HRC's Annual Report on Foreign Affairs in 2013 and Work Plan for 2014

Hangzhou Regional Center (Asia-Pacific) for Small Hydro Power (HRC)

National Research Institute for Rural Electrification, MWR (NRIRE)

January, 2014

HRC's Annual Report on Foreign Affairs in 2013 and Work Plan for 2014

In 2013, led and supported by the Ministry of Commerce (MOFCOM), the Ministry of Water Resources (MWR) and Nanjing Hydraulic Research Institute (NHRI), HRC carried out and implemented the decisions and arrangement of the Central Committee of CPC on speeding up the reform of national water conservancy. HRC staff earnestly studied the documents of 18th Conference of CPC, with high spirits and meticulous attitude, in the practical style of seeking truth, worked hard and forged ahead. Foreign-aid training projects were actively undertaken, international exchanges were expanded, the international market was further developed and several multilateral or bilateral cooperative projects were successfully implemented, thus promoting SHP equipments export and creating social & economic benefits.

I. Foreign-aid Training

In order to strengthen foreign-aid human resources development, deepen south-south cooperation, popularize Chinese SHP technology and equipment, while promote



exchanges and cooperation among developing countries, HRC, under the guidance of MOFCOM and MWR, has successfully organized 3 foreign-aid training workshops

(seminar) in 2013, i.e. Seminar on Rural Electrification for Developing Countries, Training Workshop on SHP Technology for Francophone African Countries, and Training workshop on SHP Technology for English-speaking African Countries, with 56 participants (officials) from 30 countries in total.

The first 28-day training program, Seminar on Rural Electrification for Developing Countries, was attended by 20 officials from 12 countries. The second 28-day training program, Training Workshop on SHP Technology for Francophone African Countries, had 20 officials and technicians from 11 francophone African countries joined in. The third 42-day training program, Training workshop on SHP Technology for English-speaking African Countries, was participated by 16 officials and technicians from 10 African countries.

The foreign-aid training work was fully supported by HRC's superior institute,



Nanjing Hydraulic Research Institute. The Academician of Chinese Academy of Engineering and the President of NHRI, Mr. ZHANG Jianyun, the and deputy of director Dam Safety Management Department of NHRI,

Prof. WANG Shijun, have given the participants special reports respectively, which made the participants understood about Chinese water issues, climate change and its correlative impacts, China's solution to water resources as well as practical way of dam safety management in China. Moreover, participants have also visited Tiexinqiao Experimental Base of NHRI, and Nanjing Automation Institute of Water Conservancy and Hydrology.

During the training, HRC invited the former Chinese Ambassador to Rwanda and Djibouti, Mr. SHEN Jiangkuan, and the former Economic & Commercial Counsellor

of several Chinese Embassies to African, Caribbean and South Pacific countries, Mr. FANG Zhimin, to give keynote presentations respectively on "60 Years of China's Aid to Foreign Countries", in order to let the participants well understand the history, policies, financing, forms, distribution, management and cooperation of China's foreign-aid undertakings. The two diplomats have attracted every participant, using rare pictures and vivid presentations.

In the site-visit session, HRC organized a study tour to a college of water resource for the first time. The hydraulic simulation laboratory, water turbine laboratory of Electrical Department, power plant simulation laboratory, power transformation automation laboratory, new energy and intelligent micro grid laboratory have offered participants a chance to practice and to further understand SHP knowledge, and to know China's experience and practice on cultivating hydropower talents. The visit also offered a communication platform for all the participants, teachers and students of Zhejiang University of Water Resources and Electric Power.

Regarding the cultural experiences, the participants and HRC staff had a joint trip on Grand Canal. This trip relaxed participants from their intense schedule, and also spread Chinese culture, promoted the exchanges between participants and HRC staff and deepened our friendship.

Besides, HRC has arranged the updating of training books, and organized a study visit to a mountainous village as to make continuous progress in 2013 foreign-aid training work, which made participants' satisfaction increase dramatically. The overall



evaluation of Seminar on Rural Electrification for Developing Countries amounted to 95 points, and that of Training workshop on SHP Technology for English-speaking African Countries attained 93 points. A small crystal memorial designed tablet by all

participants was presented to HRC, expressing their sincere gratitude to HRC for "warm hospitality, dedication, professionalism, knowledge and experience sharing".

