HRC's Annual Report on Foreign Affairs in 2011 and Work Plan for 2012

Hangzhou Regional Center (Asia-Pacific) for Small Hydropower (HRC)

National Research Institute for Rural Electrification (NRIRE)

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In 2011, HRC fully implemented instructions given by Ministry of Water Resources in enhancing international exchanges on water resources in close accordance with the spirit of No. 1 Document of the Central Committee of CPC concerning national water conservancy. Guided and supported by Ministry of Water Resources (MWR), Ministry of Commerce (MOFCOM) and Nanjing Hydraulic Research Institute (NHRI), all the staff members of HRC have made strenuous and concerted efforts for business expansion and innovation, actively undertaken foreign-aid training projects and conducted extensive international exchanges. By successfully completing a series of bilateral and multilateral international projects, HRC has further expanded the international market, increased the export of electromechanical equipment of small hydropower, thus creating quite favorable social and economic benefits.

I. Foreign-aid Training

1. General Situation

In order to strengthen foreign-aid human resources development, deepen south-south cooperation, popularize Chinese SHP technology and equipment, and promote exchange and cooperation among developing countries, HRC, under the guidance of MOFCOM and MWR, successfully organized 3 foreign-aid training workshops (seminar) in 2011, with totally 107 participants (officials) from 52 countries. Remarkable results have been achieved.

From 26 May to 6 July, the "**Training Workshop on Small Hydropower Technology for Developing Countries**" was held in HRC successfully, with 42 participants from 23 countries involved, and the working language was English. From 18 August to 28 September, HRC conducted the "**Training Workshop on Small Hydropower Technology for Francophonies in Africa**", with 40 participants

from 17 French-speaking African countries involved. During the training workshops, the lectures and on-site visits were well combined. The presentations covered SHP specialized knowledge and professional skill, including Hydrology, Geology, Dam Design, Hydraulic Machinery, Hydro-energy, Head Works, Electrical Design, Automation, Powerhouse Design, etc. The case-study was focused on Site Selection of Hydropower Station, Water Conduit System, Development Modes, Technical Refurbishment, etc. In addition, special topics on Water Resources in China, Three-Gorge Project and South-North Water Transfer were introduced. Apart from listening to the lectures, the participants paid visits to the SHP stations designed by HRC or with equipment supplied by HRC, to the hydropower equipment manufacturers in good cooperation with HRC for exporting, and to the large-scale hydropower project ---- Three-Gorge Hydropower Station as well.

With great support of MOFCOM and MWR, from 1 to 7 November, HRC organized the "**Ministerial Seminar on Water Resources and Small Hydropower for Developing Countries**", which was the 60th international training (seminar) project conducted by HRC since its establishment in 1981, and was the first ministerial seminar organized by HRC as well. The working language of the seminar was English. The leaders of MWR attached great importance to the seminar, and Minister Mr. Chen Lei gave a special instruction and entrusted Chief Engineer Mr. Wang Hong to attend the opening ceremony and delivered a keynote report titled "Development of Water Conservancy in China", laying a solid foundation for the success of the seminar.

The 7-day seminar was an attractive and rewarding event. Totally 25 high-level officials (including 12 ministerial officials) came all the way to be present at the seminar from 12 countries in Asia and Africa, including Cambodia, Egypt, Ghana, Kenya, Malawi, Pakistan, the Philippines, Sierra Leone, Syria, Tanzania, Uganda, Vietnam, etc. The Seminar aimed to strengthen the exchange and cooperation between China and other developing countries in the field of water resources and

small hydropower, to share Chinese successful experience and advanced technology, to enhance the capacity of each country for utilizing water resources and developing SHP. The effect of seminar was well improved by the combination of presentations and on-site visits. The famous experts in the field of water resource and SHP were invited to respectively deliver presentations titled “General Management and System Construction of Chinese Water Resources”, “Introduction on Eco-Hydraulic Engineering”, “Development and Prospect of International Dam Construction Techniques”, “Small Hydropower Development in China”, “Small Hydropower Development Practice in Zhejiang Province”, and “SHP Development Modes and Technical Characteristics”, etc. In addition to the National Water Museum of China, the visits to Three-Gorge Project, Caoejiang Hydraulic Project, Suzhou River Gate Bridge, Jiufeng Power Station and Zhejiang Jinlun Electro-mechanic Co., Ltd were also well arranged, covering large hydropower project, SHP station and SHP equipment manufacturer with different characteristics and wonderful experiences.

