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## ***New Dioxin Standards Set for Small and Medium Incinerators***

The EPA has completed formulation of the *Draft Dioxin Control Standards for Small and Medium-sized Waste Incinerators*. Incinerators with installed capacity below 4 tons per hour must limit dioxin emissions to 0.5 ng-TEQ/Nm<sup>3</sup> or below, while those with installed capacity of 4 tons or greater per hour must control emissions to within 0.1 ng-TEQ/Nm<sup>3</sup>. New facilities must comply with the standards beginning January 1, 2001. Existing facilities will have 2-3 years to comply with the new standards. After the standards come into effect dioxin emissions can be reduced an estimated 0.1 gram, or a 76% reduction in dioxin emissions. Such a reduction will reduce public cancer risks from dioxin to below one in one million.

The public has become increasingly concerned with the subject of dioxin emissions. To protect public health, in August of 1997 the EPA set the world's strictest dioxin emission standard, 0.1 ng-TEQ/Nm<sup>3</sup>, for large incinerators with installed capacity above 10 tons of waste per hour. Due to the low quantity of dioxin emissions from individual incinerators with installed capacity below 10 tons per hour the EPA had originally held off setting standards for small and medium incinerators. However, small and medium incinerators have proliferated in Taiwan today and poor operating conditions mean that the concentration of dioxin in emissions from these facilities can be up to 26 times greater than that of large incinerators. The health risk posed to Taiwan's citizens has spurred the EPA to formulate the *Draft Dioxin Control Standards for Small and Medium-sized Waste Incinerators* (中小型廢棄物焚化爐戴奧辛管制標準草案). Incinerator operators will be able to follow these standards to reduce dioxin pollution.

During the course of developing the new standards the EPA took a number of factors into account including the feasibility of dioxin control technology, cancer risks due to emissions, standards used in foreign countries, and costs for installation of control equipment. The resulting new standard is on par with emissions control in advanced countries. In addition the EPA has set regulations governing operating parameters, effective stack height, regular monitoring, and reporting, as follows:


1. Operating parameters: burn temperature may not fall below 850 °C; retention time for combustion gasses must be at least above 1 second; oxygen content of gaseous emissions must average above 6% per hour; and moving average CO values must be below 100 ppm per hour

2. Effective stack height: stacks for facilities with installed capacity of 4 tons or greater per hour must be above 50 meters; stack height for facilities with installed capacity below 4 tons per hour must be above 20 meters. Existing incinerators may also use a dioxin cancer risk factor below one in one million to calculate minimum stack height

3. Regular analysis and reporting: facilities with installed capacity 4 tons or greater per hour must perform an annual analysis of dioxin quantities in flue gas emissions; those with installed capacity below 4 tons per hour must perform analysis of dioxin quantities in flue gas emissions once every two years. Analysis results must be reported regularly to the proper environmental authority.

The new standards and operating criteria clearly put dioxin control in Taiwan on a par with that of advanced countries.

Since limitations in domestic dioxin emissions analysis capability has traditionally been a barrier to implementing such regulations, the EPA held a special meeting with industry to discuss strategies for meeting the future standard. During the meeting, the National Institute of Environmental Analysis noted that three companies have already been approved as qualified in dioxin sampling techniques and should be capable of meeting future market demand for sampling services. In addition, two organizations have already applied for certification to perform dioxin emissions analysis and the EPA expects that domestic analysis capabilities should mature within the next year.

Given the rapidly developing dioxin sampling and analysis capabilities, the EPA has decided to move forward with promulgation. Existing medium-sized facilities will have two years to comply with the new standard while small-sized facilities will be given three years. 

## ***EPA to Subsidize Natural Gas Prices in 2001***

Over the last few years the EPA has spent over NT\$1.1 billion to subsidize the refitting of taxicabs to run on natural gas. In the EPA's drive to encourage the use of cleaner burning fuels a total of over 26,000 taxis have completed refitting. Due to the large number of taxis that now run on natural gas, the EPA has decided to switch

it's subsidy from vehicles to natural gas itself and increase the price gap between natural gas and petroleum. At earliest, the program could be under way January of next year.


Since 1995 the EPA has encouraged taxicabs

to switch from petroleum to natural gas. Over this five year period the EPA has paid over NT\$1.1 billion to help subsidize more than 26,000 taxis refit to natural gas. To continue strengthening the results of this program, the EPA has decided to switch its subsidy from vehicles to the price of natural gas itself. Increasing the price gap between natural gas and petroleum will continue to attract car owners other than taxi drivers to use natural gas.