II. Conference and Meeting

1. Attending the Conference on Foreign-aid Training

From 23rd to 25th January, 2013, HRC designated personnel to attend the national conference on foreign-aid training. A total of 300 participants from the organizers of training workshops nationwide attended the conference. According to the requirements of Ministry of Finance, in 2013, all the training workshops shall adopt budget management and the number of participants for each training workshop shall be under 20. It is advised on the conference that "experimental training" be introduced and more culture-oriented activities be arranged, thus offering the participants an opportunity to much more experience of Chinese culture. It was also proposed that more activities shall be arranged with college students or other organizations for interaction. The participant from HRC put forward three pieces of advice on the foreign-aid training at the conference and all the advice was adopted.

2. HRC Delegation attend China-Pakistan Energy Forum

At the invitation of Consulate General of Pakistan in Shanghai, HRC sent delegates to attend "China-Pakistan Energy Forum" which was held in Shanghai. On the forum, H.E. Mr. Muhammad Nawaz Sharif, the new PM of Pakistan, delivered a brilliant keynote speech and took the question from the audience, and nearly 50 Chinese companies engaged in energy development and investment have participated in the forum.

3. Attending Seminar on Renewable Energy in Rural Areas in Myanmar

From 4th to 5th September, 2013, at the invitation of Global Environmental Institute (GEI), HRC designated personnel to attend the seminar on renewable energy in rural areas, which was held in Rangoon, Myanmar. It was one of the follow-up activities against the visit of officials from Blue Moon Fund of USA and GEI to HRC on 26th June, 2013. The participant from HRC delivered two reports at the seminar, i.e. "Small Hydropower and Rural Electrification in China" and "Preliminary Work for Developing Small Hydropower". The Myanmar side showed great interest in small

hydropower, and planned to develop small hydropower to solve the power supply for over 200 remote villages and hoped to get technical support from HRC.

4. HRC Delegation Visited the Embassy of the Bolivarian Republic of Venezuela in China and Signed MOU

On 23rd September, 2013, at the invitation of the Embassy of the Bolivarian Republic of Venezuela in China, a 3-member delegation headed by Ms. Cheng Xialei, Director General of HRC, paid a visit to the Embassy of Bolivarian Republic of Venezuela in Beijing, and signed *Cooperation Agreement on Engineering Consultancy, Technical Training, Know-How Transfer and Industrialization of Small Hydropower Stations in*

Venezuela. The signing ceremony was chaired by Mr. Alfredo Rojas, Director General of International Affairs Department, the Ministry of Popular Power for Science, Technology and Innovation of the



Bolivarian Republic of Venezuela. Small hydropower cooperation between China and Venezuela has been formally incorporated into the cooperation framework of China-Venezuela high-level mixed commission. HRC and Foundation Institute of Engineering and Technological Development (FIETD) of Venezuela are responsible for the implementation of this cooperation project. Joint work group will be set up between two organizations to conduct site selection for the development of hydropower projects in Venezuela.

5. Attending the 18th Annual Meeting of China South-South Cooperation Network

Sponsored by China International Center for Economic and Technical Exchanges, the 18th annual meeting of China South-South Cooperation Network was held in Freshwater Fisheries Research Center in Wuxi, during 15th to 16th November 2013.

The leaders and persons in charge from more than 30 organizations including China International Center for Economic and Technical Exchanges, UNIDO and China SSC Network took part in the meeting. The meeting presented a summary of the achievements and experience scored in the field of South-South Cooperation in the past 30 years and all the contributions made by related organizations to the cause of South-South Cooperation. The participants were encouraged to explore actively in seek of a more suitable development mode and direction for South-South Cooperation.

III Visiting Exchanges

1. Foreign Guests Visiting HRC

In 2013, HRC hosted totally 15 batches of 54 foreign guests respectively from Nepal, Kenya, Indonesia, Israel, the United States, Turkey, Iran, Pakistan, Peru, and Vietnam, etc (as per Appendix I). The visit of new and old friends enhances the communication and understanding, improves friendship and trust, thus reaching cooperative purpose for a number of projects. The important visits include:

(1) Chairman of Nepal Energy Development Council Visited HRC

On 9th January, 2013, Mr. Sujit Acharya, Chairman of Nepal Energy Development Council, visited HRC and had a pragmatic and friendly meeting. HRC expressed its willingness to provide assistance to Nepal, using HRC's experience and technology in

SHP field at home and abroad, in terms of general survey of water resources, SHP training, consultation, technical refurbishment,

equipment supply, SHP project financing and so on.



