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Administrator Hau Warns Against Sacrificing Environment

At a lecture held by the Kaohsiung City Government, Administrator Hau spoke freely on how best to achieve a balance between environmental protection and industry. While discussing the various measures taken by the EPA to improve air and water quality and waste disposal in the Kaohsiung-Pingtung area since he assumed his post, Hau emphasized that environmental protection should not be sacrificed for the sake of industrial development.

Responding to an invitation from the Kaohsiung City Government, EPA Administrator Dr. Lung-bin Hau talked on the topic of "Industrial Development and Environmental Protection Policy" as part of the "New Multifunctional Trade Industrial Park Century in Kaohsiung" lecture series. Administrator Hau explained how to achieve a balance between industrial development and environmental protection policy, and spoke freely on his administrative philosophy and experiences.

Reflecting on the persistent air and water quality problems in the Kaohsiung-Pingtung area (Kaohsiung City/Kaohsiung County/Pingtung County), Hau represented the EPA in expressing deep self-examination and determination to make improvements. He also reminded the audience that the loss would outweigh the gain if environmental protection were sacrificed for the sake of economic development.

Administrator Hau began by noting that the number of poor air quality days in the Kaohsiung-Pingtung area has been considerably higher than the national average for many years. While the percentage of poor air quality days has dropped from 16.1% in 1996 to 10.7% in 2000, it is still twice as high as the national average. Poor air quality is largely caused by particulate matter and ozone, and ozone pollution has worsened steadily in recent years.

Addressing this problem, the EPA has decided to give the area priority by conducting the *Demonstration Program for the Establishment of Total Quantity Control in the Kaohsiung-Pingtung Air Quality District* from 2003 to 2006, ahead of the rest of the country. The EPA hopes to lower the target percentage of station-days with an air pollution index (PSI) greater than 100 in the Kaohsiung-Pingtung Air Quality District from less than 10% this year (2001) to less than 6% in 2006 (see EPM Vol. IV, Issue 8).

The Kaoping River, the main river in the Kaohsiung-Pingtung area, has suffered many major pollution incidents, contributing to persistently poor drinking water quality. Addressing this problem, Administrator Hau admitted that the task of improving

drinking water quality in the Kaohsiung-Pingtung area could be delayed no longer.

As for the EPA's current implementation of compensation for the removal of hog farms from water source protection zones, an onsite survey of hog raisers in the Kaoping River basin that began in July has been completed, and approximately 97% of applications have been reviewed. The entire operation is expected to be wrapped up by the end of the year. In addition, the EPA has organized an inspection task force in conjunction with local city and county governments; this task force will strengthen protection of drinking water sources and water quality by performing focused investigation and injunction work. To allay the water quality concerns of residents of the Greater Kaohsiung area, Administrator Hau announced that all hog raisers would be removed from the banks of the Kaoping River by the end of the year, and there would be no exceptions.

Responding to complaints that environmental protection policies had not been implemented and that businesses still had no places to send their industrial and hazardous waste, Administrator Hau declared that government had an apology to make to industry. He also expressed that the EPA is currently looking for industrial and hazardous waste disposal sites in northern, central, and southern Taiwan, but plans for a southern Taiwan site at Kujien and a central Taiwan site at Changhua were proceeding actively (see EPM Vol. IV, Issues 6 and 7).

Administrator Hau also pointed out in his talk that the problem of where to dispose of industrial waste had already persuaded some high-tech firms once considering establishing plants at the Tainan Science-based Industrial Park to locate their plants in Singapore instead. It is therefore the government's responsibility to resolve this thorny problem on behalf of industry. While the EPA still has much hard work in front of it, solving the problem in a straightforward fashion will restore the public's confidence in government.

Taking the waste metal smelter problem along the Erhjen River as an example, Administrator Hau admitted that he had struggled with his conscience when faced with the pleas of the disadvantaged citizens who had suffered the loss of their livelihood due to the EPA's removal of illicit smelters. Nevertheless, after Hau had visited three smelters and personally experienced a painful burning in his throat, he resolved to carry through with smelter

removal for the sake of the environment and the health of those working there. Hau concluded that failure to persevere in cleaning up pollution in the Kaoping River basin would be a matter of great regret.

Following this talk, the public and, in particular, industry has gained a better understanding of the EPA's administrative standpoint. They have also witnessed Administrator Hau's determination to exert the EPA's full powers without backing off. 

Soil and Groundwater Pollution Remediation to be Consolidated

The EPA has already begun to make preparations for the operation of the Soil and Groundwater Pollution Remediation Fund Management Committee although this committee has yet to be formally established. These include consolidating the supervision of soil pollution control work and groundwater pollution remediation work. EPA Bureau of Water Quality Protection senior specialist Chien-hui Lin has been designated the first executive secretary of the committee.

