SECOND BULLETIN

Zhengzhou, China September 27–29, 2011

International Symposium on Modern Technologies and Long-term Behavior of Dams



Sponsors:

Chinese National Committee on Large Dams (CHINCOLD) Yellow River Conservancy Commission of Ministry of Water Resources (YRCC) Department of Water Resources of Henan Province China Three Gorges Corporation (CTGPC) Xiaolangdi Dam Project Construction and Management Bureau

Origanizers:

China Institute of Water Resources and Hydropower Research (IWHR) Henan Provincial Water Conservancy Research Institute



Co-sponsors:

Japan Commission on Large Dams Korean National Committee on Large Dams United States Society on Dams Henan Water & Power Consulting Engineering Co., Ltd. Yellow River Institute of Hydraulic Research Yellow River Engineering Consulting Co., Ltd. (YREC) Henan Water & Power Engineering Consulting Co. Ltd (HWPC) Sinohydro Bureau 7 Co., Ltd. Hydrochina Kunming Engineering Corporation Beijing CEEVIN New Materials Co., Ltd Beijing Research Institute of Construction Engineering Co., Ltd. Department of Hydraulics and Hydropower Engineering of Tsinghua University Zhengzhou University China Three Gorges University (CTGU) North China University of Water Resources and Electric Power Graz University of Technology, Austria University of Innsbruck, Austria Vienna University of Technology, Austria Technical Committee on Dams(TC210), ISSMGE Georisk Others

Organizations

\bigstar Origanizing Committee

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Vice Minister of MWR, Vice President of CHINCOLD
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President of Japan commission on Dams (JCOLD)
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Xue Songgui	Chief Engineer of YRCC
Yin Baohe	Director General of Xiaolangdi Dam Project Construction and Management Bureau
Wang Jianwu	Deputy Director General of Department of Water Resources of Henan Province
Michael Rogers	President of United States Society on Dams

INVITATION

Developing countries such as China, Iran and Turkey are being at the heart of dam construction and hydropower development in the world. Many challenging problems, arising in the dam construction, are well solved, while the summary and integration of those pathbreaking technologies is lagging. On the other hand, many early built dams in the world have been operated for years, some over 50 years or even 100 years, and hence some problems like aging and cracks begin to appear, which urgently need to be solved. To provide a platform for engineers and scientists to present and exchange their successful experiences in dam construction, management and rehabilitation, Chinese National Committee on Large Dams (CHINCOLD) and other relevant organizations would like to sponsor an International Symposium on Modern Technologies and Long-term Behavior of Dams to be held in Zhengzhou, China during September 27–29, 2011, which will be a combined event of the 7th East Asian Dam Conference (EADC) and the 3rd International Conference on Long Term Behavior of Dams (LTBD).

It is great honor for the Organizing Committee to invite you to participate in the symposium, which will provide a forum for sharing of experiences by engineers, development planners, managers, manufacturers, environmentalists, consultants, academicians, users and others. We sincerely hope that this symposium will contribute significantly to promoting the worldwide spread of successful experiences in dam construction, management and rehabilitation.

We are looking forward to welcoming you in Zhengzhou China in September 2011.

WELCOME TO ZHENGZHOU

Zhengzhou is the capital city of Henan province, China, which serves as the political, economic, technological, and educational centre of the province, as well as being a major transportation hub for Central China. The city lies on the southern bank of the Yellow River, about 760 km south of Beijing.

There are more than 150 tour attractions of various types in Zhengzhou, characterized by beautiful natural scenery, heavy historical flavor, the origin of culture and the Chinese Kung

fu. Among them, the world's famous Shaolin Temple is regarded as the holy land of Chinese Buddhism as well as the cradle of Shaolin Kung-fu. The Grand Sight of Yellow River, the Yellow River tour area and the Huayuankou tour area reveal a marvelous picture to tourists – the rich culture and the glorious history of the Yellow River and her colorful folk customs. The Native Place of Emperor Huangdi shows tourists a land which gave birth to Chinese civilization. Other famous attractions of Zhengzhou include the Song Mountain (a World Geopark recognized by UNESCO), the Henan Museum, the Zhengzhou Confucius Temple, and so on. For anyone interested in Chinese ancient history and culture, Zhengzhou is one city that should not be missed.

