SOUTH AFRICAN NATIONAL COMMITTEE ON LARGE DAMS
BIENNIAL CONFERENCE
8 - 10 November 2011

Management and Design of Dams in Africa

CIGB ICOLD

SANCOLD

What's new: For list of papers see p4

About the Conference

The South African National Committee on Large Dams (SANCOLD) Conference will be held at the Gallagher Convention Centre in Midrand, between Tuesday 8 and Thursday 10 November 2011.

SANCOLD invites all from Africa and the wider family of ICOLD to participate in the conference which will include technical presentations, a technical visit and an exhibition.

This is an ECSA Continuing Professional Development (CPD) accredited event. This Conference is a Category 1 activity and offers 3.0 credits.

Deadline for registration 10 October 2011; See registration form p.13

Conference Topics

Abstract and papers are invited under the following themes:

- Reservoir Management (Flood control, warning and routing; Sedimentation, Water Quality, IFRs & Environmental flood releases, etc.)
- Dam Safety and Dam surveillance
- Dam Rehabilitation
- Hydropower Schemes
- Water resources management and water quality (acid mine draining, etc.)
- New dams versus desalination schemes
- Site selection: geotechnical and environmental aspects
- Dam types and construction material
- Spillway, energy dissipation, outlet designs and operation

Preliminary Accepted Papers

1. AKKERKLOOF DAM: TWELVE YEARS OF INSTRUMENTATION MONITORING
2. DAM SAFETY LEGISLATION IN SOUTH AFRICA
3. DAM SAFETY PROJECT IN GEORGIA
4. DAM SAFETY REHABILITATION OF ELANDSDRIFT BARRAGE
5. ESTIMATION OF EXTREME FLOOD PEAKS BY SELECTIVE STATISTICAL ANALYSES OF RELEVANT FLOOD PEAK DATA WITHIN SIMILAR HYDROLOGICAL REGIONS
6. FLUID FLOW FROM LINED CANAL AS INFLUENCED BY THE DRAINAGE REGION – AN ANALYSIS USING FINITE-ELEMENT METHOD
7. IMVUTSHANE DAM: DESIGN CONSIDERATIONS
8. INFLUENCE OF 3D APPROACHING FLOW ON A CURVED OGEE SPILLWAY SECTION – NECKARTAL DAM NAMIBIA
9. LUDEKE DAM: DESIGN AND CONSTRUCTION
10. NECKARTAL DAM – DESIGN CHALLENGES
11. SLIDING STABILITY OF THE CONCRETE GRAVITY SECTION OF THE SPRING GROVE DAM
12. SOUTH AFRICAN RCC ARCH TECHNOLOGY YIELDS SIGNIFICANT BENFITS AT CHANGUINOLA 1 DAM IN PANAMA
13. SPRING GROVE DAM
14. THE IMPACT OF HYDROLOGY ON THE ADEQUACY OF EXISTING DAMS TO SAFETY STANDARDS – THE NAMIBIAN EXPERIENCE
15. THE PRELIMINARY DEVELOPMENT OF THE RCC MIX DESIGN FOR SPRING GROVE DAM
16. UPGRADING OF STORM WATER HANDLING AT A TAILINGS STORAGE FACILITY IN SOUTH AFRICA
17. VAAL RIVER SYSTEM FLOOD ROUTING AND MANAGEMENT

Programme

Overview

The conference will commence on Tuesday morning 8 November. On Tuesday there will be presentations by keynote presenters and of technical papers. The conference dinner will be held on the Tuesday evening. Technical visits to the Bospoort and Rust de Winter Dams have been arranged for Wednesday 9 November. There will be further presentations of technical papers on the Thursday with the Conference concluding in the afternoon.