As the regulatory framework for the *Soil and Groundwater Pollution Remediation Act (SGPRA)* (土壤及地下水污染整治法) and its related regulations nears completion (see EPM Vol. IV, Issue 8), just how these regulations will be implemented and administered has become the focus of public attention. *Organizational Rules of the Soil and Groundwater Pollution Remediation Fund Management Committee* (土壤及地下水污染整治基金管理委員會組織規程), a critical piece of this framework, was promulgated on July 4 of this year. While the Soil and Groundwater Pollution Remediation Fund Management Committee has yet to be formally established, the EPA, anxious to get started, is pressing ahead with a series of preparations. The first step includes the assignment of the committee's responsibilities and the appointment of personnel.

Article 2 of the organizational rules designates the responsibilities of the committee as (1) the collection, safekeeping and use of the fund, (2) annual budgeting and final accounting for the fund, (3) the assessment of the operation and administration of the fund and (4) other related issues. As the fees collected annually by the fund are expected to run in the billions of NT dollars and the committee is solely responsible for the fund's operation and management, the importance of the committee's role cannot be overemphasized.

Article 5 of these rules calls for the establishment of four working groups under the committee in order to facilitate its smooth operation. These working groups are the overall planning group, fund collection review group, technology review group and legal group.

The primary goal of the EPA's current efforts concerning the committee's responsibilities and personnel assignments is to draw up operational rules

for these working groups, which have yet to be established, so that they may begin operating as soon as the fund management committee is established. In September, the reassignments of organizational responsibilities and personnel within the EPA related to the establishment of the fund management committee included merging the duties of the Soil Pollution Control Division, Sixth Division, of the Bureau of Waste Management and the duties of the Marine and Groundwater Pollution Remediation Division, Fourth Division, of the Bureau of Water Quality Protection. Following this adjustment, the Fourth Division will be solely responsible for marine pollution control.

The personnel reassignments ordered by Administrator Hau, who presides as chairperson of the fund management committee, related to the establishment of the committee include the appointment of Bureau of Water Quality Protection senior specialist Chien-hui Lin (林建輝) as the first executive secretary of the committee. In this position, Lin will be responsible for overall planning for the fund. In addition, the director general and three personnel from the Sixth Division of the Bureau of Waste Management and one employee responsible for groundwater pollution remediation work under the Bureau of Water Quality Protection have been given the additional assignments of working on the committee.

The EPA notes that these reassignments of responsibilities and personnel are intended primarily to meet the requirements of consolidating soil and groundwater remediation work following the establishment of the committee. *Regulations Governing the Collection, Safekeeping and Use of the Soil and Groundwater Pollution Remediation Fund*, essential to the functioning of the committee, was passed on June 11, 2001, and the announcement of the *Regulations Governing the Collection of Soil and Groundwater Pollution Remediation Fees*, although quite controversial, is anticipated in the near future. With the above preparations, the committee will be ready to take on the heavy responsibility of managing soil and groundwater remediation work as soon as it is formally established. 

Revised EIA Regulations Benefit Industry and Environment

The EPA has recently announced revisions to parts of both the *Environmental Impact Assessment Act Enforcement Rules* and the *Work Procedures for EIA Development Activity*. In addition to simplifying government procedures for the private sector, these revisions have also brought the spirit of newly passed environmental regulations to EIA review procedures in a reasonable and timely manner.

The EPA, aiming to improve the EIA review process, announced revisions to parts of both the *Environmental Impact Assessment Act Enforcement Rules* (環境影響評估法施行細則) and the *Work Procedures for EIA Development Activity* (開發行為環境影響評估作業準則) on August 1. In addition to reducing EIA review periods and simplifying EIA review procedures, these revisions also bring the spirit of the newly passed environmental regulations to these regulations and put them in line with the resolutions passed by the Economic Development Advisory Committee, making EIA reviews more reasonable and fair.

In revisions to Article 2 of the above enforcement rules, the term “responsible authority” has been changed to “central competent authority” [ed. in this case indicating the EPA] in Article 3, Items 4 and 5 of the *Environmental Impact Assessment Act*. This requires the EIA review committees of local governments to present their organizational rules to the EPA for approval, rather than to local government authorities.

Revisions allowing developers to alter the content of their EIA review applications have also been made to the enforcement rules. These revisions state that “however, in cases in which the production capacity or scale of the development is reduced, the positions of some facilities at the development site are changed, the grading and efficiency of environmental facilities are enhanced, the production capacity of already existing facilities are upgraded without causing an increase in total pollution output, or the alteration benefits the protection of environmental quality or is part of an environmental monitoring program” developers need simply submit a report detailing the altered content

and an explanation of the reasons for the changes to the EPA and the authorities responsible for the development project when making alterations to their EIA applications.