On September 1 the EPA invited representatives from vehicle refitting and fill-up station enterprises to discuss future subsidy measures. The EPA's Bureau of Air Quality Protection and Noise Control expressed that the primary motivation for subsidizing the price of natural gas is to tempt car owners outside of taxi drivers to take advantage of cheap fuel. By expanding the focus of the initiative, more vehicles, such as public busses, private sedans, etc. will refit on their own to use natural gas. At the present, a liter of 95 octane unleaded gasoline costs NT\$19.5 (about US\$0.60) while a liter of natural gas only NT\$10.1 (about US\$0.30). The Air Bureau emphasized that the EPA will drop the price of natural gas a further NT\$2 to 3, to around NT\$8, below the cost even at black market fill-up stations.

In South Korea the price of petroleum is over

three times more expensive than that of natural gas, while in Japan petroleum is more than twice as expensive. Such government created incentive has attracted more people to use natural gas. Taiwan currently lacks an adequate number of natural gas fill-up stations. With only seven legal stations across the island, black market, or underground, fill-up stations have proliferated. According to estimates, natural gas at black market stations is priced between NT\$8 to 9 per liter, one to two NT dollars cheaper than legal fill-up stations. However, quality on the black market is not good and can adversely affect the vehicle. As a result, reducing the price of natural gas below that of black market stations should help put them out of business.

The EPA's decision to switch the subsidy from the refitting of taxicabs to the price of natural gas was made after concluding discussions with enterprise representatives. Over the past five years the EPA has registered over 26,000 taxicabs that received subsidies to refit their vehicles. For each vehicle the EPA provided a subsidy of NT\$40 to 45 thousand, spending a total of NT\$1.1 billion as of the present. The Air Bureau confirmed that beginning next year taxis will no longer receive a subsidy for refitting. Subsidies for natural gas will begin next January at the earliest. 

## ***Mandatory End Imposed on Hog Rearing in Water Source Areas***

**Problems with drinking water quality have drawn increasing attention of late. To eliminate a major source of drinking water pollution the Executive Yuan has budgeted NT\$6.45 billion for the compensated removal of hog farms in five river basins, including the Kaoping River. In addition, the EPA will work together with government agriculture and economic agencies to strengthen prohibition of farmers unwilling to comply.**

Public attention has been increasingly riveted on water quality problems after occurrence of the Kaoping River dumping incident. The EPA, to protect the quality of sources for drinking water, has set a plan to remove hog farmers located near protected water sources. The plan, which is based on the Executive Yuan's *Framework Plan for Protecting the Quality of Drinking Water Sources* (飲用水水源水質保護綱要計畫), will be carried out by a combined task force drawn from the EPA, the Council of Agriculture, and the Ministry of Economic Affairs. The task force will work to increase auditing and prohibition of violations of the *Tap Water Act*, the *Water Pollution Control Act*, the *Drinking Water Management Statutes*, the *Livestock Act*

(畜牧法), and other related regulations. Strengthened enforcement is aimed to reduce the number of hog farms and better protect the quality of drinking water at the source.

The EPA noted that compensated removal of hog farms is already officially underway. In August of 2000 the EPA promulgated a plan for removing hog farms on the Kaoping, Tamshui, Touchien, Tachia, and Tsengwen Rivers, followed by guidelines for determining compensation.

Deputy Administrator of the EPA, James J. Lee, emphasized that even during a time when government financial resources are not abundant the Executive Yuan has allocated a total of NT\$6.45 billion for the compensation of hog farmers. He hopes that farmers take this opportunity now because it will not be available again in the future. By October 15, city and county environmental protection bureaus will complete a comprehensive review of all hog farms. Beginning December 1 the EPA, along with the joint government task force, will ex-

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pand activities to locate and shut down hog farms located in water source protection areas.

According to statistics, there are currently around 3,400 hog farmers raising a total of 640,000 hogs on Taiwan's five major river basins and spanning over 49 townships, villages, and cities. Of these,

62% expressed a willingness to end operations while the other 38% will observe how the EPA's policy on banning hog farms develops. The EPA urges farmers to take advantage now and apply for the relocation subsidy while still available. Future EPA inspection and prohibitions will make it unprofitable for those farmers that prolong ending their operations. ☺

## ***EPA Tightens Industrial Waste Requirements During EIA Review***

In the wake of the recent problems regarding solid waste management, EPA Administrator Edgar Lin has resolved to tighten review of solid waste management plans in projects undergoing EIA review. At the most recent meeting of the Environmental Impact Assessment Committee, the EPA rejected EIA reports submitted by the developers of the Chang Bin Industrial Park, Kaohsiung Medical School, and various oil storage tank projects. Administrator Lin stated that under the terms of the *Waste Disposal Act*, industrial parks must complete construction of incineration facilities and a landfill site for fly ash before commencing operation.