The seminar has achieved a complete success, winning high appraisals from MOFCOM, MWR, the local government, the hydropower industry or beyond, and the participants as well. Mr. Gao Bo, Director-General of the Department of International Cooperation, Science and Technology of MWR, pointed out that “It is the first time for MWR and MOFCOM to jointly sponsor the Ministerial Seminar on Water Resource and Small Hydropower, which has won enthusiastic responses and significant effect.” Vice Minister Mr. Hu Siyi was very supportive to HRC for organizing the seminar. He broadened the new approaches and pointed direction for the preparation of the seminar. Vice Minister Mr. Hu wrote comments in the “Report on the Seminar” submitted by HRC that “Based on thoughtful organization and implementation, the seminar has been completed successfully with fruitful results. It is expected that HRC would make persistent efforts to strengthen continuously international exchange and cooperation, and promote Chinese SHP further GOING GLOBAL.”

Moreover, the officials at ministerial level from Ghana, Malawi, Uganda, Pakistan, Syria and Cambodia, etc. also delivered the passionate speeches respectively, expressing their sincere gratitude for the hospitality and good service from China, and making high evaluation on the enlightening presentations, wonderful visits and perfect arrangements, etc. The ministers from several countries presented souvenirs to HRC in acknowledge of its efforts.

2. Elaborate Arrangement and Thoughtful Preparation

With rich experience in conducting international training projects for 30 years, so far, HRC has successfully organized 60 international training workshops or seminars in total, with over 1200 officials and technicians from more than 100 countries or regions involved. For each training project, the leadership of HRC attached great importance and made elaborate deployment. Several work meetings are held to ensure the smooth implementation. Especially for this ministerial seminar which is one of the few of its kind to be entrusted by MOFCOM and held beyond Beijing, HRC set up specially a competent working team led by HRC director, to make meticulous planning, efficient organization and thoughtful arrangement, to pay extreme attention to security and foreign affairs etiquette as well, ensuring the success of the seminar. The details are shown as follows.

(1) During the preparation of the first training workshop of 2011, the "HRC Training Manual" was revised and improved. The new version of the manual was characterized by beautiful print, nice illustration and rich information, containing the details of lecturers and highlights of the presentations. During the preparation of the second training workshop of 2011, a questionnaire titled "Situation and Demand of Hydropower Development in African Countries" was designed in advance, including the key items of "Theoretical Potential of Hydropower, Exploitable Potential of SHP, Total Installed Capacity of Power, Installed Capacity of Hydropower, Rate of Electrification, Demand of SHP, Main Problems and Difficulties, etc". Base on the

kind assistance of the participants, the rich data of the 17 African countries was well collected, providing a reliable information source for further bilateral cooperation with African countries.

(2) With respect to the course arrangement, the complete training schemes for the SHP training workshops were well designed by taking the suggestions of the old participants and based on actual situation as well, with the topics concerning renewable energy development added, such as the "Complementary of Wind Power, Hydropower and Solar Energy", etc. The lectures of the workshops over one month were arranged scientifically and orderly, covering all technical aspects of SHP. In addition, the on-site visits to hydropower stations and equipment manufacturers were also arranged, so as to improve training effect based on the combination of theories and practices.

With respect to the seminar, HRC designed the schedule elaborately under the guidance of MWR and MOFCOM, and the selection on presentations, experts and visiting sites were discussed for many times. Mr. Liu Heng, Director-General of International Center for Small Hydropower, Mr. Dong Zheren, Vice Chairman of Chinese Committee of Global Water Partnership, Mr. Jia Jinsheng, Chairman of International Commission on Large Dams and Vice President of China Institute of Water Resources and Hydropower Research, Mr. Tian Zhongxing, Director-General of Bureau of Rural Hydropower and Electrification Development, MWR, Mr. Xu Wenbin, Deputy Director of Zhejiang Provincial Department of Water Resources, Ms. Cheng Xialei, Director of National Research Institute for Rural Electrification (HRC), were specially invited to deliver presentations.

(3) Nice organization and management are the basic guarantees for the smooth implementation of a training program, and thoughtful logistics service is the solid support for the physical and mental comfort of participants. During conducting the training projects, the organization and management were proved to be efficient and

meticulous, either from reception to farewell, from opening ceremony to closing ceremony, or from in-class presentations to on-site visits, from discussion on technology to discussion on cooperation, etc.