Article 3-1, aiming to shorten EIA review periods by establishing a pre-review system, was added to the *Work Procedures for EIA Development Activity*. Also, due to the passage of the *Soil and Groundwater Pollution Remediation Act* the following regulations related to the review of development projects have also been added to EIA procedures:

1. Article 11, Item 2 states, “development projects in groundwater control areas must abide by the *Water Utilization Act* and groundwater control regulations when pumping groundwater.”

2. Article 12 states, “developers must prevent, manage and establish response measures for point source pollution and non-point source pollution caused during the construction or operation of development projects.” Article 12-1 states, “developers must assess the influence on soil and groundwater of waste storage, clearing and disposal facilities and storage tanks.”

3. Article 24-1 states, “developers must conduct pre-testing and evaluations beforehand of the influence of the topography and land surface of the development site on water runoff in downstream and neighboring areas, and devise countermeasures.”

4. Article 42 states that when developers are planning new city, township or community areas “they must conduct evaluations beforehand of the influence this development could have on water supply, water runoff and flood prevention, waste disposal and the transportation infrastructure in the immediate and neighboring areas.”

The above revisions reflect the future trends and requirements of EIA reviews. The EPA is simplifying EIA review procedures for the benefit of developers, however it also hopes that developers will see the importance of the revisions and respond and coordinate promptly—ultimately, this is the best method for shortening EIA review periods. 

Trash Reduction and Recycling Proving Successful

EPA statistics reveal the success of the EPA’s trash reduction and recycling efforts. In 2000, the volume of recycled trash reached 850,000 kilotons, achieving a recycling rate of nearly 10%. The EPA hopes city and county governments will complete related regulations by the end of the year in order to coordinate with these efforts.

EPA Deputy Administrator Juu-en Chang presented statistics on the EPA’s trash reduction and recycling work for 2000 on August 28. These statistics show the great success of the EPA’s efforts in this area since the introduction of the EPA’s Four-in-One Recycling Program in 1997. As of 2000,

not only has the recycling rate reached almost 10%, the volume of recycled trash has risen to 850,000 kilotons. Also, the average daily volume of trash generated by each individual in Taiwan has fallen from 1.07 kilograms in 1999 to 0.94 kilograms in 2000. These figures prove that recycling is achieving the goal of reducing trash volume.

The volume of trash collected by government trash crews reached 8.45 million kilotons in 1999, with these crews achieving a recycling rate of 2.6% by recycling a total of 210,000 kilotons of trash. By 2000, the volume of trash collected had dropped significantly to 7.88 million kilotons, and by recycling 470,000 kilotons of trash, the recycling rate climbed to 6.5%. The total volume of recycled trash (including that collected by the government and industry) rose 210,000 kilotons from 630,000 kilotons in 1999 to 850,000 kilotons in 2000. This boosted the recycling rate from 7% in 1999 to 9.79% in 2000.

With a recycling volume of nearly 250,000 kilotons, paper stood as the category of trash with the greatest volume of recycling in 2000. The EPA also estimates that it earned over NT\$ 800 million from the sales of all categories of recyclable trash in 2000. In addition to extending the lives of landfills, these recycling efforts saved almost NT\$ 860 million in trash handling costs in 2000 alone.

The EPA, witnessing this great success, is pressing ahead with its trash reduction and recycling programs. Earlier this year, it formulated an assistance program aimed at expanding recycling work by local government trash crews. As required by the *Waste Disposal Act*, this program aims to

increase trash recycling to 2 days per week while at the same time taking into consideration the practical limitations of each local government. Also, in line with the *Waste Disposal Act*, the program calls for assisting local environmental protection bureaus devise *Regulations for the Separation, Recycling and Clearance of General Municipal Solid Waste* (一般廢棄物分類回收及清除辦法) in considerations of the practical circumstances in the areas they govern. These regulations will gradually require the public, schools, organizations and groups to separate, store and recycle their trash through authorized recycling channels. Those who do not comply with these regulations may be fined NT\$ 1,200-4,500 under the *Waste Disposal Act*. The EPA intends to assist all 326 local government trash collection agencies pursue trash reduction and recycling programs. These efforts are sure to help Taiwan realize the goals of protecting the environment and achieving the sustainable usage of resources.

Sixteen city and county governments have already completed their versions of the above waste separation, recycling and clearance regulations. The remaining nine are actively formulating their versions and are all expected to complete them by the end of the year.

As for promoting the collection of recyclable trash two days per week by trash collection agencies, the EPA will provide subsidies for the procurement of 106 trash recycling trucks. Following these procurements, the 326 trash collection agencies around the nation will possess a sufficient number of recycling vehicles to commence the collection of recyclable trash twice a week, thereby further raising the national recycling rate. 

Executive Yuan Approves Expansion of EPPF

Recently approved by the Executive Yuan, the Environmental Protection Police Force expansion plan calls for the deployment of an additional 96 environmental police officers, doubling their current number. The new members of the Environmental Protection Police Force will be commissioned and accept their new missions on January 2, 2002.