The EPA's Environmental Impact Assessment Committee met for the 73<sup>rd</sup> time on August 24 to review the applications for the Chang Bin Industrial Park industrial waste disposal site and the Kaohsiung Medical School. The Committee decided that Chang Bing Park must first build an incinerator as well as a landfill site for fly ash disposal. In addition, the Committee also required the Kaohsiung Medical School to develop facilities to allow them to treat the hazardous medical waste generated by the school.

Following further discussion, the Committee also agreed in principle that applications for all major future development projects including industrial parks, schools, and large hospitals must include measures for on-site treatment of industrial waste. In the future, the Committee will be less willing to accept reasons such as lack of available land in industrial parks, high costs of construction, time delays, etc. as cause to allow off-site treatment or delays in construction of on-site treatment facilities.

In addition, the Committee also discussed the

issue of oil storage tanks. As a result of the privatization of the oil industry, the Committee has been receiving increasing numbers of applications for construction or expansion of oil storage facilities. The Committee decided to send the three currently pending applications to a specialized subcommittee for further review. After extensive discussion, the EIA Committee also requested Chinese Petroleum Corporation (CPC) and other applicants to prepare a 10 year plan for managing future supply and demand. Such a plan would allow the EIA Committee to better understand the overall environmental impact of all planned future facilities. In addition, applicants were also requested to undertake a detailed review of their plans for: emergency or accident response, VOC monitoring and management, prevention of groundwater contamination, and sludge disposal. The Committee is particularly interested to see the development of total quantity management plans for harbor storage capacity to avoid construction of unneeded oil tanks by developers in a rush to expand capacity.

In closing, Administrator Lin stated that in the past, industry has often delayed construction of incineration facilities citing a lack of available land, insufficient waste streams, and other commonly used excuses. Typically, the result has been that companies have then contracted for off-site disposal, leaving the problem of developing adequate disposal capacity to environmental agencies. In the future, however, Lin stated that the EPA will return to a stricter interpretation of the law and will not lightly compromise on basic legal requirements. ☺

## ***EPA to Make List of EIA Violators Publicly Available***

Environmental agencies recently strengthened the tracking and monitoring aspects of environmental impact assessment implementation. This was in response to the realization that many developers were ignoring the commitments they made during EIA review. To urge developers to properly implement EIA measures, the EPA

indicated that it will strengthen reporting and monitoring activities and make public the names of companies that violate EIA requirements.

EPA statistics show that since 1985, when Taiwan's environmental impact assessment (EIA)

system was first put in place, 495 development projects have passed the EIA review process. Monitoring of these cases reveals that 114 projects have been completed and 115 are still underway. Notably, work on 266 projects (54% of the total) has either not been started or has been stopped.

EPA officials stated that even though EIA rules have been in place for many years, and despite the long-term efforts of environmental agencies to promote awareness of EIA regulations, several developers have violated regulations on multiple occasions. The total number of violations has, in fact, been increasing. Between January and August of 2000, for example, 19 out of 139 monitored cases did not comply with EIA regulations. Of these, 11 were fined and 8 were ordered to submit compliance plans. In an effort to stop this trend, the EPA will not only strengthen monitoring activities, but will also make public the names of firms that have violated EIA rules.

The EPA also indicated that developers seek to quickly pass the EIA review process and often ignore the specifics contained in the EIA report, statement, or review conclusions. As a result, al-

though their hired consultants write environmental impact statements that include very precise commitments, when construction commences developers often fail to comply.

To reduce the number of violations, the EPA will require heads of development firms to confirm the content of environmental impact statements and reports and sign off on these documents. The EPA will also require firms to automatically submit to environmental agencies the implementation status of EIA review conclusions and response measures.

Moreover, the EPA is also working with the competent authorities of industries concerned to strengthen EIA tracking procedures. A major objective will be to provide on-site inspection of and government assistance for firms that rank high on a priority list. Priority will be determined through degree of environmental impact of the activity in question, effectiveness of environmental protection activities, and consideration of concerns held by the general public. With increased attention from environmental agencies, developers should be able to better comply with commitments made as part of the EIA process. ◉

## ***Permit Review Process for Waste Treatment Facilities Expedited***

**The EPA hopes to reduce review time for firms that apply to operate waste treatment facilities. Following the adoption of such procedural changes as per-case review and making review information publicly available, the waste clearance and treatment permit review process has been reduced to an average of 65 days for waste clearance firms and 59 days for treatment firms. The EPA will also encourage large corporations to install treatment facilities so that more advanced treatment technology will be utilized and operating capacity increased.**

The recent Kaoping River dumping incident radically highlighted Taiwan's predicament concerning industrial waste treatment. In order to increase treatment capacity and expedite the permit review process, the EPA has already simplified the procedures for applying for hazardous waste clearance and treatment permits and industrial waste reuse permits. In addition, permit application information will be made publicly available.