In addition to the informative lectures and on-site visits, the business talks on SHP international cooperation were held during the training workshops. All the participants took pleasure to have exchange and discussion with the experts and engineers from Hangzhou Yatai Hydro Equipment Completing Co., Ltd of HRC. The participants introduced the details of their respective countries concerning the potential of water resources, the situation of hydropower development and the potential hydropower projects. HRC staff listened attentively, discussed actively, and offered many good suggestions. Based on the full communication, the mutual understanding was enhanced which laid a solid foundation for undertaking more international hydropower projects in future concerning technical consultation, engineering design and equipment export, etc.

3. Fruitful Results and Prosperous Prospect

HRC staff members and lecturers get along with the participants everyday during training workshops or seminar, and the mutual understanding and friendship were enhanced, which laid a favorable foundation for further cooperation in future. The participants of the training workshops kept in touch with HRC via E-mails, and some participants often informed HRC of local hydropower projects, inviting HRC to take part in technical service and equipment supply. During the ministerial seminar, the Director in Ministry of Irrigation of Syria specially paid a visit to HRC and its subsidiary company, Hangzhou Yatai Hydro Equipment Completing Co. Ltd. for the discussion on SHP cooperation, and he expressed that a proposal on potential cooperation with China would be submitted to the superiors after returning to Syria. The Minister of State for Environment, Ministry of Water and Environment of Uganda, Ms. Munaaba Flavia Nabugere who had been paying attention to the effect of SHP development on ecological environment hoped to learn more management

experience from China, and it was expected that the potential cooperation with China, not only on technology, but also in the field of management, would be further discussed.

After the seminar, the Ministers of Cambodia, Malawi, Pakistan, the Philippines, Tanzania, etc. respectively sent letters to HRC, expressing their wishes on bilateral cooperation. In the letter of Mr. Heng Sokkung, Under Secretary of State, Ministry of Industry, Mines and Energy of Cambodia, he invited HRC to undertake an on-site survey for the two hydropower projects with the priority for development in Battambang Province of Cambodia, and he would make arrangement for HRC to call on Minister of Industry, Mines and Energy of Cambodia for the discussion on cooperation.

Based on conducting the foreign-aid multilateral training projects, the hydropower professionals were cultivated for developing countries, good relationship was enhanced and international exchange and cooperation were strengthened. It is expected that HRC will have a splendid and prosperous prospect to further promote economic and technical cooperation on small hydropower.

II. Exchange with Foreign Countries

1. Information Exchange

(1) In 2011, HRC completed the translation of the "Electromechanical Equipment Guide for Small Hydroelectric Installations" and submitted it to the Department of International Cooperation, Science and Technology of MWR for examination. It is expected to be issued based on a further revision and a final examination according to the comments from the experts. Moreover, HRC will further translate and issue the "Technical Specification on Type, Parameter and Performance of Small Hydraulic Turbine" and some other technical norms. The task of formulating 5 and translating 3 national standards in 2012 has been assigned to HRC.

In recent years, the international market of hydropower has been expanded vigorously, and the international SHP projects of engineering design and equipment export have been greatly increased. Many countries are lack of national standards, and the SHP sector of some countries would like to draw on Chinese techniques and rich experience in SHP development. Therefore, the formulation and issue of English Version of the standards are of great significance.

(2) HRC has edited and published the "SHP News" of 2011, collecting huge number of articles concerning SHP technology and development, as well as the news in the field of SHP of many countries. The website of HRC has played a more significant role and became an important window for publicity and information exchange. In 2011, it released 49 pieces of English news, widely introducing HRC and Chinese SHP to the colleagues all over the world. In 2011, totally 31 scientific papers and academic reports from the professionals of HRC were published (as shown in Appendix 3).

(3) In addition, HRC actively took part in the "South-South Cooperation on Science, Technology and Information Exchange", a project of Ministry of Science and Technology (MOST). The technical information on "Technology and Equipment of Small/Micro Hydropower" and "Technology of SHP Automatic Control" were compiled by HRC and collected into the "Applicable Technology Manual: South-South Cooperation on Science and Technology to Address Climate Change". The manual was issued successfully at the UN Climate Change Conference held in Cancun, Mexico in 2010, winning acclaim from the developing countries and the international organizations. According to the requirements from the Office of International Cooperation and Planning of MOST, the above-mentioned information was updated last year for the second edition.

