



# China Water Treatment Weekly

2007-08-10

**上海之目信息技术有限公司**

Shanghai Zoom Intelligence Co., Ltd.

Address: 2508, No.87 Lane 442, Huaihaixi Rd. Shanghai, 200052 P.R. China

Website : [www.zoomchina.com.cn](http://www.zoomchina.com.cn)

Tel: +86-21-62820586

Email: [zoomchina@zoomchina.com.cn](mailto:zoomchina@zoomchina.com.cn)



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## 1 Government policy or regulation on water treatment

### 1.1 Central Government Funds Water Pollution Prevention and Project in Three-Gorge Chongqing Reservoir

(Zoomchina.com.cn, Aug 3, 2007) It is known that the 2007 treatment project of water pollution in the Three-Gorge Chongqing reservoir area has been approved by National Development and Reform Commission and has gained 372 million Yuan investment capital within the central budget. The total special funds for 2007 prevention and treatment of water pollution in Three-Gorge reservoir area and its upstream area is 800 million Yuan, including 600 million Yuan for Three-Gorge reservoir area and the affected area, and 200 million Yuan for upstream area.

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### 1.2 Chinese seawater desalination industry is aiming at international market

(Zoomchina.com.cn, Aug 9, 2007) Related officials of Environment and Resource Department of National Development and Reform Commission announced in Tsingtao recently that Chinese present seawater desalination technology has matured and got the essential condition of developing Industrialization.

It was known that our country has achieved important breakthrough of such key seawater desalination technology as reverse osmosis method and distillation method and has completed 3000M<sup>3</sup>/day low-heat multi-effect seawater desalination project with autonomous intellectual properties as well as 5000M<sup>3</sup>/day reverse osmosis project. At present daily production capacity of finished seawater desalination projects has been up to 31000M<sup>3</sup>/day and the development of seawater direct cooling technology has come into the practicing stage of 10000M<sup>3</sup>/hour-degree industrialization. Until now, the cost of desalination has gradually decreased to nearly 5Yuan/M<sup>3</sup>.

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### 1.3 National treatment rate of waste water is expected to over 70% in 2010

(Zoomchina.com.cn, Aug 9, 2007) Ministry of Construction hosted "Urban-Rural water treatment and safe drinking water and the second International Symposium of China town water industry development". In the meeting, Qiu Baoxing, Vice minister of Construction Ministry, pointed out that until 2010 diffusion rate of water supply in the cities will be no less than 95%, and the utilization rate of reused water in Northern water deficient area will strive to take up 20% of the whole sewage treatment amount while the proportion of that in Southern seaside water deficient area will be up to 5%-10%.

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## 1.4 Chongqing will realize water affairs integration in 2010

(Zoomchina.com.cn, Aug 9, 2007)It was known that Chongqing had been carrying out system reform of water affairs administration in 28 districts and counties, and is expected to realize water affairs management integration in the whole city to 2010, which will greatly improve the urban counter-capability against flood or drought disaster. At present 14 districts and counties in Chongqing have set up water affairs bureaus , including 11 districts in Yuxi area and 3 places in Liangpin and Wushan area. Besides there are 14 other places to reorganize water-related function including Fengjie and Zhongxie, basically realizing water affairs administration integration.

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## 1.5 "Provisional Regulations for Urban Water Quality Administration" was issued in Tianjin

(Zoomchina.com.cn, Aug 9, 2007)"Provisional Regulations for Tianjin Urban Water Quality Administration"has formally put in force since 1st, August. According to the regulations, water supply enterprises should build up developed rules for water quality self-check, including checking nine items of quality indexes of original water at least once per day.

Once the checking result not meet the standard, water supply enterprises or secondary water equipment companies should find out the reason immediately and take effective measures to prevent from causing serious water pollution event. Water supply enterprises are required to obey the rules and report related water quality information at regular intervals, accepting inquiry on water quality information from public, while secondary water equipment management companies should report the water quality checking results to residents living in the supplying area in time.

