

The focus of this SANCOLD News is a report-back of the SANCOLD Course and Annual Meeting.

SANCOLD Course 2012: Pietermaritzburg 1 – 3 August 2012

The Course was held in Hilton and was attended by 165 persons. We were pleased that we had participants from Mozambique and Botswana. The theme of the course was *Advanced technologies for construction of dams and environmental considerations during implementation*. The Water Research Commission kindly provided each participant with a copy of the publication by Lani van Vuuren entitled *In the Footsteps of Giants – Exploring the history of South Africa's large dams*. Lani attended the course as the WRC was the media partner for the event. She received many compliments on this excellent publication and also requests for her autograph.



Course attendees

After the opening by Chairperson Danie Badenhorst, Helgard Muller, Acting Deputy Director General: Policy and Regulation, Department of Water Affairs delivered the Keynote Address. The title was *Latest trends in water policy and regulation* which set the framework for the further presentations.



Keynote Speaker Helgard Muller

Kevin Meier of Umgeni Water then gave a presentation on *Regional Planning in the Umgeni Water Supply Area*. This presentation highlighted the various role-players in the water sector and their various responsibilities. The need for the urgent augmentation of supply in the system was shown hence the construction of the Spring Grove Dam and the water transfer from the Mooi to the Umgeni

River. Other water management approaches such as water demand management is also being implemented. Future additional supply sources have also been identified.

The remaining presentations can be divided into three broad categories namely:

- Environmental issues related to dams;
- Advanced technologies for construction of dams;
- Spring Grove Dam.

The lectures on environmental aspects gave an excellent overview of the complexities related to this matter from planning through to implementation and operation. Adequate time is required in the programme to allow for the various public participation and authorisation processes. The Spring Grove Dam had particularly onerous environmental mitigation measures and was greatly delayed by the environmental authorisations. It was rather concerning that the environmental pendulum may have swung too far on this project as some of the mitigation measures appear at first sight to be unreasonable and uneconomical. The high additional cost of these measures will add significantly to the water tariff.

The topics which were dealt with in *Advanced Technologies* were:

- RCC dam mix design and construction technology;
- Geotextiles in dams;
- Long term behaviour of dam materials;
- Small embankment dam design;
- Grouting of dam foundations;
- Advanced technologies for dam construction;
- Commissioning tests on environmental flood outlet works.

All of these lectures were of a high standard and produced new insights. CPD credits were earned from the course attendance and it is considered that this course really offered many positive benefits. The participants were provided with a flash disk sponsored by *Ash Resources* which contained all of the PowerPoint presentations.

Six presentations followed on Spring Grove Dam which formed the basis for an excellent site visit on the final day. The topics were:

- Introduction to Spring Grove Dam;
- Environmental: Land acquisition;
- Environmental: Natural and social;
- Design;
- Construction;
- Questions and answers and site briefing.

The Spring Grove Dam was visited on the Friday. Excellent brochures on the Project were supplied by Implementing Agent TCTA. The dam will have a gross storage capacity of 139 million m³ and will have an assured supply of 60 million m³ /a. The transfer rate will be 4.5 m³/s. The dam has a maximum height of 37m. It is a composite dam with a roller compacted concrete portion (RCC) plus an earth embankment on the right bank. The total length of the dam is 607 m. Impoundment is scheduled to commence in January 2013. The total estimated completion cost is R1.67 billion. The organisational structure is:

- Principal: Department of Water Affairs;
- Implementing Agent: TCTA;
- Project Partner: Umgeni Water;
- Consulting Engineer: BKS (Pty) Ltd;
- Contractor: Group Five-Pandev Spring Grove Joint Venture.
- Sub-Consultants and Specialists: Various.

Almost all of the course participants attended an excellent site visit where we saw the various aspects of the project. This ranged from an inspection of one of the trial RCC embankments, dam construction, central batching plant and material laboratory. Unfortunately RCC placement was not underway at the time, but the contractor had kindly made up a mix which the participants "tested" by

walking on it. Refer to the various photographs below. The site visit ended with informal refreshments where we were able to mingle and discuss this interesting project.



RCC mix being discussed and tested by course participants



View of outlet tower looking towards the earth embankment



Spring Grove Dam under construction

SANCOLD Annual Meeting

The SANCOLD Annual Meeting 2012 took place during the Course on Wednesday 1 August at the end of the course for that day. Chairperson Danie Badenhorst highlighted the Annual Report which will be e-mailed to all SANCOLD Members and also placed on the website. The draft Minutes of the AGM in 2012 will also be on the website. Members raised various issues during discussion and these aspects will be reflected in the draft minutes.