The Symposium will be held in the YINGBIN HOTEL OF THE YELLOW RIVER located in Zhengzhou City of Henan province, China. Please note that LOC will reserve the hotel for participants other than by themselves.



Address: YINGBIN HOTEL OF THE YELLOW RIVER HENAN No.1, Yingbin Rd., Zhengzhou, Henan Tel: +86 371 66778888 Website: http://www.yingbinhotel.com

Date	Time	Activity
Sept.27	All day	Registration day
		Cultural performances at night
		Opening ceremony
	Morning	Milestone Concrete Dam Project Awards Ceremony
Spet.28		Keynote lecture
	Afternoon	Keynote lecture
	Evening	Welcome reception
Sept.29	Morning	Technical sessions
	Afternoon	Technical sessions
	Evening	Farewell Dinner
Spet.30	All day	Technical Visit
Otc.	1–3	Post Study Tour

Programme

TECHNICAL EXHIBITION

A major technical exhibition will take place alongside the symposium. The exhibition provides a unique opportunity of bringing your organization or company to the attention of international delegates. Exhibition space is sold in units of $3 \times 3 \text{ m}^2$ (multiple units are available for large displays or groups of organizations and companies wishing to form a national pavilion). Organizations and companies interested in stands are kindly requested to contact the secretariat of the symposium for further details.



TECHNICAL VISIT AND POST STUDY TOURS

Technical Visit and Post Study Tours will be organized after the symposium respectively. Participants taking part in the technical visit will visit Yellow River Museum, the dike of Yellow River, laboratories and the exhibition of Digital Yellow River. Those who will take part in poststudy tours will not only visit dam projects, but also enjoy the beautiful local scenes.



★ Technical Visit

1day (Sept.30)



Yellow River Museum



Yellow River Dike



Laboratories and the Exhibition of Digital Yellow River

★ Post Study Tour A

3 days - 2 dams (Oct. 1-3, 2011)

Date	Activity	Lodge
Oct. 1	Shaolin Temple	Zhengzhou
	Yellow River-Crossing Project of South-to-North Water	
Oct. 2	Diversion Middle Route Project	Zhengzhou
	Baima Temple	
Oct. 3	Xiaolangdi Project	Zhengzhou
	Longmen Grottoes	



Shaolin Temple

Baima (White Horse) Temple



Xiaolangdi Project Earth Core Rockfill Dam H=160m Installed Capacity:1800MW



Yellow River–Crossing Project

★ Post Study Tour B -

3 days - 3 dams (Oct. 1-3, 2011)

Date	Activity	Lodge
Oct. 1	Go to Yichang City by bus	Yichang
Oct. 2	Three Gorges Project Huangling Temple	Yichang
Oct. 3	Shuibuya Hydropower Project Geheyan Hydropower Project	Yichang



Huangling Temple



Three Gorges Project Concrete Gravity Dam H=181m Installed Capacity: 22400MW



Geheyan Hydropower Project Concrete Gravity Arch dam H=151m Installed Capacity: 1200MW



Shuibuya Hydropower Project CFRD H=233m Installed Capacity: 1840MW

REGISTRATION

The Registration Form is enclosed in this bulletin. Participants are expected to complete the registration form and return it to secretariat of LOC as early as possible. Please be notified that registration can only be effective upon receiving both the Registration Form and the payment.

The registration fee for the Symposium includes the documentation, simultaneous translation, working lunches, coffees during the breaks, and the participation in the various social activities foreseen. The registration fee for the accompanying persons includes the programmed excursions, the assistance at the sessions of the Opening and Closing of the Symposium, and the participation in the various social activities foreseen.