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## 2 Water Treatment Projects Watch

### 2.1 Nitrogen and Phosphorus Removal in Taihu Lake Will Bring 2.7 Billion Yuan Market Opportunities

(Zoomchina.com.cn, Aug 3, 2007)The Jiangsu Provincial Government signs the responsibility agreement of the new round of Taihu Lake valley pollution management with the governments of the five cities around the Lake, and it means that the sewage disposal plants of the towns around the Lake makes the final spurt to meet the latest discharging standard issued by the State. It shall invest 2.7 billion Yuan to alternate the 169 sewage disposal plants of the towns around the Lake to meet the standard of the Nitrogen and phosphorus removal.

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## **2.2 Guangdong Zhongshan has closed 9 water plants and expanded 12 water plants.**

(Zoomchina.com.cn, Aug 3, 2007)It is known that there are 33 water plants in Zhongshan, including 9 water plants to be closed in the soon future. Except that the 7 water plants as the spare water plants against the salted tide, the remained 15 water plants will be integrated into 12 water plants. After the expansion, the 12 water plants will supply water for the citizens as the main water plants in Zhongshan. According to the plan, after the adjustment of the water plants in the City, the total scale of the water supply plants in Zhongshan City in 2010 will reach 1.58 million stere/daily and at that time, the people in the remote areas can use the clean tap water.

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## **2.3 Intensive Water Supply in Shanghai Suburbs Will be accomplished in 2010**

(Zoomchina.com.cn, Aug 3, 2007)It is reported that intensive water supply in Shanghai Suburbs will be roundly accomplished in 2010, at the appointed time the suburbanites will be under the system of a sheet of network of water supply in the whole city. As is revealed, RMB4.7 billion will be used for constructing intensive water supply which is beneficial to suburbanites more than 7 million in suburbs during the eleventh five-year plan. By 2010, about 100 middle and small waterworks will be merged; 1 or 2 tap water company will be constructed in every county respectively with assets as ligament; daily water supply potential in suburbs will go up to 4.3mil.cu.m; water quality supplied will achieve the standard of medium-developed country.

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## **2.4 Largest Water Treatment Plant in Lanzhou Will Come Into Operation in September**

(Zoomchina.com.cn, Aug 3, 2007)Qilihe-Anning Water Treatment Plant which is the largest sewage treatment plant in Lanzhou will come into operation prior to September 30 of this year. It is understood that the daily emission of municipal sewage in our city is averagely about 540,000cu.m and the sewage daily disposed is averagely about 200,000t, with the sewage treatment rate of 37%. After closure project of south riverway is finished and Qilihe-Anning Sewage Treatment Plant come into operation, daily treatment capacity of municipal sewage in our city will achieve more than 360,000t and the sewage treatment rate is hopeful to up to 70%.

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## **2.5 13 Water Treatment Plants in Nanjing Will Start to Construct Within This Year**

(Zoomchina.com.cn, Aug 3, 2007)13 Water treatment plants in villages and towns will start to construct within this year and come into operation in 2008 in order to ensure that environmental protection index achieves 80



scores. It is understood that the development zones above municipal in Nanjing all requested to start the construction of sewage treatment plant within this year and strive to realize that the rate of reaching the standard of industrial waste water rises to more than 95%.

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## **2.6 Heilongjiang: Water Treatment Plant of Each City Must be started by the End of Next Year**

(Zoomchina.com.cn, Aug 3, 2007) Heilongjiang Construction Department called for that disposal equipments of sewage and waste must be started to construct by the end of 2008, or else the Chief Executive will be responsible for the delay. It is understood that at least more than one municipal sewage treatment plant and garbage harmless disposal site in 30 city of the whole province will be constructed respectively, realizing the aims that municipal sewage treatment rate specified by nation not lower than 70% and garbage harmless disposal rate not lower than 60%.

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## **2.7 Tsingtao Licunhe Water Treatment Plant Runs with Overburden**

(Zoomchina.com.cn, Aug 3, 2007) It is described that the daily treatment capacity of Licunhe Water Treatment Plant at present is about 80,000t, while the daily emission of sewage by neighboring residents and enterprises all is above 10,000t and the sewage not disposed overflow to riverway. To solve this problem, Licunhe Water Treatment Plant will construct the two stage project with daily treatment capacity of 90,000t and is tending now. It is hopeful to be finished and brought into operation before Olympics Sailing Events.