EPA officials indicated that the newly implemented "one case, one review" method of processing permit applications requires 14 days of initial administrative time. Experts, academics and relevant agencies are then asked to review the ap-

plication. In addition, onsite inspections of the facility are an important part of the new process to improve both efficiency and quality of the review.

Statistics show that from July 1999 to August 2000, permits for 28 waste clearance firms were approved. These permits were processed in 65 days on average. The EPA also approved permits for 33 waste treatment firms, with an average processing time of 59 days per permit. These processing times even included the time spent by applicants on modifying submitted documentation. To increase domestic capability to treat waste solvents, the EPA has sent a formal letter urging local-level governments to speed up processing time in a similar manner. For example, in the application of one firm wishing to increase their permitted amount of waste treatment the EPA was able to reduce application processing time – from receipt of application to completion of processing – to four days.

Beginning in April 2001, the EPA will organize nearly 20 permit application procedure

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## Feature Article

### **EPA Calls for Reducing Gas Consumption by Government Vehicles**

To help reduce motor vehicle pollution the EPA recently proposed a plan to lower gasoline consumption by government owned vehicles. The plan, which could go into effect as early as 2001, will replace "gas coupons" with "gas accounts" and favors rental over purchase of government vehicles. It is estimated that the plan could save an annual NT\$2.3 billion from government budgets.

Gasoline consumption is the major cause of pollution from motor vehicles. To reduce the pollution generated by motor vehicles the EPA has decided to set it's sights on government owned vehicles across the nation. After frequent internal discussions, the EPA recently proposed a plan to reduce gasoline consumption from government vehicles by over 20%. Discussions between the agencies involved were led by EPA Deputy Administrator James J. Lee.

According to the EPA's plan, beginning next year gasoline consumption should be reduced by over 20% in the 70,000 vehicles used by Taiwan's government agencies. This initiative would reduce gasoline usage by an annual estimated 50 million liters, amounting to savings of over NT\$1 billion. Further, instead of purchasing new vehicles for government officials, with the exception of directors or deputy directors of government agencies, the government will begin renting vehicles, saving an additional estimated NT\$1.3 billion from government coffers.


EPA Deputy Administrator James J. Lee pointed out that with the exception of military use vehicles in the Ministry of National Defense, 72,000 government vehicles, including officials' cars, work vehicles, ambulances, and trash collection vehicles, will be included in the plan. The 72,000 vehicles consume around 250 million liters of gas annually, requiring an annual budget of nearly NT\$5 billion.

Under the current system, agency drivers are issued gas coupons at the beginning of each month. At the end of the month total gasoline usage is cal-

culated and drivers are reimbursed for any shortfall or return unused coupons. Gasoline use is calculated in one of two ways, either based on standardized mileage between destinations (i.e. Taipei to Kaohsiung) or on actual reported mileage. Mileage is then used to calculate estimates for the amount of gasoline consumed. The EPA points out that there are a number of uncertainties when calculating gasoline consumption and estimates are on average 5 to 10% above actual consumption. If reported mileage is not accurate and the vehicle is not driven normally according to regulations, gasoline consumption increases.

To improve on this problem, the EPA's draft plan proposes use of a gasoline account book in favor of gasoline coupons along with strict auditing to prevent inflated mileage reports. Furthermore, random checks will be carried out every six months on the 15,000 vehicles that are soon to be fitted with mileage tracking devices. The devices will be purchased throughout Taiwan's government agencies and can be used to verify actual against reported mileage. In terms of special work vehicles or vehicles that consume large amounts of gas, such as industrial waste transport vehicles or construction cranes, GPS systems will be installed to monitor their routes and destinations.

The plan also suggests at-source controls, recommending that all public vehicles, with the exception of those for directors or deputy directors of government agencies, should be rented. This will save an annual NT\$1.3 billion. Using NT\$19.5 as the cost per liter of gasoline, this amounts to savings of almost 660 million liters, 26% of the 252 million liters used by government vehicles each year.

After closing discussions with related agencies, the EPA will update the contents of the plan and submit it to the Executive Yuan for approval. If all proceeds smoothly, the plan could go into effect as soon as 2001. 

### **National Industrial Waste Management Plan Reported to Executive Yuan**

After calling together relevant industrial agencies the EPA has completed a draft of the *National Industrial Waste Management Plan*, which sets a goal of proper treatment of all industrial waste by the end of the year 2003. To improve tracking of industrial waste generation, the EPA will establish an Industrial Waste Control Center as well

as make changes to the current procedures for reporting and managing waste disposal.