Seeking a tool to stamp out environmentally-harmful criminal behavior, the EPA commissioned the first members of the Environmental Protection Police Force (EPPF) in July 1999. Due to its great effectiveness, the EPA has worked in coordination with the National Police Administration to expand the size of this force. The EPA's hard work finally paid off on August 1, when the Executive Yuan formally approved an increase in the number of

environmental police. Another 96 officers will be added to the current 96, bringing the total close to 200. After the new officers are commissioned, which is scheduled to take place in 2002, the EPPF will be even more effective in performing environmental protection investigations and controlling crime, making it a potent deterrent to would-be criminals.

According to its current mission-oriented organizational format, the EPPF assists in the enforcement of environmental protection laws under the orders of the National Police Administration, Ministry of the Interior, and is guided by the EPA with regard to environmental protection matters. The EPPF is divided into three divisions respectively responsible for northern, central and southern Taiwan.

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Feature Article

Overview of Taiwan's Air Pollution Control Policy

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Director General Cheng-chung Hong Talks About the Future of Air Quality Protection Policies

When asked to talk about the foremost administrative issue facing the Bureau of Air Quality Protection and Noise Control, Director General Cheng-chung Hong (洪正中) didn't hesitate before saying, "total quantity controls" (see following article).

Past air pollution control efforts emphasized regional pollution control, said Director General Hong, and attempted to control pollution throughout specific industries or from individual sources. Under this system, the threat of fines forced firms to comply with compulsory regulations, achieving the improvement of air quality. Nevertheless, this approach delivered only limited results: The lack of economic incentives gave firms little interest in voluntary compliance.

In a step forward, the revision of the *Air Pollution Control Act* in 1999 has put in place a total quantity control (TQC) system possessing economic incentives and in the future a tradable emission credits system will be used to reduce pollution emissions. Under this system, of which Director General Hong has high hopes, firms will be permitted to buy or sell their pollution emission credits, giving them a direct incentive to reduce their emissions and improve air quality. The Bureau of Air Quality Protection and Noise Control is in the midst of planning near-term administrative targets and steps for the transition to a trading system. This system, although it does not target CO₂, is similar to the one established for controlling CO₂ emissions under the Kyoto Protocol.

The Bureau will submit its *Total Quantity Control Framework Plan* (總量管制計畫綱要架構—see following article) to the Executive Yuan for approval in the near future, said Director General Hong, and it is expected to be passed swiftly.

After discussing the new TQC plan, Director General Hong stressed EPA Administrator Hau's great concern for the improvement of air quality in urban areas and mentioned several measures that

the Bureau of Air Quality Protection and Noise Control is now implementing. The most important of these is the promotion and subsidization of vehicles using clean energy. Specific measures include:

1. Six-Year Compressed Natural Gas (CNG) Bus Program: The EPA is preparing to submit this plan to the Executive Yuan for approval. Such countries as the Republic of Korea and the Philippines are striving to improve their urban air quality, said Director General Hong, and Taiwan cannot be allowed to lag in cleaning up pollution. In fact Administrator Hau has consistently made the promotion of CNG busses one of the EPA's administrative priorities since assuming his post. The CNG Bus Program will raise the EPA's funding assistance for CNG busses to NT\$2 million from this year's NT\$1 million. While there are currently only six CNG busses in Taipei, the Taipei government's budget for this year allocates funds for the purchase of 25 more. The EPA's increased funding assistance will go to the two urban areas of Taipei and Kaohsiung next year.

2. Promotion of Liquefied Petroleum Gas (LPG) Vehicles: Funding is mainly given to businesses with high vehicle mileage, such as taxis operators and auto rental and leasing firms, in the hope that they will convert to LPG-powered vehicles. While this measure has already been implemented for several years, the high cost of conversion and scarcity of LPG filling stations have led to disappointing results. The EPA, however, plans to roll out more incentives to make LPG vehicles more attractive, including:

(a) Increasing fuel subsidies: The EPA approved an LPG fuel subsidy of NT\$3 per liter on October 1, up from the current NT\$2. Compared with the current gasoline price of NT\$20 per liter and LPG price of NT\$11 per liter, each liter of subsidized LPG will cost only NT\$8, or a very attractive NT\$12 less than each liter of gasoline.

(b) Adding more LPG filling stations: The fact that there are currently only ten legal LPG filling stations has hindered the promotion of LPG-powered vehicles. But when the 20 more fillings stations scheduled to be completed next year are finished, the new total of 30 stations will make fueling much more convenient.