(2) Governmental

Delegation of Sidikalang City, Medan Province, Indonesia Visited HRC On 13th March, 2013, led by the Mayor of Sidikalang City, the governmental delegation of Medan Province, Indonesia, visited HRC. Sidikalang City is rich in hydropower resources on totally 11 rivers, while the hydropower development is still in its early stage. The visit aimed to learn Chinese experience in small hydropower development so as to make some preparation for the development of SHP in Sidikalang.

(3) HRC Alumni from Nepal Revisited HRC

On 8th May, 2013, two HRC alumni from Nepal, Mr. Rimal, Chairman of Solar Energy System (SES) and Mr. Poudel, Executive Director of Building Design Authority (P.) Ltd. revisited HRC for an in-depth discussion on SHP bilateral cooperation.

(4) Officers of Bluemoon Fund of United States, and Global Environmental Institute visited HRC

On 26th June, 2013, a five-member delegation from Bluemoon Fund of United States and Global Environmental Institute visited HRC, and had a discussion on providing SHP technical training and consulting service for Myanmar. HRC made exchanges of views on international SHP consulting service and cooperation mode with our guests.

(5) Peruvian Customer Visited HRC

During 29th November to 5th December, 2013, our old customers Mr. Luis H.V.V. and Mr. Jose R.V. visited HRC for cooperation on solar power technology and equipment. Their visit concluded with a contract for 8 sets of solar pumping systems, which will be used to draw water for residents on an island of Peru.

(6) Delegation from Vietnam Visited HRC

11th to 17^{th} During December. 2013, the Standing Director of Institute for Hydropower and Renewable Energy (IHR) took a delegation including officials from of Department International Cooperation



in the Ministry of Science and Technology of Vietnam, professors from Hanoi University of Science & Technology (HUST) and etc., to visit HRC for a long-term cooperative project on science and technology between the both governments, called Emergency-supporting Technology for Rural Hydropower against Disasters Caused by Climate Change.

The two sides exchanged views on the research subject and the implementation program of SHP black-start and the Emergency-supporting Technology for Rural Hydropower against Disasters. The delegation checked the being-fabricated micro hydropower unit for black-start and also visited College of Electrical Engineering in Zhejiang University for discussing the emulation technique of local area network (LAN) power system.

(7) CEO & Chief Engineer of French Company VELCAN Energy Visited HRC

During 16th to 17th December, 2013, CEO and Chief Engineer of the French company VELCAN Energy visited HRC for reviewing their project design report compiled by HRC. VELCAN Energy is a listed company specialized in financing hydropower projects worldwide, including Brazil, India, Laos and Indonesia etc. Now the company owns the developing rights to a number of small and medium hydropower projects with a total installed capacity of over 700 MW.

2. Outbound Missions

In 2013, HRC dispatched 18 delegations of 37 people respectively to Turkey, Macedonia, South Africa, Tanzania, Nepal, Pakistan, Myanmar and others for hydropower equipment installation, technical consultation, contract negotiation, China's foreign-aid training,

inter-governmental science and technology cooperation, international conference and so on (as per Appendix II). The important visits include:

(1) Return Visit of Foreign-aid Training to South Africa and Tanzania

At the invitation of Cape



Peninsula University of Technology (CPUT) and Tanzania Electric Supply Company Limited (TANESCO), HRC delegation paid a return visit of foreign-aid training to South Africa and Tanzania during 10th--19th April, 2013. During the visit, the delegation visited 8 governmental departments or organizations including South African Department of Water Affairs (DWA), City of Cape Town (CoCT), Cape Peninsula University of Technology (CPUT), Tanzanian Ministry of Energy and Minerals (MEM), Tanzania Electric Supply Company Limited (TANESCO), Rural Energy Agency (REA), signed 3 Memorandums of Understanding (MoU), carried out 3 technical exchanges or seminars and met with nearly 20 HRC's former training participants.

(2) Visiting Turkey for Signing New Contracts of Hydropower Equipment Supply

From 25th November to 4th December, HRC delegation headed for Turkey visiting old and new customers and signed contracts with two of them as to supply the complete sets of electro-mechanical equipment for three hydropower projects. So far, HRC has provided complete sets of electromechanical equipment and installation service for 23 hydropower stations which are in commercial operation. The stable and reliable equipment as well as superior technical service provided by HRC have earned unanimous satisfaction from the owners, resulting in quite positive market feedback.