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## **2.8 Dongguan 36 sewage disposal plants cannot be all completed**

(Zoomchina.com.cn, Aug 6, 2007) On the early of this year, Dongguan Government promised to do Ten Things for citizens and one of them is "plan to build 36 Disposal Plants and put into operation by the end of this year". But presently Dongguan Administration of Environment Protection announced at media for the first time that "due to the influence of technology factor and construction period alteration, 36 disposal plants cannot be all completed by the end of this year".

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## **2.9 Shenzhen: the Largest Underground Water Treatment Plant Started Construction**

(Zoomchina.com.cn, Aug 6, 2007) Buji Disposal Plant, the first and largest underground water treatment plant



in China which designed by China Municipal Engineering Southwest Design Institution Shenzhen Branch, was started to construction in Shenzhen. The total investment of this project is 0.95 billion Yuan. It is consisted of Plant Construction, Pipeline Engineering, Supporting Facilities for Reach Rebuilding and Street Center Park. Its design capacity is 200 thousand tons per day. This project will be completed and put into operation in 2009.

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## **2.10 Beijing No.10 Water Plant will be completed in 2010**

(Zoomchina.com.cn, Aug 6, 2007) Beijing No.10 Water Plant (A Plant) officially signed an agreement. The Plant will be started to construction on 2008 and put into operation in 2010. After its completion, it will improve the water supplying for Chaoyang, Tongzhou New City and Yizhuang and the safety control of water supplying. It design capacity will reach 500 thousands cubic meters per day.

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## **2.11 Yanzhou Sewage Disposal Plant in Shandong province started construction**

(Zoomchina.com.cn, Aug 6, 2007) On the morning of 29th July, Yanzhou Dayu Sewage Disposal Plant Project was officially started to construction. The project is the supporting facility of Huai River Water Pollution Improvement of South to North Diversion Project. It covers an area of 76 mu and will build 40 000 tons sewage disposal plant and 13.3 kilometers sewage collecting pipelines. The total investment of the project is 50 million Yuan.

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## **2.12 Lhasa to Construct the First Modern Waters Treatment Plant**

(Zoomchina.com.cn, Aug 6, 2007) Lhasa will build its first water treatment plant on the second half of this year. According to the programming, its total investment will reach 0.4 billion Yuan, its early design sewage disposal capacity per day will 150 thousands tons and will reach 250 thousands tons in further phase. The sewage disposal plant will adopt biochemical treatment method and decompose the poisonous substance which will reach a better treatment result.

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## **2.13 Taizhou Jiulong Sewage Disposal Plant signed a BOT Agreement**

(Zoomchina.com.cn, Aug 6, 2007) On 24th July, Jiulong Town Government of Hailing District of Taizhou officially signed a BOT agreement about Jiulong Sewage Disposal Plant with Jiangsu Tianyu Environment Co Ltd. The project is one of Qingshui Pollution Improvement Projects of South to North Diversion Eastern Line Project and getting fund subsidy from State Development and Reform Commission. Jiulong Town Government plans to invest 56.85 million Yuan for pollution improvement of which 25 million will be invested on Plant Construction and



other 31.85 million on Pipeline Construction. The daily sewage disposal capacity will reach 10 thousands tons.

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## **2.14 Shenzhen Gongming Invests 0.2 Billion to Construct Water Treatment Plant**

(Zoomchina.com.cn, Aug 7, 2007) The Project Proposal of Shenzhen Gongming New District Water Treatment Plant has been approved by Shenzhen Development and Reform Commission. It plans to build next year. It is known that the daily disposal capacity will reach 200 thousands cubic meters and the daily disposal capacity of first phase will be 100 thousands cubic meters. The total investment is estimated to 0.212 billion Yuan. By the end of this year, the preliminary design will be completed. Plant will be started to construction in 2008 and put into operation in 2010.

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## **2.15 Lanzhou : Yongdeng Wastewater Treatment Plant to close down because of high cost**

(Zoomchina.com.cn, Aug 9, 2007)As introduced, Yongdeng County Sewage Factory is a financially independent company. At present the charge standard of urban sewage treatment fee approved by government is 0.4yuan/ton for resident, 0.6yuan/ton for non-resident, 0.5yuan/ton in average, which means total annual income of waste water treatment fees is only0.5million Yuan. Comparing with the running cost, 0.86Yuan/ton, equaling 1.8million Yuan/year in cost, the annual income takes up less than one third of the cost.