(c) Making the price of LPG-powered vehicles more reasonable: In the past, vehicles had to be retrofitted with expensive imported equipment and materials before they could run on LPG, and the owners had to spend considerable money and effort to make the conversion. Nowadays domestic

auto companies, in particular the automotive division of Formosa Plastics, are preparing to manufacture and sell their own LPG-powered vehicles. This is likely to bring down further the prices of these vehicles. These economic incentives will make low CO₂ emission LPG-powered vehicles even more appealing and competitive.

Other policies being actively pursued by the EPA include the control of dioxin emissions, which focuses on waste incinerators, steel and iron works and aluminum and copper enterprises, and the establishment of emission quantity controls and emissions standards for temples and crematoriums.

A Focused Air Pollution Control Program—the TQC Framework Plan

The EPA formally announced in July that it would use the Kaohsiung-Pingtung Air Quality District as a demonstration area for its total quantity control (TQC) program (see EPM Vol. IV, Issue 8). The demonstration program conducted in this area will actually be only part of the prototype *Total Quantity Control Framework Plan* proposed by the EPA.

According to the framework plan proposed at the second Committee meeting on September 12, the content of the plan and its basic framework will be in line with the spirit of Articles 8 through 12 of the *Air Pollution Control Act* and will parallel relevant air quality improvement programs in advanced countries. The implementation period will be divided into three phases, as shown below:

Phase 1 12/2001~12/2002	Phase 2 1/2003~12/2005
Start period (preparatory period)	Preliminary implementation (demonstration period)
Implementation of existing laws and formulation of a TQC legal system. These are short-term objectives.	Implementation of TQC in stages in different regions. The Kaohsiung-Pingtung Air Quality District will receive first priority. BACT, recognition of emission reductions, from-plant offsets and pollution credits trading will be implemented at major pollution sources (50 enterprises). These are mid-term objectives.

The EPA's implementation strategy is to advance simultaneously on three fronts: (1) Establishment of a legal foundation for TQC: Laws and regulations governing new pollution sources, existing pollution sources and the trading system are being drafted. (2) Pollution reduction strategy: The government will first implement pollution reduction measures for such pollutants as particulate matter, sulfur oxides (SO_x), nitrogen oxides (NO_x) and volatile organic substances, and businesses will then be requested to voluntarily take reduction

steps. (3) Economic incentives strategy: Measures will include awards, fee reductions, subsidies, tax reductions, differential fee rates, offsets and authorization of trading.

While the EPA has proposed a clear-cut implementation schedule and strategies, of course the EPA can't do everything. The framework plan therefore specifies in detail the duties of the various responsible authorities, and funding is to come mainly from air pollution control fees.

A Year-by-Year Overview of the Air Pollution Control Fund Budget

Article 1 of the *Regulations Governing the Collection, Safekeeping and Use of the Air Pollution Control Fund* (空氣污染防制基金收支保管及運用辦法), which was enacted on July 5, 1995, states, "The Air Pollution Control Fund has been established expressly to control air pollution, protect citizens' health and living environment and improve the quality of life." The Fund, over which the EPA is the competent authority, is used exclusively for air pollution control purposes.

The main tasks and projects listed in the Air Pollution Fund budget include the promotion of air pollution control strategies, stationary pollution source control, mobile pollution source control, air quality monitoring and database maintenance, implementation of urban greening and establishment of air quality purification zones, research and planning, and air quality improvement programs. Beginning in 1999, the central government has directly set aside 60% of air pollution fees collected from stationary pollution sources for the use of the city or county

governments in whose areas of jurisdiction stationary pollution sources are located. There has therefore been a relative drop in funding for air pollution control programs at the local level since 1999.

Looking at the structure of the Fund budget, control of mobile pollution sources has remained a budget priority since 1997; while the amount budgeted for this item has changed, it has consistently increased in importance, and reached a new high of 48.11% in the 2002 budget. Funding for research and development and training dropped sharply by roughly NT\$100 million in the 2001 budget. Other budget items changed by a relatively small amount. While, in the beginning, the Fund dedicated a large percentage of its budget to the air pollution control programs and urban greening work of local governments, this percentage has gradually tapered off over the last few years. Although the 2002 budget is still awaiting Legislative Yuan review, it is expected to be 7.97% larger than the 2001 budget (not including fixed asset items).

Year-by-year (including 2001 and 2002) overview of the Air Pollution Control Fund budget allocation and spending items (Units: NT\$ millions)

Year and spending items	1996	1997	1998
Comprehensive programs *B	485	290	198
Stationary pollution source control	485	358	490
Mobile pollution source control	833	1,821	1,579
Air quality monitoring and database maintenance	62	20	28
Implementation of urban greening and establishment of air quality purification zones	2,000	850	800
Implementation of air pollution control programs	2,743	1,265	1,400
Management and general affairs	13	14	12
Education, training and R&D	217	120	184
Fixed assets, investment	4	2	0.9
Total	6,846	4,743	4,695

*A: The 2002 budget allocation must pass Legislative Yuan review before it is finalized.