The *National Industrial Waste Management Plan* (previously the "Industrial Waste Promotion Plan," Feature Article, EPM Issue 14)

was passed by the Executive Yuan Affairs Committee on September 4 and will soon be sent to the Executive Yuan for approval. Former Premier Tang Fei requested a number of other agencies, including the Council of Agriculture, the Ministry of Economic Affairs, Ministry of Justice, and National Science Council, to cooperate in ensuring the successful implementation of the plan.

The *National Industrial Waste Management Plan* (全國事業廢棄物管制清理方案) proposed by the EPA establishes three primary goals for the end of 2003: proper treatment of all industrial waste, prevention of any further pollution incidents, and creation of a clean and comfortable living environment in Taiwan. To achieve these goals, the EPA has outlined five specific areas for future action:

1. Improve tracking of waste generation and disposal to determine the type and total quantity of industrial waste in Taiwan
2. Strengthen monitoring of waste management practices to prevent illegal waste disposal activities such as dumping
3. Use of excess capacity in municipal waste

incinerators to dispose of non-hazardous industrial waste

4. Proposal of a concrete plan to establish or assist in the establishment of industrial waste treatment facilities and emergency waste storage facilities by the competent agency for the industry in question

5. Remove barriers to development of industrial waste disposal facilities and encourage private investment.

Following the Executive Yuan's review of the plan, EPA Administrator Lin promised to put an end to pollution incidents by the end of 2003. The Administrator announced that the EPA will establish an Industrial Waste Management Center to develop a new management model for industrial waste as well as new administrative procedures. Under the new system, individual agencies such as the Industrial Development Bureau, the National Science Council, the Department of Health, the Council of Agriculture, the Ministry of Education, the Ministry of the Interior, and the Ministry of National Defense will be directly responsible for the waste generated by organizations under their jurisdiction. ♣

## ***President Chen Receives Delegates from Model Environmental Community***

Delegates from this year's "model environmental community" and "model environmental workers" were recently given a chance to meet with President Chen Shui-bian. The President pointed out that humanism and science and technology are the foundations of Taiwan's vision of a future "green silicon island." However, the "silicon island" is only a means to realize the true goal of a "green" Taiwan.

Over the past few years the EPA has held annual selections of a "model environmental community" to encourage the participation of local neighborhoods in promoting environmental protection. In addition, the EPA also chooses candidates for nomination as "model environmental workers." Winners of this year's honors were recently announced and on September 8 given a chance to meet with President Chen Shui-bian. EPA Administrator Edgar Lin and the President's Deputy Secretary General, Chen Che-nan (陳哲男) also attended the meeting.

While speaking with this year's winners, President Chen expressed approval of their long-term community development efforts and contribution to environmental protection. In addition, President Chen praised their ability to listen to the voice of

nature, and credited them with helping to realize the dream of a "green silicon island."


President Chen expressed that developing a "green silicon island" based on humanism and science and technology is the new future vision for Taiwan. However, a "silicon island" is only the means for reaching the true goal of a "green" Taiwan. A "green silicon island" stresses the importance of environmental protection, but goes farther in affirming the importance of the green revolution of sustainable development. President Chen referred to a folk saying, "As long as the green mountains are there, one needn't fear a lack of firewood." This saying represents the traditional importance of environmental protection in Chinese culture.

President Chen further quoted Pope John Paul II, who said last year that the fate of the present and future world will be decided by the efforts of this generation to protect the environment. President Chen stressed that the key to environmental protection is inspiring a sense of purpose and responsibility. Environmental protection cannot be left at appearances, and the responsibility simply passed on to the next generation to let them pay the price for ecosystem destruction. ♣

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workshops with county and city governments. Treatment firms will also be invited to attend. Application procedures and instructions will also be posted on the EPA's website. By publicly providing this information, the EPA hopes to increase the level of understanding of interested firms.

EPA officials also pointed out that Taiwan currently has about 1,300 private waste clearance firms and 80 treatment firms. The majority of these are small to medium enterprises and that their technology and operational capabilities are rather weak.

Even though the EPA has shortened application processing times, a large number of cases do not pass due to inadequate capabilities or poor operational records. Large firms will be encouraged to build waste treatment facilities as a means to increase Taiwan's technical and operational capabilities in the area of waste treatment. Government agencies will adopt case-by-case assistance measures to help in the simplification of application procedures. Various financial assistance measures will also be utilized to reduce investment risk. The goal will be to more fully establish Taiwan's waste clearance and treatment market. 

## **Edgar Lin Stresses EPA Will Hold Its Ground in Inter-agency Discussions**

During a discussion with environmental groups EPA Administrator Edgar Lin stated that in the past the EPA has often played an ornamental role in the government. He further stated that he will not continue to make concessions in the future and that all inter-agency affairs will be carried out by the book. Industrial waste, river cleanup, and urban air pollution will be the focus of next year's environmental agenda. Further, the EPA will reorganize next year and put its full force behind auditing and pollution control.