It was known that the present daily treatment capability of Yongdeng County Sewage Factory is up to over 7000tons, which indicates that once this company shut down, all waste water will flow into Zhuanglang River directly, which will not only threaten ten thousand people's life at lower reaches of Zhuanglang River, but also will pollute the water of Lanzhou part of Yellow River.

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## **2.16 Phase I of Guangzhou Xinhua Water Treatment Plant to Operate Yearend**

(Zoomchina.com.cn, Aug 9, 2007) Phase I of Xinhua Water treatment plant with total investment of 780million Yuan and with a daily capacity of 100000tons/day, is expected to put into production this November. Then the treatment rate of waste water will be up to 80%.It was known that the extension project, built through BOT processing, finished inviting and bidding task last July and formally broke ground last December.

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## **2.17 The Biggest Water Treatment Plant in Gansu completed construction**

(Zoomchina.com.cn, Aug 9, 2007) Lanzhou Qilihe Anning Sewage Treatment Factory, biggest factory in this field in Gansu Province, completed construction on 9th August and will be put into operation this September. Its key equipment “steel egg-shaped digestion tank”, also called as “dirt-cleaning grenade”, is the first 8000 cubic meters steel egg-shaped digestion tank in Asia.

The amount of industrious waste water and domestic waster discharged from Lanzhou city each day has been up to around 500000tons now, while the daily treatment capacity of urban waste water is 150000tons. With the completion of Qilihe Anning Sewage Treatment Factory, it will greatly improve the water pollution situation in Lanzhou part of Yellow River.

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## **2.18 Qingshanhu Lake Water Treatment Plant Put into Operation**

(zoomchina.com.cn, Aug 10, 2007) On August 8, extension project of Qingshanhu Lake Water Treatment Plant was formally put into operation. The extension project was initiated by Huanshi Government under Hubei province in 2005, including construction 6.38 kilometers sewage collection pipelines along Qingshanhu Lake to cut-off waste water and increasing the general treatment capacity to 40000 tons/day.

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## **2.19 Zhuji Donghe County takes a lead to build water treatment facilities**

(Zoomchina.com.cn, Aug 10, 2007) On August 4, Zhuji Donghe county in Zhejiang province formally started to construct water treatment facilities, taking a lead among 13 provincial ecological towns and villages. Donghe county has started to build 5 waterwaste containers, and is planning to rapidly expand through inviting and bidding in the next step. It is predicted that the whole project will be finished before the end of this November.

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## **2.20 Macao offers to build third water supply source water pipeline**

(zoomchina.com.cn, Aug 10, 2007) Fan Xiaojun, general manager of Macao water supply Co.Ltd, said that the diameter of the third source water pipeline is expected to be 1.4metres-1.6metres, increasing daily passing water volume of 120000 cubic meters to 200000 cubic meters, which will reach requirement of water supply in the next 10 years in Macao. Nevertheless Huang Suiwen, director of Guangdong-Macao water supply group, emphasized that building third water supply pipeline to Macau is still under discussion.

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## **2.21 Water supply project at East Kashi road in Wulumuqi started on August 7**

(zoomchina.com.cn, Aug 10, 2007) On the morning of August 7, water supply pipeline project at Kashi road in Wulumuqi formally broke ground. Invested over 10 million Yuan by Wulumuqi Water Group, the project will lay new water pipelines under overpass between Beijing road and Kashi road. The whole project has a total length of 7 kilometers, including 4.7 kilometers main body, considered as the biggest water supply pipeline project in Wulumuqi this year, which is expected to be finished on August 31. After being commissioned, the project will effectively resolve the water efficiency problem in the peak hour for residents living at East Kashi road.

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## **2.22 Macao offers to build third water supply source water pipeline**

(zoomchina.com.cn, Aug 10, 2007) Fan Xiaojun, general manager of Macao water supply Co.Ltd, said that the diameter of the third source water pipeline is expected to be 1.4 metres-1.6 metres, increasing daily passing water volume of 120000 cubic meters to 200000 cubic meters, which will reach requirement of water supply in the next 10 years in Macao. Nevertheless Huang Suiwen, director of Guangdong-Macao water supply group, emphasized that building third water supply pipeline to Macau is still under discussion.