*B: The name of the comprehensive program item will be changed to "air pollution control strategy implementation" in 2002 and will be merged with the existing air quality monitoring and database maintenance item and budget.



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In conjunction with the EPA's Inspection Team, the environmental police help local environmental protection bureaus investigate or enforce injunctions against major polluters. Current manpower allocation consists of 6 persons at force headquarters, 32 at the northern division, 25 at the central division and 33 at the southern division.

After receiving the Executive Yuan's go-ahead for environmental police expansion, the EPA immediately began increasing allocations for the EPPF in its 2002 budget. To facilitate deployment and the completion of missions, the EPA, with the approval of the Executive Yuan, has also earmarked money for the purchase of more police vehicles.

Of the 96 new environmental police officers, 30 will be assigned to the northern division, 40 to the central division, 25 to the southern division and one to EPPF headquarters. The National Police Administration will officially transfer the new officers to the EPPF on January 2 of next year, after

which the EPA will give them two weeks of environmental protection training. With the aim of curbing illegal behavior harming or destroying the environment, the EPPF will help the EPA Inspection Team crack down on major pollution incidents, such as those related to illegally-established waste disposal sites and the illegal dumping of hazardous industrial waste.

According to EPA statistics, from its establishment in 1999 until the end of August of this year, the EPPF has assisted in a total of 445 environmental crime cases which led to the prosecution of 1,320 persons (see EPM Vol. IV, Issue 5). The EPA notes that the approval of this expansion plan strongly reflects the government's determination to continue fighting environmental crime. Not only does this expansion allow the EPPF to more effectively support local government investigations of environmental crime, it also establishes a solid foundation for the development of future environmental police organizations. 

Dyeing Industry Effluent Standards Put in Line with EDAC Resolutions

The EPA together with the dyeing industry and the MOEA has signed a memorandum adjusting dyeing industry effluent standards for chemical oxygen demand in order to put them in line with resolutions passed by the Economic Development Advisory Committee. In this memorandum, which is aimed at achieving a balance between economic development and environmental protection, the dyeing industry has promised to strictly abide by the law and pursue self-improvement measures and the MOEA has set the goal of relocating illegal dyeing factories.

Responding to the Economic Development Advisory Committee (EDAC) resolution calling for reasonable adjustments to effluent standards, the EPA, associations representing the dyeing industry and the Ministry of Economic Affairs (MOEA) jointly signed a memorandum on September 10. The signing of this memorandum follows the agreement by all sides to pursue "the goal and ideal of sustainable development and continued improvement and to jointly promote pollution reduction work in the dyeing industry."

The memorandum makes the following adjustments to chemical oxygen demand (COD) control values for the dyeing industry, a long-disputed issue:

1) The maximum COD value for dyers of printed calico textiles (印花布) and woven textiles (梭織布) has been adjusted up to 160mg/L.

2) The maximum COD value for factories using cone (筒子紗) and hank (絞紗) dyeing and for the dyers of knit (針織布) and non-woven (不織布)

textiles has been adjusted up to 140mg/L.

3) The maximum COD value for dyeing factories, such as textile treatment and finishing factories, that do not fall under one of the above two categories will remain at the original 100mg/L.

The dyeing associations affirm that, in order to guarantee the protection of the environment, they are willing to fully abide by the above standards by properly operating their wastewater treatment facilities, implementing water pollution control and pollution reduction measures. Also, these associations support the punishment in accordance with regulations of those enterprises that do not implement the required control measures or that do not operate wastewater treatment facilities.

Environmental protection agencies conducted random wastewater treatment testing of textile dyeing factories in July in order to gain an understanding of just how well these factories were pursuing wastewater treatment. Of the 63 factories tested, 23, or 36%, did not meet standards. The most serious violators were those with large wastewater output and small and medium enterprises. Considering actual management practices in the industry and the necessity of implementing the EDAC resolutions, the EPA figures that it is easier and more practical to achieve the goal of reducing COD values by adjusting effluent standards to less demanding values and requiring enterprises to properly operate their treatment facilities than it is to simply

enforce the 100mg/L standard under which enterprises are unwilling to operate honestly.

In addition to the adjustment of COD standards, the EPA has also required in the memorandum that the textile dyeing industry establish its own guidance and facilitation taskforce. This taskforce would be responsible for promoting an awareness of legal regulations, providing guidance on technology and facilitating the proper operation of wastewater treatment facilities. It should also take the initiative to report enterprises that are discovered to be operating in violation of regulations to environmental authorities. Also, the MOEA has promised in the memorandum to assist enterprises

that violate the *Water Pollution Control Act* and to provide specific guidance to the industry in terms of water pollution control technology and relevant legal regulations. The MOEA has also pledged to move with speed in facilitating the relocation of dyeing factories that have yet to obtain factory registration certificates. Those factories refusing to move will be severely punished.

