Yuan that Taiwan come up to speed with toxic chemical controls in countries such as the U.S., Japan and Germany, the EPA plans to complete listing of over 200 chemicals as toxic substances by November 1999. The EPA is now actively carrying out the work of screening toxic substances, and on August 16 announced the listing of 21 new toxic chemical substances, including 1,2-Dichloroethane and 20 other chemicals (see accompanying table).

This round of listings was the first time chemical substances had been listed as Class IV substances. Specifically, 1,2-Dichloroethane, 1,1,2,2-Tetrachloroethane and 9 other chemicals have been listed as Class IV. Firms handling Class IV substances need only report the amount being handled, the amount released to the environment, and related toxicological data. Other control measures are not necessary.

In the compilation of this list the EPA solicited opin-

ions brought forward by industry members during public hearings and for the first time included an exemption clause. Certain listed toxic chemical substances that can be plasticized, are solidified and under conditions of normal usage in a manufactured product will not result in harmful releases will not be subject to the restrictions imposed on listed substances.

Another unique area of this announcement is the stipulation that individual sites storing below the minimum control volume can obtain permission from a city or county EPB to be exempted from further storage registration requirements. An EPA official expressed hope that this policy change would encourage users to store smaller quantities of toxic chemicals, thereby reducing related risks.

To ensure the uniformity of management practices for all toxic substances, the EPA expressed that it will consider altering the current system of listing substances in batches to a cumulative one. Under this system previously listed toxics would be re-announced during each new listing of additional toxic substances.

Management practices for all listed substances would then be in accordance with the newest announced standards. The EPA is still looking into the final details of this new approach. 

21 Additional Listed Toxic Substances

<u>Listed Chemical</u>	<u>CAS No.</u>
1 2-Chloroaniline	101-14-4
2 Di (2-ethylhexyl) phthalate	117-81-7
3 1,3-Dichlorobenzene	541-73-1
4 1,2,4-Trichlorobenzene	120-82-1
5 2-Ethoxyethanol	110-80-5
6 2-Methoxyethanol	109-86-4
7 Epichlorohydrin	106-89-8
8 Phthalyl anhydride	85-44-9
9 Toluene diisocyanate	26471-62-5
10 Toluene-2,4-diisocyanate	584-84-9
11 1,2-Dichloroethane	107-06-2
12 1,1,2,2-Tetrachloroethane	79-34-5
13 1,2-Dichloroethylene	540-59-0
14 Chloromethane	74-87-3
15 Dichloromethane	75-09-2
16 Dimethyl phthalate	131-11-3
17 Dibutyl phthalate	84-74-2
18 Cumene	98-82-8
19 Cyclohexane	110-82-7
20 Chloroacetic acid	79-11-8
21 Ethyl chloroformate	541-41-3

EIA Initial Review Guidelines Announced

To provide a clearer framework for EIA initial review meetings, the EPA on June 10 announced procedural guidelines for the EIA Review Committee to follow when performing initial EIA reviews.

EPA officials stated that in the past, if an environmental group or community representative wished to attend review meetings or make statements, decisions had to be made on a case-by-case basis due to the lack of established guidelines.

According to these guidelines, future EIA initial review task forces will be formed based on the special characteristics of the case at hand. The task forces will be made of between eight and fourteen people, including EIA Review Committee members and experts and academics. Representatives of related

agencies will also be invited to participate.

As for public participation, the guidelines stipulate that the initial review committee may invite relevant environmental and community groups to attend meetings and make EIA-related statements and comments. Total attendance by these groups will be limited to 30 individuals and attendance on the part of each environmental group or community group will be limited to two people.

EPA officials indicate that due to limitations provided by the *EIA Act*, these guidelines are only applicable to EIA review procedures at the central government level. Whether local-level governments follow this example is a decision they can make for themselves. 

News Briefs

EPA Promulgates Regulations to Encourage the Public to Report "Inkfish" Vehicles

On August 18, the EPA announced draft regulations to encourage citizens to report vehicles suspected of emitting high levels of air pollutants. People who see polluting vehicles can report the sighting within seven days to relevant authorities. Reports must include the vehicle's license plate number and the time, date and location of the sighting. It is up to the competent authority at issue to notify the vehicle to undergo inspection after a tune up. The reporting individual will be awarded 100 NTD for those vehicles failing to meet emissions standards after inspection.

Self-initiated Application Recall and Extension Stipulations to be Added to EIA Review Process

When environmental agencies go through the environmental impact assessment (EIA) review process, they typically request developers to submit, if necessary, additional documentation within a specified time period. If developers cannot do so within the given period, or if the supplemented information does not meet requirements, then the environmental agency may request that the target-industry competent authority turn down the application for the development project. However, in actual practice, developers for numerous reasons do not submit the supplemental material within the given period and repeatedly request environmental agencies to understand their difficulties. This situation leads to administrative headaches for both parties. As a result, the EPA revised the *EIA Act Enforcement Rules*. From now on, during the initial EIA review stage, developers may as necessary self-initiate application recall or extension procedures anytime before the end of the supplementation period.

Drinking Water in Day-cares and Kindergartens to have Priority Listing for Inspection

To ensure the safety of drinking water consumed by children, the EPA has instructed local-level environmental agencies to put priority emphasis on the inspection of drinking water equipment in day-care facilities and kindergartens. From August, further inspections will be made to ensure the safety of drinking water in elementary and middle schools. The EPA indicated that all kindergartens and day-care facilities are required by law to regularly maintain drinking water equipment and inspect water quality. Facilities not in compliance can be fined between 10,000 and 100,000 NTD and ordered to remedy the situation within a specified time period.