2. Visits for Bilateral Cooperation

In 2011, HRC received totally 11 batches of 25 foreign guests, respectively from Turkey,

Vietnam, Indonesia, India, Kosovo, etc (as shown in Appendix I). Meanwhile, HRC dispatched 8 delegations of 17 members to visit Turkey, Israel, Kenya, Angola, accomplishing the missions for the cooperative hydropower projects, such as equipment installation, technical consultation and discussion on contract of equipment export etc. Based on the visits and the communication with the old and new customers, several cooperative agreements were reached, and 5 contracts of technical consultation and equipment supply have been signed, providing favorable economic benefit.

Moreover, HRC has set up long-term cooperative relationship and reciprocally-visiting mechanism with Vietnam Academy for Water Resources (VAWR) and TEAM of Thailand, and signed the Memorandums of Understanding as well. Within the cooperative framework of China-Vietnam Joint Committee on Science and Technology Cooperation, HRC and VAWR jointly applied for several long-term and short-term research and development projects between Chinese Government and Vietnamese Government, enabling the MHP equipment, SHP automatic control system and the containerized turbine-generating units developed by HRC to be successfully exported to Vietnam for popularization. In 2011, HRC made cooperation with TEAM actively and greatly promote the export of SHP technology and electro-mechanical equipment to South Asia based on the mature markets of renewable energy established by TEAM in Thailand, Laos and Myanmar.

III. International Cooperation

1. Engineering Consultation and Design

In 2011, the subsidiary design institute of HRC undertook technical consultation for 6 hydropower stations in Turkey, Vietnam and Indonesia.

2. Bilateral and Multilateral Cooperation

In addition to the cooperation with oversea companies, HRC carried on extensive cooperation with domestic companies, jointly developing hydropower markets abroad

based on a strong alliance with complementary advantages. For instance, HRC cooperated to explore global market jointly with Sinosteel Tiancheng and Shanghai Electric Power Transmission and Distribution Engineering Co., Ltd in Turkey, Republic of Congo and Togo, etc. The cooperation with the general contractors can not only reduce risks, but also learn good experience in project management, enabling HRC to take root in the local hydropower markets, thus enhancing the market share and improving influence.

Within the Cooperative Framework of China-ASEAN Joint Science and Technology Committee, HRC has set up long-term relationship with the Secretariat to jointly promote SHP development in ASEAN countries. The consensus was reached to hold a training workshop on hydropower and micro solar energy system in 2012 in Hangzhou, aiming at popularizing the containerized SHP technology and the micro solar system through project demonstration and cooperative research, thus promoting rural electrification in ASEAN countries. At present, the proposal has been approved by the ASEAN Sub-committee on Non-conventional Energy Research, and would be submitted formally to Chinese Ministry of Foreign Affairs after getting responses from the ASEAN countries.

3. Equipment Completing and Export

In 2011, HRC undertook the after-sale equipment maintenance for 12 hydropower stations which had been put into successful operation in Turkey, and supplied related spare parts at the request of the owners. The design of 3 Turkish hydropower stations, as well as the manufacturing and supplying of the embedded parts of equipment have been completed. HRC dispatched delegations to Turkey, carrying on the equipment installation. Meanwhile, based on the on-site survey, technical consultation and business negotiation fulfilled respectively, HRC actively made discussions with customers in Turkey, Angola, the Republic of Congo, Kenya, Indonesia and Thailand on SHP design, equipment completing and export, with great breakthrough achieved.

Since HRC set out to export hydropower equipment in 2005, so far, it has supplied electro-mechanical equipment and offered instruction or service of installation for 35 hydropower stations in the Philippines, Vietnam, Sri Lanka, Peru, Fiji, Turkey, Pakistan, Angola and Kenya, etc., with a total installed capacity over 400MW, providing remarkable economic benefit. At present, HRC is taking root in Turkish hydropower market, and exploring the markets in the neighboring countries as well. In virtue of the high-quality electro-mechanical products, the perfect engineering management and the favorable after-sale service, HRC enjoyed good reputation and won high praises from the oversea customers.

IV. Work Plan for 2012

Based on the fruitful achievements concerning foreign affairs in 2011, HRC will make unremitting efforts to continuously enhance international cooperation on SHP, actively undertake exchange and training, thoroughly implement the strategy of "Go Global", and promote SHP equipment export. The work plan in detail is shown as below.