The EPA emphasizes that a COD control value of 100mg/L is the long-term and already-established target for dyeing industry effluence. The administration also notes that the adjusted COD values will be evaluated based on their effect on the environment one year after they are implemented. ▲

EPA Promotes Putzu River Basin Clean up

The government will allocate NT\$ 3.86 billion for the Putzu River basin remediation project in order to clean up this river, guarantee the quality of its drinking water sources and improve its water quality and ecology. It is expected that this project will raise the overall percentage of times the river meets Surface Water Classification and Water Quality Standards from the current level of under 30% to 60% by 2007.

Following the formulation of remediation projects for the Tamshui River and Kaoping River, the government implemented the Putzu River Basin Pollution Remediation Project in July. This project includes seven specific directions for pursuing clean up. A total budget of NT\$ 3.86 billion (NT\$ 591 million from the EPA, NT\$ 3.32 billion for sewer construction from the Construction and Planning Administration and NT\$ 35.5 million from the Chiayi County government) has been allocated for this 6-year project. The three authorities providing the budget will be primarily responsible for the implementation of this project.

The Putzu River is one of Taiwan's 21 major rivers and is also one of the major rivers regulated by the Central Government. With a total length of 76 kilometers (not including tributaries), its headwaters are located in Chuchi Township high in the Ali Mountain mountain range and it flows through Chiayi County and City before emptying into the Taiwan Straits. Its river basin covers an area of 426 square kilometers in which 465,000 people live. A total of 26,219 kilograms BOD₅ of pollution flows into the Putzu River everyday, far in excess of its maximum capacity of 3,559 kilograms BOD₅ per day set in the Surface Water Classification and Water Quality Standards. Public sewage, accounting for 75.4% of the total volume of pollution released in to the river, is the prime source of pollution for the Putzu River; agricultural wastewater makes up 13.3% of

this total pollution volume, industrial wastewater 6.4% and non-point source pollution 5%.

This project details seven directions aimed at addressing the particular pollution characteristics and usage requirements of the Putzu River.

1. The protection of water quality in watershed areas: Raise water quality in watershed areas so that it meets Class B water body standards.

2. The improvement of water quality in rivers and streams: Guarantee that the midstream sections of the Putzu River do not lack oxygen during the dry season and that aquaculture projects can safely operate in the downstream sections. Specific measures include the establishment of an interception station and municipal wastewater treatment plant with a capacity of 60,000-kilotons for Chiayi City's central drainage system and the raising of the sewer connection rates at the Chiatai and Minhsiung industrial parks to 100%.

3. The clearance of trash from the river basin: Insure there is no trash on the surface or banks of the river. Specific measures include sealing off and landscaping the Hsinkang and Taibao landfills and establishing a river pollution patrol.

4. Establish ecological parks along the banks of the Putzu River and increase public recreational space: Create a total of 12.5 hectares of ecological parks in five areas.

5. Preserve the river basin ecology and conduct river ecology surveys: Publish a river basin ecology index handbook and hold classes on biological classification at schools along the Putzu River.

6. Public participation and education: Promote river ecology education.

7. Remediation planning and assessment of results: Establish a Putzu River remediation decision-making and support system and assess and analyze the results of each remediation measure.

With the implementation of the above measures, the overall percentage of times the river meets Surface Water Classification and Water Quality Standards (which includes standards for biological oxygen demand (BOD₅), dissolved oxygen (DO) and ammonia nitrogen) is forecast to climb to 30%

by the end of 2002, 40% by the end of 2003, 45% by the end of 2005 and 60% by the end of 2007. This remediation project will insure safe drinking water and protect the ecology of the Putzu River basin. 

New Regulations for SIP Joint Waste Disposal Organizations

The EPA and NSC recently jointly signed and enacted the *Regulations Governing Management of Science-based Industrial Park Joint Waste Clearance and Disposal Organizations*. These regulations provide a clear set of criteria for resolving waste clearance, disposal and management problems in Taiwan's science-based industrial parks.

To effectively manage the large amounts of waste generated at Taiwan's science-based industrial parks (SIPs), the EPA and National Science Council (NSC), Executive Yuan, jointly signed and enacted the *Regulations Governing Management of Science-based Industrial Park Joint Waste Clearance and Disposal Organizations* (科學工業園區廢棄物共同清除處理機構管理辦法). These regulations will insure that general and industrial waste generated at existing or to-be-established SIPs are disposed of in a more effective manner.

The regulations were drafted on the basis of Article 13, Item 4 of the *Waste Disposal Act* and Rule 22 under Article 6, Item 1 of the *Science-based Industrial Park Establishment and Management Statutes*. The regulations contain a total of 16 articles, of which Article 2 clearly specifies and defines so-called SIP waste, joint clearance and disposal organizations and SIP waste clearance and disposal committees. In particular, SIP joint clearance and disposal organizations must be approved and licensed by the administrations of the parks in which they intend to operate before they may be established and operate.