EPA Study Reveals Heavy Metal Content of Incinerator Air Emissions to be Minute

In a six-month air pollution study begun in December 1998, the EPA focused on the heavy metal content of ambient air surrounding the Mucha and Shu-lin incinerators. The study analyzed total suspended particles (TSP) and four heavy metals, including lead, copper, cadmium, and chromium. The study revealed that the concentrations of TSP and lead in air around these two incinerators fall below national safety standards. As for the other heavy metals, there are currently no standards in place, but the measured concentrations were very small.

Efficiency of the Air Quality Monitoring Data System Improved

The EPA's "air quality monitoring network" has collected thousands of reams of data and created a bottleneck in the operation of central processors. In response, the EPA has updated the system with new central processors. The Bureau of Environmental Monitoring and Data Processing indicated that the time required to report hourly air quality monitoring results will decrease from 30 to 15 minutes. And, publicly available historical monitoring data will now be kept for 18 months, rather than the previous 9 months. The new system has also smoothly passed Y2K testing.

Diesel Fuel with more than 0.05% Sulfur Content Banned

On June 28 1999 the EPA announced the reclassification of diesel fuel with more than 0.05% sulfur content as a "substance prone to create air pollution." From July 1, the use of this fuel will be banned, unless special permission is granted. Permits to use such fuel will be granted on a case-by-case basis.

Review of Stationary Pollution Source Permits to be Handled at the County/City Level

Due to the downsizing of the Taiwan Provincial Government (TPG), the EPA put the responsibility for reviewing stationary pollution source permits back into the hands of county- and city-level environmental protection agencies. Statistics show that of the 1,397 cases transferred to the EPA from the TPG Department of Environmental Protection, 947 were approved, 432 are pending, and 18 were rejected.

Award Amount for Turning in Unwanted Vehicles Raised

On June 16, the EPA announced new vehicle recycling award amounts for the period of July 1, 1999, to December 31, 2000. The award amount for turning in unwanted automobiles was raised from 1,800 to 3,000 NTD per vehicle, and the award for unwanted motorcycles was raised from 400 to 650 NTD. Officials of the EPA's Recycling Fund Management Committee indicated that the recycling award was raised in order to increase incentive to recycle motor vehicles. Individuals who turn in motorcycles that were produced or first registered before July 1, 1992, can receive up to 1,000 NTD, but this incentive policy will only be in effect until November 30, 1999.

Stationary Pollution Source Permitting Regulations Streamlined

In order to raise administrative efficiency the EPA on June 16 announced amendments to regulations concerning stationary pollution source installation, alteration and operation permitting. In addition to merging the initial and follow-up review procedures, the length of the written review for installation and alteration permits was decreased from 40 to 30 days, and the length of the written review for operation permits was reduced from 30 to 15 days. The number of days for submitting complementary documentation was halved, from 180 to 90.

Taiwan's Rivers Show Signs of Improvement

The EPA's Office in Taichung recently announced that monitoring data clearly shows that water quality in Taiwan's 50 major and minor rivers is gradually improving. A comparison of 1997 and 1998 data demonstrates a 0.8% decrease in river lengths classified as "seriously polluted." In related news, the EPA has initiated review of the existing 35 river-use classifications, as these have not been modified for some time.

The EPA's Office in Taichung (formerly the Taiwan Provincial Government's Department of Environmental Protection) recently released 1998 water quality monitoring results for Taiwan's 50 major and minor rivers. The Taichung Office announced that monitoring data clearly shows that 66.4% of 2,745.5 kilometers of river-length remains unpolluted. Lightly polluted river-length comprises 8.5%, moderately polluted river-length equals 14.1%, and 11% of river-length is seriously polluted.

Considering the pollution status of only the most downstream river sections, 20 rivers and streams (40%) remain unpolluted, 11 (22%) are lightly polluted, 9 (18%) are moderately pollution, and 10 (20%) are seriously polluted.

For the period from January to March 1999, results from monitoring 49 rivers (with a total river-length of 2723.2 km) showed that 72.2% of total river length was unpolluted, 4.9% was lightly polluted, 13.9% was moderately polluted, and 11% was seriously polluted.

An analysis of the most downstream river sections during this period reveals that 40.8% of monitored rivers were unpolluted, 12.3% were lightly polluted, 34.7% were moderately polluted, and 14.3% were seriously polluted.

In light of these statistics, the EPA feels that over the past three years water quality in Taiwan rivers has

continued to improve, albeit slowly.

If one were to compare monitoring results from 1997 and 1998, water quality improved by a margin of 0.2%, in unpolluted river-lengths, 0.7% in lightly polluted river-lengths, 1.3% in moderately polluted river-lengths, and 0.8% in seriously polluted river-lengths. Water quality took a turn for the better in 16 rivers, including such rivers as the Feng-shan, Ta-an, Ta-chia. Rivers in which water quality deteriorated include the Tou-chien, Pa-chang, Kaoping and three other rivers.

The EPA also indicated that it will urge local-level governments and regional agencies to strengthen tracking and investigation of pollution sources discharging effluent where water quality has deteriorated.

The EPA also revealed that water-use classifications for rivers have not been modified since they were first announced in 1979. Over the many years of monitoring river water quality, it has become apparent that major environmental changes have occurred in the hydrology and water quality of several rivers. To meet environmental changes and the needs of implementing improvement efforts, the EPA has proposed changes in classification of the 35 riverine systems for which use classifications are already in existence. Updated classifications will form the basis for future monitoring of river water quality and establishing related environmental protection measures.

We apologize for the delay in publishing this issue of the EPM. To keep our readers up to date on important environmental policy trends, our next issue will be published shortly following the current issue. Thank you for your continued interest in the EPM.
-- EPM Editorial Staff

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