Full Papers Selected

(Total 90 papers, 54 from abroad, and 36 from China)

By the end of July 2011, the secretariat of the symposium has accepted 90 papers, 54 from abroad, and 36 from China. All of the selected papers are listed with the authors in the following.

Topic 1: Methods of Design and Analysis for Dams

1.Austria

Alexsandro Holzner, Herbert N. Linsbauer

The Optimal Design of Arch Dams with Regard to Safety And Economic Criteria – Sensitivity Analysis a New Approach

2.China

Fu ZhongZhi, Gao JunJun, Liu SiHong

On One-dimensional Compression of Breakable Granular Materials

3. China

Gong Yangqing, Wu Haizhen, Wu Xiaobin

Study on the Closure Temperature of Arch Impact on the Stress of Masonry Arch Dam 4.China

Hu Yu, Li Qingbin, Zhou Shaowu, Zuo Zheng, Guan Junfeng, Luo Danni

Discussion on Some Problem of Temperature–Control in Super–High Arch Dams During Construction Period

5.China

Jiang Xuelin, Mai Ke Li Chade

Reserch & Design of Chemical Grouting of Foundation of Jingping– I Highest Arch Dam 6.China

o.China

Li Yongming, Wang Guojin

Prestressed Anchorage Design of Xiaowan Arch Dam Abutment Resisting Rock Mass

7.China

Long Qihuang, Chen Nengpin

The Design and Features of Guangzhao 200m High Roller Compacted Concrete Dam 8.China

0.crima

Song weihua, Li baobao, Ma cuili, Song Weihua, Li Baoguo, Ma Cuili

Design Flood Analysis of the Hekoucun Reservoir Project

9.China

Sun Jun-shi, Yuan You-ren, Feng Ye-lin, Xiang Biao

The Apocalypse of Stress Path Experiment — the Strain Directivity of Earth Rockfill Materials 10.China

Wu Hao, Deng Gang, Ji Hui, Wang Jingwu

Study on Asphalt Concrete Core Rockfill Dam on Narrow and Unsymmetrical Valley

11.China

Xiang Biao, Feng Ye-lin, Yuan You-ren

Research and Demonstration on Compaction Tests of Earth Mixing Gravel in Different **Compaction Instruments**

12.China

Xu Zenghui, Liu Guangting, Wang Yiming

Study on Coupling of Seepage Temperature and Stress fields for Soft Rock

13.China

Zhang Guoxin, Liu Yi, Zhu Bofang, Wang Renkun

Theory and Method on Simulation of Actual Working Performance of High Arch Dams 14.France

F. Lemp é ri è re, Michel Ho Ta Khanh New Solutions for New Dams

15.Iran

Mahmoud Ghazavi, Mohammad Vahdani

Influences of Geometry of Inclined Core and Construction Procedure Progress on the Development of Negative Skin Friction in Cut off Wall of Earth Dams

16.Korea

Choo Tai Ho, Choi Gye Woon, Huh Jae Yeong, Lee Chang Hae Efficient Method for Dam Inflow Estimation

17.Korea

Dong-Hoon Shin, Hae-Jin Yang, Heui-Dae Lim, Han-Gyu Park Comparison of Deformation Behavior of a CFRD Dam by Numerical Analyses and Instrumentation Results

18.Korea

Park Chal-Sook, Shin Jong-lee, Cheung sang-In, Hong Chung-Ki, Kim Hyung-Chan, Ahn Young-Sub, Kim Jong-Pil

The case of Dam Foundation Treatment for grouting in condition of non-consolidation sedimentary layer

19.ltaly

Furgani L., Imperatore S

Seismic Assessment of Concrete Gravity Dams

20.Mexico

Miguel P. Romo, Eduardo Botero

Impervious Elements for Rockfill Dams: Selection Criteria

21.Mexico

Miguel P. Romo, Neftali Sarmiento

Seismic Analyses of the Concrete Face of Rockfill Dams

22.México

Eduardo Botero Jaramillo, B. Mendez, M. P Romo, H. Marengo

Seismic Analyses of a High Mexican Rock Fill Concrete Face Dam

23.Portuga

Braga Farinha M.L., Jos é Vieira de Lemos, Maranha das Neves E. Analysis of Foundation Sliding of an Arch Dam Considering the Hydromechanical Behaviour