Preliminary Programme

The conference programme is shown below

Preliminary Programme

Tuesday 8 November 2011	
7:30 to 8:30 8:30 to 10:30	Registration; Welcome by SANCOLD chairman Keynote speaker 1 Keynote speaker 2
11:00 to 13:00	Technical sessions
13:00 to 14:00	Lunch
14:00 to 16:30	Technical sessions
16:30 to 17:30	Annual General Meeting of SANCOLD
19:00	Conference Dinner

Wednesday 9 November 2011	
8:00 to 17h00	Technical Tour

Thursday 10 November 2011	
8:00 to 13:00	Technical sessions
13:00 to 14:00	Lunch
14:00 to 16:00	Technical sessions

Important Dates

19 September 2011	**Final Full Paper to authors for editing**
10 October 2011	**Final Full Paper Deadline for publishing**
10 October 2011	**Registration and payment deadline**

Please select which of the two dams you want to visit in the registration form

Technical Site Visit (Wednesday 9 November)- Bospoort Dam

The Bospoort Dam was originally constructed in 1933 as a buttress concrete gravity dam with a height of approximately 21m. Bospoort Dam, is one of the main sources of potable water for Rustenburg and surrounding areas in the North West province. The dam has been raised twice in the past to end at a height of 28m in 1971. The twelve radial sluice gates were the only spillage facilities on the dam. Dam safety assessments revealed that the radial gates and the control system had major functionality shortfalls which resulted in inadequate control of flooding events.

The dam rehabilitation entailed replacing the original unreliable gated spillway with an elaborate concrete labyrinth spillway with a crest length of 167m at the FSL of RL 1076.36m. A side channel-type spillway trough was also constructed through the right flank with a crest length of 75 m at RL 1076.36 m. With these modifications the RMF of 3285m^3/s and the SED of 4127m^3/s can be released without posing any safety risk. Other work included the rehabilitation and raising of three saddle walls.

The existing concrete gravity structure was stabilised using buttresses. Much preparatory work was done before any construction could commence. This included the removal of the old spillway gates, demolition of the dam spillway crest and the non-overspill crest. Excavations of as much as 75 000 m^3 of mostly rock were done at the site of the additional new concrete spillway. Apart from addressing dam safety shortcomings, the rehabilitation work had a major positive impact in creating employment. At the peak of construction work, a total of 315 jobs were created, 121 of these jobs were from the local

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community. On completion, Bospoort Dam is now easy to operate and maintain. It is no longer a source of risks to the dam owner, water users and surrounding communities.

GPS coordinates
S25 33.618 E27 20.842

Technical Site Visit (Wednesday 9 November)–
Rust de Winter Dam

The raising of the Rust de Winter Dam rehabilitation works included:

- Increase stability of dirty rockfill dam embankment by placing rockfill on downstream face and effectively raising the non overspill crest.
- Widening of spillway channel. Vibration tests showed that blasting of rock must be done on the furthest side from the full dam.
- Construction of new auxiliary embankment.
- Refurbishment of inlet works.
- Refurbishment of outlet works.
- Construction of new outlet structure.
- New measuring structure downstream of dam.
- Regarding the rockfill dam the following:A slope failure incident occurred during construction and had to be made safe. Furthermore, the ongoing settlement and movement behaviour of the uncompacted rockslide had to be considered. The degradation (breaking of rockfill) during placement raises questions regarding the engineering characteristics.

GPS coordinates
S25 13.994 E28 31.022

Registration

Conference registration is now open.

In order to register for the conference please complete and return the Registration Form, with payment, by not later than 10 October 2011

Please note that:

- Prices for attendance are detailed on the registration form
- Payment is required by cheque or by bank transfer; confirmation of registration will be given after payment has been received in full
- The registration fee does not include accommodation

If you have any queries regarding registration, please do not hesitate to contact:

Mrs Rene Burger
Tel: +27 21 808 2100
email: burgerr@sun.ac.za

Marechia Basson
Tel: 079 4909 210
Email: msb@aspt.co.za

Exhibition

SANCOLD Conference Exhibition - An opportunity to show the Dam Community what you can do

The Gallagher Convention Centre will be a very popular and attractive venue and the event is expected to attract more than 200 delegates from South Africa, Africa and the rest of the world.

The exhibition will be near the main Conference lecture hall in the foyer. Early booking of exhibition space is recommended as the number of spaces could be restricted. The exhibition will be held on the final day of the conference on 10 November 2011.