1. To earnestly conduct at least three foreign-aid projects entrusted by MOFCOM, including Training workshop on Small Hydropower Technology for Developing Countries (23 May – 6 July), Seminar on Rural Electrification for Developing Countries (30 August – 26 Sept) and Formation sur la Technologie de Petite Centrale Hydroélectrique pour les Pays d'Afrique francophone (18 Oct – 28 Nov); to compile and publish the French version of the training materials "Small Hydropower", and revise the English version; make unremitting efforts to ensure the excellent fulfillment of the foreign-aid training projects sponsored by MOFCOM.

2. To fully take the advantages of HRC as the "Family of Small Hydropower in the World", playing a role as a bridge; to further strength extensive exchange between HRC and the SHP sector in other countries, enhance friendship and promote cooperation, enabling HRC to serve as an important "window" for international exchange and

cooperation.

3. To thoroughly implement the strategy of “Bring In and Go Global”, to introduce the advanced technology and management experience of water resource and SHP from the developed countries, which are to be turned into scientific and technical payoffs and popularized home and abroad. In particular, the micro containerized units introduced by HRC from overseas few years ago and the controlling technology developed by HRC should be applied well in the markets both home and abroad.

4. To fully play the role of an international platform; to strength the development of the two magazines and the website of HRC, ensuring extensive information exchange with the international organizations, the oversea SHP institutions and the colleagues home and abroad.

5. To deeply comprehend the important instructions given by leaders of Ministry of Water Resources on enhancing international cooperation, to continuously implement the strategy of “Go Global”, consolidate the achievements and actively develop bilateral cooperation with the countries in South America, Africa, Southeast Asia and East Europe. To promote the export of hydropower equipment, and at the meantime, to actively expand cooperation in the field of new energy such as wind power, solar energy and biomass energy, etc., and the fields of environmental protection and small-scale thermal power as well, thus realizing the “overall development based on main business” and achieving new business growth.

Appendix 1

Foreign Guests Hosted by HRC in 2011

No.	Time	Country/Organization/Delegate(s)	Objectives & Achievements

1	2/26	2 delegates from the Turkish company	The foreign guests visited the manufacturers, and the consensus was reached on the cooperative projects after discussions.
2	3/2-3/6	The General Manager and other 3 delegates from the Turkish company	The foreign guests visited HRC, undertaking technical discussions, making negotiation and signing contract.
3	3/15-3/18	The 3-person delegation led by Mr. Nguyen Vu Viet, Vice Director of Vietnam Academy for Water Resources (VAWR) and Director of Institute for Hydropower and Renewable Energy (IHR)	Discussion and deployment were made on the project "Emergency-supporting Technology for Rural Hydropower against Disasters Caused by Climate Change", a long-term cooperative project between the Chinese and Vietnamese Governments which was jointly applied by HRC and VAWR.
4	4/15	The 2-person delegation headed by MR. Nguyen Quang Dao , Chairman of the Board, Thai An Hydropowers., Jsc, Vietnam	Discussion was made on the design of 220kV transmission line and the relevant issues in construction. The technical scheme was determined.
5	5/10-5/13	2 delegates from the Turkish company	The foreign guests inspected the progress and quality of the turbine-generator units under production.
6	6/4-6/6	3 delegates from the power company in Indonesia	The delegates effectively communicated with the affiliated company of HRC over the project design and equipment procurement, and visited Shimentan Cascade Hydropower Station designed by HRC.
7	9/27	2 delegates from the international company in	The foreign guests visited the equipment manufacturers. The supply scope and related technical problems were

		India	discussed in details, and the preliminary scheme for equipment supply was determined.
8	9/15	2 delegates from the Turkish company	The foreign guests inspected the progress of production and made technical discussion for the 3 projects under implementation.
9	10/6	The owner of hydropower project from Kosovo	Hangzhou Yatai Hydro Equipment Completing Co., Ltd of HRC made the preliminary design and offer for the containerized hydropower project which would soon be conducted, and the technical parameters and concrete requirements were clarified.
10	10/18	2 delegates from the Turkish company	A profound discussion was held on the projects in the fields of hydropower and others which were of common concern. The foreign guests visited some equipment manufacturers.
11	11/18	2 delegates from the Turkish company	The effective discussion was held on the three new projects, concerning the turbine-generating equipment manufacturers, the scope of supply, the offer of equipment and some technical issues, etc.