On September 1 EPA Administrator Edgar Lin attended a meeting at the Legislative Yuan entitled "A Date With the Environment." At the meeting he revealed that after taking office he had sought the advice of past EPA Administrators. The conclusion of these discussions was that the EPA was often a "flower vase" in the Taiwan government, meaning that it played only an ornamental role. After being in office for three months, Lin stated, he also felt trapped in an ornamental role. Take for example, he said, the environmental impact assessment of industry parks and disputes regarding waste treatment. Whenever there is a question as to the importance of economic development and environmental protection or a conflict between government agencies, in the end it is always the EPA that makes concessions.

In light of this situation, Administrator Lin stressed that in the future the EPA will not back down. During inter-agency conflict the EPA will closely defend their legal position, grounding all discussions in their legal aspects and ensuring that government affairs proceed by the book.

During next year's agenda Lin noted that with the exception of the continuous effort to improve administrative efficiency, his top priority is finding a resolution to the industrial waste treatment problem.

Second to this is cleaning up river pollution, focusing on cleanup of the Erhjen River, and thirdly improving urban air pollution.

In terms of the EPA itself, Administrator Lin pointed out that next year the organization of the EPA will see some changes. According to plans an environmental research institute will be established to act as the EPA's "think tank." Previously, in conjunction with efforts to downsize the provincial government, the EPA reorganized the provincial environmental protection agency into north, central, and south environmental protection centers. However, in the future, the centers will be further reorganized to establish three regional environmental management bureaus fully dedicated to the task of performing audits.

Lin further strongly endorsed the participation of environmental groups. He stated that the days of the previous administration are gone and at least the overall direction of the EPA is currently on track. Lin sincerely hopes that the strength of environmental groups can coalesce and work together with the EPA to protect the environment. 

## **Administrator Speaks Out on Waste and Water Policy**

At a recent seminar EPA Administrator Edgar Lin pointed out that, according to the *Waste Disposal Act*, existing industrial and science parks must complete plans for industrial waste treatment facilities before July 14, 2001. Treatment facilities must begin operations before the end of December 2003. New industrial and science parks may not begin operations until installation of industrial waste treatment facilities is completed. Lin also men-



tioned his plans to begin collection of a water pollution control fee in 2002.

On September 21 EPA Administrator Edgar Lin attended a seminar on water conservation. During his presentation, Lin clearly stated that in order to improve industrial waste disposal, as stated in the *Waste Disposal Act*, all existing industrial and science parks must complete plans for the installation of waste treatment facilities before July 14, 2001. Parks are further required to complete installation and begin operation of these facilities before the end of December 2003. New industrial parks must complete installation of waste treatment facilities before they can begin operations.

Administrator Lin stated that in the past industrial organizations paid too little social responsibility for the wastes they generated, feeling that their duty was done simply by contracting to a waste services company. Industrial organizations seldom track whether their waste has been properly disposed of or illegally dumped, leaving the rest of society to foot the bill.

To change this phenomena, when the Legislative Yuan made amendments to the *Waste Disposal Act* in July 1999, corporate responsibility was greatly expanded. The amendments specifically stated that if a contracted waste disposal organization does not have the proper permits or violates waste disposal regulations, both the waste generator and contracted disposal party are jointly liable for the wastes' removal and any environmental remediation. The amendment is primarily aimed at increasing the social responsibility of industry par-

ties and making them attach greater importance to problems of waste treatment during the manufacturing process.

In the past, when designing an industry or science park, the construction of waste treatment facilities was not included by the competent authority as part of the basic environmental infrastructure to be built. As a result, after industry or science parks are completed there is no one available to properly treat or clear the waste generated. Thus, the amendments to the *Waste Disposal Act* require completion of waste treatment facilities before new parks can go into operation. In addition, the *Waste Disposal Act* also stipulates that existing industrial and science parks must complete plans for waste treatment facilities before July 14, 2001 and finish installation before the end of 2003. The EPA is resolved to achieve proper disposal of waste in industrial parks before December 2003 and put an end to pollution incidents.

In terms of the water pollution control fee, which has been in the works for some time, Lin stated that collection will start at the beginning of 2002. According to current EPA plans, funds collected through the future fee will be used for river remediation or to help with the cost of sewerage system construction. In addition, the concept of river basin remediation will be introduced to the EPA's agenda, and local environmental agencies and local groups integrated into the work of river clean-up and supervision. Further, a wide range of opinions from experts and academics will be considered to help make design and implementation of EPA policies even more open and transparent. ♻️

## ***Strong Future Market Predicted for Environmental Technologies***

While attending the Second Taiwan-Japan Environmental Technology Exchange Symposium, Administrator Lin commented that despite a slow start, he is very optimistic about the future prospects for Taiwan's environmental technology providers. In addition to encouraging the environmental industry to focus efforts on upgrading their ability to provide waste minimization and recycling technologies, Administrator Lin also promised to help the industry's development through tight enforcement of regulations and subsidy programs.