(3) Visiting Pakistan for Cooperation and Exchange on Renewable Energy Technology

During 6th to 12th December, 2013. HRC delegation Pakistan visited for implementation of а governmental grant project sponsored by Chinese Ministry of Science and Technology. The delegation made an official visit to H.E. Mr. Zahid Hamid, Minister of Science and



Technology of Pakistan and held a meeting for bilateral cooperation. The delegation also

visited Chinese Embassy in Pakistan and was warmly received by Chinese Ambassador Mr. Sun Weidong. Besides, a lecture was given by the delegation to renewable energy researchers from all around Pakistan. A cooperative agreement was signed between HRC and Pakistan Council of Renewable Energy Technology (PCRET) to jointly build a SHP research center for hybrid system of hydropower, wind power and solar energy as well as the research and demonstration of container-type micro hydropower station and automation technology.

IV. Information Dissemination

In 2013, HRC has edited and published 6 issues of *Small Hydropower* and a special issue for *Technical Seminar on Renovation Project for Rural Hydropower* in Chinese and *SHP News of 2013* in English. Besides, the Alumni database and the English introduction to HRC's affiliated companies on HRC's website have been updated. The website released over 100 pieces of news.

V. International Cooperation on Small Hydropower

1. Implementation of Inter-governmental Science & Technology Cooperation Program

In 2013, HRC jointly carried out technical cooperation and research with foreign organizations in the field of small hydropower and new energy resources. Much was done in terms of inter-governmental cooperation on science and technology.

In July 2013, HRC and Pakistan Council of Renewable Energy Technologies (PCRET) jointly applied to Ministry of Science and Technology of both countries for foreign-aid project for developing countries—China-Pakistan Joint Research Centre for Small Hydropower, which was finally approved. The project has already been kicked off, and HRC dispatched a delegation in early December 2013 to Pakistan for the execution of the project. During the visit, HRC and PCRET signed the agreement on implementation of the project, and both parties would collaboratively carry out study and demo on SHP, wind & solar energy hybrid system, containerized mini hydropower plant, and automation technology, in an effort to establish a China-Pakistan Joint Research Centre for Small Hydropower, which will serve as a high-level base between Chinese and Pakistani governments for study, demonstration, development and capacity building on renewable energy technology.

HRC and the Institute for Hydropower and Renewable Energy (IHR) in Vietnam have been in a continuous contact for science and technology cooperation. In 2011, HRC and IHR jointly applied for the research project of "Emergency-supporting Technology for Rural Hydropower against Disasters Caused by Climate Change". The project has been approved by the 8th meeting of joint committee on science and technology and was listed as a long-term project on science and technology cooperation between Chinese and Vietnamese governments. The year of 2013 witnessed great achievements of the project. Two parties jointly studied and researched on "black start" for small hydropower plant and the detailed implementation plan for emergency-supporting technology for rural hydropower against disasters. HRC will soon provide a set of container-type micro turbine-generating unit to Vietnamese side, cooperatively promoting the study and research on the "black start" technology.

In addition, HRC has been engaging in trial-manufacturing and popularization of hydropower equipment with countries including Bulgaria, Venezuela, Montenegro, etc. under the governmental cooperation framework.

2. Export of Hydropower Equipment and Power Station Design

In 2013, HRC actively developed the international market in Pakistan, Turkey, Kenya, Peru, Indonesia, Nepal, Macedonia, Serbia and other countries, undertaken the supply of electromechanical equipment for ten hydropower stations, with the contract value of nearly 7 million dollars. Meanwhile, HRC continued to conduct equipment supply and on-site installation for on-going projects, carried out after-sale services and spare parts supply for the completed projects.

In terms of design and consultation for oversea hydropower projects, HRC has successfully carried out the design and consultation for projects in Indonesia, Kenya, Papua New Guinea, Vietnam, Laos, Ukraine, Kosovo, etc. Three contracts have been newly signed in overseas market.

So far, HRC has undertaken planning, design, consultation, equipment supply and installation work etc. for over a hundred small hydropower stations in more than 30

countries and regions, with a total contract value of around 100 million dollars, among which, 45 hydropower stations have been constructed and put into operation with the electromechanical equipment supplied from HRC, and a total installed capacity reached 800 MW more.

VI. Work Plan for 2014

1. To conduct three foreign-aid training projects entrusted by MOFCOM, i.e. Seminar on Rural Electrification for Francophone African countries, Seminar on Rural Electrification for Asian Countries, and Training Workshop on Small Hydropower Technology for English-speaking African Countries, and continue to strive for creating the demonstrative foreign-aid training base of MOFCOM.