24.Vietnam

Pham Hong Giang, Takashi Takenaka, Nguyen Hoai Nam, PHAM Hong Nga Soil Improvement for Embankment Dams in Coastal Areas of Central Vietnam – Case Study of the Ta Trach Dam

Topic 2: Environment-friendly Technologies for Dam construction

1.China

Du Xingfa, Wang Yawen

Key Construction Technology of High Rockfill Dam

2.China

Gang Yongcai, Zhu Ping

Gravel & Earth Core Wall Construction Quality Control & Management for Shuiniujia Project 3.China

Li Zhenlian, Jing Zenghu, WANG Quanbin

Construction of the Pankou Concrete Face Rockfill Dam

4.China

Meng Fanzhen, Shen Angi, Liu Haiyu

Design and Application of Bituminous Concrete Facing for Upper and Lower Reservoirs of Xilongchi Pumped Storage Power Station

5.China

Sun Mingguan, Chai Qihui, Yang Shifeng

Study on Sectional Form of CGS Dam under Triaxial Test

6.China

Wu Shiyong, Wang Hongmei, Cao Wei

Application of Multi-Level Intake Technique in the Jinping-I Hydropower Project Construction 7.China

Zeng Zhengbin, Zhang Xihe, Yang Jindi, Tan Jianjun

Application Research on Low Heat and High Performance Hydraulic Concrete

8.China

Zhan Zhenggang, Cai Dayong

Prediction and Discussion on Dam Construction Technique of 300m Level Rock-fill Dam with Face Slab

9.Iran

Ramazan Moradi Kal Bolandi, Reza Ghaedi, Mohammad Ghamari Habashi, Amir Puria Ruhi Construction of Shahr-e-Bijar CFRD Dam

10.Japan

H.Doi, T.Tada, K.Yamashita

Environmental Preservation of Downstream River of Dam by Sediment Bypass System

11.Japan

Masanori Matsuura, Tatehiko Okudera

Design and Construction of Asphalt Facing Adopting Foamed Asphalt Mixture

12.Korea

Ock-jae Jang, Ki-chung Bae

Environmental-friendly Dam Construction and the Effective Usage of Flood Plain Area 13.Sweden

Petter Stenström, James Yang, Patrik Andersson, Gunnar Henriksson

Enlarging the Undersized Spillway of Höljes Dam

14.USA

Dennis J. Hogan, Dr. Chi Fai Wan

Quantifying Sustainability: Roller Compacted Concrete Versus Zoned Earth Embankment Dams

15.Vietnam

Pham van Minh, Shigeru Tsuchida, Shisei Sakoda

Construction of Son La Dam, the Largest Roller-Compacted Concrete

16.Canada

Alicescu Vlad, Jean-Pierre Tournier

Modern Technologies in Dam Construction: Development of La Romaine Hep in Northern Quebec, Canada

17.Korea

Author Jung Sang–In, Author Lee Jong–yeon, Author Hong Chung–Ki A Study of Environmental–Friendly Han–Tan River Dam which is Applied for RCD the First Time in Korea

Topic 3: Long-term Operation and Maintenance of Dams

1.Austria

E. Bauer

Investigation of the Interaction between Pressure, Density and Rheological Properties of Rockfill Material

2.Austria

Markus Aufleger, Thomas Etzer, J ü rgen Dornstädter, Orce Mangarovski Leakage Detection for Rockfill Dams with Central Core

3.China

Gong Baocheng, Qiao Jiqing, Jiang Shaogang, Li Yuan, Liu Jingjie

Analysis on Displacement Monitoring Data of Lijiaxia Hydropower Station

4.China

Hou Yuanhang, Huang Huibao, Wen Hao, Bai Wei

The Application of Cross–River Flexible Double Catenary Trashrack System in Pubugou Hydropower Station