The Taiwan Pollution Control Manufacturers' Association hosted the Second Taiwan-Japan Environmental Technology Exchange Symposium on September 19. During the symposium, EPA Administrator Lin stated that the new government is

committed to supporting the development of Taiwan's environmental technology industry. He also encouraged the industry not to focus itself exclusively on end-of-pipe technologies, but rather to broaden their technology offerings to include process improvements to minimize waste, recycling technologies and renewable energy sources. As industries increasingly seek to incorporate sustainability concerns in their operations, the ability to help client companies reduce waste or pollution at its source will become a key to success. During the current transition to a higher standard of solid waste man-

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agement the EPA is also evaluating the feasibility of offering subsidies to industries and waste service providers.

Administrator Lin acknowledged that Taiwan's previous heavy emphasis on economic development had led to the neglect of environmental protection. As a result, the environmental technology industry has traditionally not been considered a key part of the economy. In addition, the general population has traditionally perceived environmental technology as a low quality, low-end, non-competitive technology sector. This negative image has hampered the development of the industry over the last several years.

However, the industry has never been more important to Taiwan's future as the pace of policy implementation continues to lag behind that of advanced countries and environmental problems continue to grow daily. Stimulating rapid growth in the environmental technology industry is key to improving environmental quality in Taiwan and raising Taiwan's environmental management to an international level.

Administrator Lin emphasized that resolving environmental problems is fundamentally not a technical challenge. In many cases, the technology is available to resolve problems, but other issues impede actual application. For example, in the case of industrial and hazardous waste disposal, the key challenge is ensuring strict enforcement of current laws and regulations, not finding disposal technologies. Without strict enforcement the environmental industry will never be able to achieve its potential, even if it offers first-rate technical solutions.

The EPA is already working closely with the Industrial Development Bureau to provide incentives and guidance to support the development of the environmental technology industry. During the current transition period in solid waste management, the EPA will also be reviewing the feasibility of providing financial assistance to waste service providers to develop waste disposal facilities.

In closing, Administrator Lin commented that given the bright prospects for the environmental technology sector, he regrets being unable to enter into the industry himself. The industry is certain to grow in the future and should offer great rewards for smart investors. 

## ***Administrator Lin Urges Local Governments to End Unreasonable Protests***

**Public protests frequently scuttle plans to construct waste treatment facilities. This situation has become a serious problem for the achievement of environmental protection goals. EPA Administrator Edgar Lin recently called on county and city government leaders to discourage all unreasonable public protests and ensure that legal environmental protection activities can be carried out.**

In a September 1 press conference, EPA Administrator Edgar Lin expressed his recent frustration in carrying out environmental protection activities. Having been at his post for more than three months, Administrator Lin has been working with his new colleagues to face the continuing challenges posed by the drive to protect the environment. In confronting the long-term accumulation of environmental incidents, Edgar Lin said that it's not the challenge of tackling environmental issues that disheartens him. Rather, it is the fact that environmental protection activities are frequently met with varying forms of public protest. These public actions often prevent ben-

eficial programs from being implemented.

The Administrator mentioned the recent medical waste treatment problem as an example. Taiwan actually has enough treatment capacity to handle domestically generated medical waste. It is the illegal and malicious competition among treatment firms and the protests against treatment facilities that has been causing the build up of untreated medical waste. The situation has become a senseless "crisis" that has the public unnecessarily terrified.

He further pointed out that if properly separated and sanitized, medical waste can be considered a non-hazardous industrial waste and safely treated through incineration. The EPA and the Department of Health have worked together on many occasions to secure Taipei City's support for burning properly treated medical waste in incinerator facilities. Taipei City currently incinerates over one thousand tons of non-hazardous industrial waste per day. Incineration of properly treated medical waste in the same

facilities would be legal, safe and environmentally beneficial. This measure has been met with public protest, however, as groups of local residents have threatened to surround incinerator facilities. Should these protests continue, they will become major obstacles to the implementation of environmental protection activities.

EPA officials have pointed out that medical waste is a direct product of the efforts to protect the health and quality of life of Taiwan's citizens. If everyone took a "not in my backyard" stance, all environmental protection activities would be brought to a halt. Is it possible that people want to force doctors and medical facilities to stop their

lifesaving work?