Article 4 of these regulations stipulates that a joint clearance and disposal organization must possess the following qualifications:

1. Paid-in capital of at least NT\$50 million; total investment from participating professional waste clearance and disposal organizations may not exceed 50% of all investment.
2. It must have one full-time clearance manager and at least two disposal managers.
3. A Class A or Class B clearance manager or disposal manager must be in charge of an organization performing disposal of general industrial waste. A Class A clearance manager or disposal manager must be in charge of an organization per-

forming the management and disposal of hazardous industrial waste. The business scope of a joint clearance and disposal organization shall generally be limited to the collection and disposal of SIP waste.

A joint clearance and disposal organization must regularly submit business, operating and testing reports to the administrations of the science parks in which they operate. The report format and method of preservation shall be as stipulated in *Regulations Governing Management Assistance for Public/Private Waste Clearance and Disposal Organizations*, and the park administrations may send personnel to inspect data and perform follow-up checks.

If there are any changes in the content of a joint clearance and disposal organization's license, the organization's executive must submit a license alteration application with verifying documentation attached to the park administration within 30 days after the change. If a joint clearance and disposal organization wishes to terminate operations, its executive must submit an originally commissioned waste clearance and disposal plan for the time after it terminates operations three months before termination, and must apply for the park administration's approval.

Article 15 of the regulations deals with joint clearance and disposal organizations that have obtained an establishment license but have not obtained an operating license. A transitional clause specifies that such an organization may first accept waste for temporary storage after obtaining an establishment license from the park administration, but total volume in temporary storage may not exceed the six-month disposal volume on the organization's license application, and waste may not be stored for more than one year.

When a joint clearance and disposal organization is guilty of unlawful behavior, if the organization fails to effect a remedy after being notified to do so by the park administration within a certain period, the park administration may revoke, terminate or change the organization's license to insure sound management and the resolution of waste disposal problems. 

News Briefs**EPA Begins Survey of Polluted Farmland**

Following the discovery of rice polluted with cadmium in the Yunlin County town of Huwei in August, the EPA first collected the tainted rice and then actively began subsequent cleanup tasks. These included removal of crops still growing on the polluted land, with compensation provided for losses of crops and buildings, and administration of urine tests to nearby residents. In addition, to safeguard citizens' health, Administrator Hau also instructed the Bureau of Waste Management to immediately begin a full-scale survey of farmland polluted with heavy metals throughout the country.

New Draft of Regulations Governing Disease Vector Control Firms

The EPA has begun formulating the *Draft Revised Regulations Governing Disease Vector Control Firms* (病媒防治業管理辦法修正草案). These revisions, focusing primarily on regulations governing forms and reporting, aim to simplify and combine working records, work plans and usage records. They also add emergency control regulations for handling pollution or health hazards that occur during or after the application of pesticides by disease vector control firms. These revisions will be enacted in the near future.

EPA Promotes Bring Your Own Shopping Bags

The EPA will launch a "Spare the Environment—Bring Your Own Shopping Bag" activity with President Chain Stores (which operates 7-Eleven in Taiwan). During this activity, which will last from September 21 to the end of October, President Chain Stores will display promotional posters and the EPA will hold a "Use Fewer Plastic Bags—Use Shopping Bags Environmental Protection Pledge" prize drawing. Interested

members of the public need only visit the EPA website and sign a pledge in order to have a chance to win a super-cool environmentally-friendly electric bicycle (EPA website: <http://www.epa.gov.tw>).

Executive Yuan Passes Draft Resource Recycling and Reuse Act

The EPA's draft of the *Resource Recycling and Reuse Act* (資源回收再利用法, see EPM Vol. IV, Issue 5) finally passed review by the Executive Yuan on August 29. The EPA will soon send the draft to the Legislative Yuan for deliberation and hopes that it will be enacted at an early date. The EPA's main goal in formulating the draft is to achieve the sustainable use of resources by strengthening source management measures and encouraging the recycling and reuse of discarded materials. The draft also specifies that when industrial districts are planned and developed, the competent authorities may request the developers to reserve land for the recycling and reuse of resources.

Marine Pollution Control Act Enforcement Rules Announced

The enactment of Taiwan's first set of *Marine Pollution Control Act Implementation Rules* (海洋污染防治法施行細則) was formally announced by the EPA on September 5. These implementation rules contain 22 articles (please see EPM Vol. IV, Issue 7 for a detailed report on their content) and were drafted on the basis of Article 60 of the *Marine Pollution Control Act*, which was passed by the Executive Yuan in November 2000. The enactment of these rules signifies that Taiwan has already completed the first step in the establishment of a marine pollution control system.

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