5.China

Hu Bo, Liu Guanbiao, Wu zhongru, Liao Zhanyong, Liu Xiaoli

Evaluation and Research on Replacement Reinforcement Quality at Abutment of Ultra–High Arch Dam Based on Prototype Monitoring

6.China

Huang Renyong , Fan Beilin

Study on Long-Term Use of Large Reservoir and Its Sediment Problems

7.China

Shen Hui, Wang Zhiyuan

Abnormal Non–Stress Strain Gauge Results Adjustment Method and Application in High Concrete Dam

8.China

Wang Zhiwang, Li Duanyou

Application of Fractal Method in Landslide Interpretation of Remote Sensing Images in the Reservoir Area

9.China

Zhang Shuguang

Operational Practices of the Three Gorges Project

10.France

Jean-Paul Fabre, Geffraye.G, Sausse.J

Lessons Learned from Monitoring the Behavior of Arch Dams

11.Iran

Ali Reza Majidi

Jarreh Embankment Dam Monitoring in End of Construction Stage Using Instrumentation Systems Results

12.Iran

Mohammad Esmaeilnia Omran, Hamed Mahdiloo Torkamani Behavior of Jegin RCC Dam after Impounding

13.Japan

Hirofumi Okumura, Tetsuya Sumi, Sameh A. Kantoush Reservoir Sedimentation Management in Hydropower Station Considering Properties of Sedimentation and Facility Condition

14.Japan

Keisuke Hatano, Nobuteru Sato, Naoki Tomida, Hideki Soda An Examination of GPS Measuring Applicability for External Deformation Measurement of Rockfill Dam

15.Japan

Shuji Takasu, Atsushi Yotsuji, Kyozou Kikuchi, Takashi Ikeda

Safety Management System and Comprehensive Inspection for Dams in Japan

16.Pakistan

Muhammad Siddique, Hazrat Umer

Challenges in Reservoir Sediment Management the Case of Tarbela Dam Project

17.Poland

Anna Kosik, Jan Winte

Prevention of Dam Reservoirs Silting - Base on Miedzygorze Dam Reservoir

18.Sri Lank

Eng. S.R.K. Aruppola, Eng. K.M.H.K. Kotagama

Monitoring of Long Term Expansion (25 Years) in Victoria Dam, Sri Lanka, Instrumentation Interpretation

19.Sweden

Martin Rosenqvist, Mikael Persson, Manouchehr Hassanzadeh, Katja Fridh Frost Damages in Concrete in the Waterline of Porsi Hydro Power Plant

20.Sweden

Susanna Jannung, Carl–Anders Andersson, Ingvar Ekström Methods of Analyzing and Investigating Sinkholes in Impounded Parts of Embankment Dams and Blankets

21.Switzerland

Martin Wieland, G. Franco Kirchen

Long-term Dam Safety Monitoring of Punt Dal Gall Arch Dam in Switzerland

22.Switzerland

Messerklinger S., Brenner R.P., Zegele Z.

Long-Term Seepage Behaviour of an Embankment Dam Founded on Rock Strata Under Artesian Pressure

Topic 4: Dam Rehabilitation and Upgrade

1.China

Li Zhen, Li Deshui

Discussed on Xiaolangdi Project Concrete Patching Material

2.China

Wang Fuming, Wang Jianwu, Shi Mingsheng, Li Xiaolong

Development of Polymer Grouting Technology for Protection of Dikes and Dams

3.Ethiopia

Dawit Abraha

Leakage and Associated Problems at Tendaho Dam, Ethiopia: Cause Assessment and Mitigation Measures

4.German

G. Klebsattel, Bieberstein, A., Felber, M.

Supplementary Measures Taken on an Embankment Dam after More Than 35 Years of Operation

5.Japan

Tatsuya Matsuo, Mikio Nonaka, Kazuyasu Ishibashi

Countermeasures against High Angle Fault and Oyama Dam Body's Design

6.Pakistan

Muhammad Siddique, Khawar Munir Alkali Aggregate Reactivity Induced Deformations and Their Rehabilitation at Warsak Hydroelectric Project