Appendix 2

HRC's Outbound Missions in 2011

NO.	Time	Delegate(s)	Country	Mission & Achievements
1	4/18-7/16	1	Turkey	To give installation instructions for the hydropower projects in Turkey.
2	6/10-9/7	2	Turkey	To give installation instructions for the hydropower projects in Turkey.
3	7/20-8/10	3	Turkey Israel	To hold discussion on the hydropower projects in Turkey and Israel.
4	7/14-10/5	1	Turkey	To give installation instructions for the hydropower projects in Turkey.

5	8/7-10/5	1	Turkey	To give installation instructions for the hydropower project in Turkey.
6	8/7-11/4	3	Turkey	To give installation instructions for the hydropower projects in Turkey.
7	11/4-11/11	2	Kenya	To carry on negotiation on the completing and export of equipment of hydropower projects in Kenya.
8	12/20-12/30	4	Turkey	To hold discussion on hydropower projects in Turkey, as well as the completing and export of electromechanical equipment.

Appendix 3

Papers Published in 2011

No.	Title	Magazine	Serial No.	Author(s)
1	Creative Design Work	*Water Power & Dam Construction*, Jan 2011, UK	ISSN 0306-400X	Lin Xuxin, Pan Daqing
2	Study on General Strategy of Water Power Resources Zones in China	*China Water Resources June*, 2011	CN11-1374/TV	Cheng Xialei, Chen Xing, Cao Lijun
3	Thinking and Suggestions on Establishing International Standards for Small Hydropower	*China Water Resources Vol. 2,* 2011	CN 11-1374/TV	Dong Dafu, Zhao Jianda, Cheng Xialei, Zhu Xiaozhang
4	The Effectiveness Analysis on the Improvement of Old	*China Water Power & Electrification*, Vol. 4, 2011	ISSN 1673-8241	Shu Jing, Jin Huapin,

	Power Stations in Zhejiang Province			Lin Xuxin
5	Research and Design of Platform of Transportation in Taishir Hydropower Station in Mongolia	*Small Hydro Power*, Vol. 1, 2011	ISSN 1007-7642	Jiang Xinchun
6	Appraisal for Medium and Small Sized Hydropower Station Based on Investment Benefit	*Small Hydro Power*, Vol. 1, 2011	ISSN 1007-7642	Yan Jun
7	Analysis on Dam Safety Monitoring for Lower Reservoir in Huilong Pumped-storage Power Station	*Small Hydro Power*, Vol. 1, 2011	ISSN 1007-7642	Ren Suming, Chen Xiangming, etc.
8	Analysis on Temperature Stress of Tunnel Lining in Huilong Power Station	*Small Hydro Power*, Vol. 2, 2011	ISSN 1007-7642	Ren Suming, Chen Xiangming, etc.
9	Application of Pile Structure in Flood Protection Embankment in Residential area	*Small Hydro Power*, Vol. 3, 2011	ISSN 1007-7642	Zhang Hua, etc.
10	Discussion on Appropriate Technology for the	*Small Hydro Power*, Vol. 5,	ISSN 1007-7642	Shu Jing, Lin

	Refurbishment of Small Sized Hydropower Station	2011		Xuxin, Fang Hua, Jin Huaping
11	Security Risks Assessment and Guarantee Technology of Rural Hydropower Station	*Small Hydro Power*, Vol. 6, 2011	ISSN 1007-7642	Xu Jincao, Dong Dafu, Jin Huapin, Shu Jing, etc.
12	Security Risks Assessment and Guarantee Technology of Rural Hydropower Station	2011 Annual Conference of China Society of Hydraulic Engineering, 2nd China Forum on Small Hydropower, Special Committee of Hydroelectricity Engineering Oct., 2011, Beijing	Presentation delivered	Xu Jincao, Dong Dafu, Jin Huapin, Shu Jing, etc.
13	Discussion on Appropriate Technology for the Refurbishment of Small Sized Hydropower Station	2011 Annual conference of China Society of Hydraulic Engineering, 2nd China Forum on Small Hydropower, Special Committee of Hydroelectricity Engineering Oct., 2011, Beijing	Presentation delivered	Shu Jing, Lin Xuxin, Fang Hua, Jin Huaping
14	An Example of the Straightening Treatment to Bending Shaft of Vertical Hydro Generator	Proceedings of 18th Colloquium on Chinese Hydropower Equipment Nov., 2011 Wuyi Mountain China Water Power Press	ISBN 978-7-5084-9088-5	Xu Wei, Du Jiang, Zeng Rong