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### **3 Competitive Intelligence (major market players)**

## **3.1 Nanjing Introduces the First Foreign-Funded Water Treatment Plant**

(Zoomchina.com.cn, Aug 3, 2007) It is known that Chengbei Sewage Disposal Plant project, the first sewage disposal plant which adopts BOT franchise rights to operate in Nanjing, has finished the construction of pile foundation and floor, and it is expected to operate at the end of 2008. Jiangning Chengbei Wastewater Treatment Plant is a foreign-funded water affair company which is introduced by BOT in Nanjing. Signore Asian Environmental Protection Water Company invests more than 100 million Yuan and the daily treating capacity of the first phase is 40 thousand ton.

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## **3.2 Camc Engineering succeed in getting Jiangsu Pizhou water treatment project**

(Zoomchina.com.cn, Aug 9, 2007) Camc Engineering announced on 8th August that their corporation had decided to invest 12.5 million Yuan to build up Jiangsu Pizhou north wastewater treatment factory. It was known that the project will be constructed by CAMC Engineering Pizhou water industry Co. Ltd, subsidiary to CAMC Engineering, through BOT (building-operating-transferring) model. CAMC Engineering Pizhou water industry Co. Ltd signed franchise operation agreement of WasteWater Treatment Factory BOT project with Pizhou government on August, 8th, 2007.

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## **3.3 Golden State Got the Order of Beijing No10 water Plant Project**

(zoomchina.com.cn, Aug 09, 2007) On August 2, 2007, project of Beijing Tenth Water No A Supply Factory hosted signing ceremony. Jinzhou Group cooperates with Beijing Enterprises Holding Limited and signed contract with Beijing Water Affairs Bureau. Five agreements are reached with Beijing Anling water technology Limited, Beijing Capital Group, Beijing Water Bureau, Beijing Water Group and Miyun Reservoir Administration Bureau.

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## **3.4 VEOLIA introduced sludge treatment solution in Water Industry Forum**

(Zoomchina.com.cn, Aug 10, 2007) At senior technology forum of water industry on 3rd August, Cheng Xiaohua, vice technology director of Asian region of Veolia Water, introduced sludge treatment solutions, including thermal hydrolysis, thermal oxidation and incineration technique. Sludge treatment has been drawing more and more attention by public, and present main problems are lying in greatly growth in quantity, much higher requirement world around, opposite attitude to sludge treatment from public and other trouble in operating process. Cheng Xiaohua introduced European experience through abundant real cases and gave practical resolving methods for China. He said that incineration is the final means of sludge treatment, which is especially suitable for large-scale sludge and very economic though limited in capability.

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## **3.5 Shenzhen Water Group acquired two small-scale water supply companies in Yantian**

(zoomchina.com.cn, Aug 10, 2007) On 8th, August, government of Yantian district hosted signing ceremony at Wuzhou Hotel with Shenzhen Water Group, aiming to reorganize water resource within Yantian area. Based on the agreement, Shenzhen Water wholly acquired 100% shareholding of Yantian Water Supply Company and



Meisha Water Supply Company. It was known that these two companies Shenzhen Water acquired supply water within area of Yantian port and Great Meisha respectively. Yantian company has a daily capability of 25000m<sup>3</sup> while that of Meisha is 10000m<sup>3</sup>.

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## **4 R&D on water treatment technology**

### **4.1 Limnology Research Center of Nanjing University Has Been Established**

(Zoomchina.com.cn, Aug 3, 2007) On Aug. 1, Limnology Research Center of Nanjing University, the first comprehensive scientific research institute in the Country which takes the limnology as the research object had been established. It is known that the Center has the advantageous strength of the environment and ecology the two specialties in Nanjing University, and the lake environment of Chinese Research Academy of Environmental Sciences, and will implement the innovative research and project demonstration of the strategy, key technology and management system of the Taihu Lake pollution controlling and ecological recovery.

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### **4.2 Zhejiang: seawater desalination technology will compensate water resource deficiency**

(Zoomchina.com.cn, Aug 9, 2007) Department of Science and Technology of Zhejiang Province decided to supply 10million Yuan each year during “eleventh five” periods in use of seawater desalination and comprehensive utilization and strive to resolve fresh-water deficiency problem in seaside area through the method of replacing fresh-water by seawater directly, which will greatly improve the traditional ways. As predicted, until the end of “eleventh five” periods, it is expected to add fresh water capacity made from seawater desalination equipments of 300000tons/day. Supposing 90% operating rate means it will add freshwater capacity of 98million tons/year, valuing over 400million Yuan/year based on 4.5 Yuan/tons.