Over the past several years, people have frequently protested the construction of facilities meant to protect the environment. This is the biggest problem faced by those wishing to improve the island's environment. In light of this, the Administrator called on county and city leaders throughout Taiwan to take bold steps to put an end to unreasonable protests against environmental protection activities. Administrator Lin also emphasized that the EPA will use all of its public authority to prevent illegal protests, while striving to provide the people of Taiwan a clean, orderly and comfortable environment. ●

## ***EPA Plans Implementation of Certification Program for Air Quality Monitoring Stations***

Taiwan has more than 200 continuous air quality monitoring stations islandwide and station density is the highest in the world. In order to compile resources and raise monitoring quality, the EPA is currently drafting an air monitoring station certification system, and it is expected that this system will be implemented later this fiscal year. In the future, data from certified monitoring stations will be used by the EPA to render decisions on degree of compliance with air quality standards.

The number of continuous air quality monitoring stations in Taiwan is very high, in fact the island has the highest monitoring station density

in the world. Of the island's 200 monitoring stations, 72 were established by the EPA, 30 by local-level environmental departments, and nearly 100 by some of Taiwan's large industrial firms such as Formosa Plastics, Taipower, and Chinese Petroleum Corporation.

Despite, however, the large number of monitoring stations, the quality and reliability of the generated data is not necessarily of a high degree. To remedy this situation, the EPA this

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### ***News Briefs***

#### ***EPA Presents Annual Awards for Excellence in Office Environmental Protection***

Results of the 2000 "Excellence in Office Environmental Protection" competition were recently released. Organizations awarded for excellence include the Council for Economic Planning and Development, the Fair Trade Commission, Taiwan Epson, Nan-mao Technology, the Far Eastern Hotel, and 21 other government and private sector organizations. The EPA will make introductory videos and present awards as a means of expanding office oriented environmental protection.

#### ***USTDA Funds Environmental Protection Plan for Tainan City***

On September 2, the United States Trade Development Agency (USTDA) announced it will fund an environmental quality improvement plan for Tainan City. The Sustainable Development Foundation from the US state of Oregon was awarded US\$450,000 to

perform a feasibility study for researching riverine ecology and developing ground water treatment facilities and river remediation programs. USTDA is funding the plan which should be completed by the end of next year in order to improve the quality of life in Tainan City and to further the trade relationship between Taiwan and the US.

#### ***Green Architecture Criteria Included in EIA Requirements for Housing Projects***

The EPA recently amended regulations governing the EIA review process for housing projects. Changes included the insertion of green architecture concepts into the rules. In the future, housing developers will be required to base designs on green architecture criteria. Seven points will be considered: greening, moisture retention, water conservation, daily energy conservation, carbon dioxide emissions reduction, waste minimization, and improvements to handling of trash and wastewater.

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year initiated an air quality monitoring station certification system, and performed demonstration certification of local environmental protection bureau (EPB) monitoring stations. This approach is expected to improve the effective compilation of monitoring data.

The EPA's Bureau of Environmental Monitoring and Performance Evaluation indicated that environmental agencies and industrial firms had previously installed monitoring stations to suit their own needs. According to Article 6 of the *Air Pollution Control Act Implementation Rules*, air quality monitoring stations used to judge compliance with air quality standards must either be established by the EPA or certified by it. In 1993, the EPA established an islandwide monitoring network comprised of 72 stations distributed among Taiwan's counties and cities. The certification system will be implemented in two stages. First, a demonstration certification program will be implemented among county and city level environmental protection departments. This program will then be expanded to include the monitoring stations controlled by industrial firms.

Monitoring station certification will occur through both document-based review and on-the-spot certification methods. Stations that have their data certified for quality and reliability will be able to include their data in Taiwan's air quality moni-

toring network and thereby contribute to more complete coverage of the area in question. The EPA's Bureau of Environmental Monitoring and Performance Evaluation also pointed out that local environmental agencies are currently willing to seek certification for 21 monitoring stations. In the future, stations that have received certification, and hence the EPA's stamp of quality guarantee, will be able to meet monitoring quality requirements. On the other hand, data from non-certified stations will be used only as a reference for air quality.

Agencies or firms desiring to achieve certification for their stations must comply with system and function review standards. System review mostly focuses on inspecting the calibration of monitoring instrumentation and monitoring location. Function review focuses on the accuracy of monitoring data and other instrumentation operation and management analyses. Once certified, stations must continue to be operated in accordance with proper procedures. The EPA will conduct follow-up inspections to ensure continued data quality.

EPA officials indicated that because this is an initial certification plan, a demonstration program must first be put in place. Because the number of cities and counties that have automatic monitoring stations is small, there are still 17 counties and cities that have not joined the certification program. 

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