		First Edition, Oct., 2011		
15	Challenge of Chinese Small Hydropower Development and Its Policy Proposal	Seminar on Small Hydropower Development 25th July, 2011, Beijing	Invited Paper	Cheng Xialei
16	SHP Development Modes and Technical Characteristics in China	Ministerial Seminar on Water Resources and Small Hydropower for Developing Countries 3th Nov., 2011, Hangzhou	Invited Paper	Cheng Xialei
17	Extension Evaluation Mode of Water Resources Zones in China and Decision Supporting System	2011 Annual Conference of China Society of Hydraulic Engineering, 2nd China Forum on Small Hydropower, Special Committee of Hydroelectricity Engineering Oct., 2011, Beijing	Presentation delivered	Zhang Rengong, Cheng Xialei
18	Reference of the Development Experience of Japanese Pumped Storage Power Stations for East China Power Grid	*Hydroelectric Engineering,* Vol. 37, No. 12	ISSN 0559－9342	Wu Shidong, Jiang Xinfen
19	Research on the Decision-making Model of Renewal and Reconstruction of Small Hydropower Stations	*China Rural Water and Hydropower,* Vol. 6, 2011	ISSN 1007-2284	Qiu Jianghai, Lin Xuxin, Shu Jing, Jin Huapin, Xu Jincai

20	Grey Theoretical Mode for Health Diagnosis of SHP Hydraulic Structures	*Journal of Hohai University (Natural Sciences)*, Vol. 5, 2011	ISSN 1000-1980	Li Yi, Cai Xin, Xu Jincai, Shu Jing, etc.
21	Seepage Analysis of Reinforcement Project for Danger Control of Earth and Rock-fill Dam	*Water Resources Informatization*, Vol. 1, 2011	ISSN 1674-9405	Wang Haibo, Chen Gusen
22	3-D Seepage Flow Field Analysis of Excavation for a Large Span Double-arch Tunnel	*China Science and Technology Information*, Vol. 16, 2011	ISSN 1001-8972	Zhang Bin, Chen Gusen
23	Discussion on the Application of Pore Pressure Coefficient in Soil Slope Stability Calculation	*Henan Science & Technology*, Vol. 11, 2011	ISSN 1003-5168	Zhang Bin, Chen Gusen
24	Improvement of Strain Hanging Plate Type in Corner Angle Steel Tower	*Small Hydro Power*, Vol. 1, 2011	ISSN 1007-7642	Zhang Bihui, Yin Xiaoqin, Fang Hua
25	Discussion on Stratified Water-taking in Reservoir	*Small Hydro Power*, Vol. 2, 2011	ISSN 1007-7642	Tang Sujuan, Tang Wen, Zhou Jianxiong

26	Application of Networking of Computer Monitoring System in Jiufeng Reservoir	*Small Hydro Power,* Vol. 3, 2011	ISSN 1007-7642	Xu Yanfang, Zhan Qingyun, Hu Changshuo
27	Construction Quality and Safety Management of Casing Well in Hongqiao Reservoir	*Small Hydro Power*, Vol. 3, 2011	ISSN 1007-7642	Shan Xianzhong, Chen Changjie
28	Practice on Underwater Repair for Expansion Joint of Impervious Facing Plate in Upstream Side of Dam in Yangxi Reservoir	*Small Hydro Power*, Vol. 3, 2011	ISSN 1007-7642	Jiang Xiaoyang, Shi Rongqing, etc.
29	New Type Operator with PID Controller	*Small Hydro Power*, Vol. 5, 2011	ISSN 1007-7642	Zhou Yufeng, Jin Huapin, Xu Guojun
30	Design and Construction of the Reinforcement and Rehabilitation for Yao Jiang Sluice	*Small Hydro Power*, Vol. 5, 2011	ISSN 1007-7642	Wu Yingyan, Shi Rongqing
31	Research on Economical Efficiency of Small Hydropower and Safety of Electrical Equipment	*Small Hydro Power,* Vol. 6, 2011	ISSN 1007-7642	Yuan Yue, Bai Xue, Fu Zhixin, Xu Jincai