2. To hold *China-ASEAN Training Workshop on Micro Hydropower and Solar Energy* in Hangzhou.

3. To hold an overseas training workshop and an abroad promotion conference respectively, i.e. *Seminar on Small Hydropower Technology for ASEAN Countries* and *Promotion Conference on Renewable Energies in Pakistan.*

4. To fully take the advantage of HRC as the "Family of Small Hydropower in the World", and to strength intensive and extensive exchange and promote cooperation between HRC and governmental departments and counterparts in SHP field, so as to keep HRC as an important "window" for international cooperation; Meanwhile, to further enhance the contact with Word Bank, Asian Development Bank and other international organizations, hence expending the scope of business and international influence.

5. To continue the implementation of two projects, i.e. *China-Pakistan Joint Research Center for Small Hydropower* and the research project called *Emergency-supporting Technology for Rural Hydropower against Disasters Caused by Climate Change*, strive for other foreign-aid projects, enhance the bilateral cooperation with Pakistan, Vietnam, Tanzania, South Africa, Bulgaria, Montenegro, etc. in the field of renewable energy such as small hydropower and rural electrification, establish national oversea scientific research and training platform, and carry out joint research and project demonstration in a large scale.

6. To give the full play of the leading role of HRC in formulating/revising national and industrial standards, step up the promotion of the standardization of project design, consultation and civil works construction. To engage in the translation of standard in terms of design, consultation and civil works construction for domestic hydropower stations as well as manufacturing standards for SHP equipments, etc., and finally promote these standards abroad.

7. To actively explore the overseas market, such as, to maintain the Turkish market and carry out the maintenance and spare parts supply for the accomplished hydropower stations in Turkey, to develop Ethiopian hydropower market together with George Mason University and American New Energy Company, to further develop African market on the basis of the Angola and Kenya projects which are both under construction, to take Macedonia projects as a demonstration as to increase market share in East Europe, to expand Southeast Asia market including Vietnam and Indonesia, and to explore Pakistan, Nepal and other South Asia markets based on the setting up of China-Pakistan Joint Research Center for Small Hydropower, .

8. To establish and improve the management system of foreign affairs and to standardize and reinforce the management of foreign affairs work.

Appendix I

No.	Time	Country/Organization/ Delegate (s)	Objectives & Achievements
1	9 Jan.	The chairman of Nepal Energy Development Council	The visit aimed at pursuing bilateral technical cooperation in small hydropower (SHP) between Nepal and China and it was expected that the concrete cooperative projects would be conducted in near future.
2	24-26 Feb.	The general manager and an engineer from the Kenyan company	The foreign guests had a meeting with HRC, discussing the related issues of the cooperative project in Kenya, including the civil works, electrical equipment, circuit layout, etc. In addition, a consensus has been reached on the next-phase work.
3	13 Mar.	A 13-member governmental delegation from Indonesia	Aiming at being well informed of Chinese experience in developing SHP so as to make advance preparation for local SHP development, the delegation had a meeting with HRC and paid a visit to Shimentan cascade hydropower station which was designed by HRC.
4	8 May	The chairman of the board and the executive director of the Nepalese companies	Two HRC alumni, Mr. Rimal and Mr. Poudel revisited HRC for an in-depth discussion on SHP bilateral cooperation. Based on a full mutual understanding, an MOU on bilateral cooperation in the field of SHP and other renewable energies was signed.
5	23-25 Jun.	3 delegates from the Israeli Company	The visits have been paid to the manufactures of turbine, diesel generator, crane and turbine-generator respectively with the related equipment inspected. The owners of the project were satisfied with the equipment and the work concerned. It was expected to explore more cooperative projects in Africa.
6	26 Jun.	5 delegates from Bluemoon Fund of the United States, and Global Environmental Institute	The delegation introduced briefly about their project status in Myanmar and expressed that HRC was exactly what they were looking for as a future cooperative partner. Some specific SHP projects cooperation were expected to be carried out for gaining mutual benefits and win-win results in the near future.
7	30 Jun 3 Jul.	5 owners of cooperative projects in Turkey and Macedonia	The visit aimed at strengthening the cooperation and exchange, based on which, new projects were expected to be explored in near future.