7.Sweden

Ingvar Ekström, James X.L. Yang, Mikael Berg Improving Spillway Discharge Safety at Bergeforsen

8.UK

Andy Hughes, Paul Rollins

The Use of Innovative Leakage Detection Techniques to Remediate and to Realise a Dam's Full Potential

Topic 5: Dam Safety Assessment and Risk Management

1.Australia

Chi Fai Wan, Paul Heinrichs

Application of Risk Assessment to Dam Safety Management in New South Wales, Australia

2.Canada

Marc Smith

Modern Technologies for Embankment Dam Foundation Analysis

3.China

Peng Ming, Zhang Limin, Xu Yao, Zhang Jianmin, Jia Jinsheng

State of the Art of Pre–Disaster Emergency Management against Natural and Engineering Disasters

4.China

Qu Zhangbin, Xiao Qiang, Han Yuhong

Analysis of Seepage at Early Stage of Operation of Xiaolangdi Project and Safety Assessment 5.China

Wang Zhaosheng, Long Zhifei, Zhang Shichen

Dam Safety Evaluation and Remediation of Kama Dam

6.China

Wu Haizhen, Hu Qiang, Zhang Liling

Research on Stability of Accumulated Rock-soil Aggregates Slope in Reservoir Embankment under the Condition of Combined Action of Rainfall and Water Level Fluctuation

7.Japan

Akihiro Ogawa, Yasushi Tanaka, Ken Ushijima Research on Phormidium in the Watarase Reservoir

8.Korea

Hee-Bok Ahn , Heui-Dae Lim, Tae-Wan Moon, Jae-Young Ko

Analysis of Electrical Resistivity Changes in a Piping Simulation of a Fill Type Dam 9.Poland

Andrzej Wita, Mirosław-Świątek D, Anna Kosik, Ma ń k K, Zieli ń ska M The Modeling of Flood Spreading in the River Valley as a Result of Dam Break – Examples for Dams in Poland

10.Sweden

Richard Malm, Manouchehr Hassanzadeh, Tobias Gasch, Daniel Eriksson1 The Influence of Cracks on the Structural Behaviour of A Buttress Dam

Topic 6: Reservoir Management

1.China

Liang Fuqing

Study on the Innovation of Integrated Management in Three Gorges Reservoir

2.China

Sun Zhaodong, Li Yifang, Zeng Yong, Shi Ruilan

Key Problems in the Preparation of Reservoir Water Volume Allocation Scheme for the Dilution of the Pollutants in the Mainstream of the Lower Yellow River

3.Iran

S. Ashraf Vaghefi, J. Mousavi

Evaluation of Flushing Sediment from Reservoirs Using Decision Tree Technique, Case Study: Sefid-Rud, IRAN

4.Japan

Kazunori Tamura, Takayoshi Matsumura, Amina Nakatani, Hiroshi Kamiya Approaches for Water and Sediment Management in Multipurpose Dams of the Kizu River Basin

5.Korea

Jin Soo Kim, Kyung Soo Jun

The Four Major Rivers Restoration Projects: Impacts on Flood Flows

6.Korea

Wan–Hee Cho , Jin–Soo Kim, Yang–Jin Ban, Byeong–Yong Sohn, Chang–Young Byun Development of 3–D Hydrodynamic and Water Quality Model GUI for Predictive and Preventive Reservoir Management, Korea

Topic 7: Others

1.China

Fu Jian, An Cuihua, He Liupeng, Li Qingguo

The Research of Reservoir Sediment Mathematical Model Visualization

2.German

Klaus Knoll

Concrete Production in the Required Quality, Temperature and Output Capacity, Considering the Different Climatic and Geographic Conditions

CORRESPONDENCE ADDRESS

Questions concerning on the International Symposium on Modern Dam Construction Technology and Long-term Performance may be sent to Secretariat as follows:

Ms. Yao ZHANG Secretariat of International Symposium on Modern Technologies and Long–term Behavior of Dams

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