There are 8 stands available for exhibition. Approximate size each 3 x 3 m. (Table and two chairs included). Stand setup could be done on 9 November during the Technical visit. Stand allocation will be based on when payment was received.

If you wish to discuss the matter further please do not hesitate to contact Rene Burger by e-mail at burgerr@sun.ac.za

Contact us

Prof Gerrit Basson (grbasson@sun.ac.za) – Abstracts, papers and technical aspects

Rene Burger (burgerr@sun.ac.za) Tel 021 8082100

or Marechia Basson (msb@aspt.co.za) for any other matters

Venue

SANCOLD Biennial Conference will be held at the Gallagher Convention Centre in Midrand.

Gallagher Estate is Africa's largest conference and exhibition conference facility. Boasting over 19 multi-functional purpose built venues in the most picturesque surroundings the venue can comfortably accommodate spectacles of any magnitude and offers International standard services, with the latest technology.

Gallagher Estate, Midrand is centrally located between Johannesburg and Pretoria, and is near the Midrand Gautrain station.

Directions

Address
19 Richards Drive Midrand
Johannesburg
Gauteng
South Africa

+27 11 266 3000
+27 11 266 3205
GPS co-ordinates :

South 26 degrees 00.145'
East 28 degrees 07.849'

Useful links

The conference is being held at the Gallagher Convention Centre in Midrand. Details of the facilities can be found at www.gallagher.co.za

REGISTRATION FORM – *SANCOLD Conference* 2011

Kindly complete this registration form and fax it, together with a letterhead of your company to fax number +27-21 4130447 or mail the form to: The Secretary, Institute for Water and Environmental Engineering, Department of Civil Engineering, University of Stellenbosch, *SANCOLD Conference* 2011 Course, Private Bag X1, MATIELAND, 7602, SOUTH AFRICA. Or by email to: msb@aspt.co.za

On receipt of the completed registration form, an invoice will be faxed or emailed to participants. Payment can be made electronically (details will be provided on the invoice) or by cheque, to be made payable to University of Stellenbosch.

CLOSING DATE FOR REGISTRATION AND PAYMENT: 10 October 2011

Title		**Surname**		**Name**	
Company					
	VAT registration number		**Business registration number**		
	Postal address:		**Street address:**		
Tel	**( )**		**Fax**	**( )**	
	Select 1st and 2nd choice dams to visit during Technical Tour (indicate 1 or 2):		**Bospoort Dam** ( ) 1 or 2?** **Rust de Winter Dam** ( ) 1 or 2?**		
Email			**SANCOLD Member no.:**		
Special dietary requests			**Conference fee/ exhibition stand**	**R**	
Name, tel & email of person regarding payment			**Accompanying person Conference dinner**	**R**	

***FEES: Delegates: R7900-00 for 3.0 days (Includes teas, lunches, printed abstracts, papers, technical tour & conference dinner); Discounted fees: SANCOLD member: R7400; Accompanying Person Conf. Dinner: R400. Discounted fees: Full time MScEng/MEng or PhD students at SA University: R3900; Exhibition stand: R7900 (teas and lunch included for one day for one person only).**

Note: ** Only one of the two dams can be visited due to time constraints. Allocation will be based on order of payment of registrations fees.
Cancellations will be accepted in writing and without penalty, up to 10 working days prior to commencement of the course. Participants cancelling in writing less than 10 working days prior to commencement of the course will be liable for a 50% cancellation fee. Following registration without attendance and without written cancellation, delegates will be held responsible for the full course cost.

I HAVE READ AND AGREE TO THE CONDITIONS OF REGISTRATION AS STIPULATED ABOVE

Signature: _____ **Date:** _____

Enquiries can be directed to:

Ms R Burger
Inst for Water & Environmental Engineering
Dept Civil Engineering, University of Stellenbosch
University of Stellenbosch
Tel: +27-21 8082100/0794909210
Email: burgerr@sun.ac.za or msb@aspt.co.za

or

Prof Gerrit Basson
Inst for Water & Environmental Engineering
Dept Civil Engineering,
University of Stellenbosch/SANCOLD
Tel: +27-21 808 4355
grbasson@sun.ac.za