Foreign Guests Visiting HRC in 2013

	1		
8	17-18 Jul.	4 delegates from the Irani company	The foreign guests had a discussion with HRC on the technical issues of the cooperative hydropower project to be implemented, and also paid a visit to the equipment manufacturer.
9	15-16 Aug.	3 delegates from the Turkish company	The foreign guest had a meeting with the HRC professionals, sharing SHP experience and achievements scored by HRC and discussing about the new cooperative hydropower project. In addition, a visit was paid to the equipment manufacturer.
10	5-20 Sep.	The delegate from the Pakistani company	The contracts for two new cooperative projects were negotiated and signed. In addition, the visit to the partner company was paid for potential hydropower projects.
11	5-7 Nov.	2 delegates from the Turkish company	The visit aimed at promoting the cooperation in the field of hydropower. An intent on cooperation has been reached via technical exchange on 2 potential hydropower projects.
12	29 Nov. -5 Dec.	2 delegates from the Peruvian company	Aiming at looking for an appropriate manufacturer for the potential solar power project, the foreign guests, accompanied by HRC professionals, paid a visit to equipment manufacturers and a contract has been signed between HRC and Peruvian company finally.
13	11-17 Dec.	7 delegates from Vietnam	The Standing Director of Institute for Hydropower and Renewable Energy (IHR) took a delegation including the members from the Division of Asian and African Affairs under the Department of International Cooperation in the Ministry of Science and Technology of Vietnam, Hanoi University of Science & Technology (HUST), etc., to visit HRC for a long-term cooperative project on science and technology between the both governments, called Emergency-supporting Technology for Rural Hydropower against Disasters Caused by Climate Change.
14	16-17 Dec.	3-member delegation headed by the president from the French company	The visit aimed at potential cooperation with HRC in the field of hydropower. Focusing on investment in hydropower projects worldwide, this listed company in France is undertaking hydropower projects in Brazil, India, Indonesia, Laos, etc., with development rights for medium and small sized hydropower stations with the total installed capacity over 700,000kW.
15	22-24 Dec.	The Technical Counselor of Pakistan Embassy	The visit aimed at promoting the implementation of the China-Pakistan Joint Research Centre for Small Hydropower, which is to be set up collaboratively by HRC and PCRET. Mr. Counselor also paid a visit to HRC's laboratory.

Appendix II

No.	Time	Delegate(s)	Country	Missions & Achievements
1	14 Mar 27 Jul.	1	Turkey	To give instruction on the installation of turbine-generating units in Turkey.
2	21 Mar 28 Sept.	2	Turkey	To fulfill the installation and debugging of turbine-generating units in Turkey.
3	2-22 Apr.	2	Turkey & Macedonia	To hold discussion on cooperative hydropower projects in Turkey and Macedonia.
4	10-19 Apr.	5	South Africa & Tanzania	To pay a return visit of foreign-aid training to South Africa and Tanzania, and hold discussion on cooperative projects.
5	23 Apr 21 Jul.	2	Turkey	To give instructions on the installation of turbine-generating units in Turkey.
6	12-18 Jun.	2	Nepal & Pakistan	To hold discussion on cooperative hydropower projects in Nepal and Pakistan.
7	23 Jun 18 Sep.	1	Turkey & Macedonia	To fulfill the installation and debugging of hydropower projects in Turkey and Macedonia.
8	2 Jul. – 3 Aug.	2	Turkey	To fulfill the installation and debugging of turbine-generating units in Turkey.
9	22 Jul. – 10 Oct.	1	Turkey	To fulfill the installation and debugging of turbine-generating units in Turkey.
10	17-26 Aug.	2	Turkey & Macedonia	To hold discussion on cooperative hydropower projects in Turkey and Macedonia.
11	19 Aug 4 Nov.	2	Kenya	To give installation instruction for the hydropower projects in Kenya.
12	3 Sep 15 Oct.	2	Turkey	To fulfill the installation and debugging of turbine-generating units in Turkey.
13	25 Nov 6 Dec.	3	Turkey	To hold discussion on cooperative hydropower projects in Turkey.
14	6-12 Dec.	4	Pakistan	To fulfill the implementation of a governmental grant project sponsored by Chinese Ministry of Science and Technology – "China-Pakistan Joint Research Center for Small Hydropower".
15	13-21 Jan. 2014	1	Turkey & Serbia	To hold discussion on cooperative hydropower projects in Turkey and Serbia.
16	Postponed	3	Angola	To hold discussion on cooperative hydropower projects in Angola.
17	Postponed	1	Turkey	To fulfill the installation and debugging of hydropower projects in Turkey.
18	Postponed	1	Turkey & Macedonia	To hold discussion on cooperative hydropower projects in Turkey and Macedonia.

HRC's Outbound Missions in 2013