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### **4.3 Dalian successfully operates heat-pump project by utilizing seawater and waste water**

(Zoomchina.com.cn, Aug 9, 2007) 300000 kilometres departments, located in Xinhaiwan business zone in Dalian of Liaoning Province, began to enjoy cool air supplied by seawater heat pump engineering project, which showed Dalian successfully replaced traditional heat and cooling supply method by new seawater –origin heat pump technology. It was said that the large-scale seawater –origin heat pump project in Xiaoping Island new district of Dalian will be finished this November. At that time all of the restaurants, hotels, business and luxurious



departments there, with building area of 500000square meters, may enjoy the heat and cooling supply by regional seawater-origin heat pump system.

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## **4.4 Kunming initiates the model project of urban water discharge pipeline and network**

(Zoomchina.com.cn, Aug 9, 2007)Facing the present flood control situation, construction departments in Kunming, Yunnan province united city water discharge pipelines and networks to utilize new pipeline material, high density polyethylene flexible double wall twined pipe, to improve the guarantee capability of city water supply and discharge pipeline and networks. Kunming city is planning to rebuild urban water discharge system recently and until 2010 the utilization rate of this new pipe material is expected to 85%, greatly improving water discharge capability in this city.

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## **4.5 Ocean Association undertakes the research on utilization technology of watershed rain and flood resource**

(zoomchina.com.cn, Aug 10, 2007) From July 26 to July 27, Nanjing Research Institute of Water hosted initiation conference on “research and application of rain and flood resource utilization technology”, which belongs to “eleventh five-year plan” national supporting science and technology plan. Based on Haihe River base, the program carried out research and demonstration task of utilizing rain and flood resource.

It was known that the research on utilization technology of watershed rain and flood resource will be undertaken by Ocean Association.

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## **4.6 Drinking water treatment equipment with reverse osmosis membrane applies to rural**

(zoomchina.com.cn, Aug 10, 2007) Research on reverse osmosis membrane treatment technology using for rural drinking water treatment, developed by Korean D.M. Puyate environment protection Co. Ltd and Nanjing Environment and Science Institute of National Environment Protection Bureau, mainly based on reverse osmosis technology, combing with other methods like ultrafiltration, micro-filtration, sand-filtration, activated carbon adsorption and ultraviolet disinfection, i.e. Purification equipments of tap water, well water and river water, designed on this technology, have good deep cleaning effect, satisfying requirements of water supply in dispersal rural area.

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## **4.7 River water will replace tap water in use of industrious water treatment**

(Zoomchina.com.cn, Aug 10, 2007) TSS river water treatment technology, new technology utilizing river water replacing tap water in use of industrious water treatment, has been formally put into use recently .Developed by Shanghai Shunyu Environment Protection Engineering Corporation and utilizing outer river water, this new technology consists of pre-treatment equipment ,sterilization and algae killing and filtration equipment specially aiming at river water. The pre-treatment equipment comprises drainage tank and integration treatment equipment, which will help to remove suspended substances in the water to decrease turbidity. The after-treatment equipment comprises energy sterilization and algae killing machine, PC automatic filtration machine, which can kill and degrade algae, ammonia, nitrogen, and organic compounds as well as filtrate small partials.

The new technique fixed PLC controlling system to direct all components' operation, which could alarm once make faults, and make programming and justifying according to user's requirement. Besides it can do long-distance monitoring through connecting with BA system.

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## **4.8 Ningbo Soldier Research Institute developed new waste water treatment technology**

(Zoomchina.com.cn, Aug 10, 2007) Ningbo Soldier Research Institute developed new sewage treatment technology, which can make waste water even cleaner than tap water. It was introduced that the new technology adopts advanced nanofiltration membrane and reverse osmosis membrane material, both belongs to nanometer grade separation membrane material. Under certain pressure, 99.5% sodium ions can't run through reverse osmosis membrane, not to mention even bigger ones, through which we can get quite clean water. After-treatment water is even cleaner than tap water using in daily life, completely reaching standard of recycling utilization.

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