The highlight of the meeting was the SANCOLD Award which was made to **Heinrich Elges** for his important role in dam engineering in South Africa. Chairperson Danie Badenhorst when handing over the award made the following remarks:

The SANCOLD Management Committee instituted an award system in 2011 to recognise prominent persons in the dam industry who have made major contributions in this regard. The Management Committee decided that an Award should:

- *Acknowledge exceptional contributions to SANCOLD*
- *And/or exceptional contributions to the dam industry in South Africa.*

The Award should be accompanied by suitable publicity in appropriate media and in this way will raise awareness of SANCOLD. A high standard of award criteria was selected so as to ensure that this is a prestige event. We identified a number of persons and decided that we would make an award to three persons this year. Unfortunately two of the recipients are not able to attend and we will make use of a future occasion for the formal handover of the Awards.

I will not read out a long detailed citation on the Award, but will rather give you a broad-brush sketch of the major contributions to dam engineering.

*The recipient today is **Heinrich Elges**.*

Mr Elges is acknowledged as a leading expert regarding all aspects related to the civil engineering design of dams, in South Africa and abroad. He served as the Director: Civil Design of the Department of Water Affairs of South Africa until his retirement in 2004. The Department has been responsible for the design and/or construction of more than 70% of the large dams in South Africa. He has a broad knowledge in the field of dam design, and a specialised knowledge in the field of earthfill/rockfill/concrete and rollcrete dams. After working in the Design, Construction and Planning Directorates of the Department, he undertook a work-study tour of the United States in 1976, spending some time with the US Army Corps of Engineers, the US Bureau of Reclamation and a consulting firm concentrating on the design and construction of earth and rockfill dams as well as the investigation and treatment of dam foundations. After leading the earth and rockfill dams design team of the Department he was appointed as Director: Civil Design. He also acted as specialist consultant and/or technical advisor to the following respective Departments of Water Affairs of African countries, Namibia, Botswana, Swaziland, Angola, Zimbabwe, Lesotho and Sudan. Heinrich has had an extensive involvement with ICOLD and SANCOLD. He served for many years on the ICOLD Committee on Embankment Dams and was also SANCOLD Secretary for a long period. He has published a number of technical papers in his field of expertise.

Heinrich expressed his appreciation of the award thereafter. He and his wife, Jean, had recently moved to Howick and he is still active in specialist consulting work.

In closing the meeting, Danie Badenhorst expressed his appreciation to Prof Gerrit Basson and his team from the University of Stellenbosch for all of the excellent course arrangements.



R to L: Heinrich Elges, his wife Jean and SANCOLD Chairperson Danie Badenhorst

SANCOLD Young Engineers Forum

A Young Engineers' Forum in ICOLD was formed in Lucerne in 2012 for persons under the age of 40 years. The SANCOLD Management agreed that SANCOLD should form a similar Forum in South Africa and once operational would liaise with the ICOLD Forum. Mr Ivor Segers Vice Chairperson promoted the initiative after the AGM. A number of persons indicated that they were interested in the matter and submitted their names. If any other SANCOLD Members are interested please inform the SANCOLD Secretary.



SANCOLD Vice Chairperson Ivor Segers

SANCOLD Management Committee: Elections

The elections for four positions on the Management Committee which will become vacant at the end of this year will follow the same electronic nomination and voting system as in the past. The call for nominations will take place in early October and the voting in early November. More information to follow.

SA Representation on ICOLD Committees and SANCOLD Working Groups

SANCOLD participates in a number of ICOLD Committees as shown in the updated list given below. Some of the participation is as a corresponding member where inputs are made via correspondence. The SANCOLD Management Committee considered that it is desirable to form SANCOLD Working Groups for those Committees where there is a need for such participation in order to support the South African representative. An invitation is extended to SANCOLD Members to volunteer for participation in these Working Groups. It is pleasing that we have had several volunteers recently. Please submit your name to the SANCOLD Secretary and the Working Group/s you would like to participate in.

SA representatives on ICOLD Committees and SANCOLD Working Groups 2012

No	Committee Name	Term	SA Representative	SANCOLD Working Group
C	Committee on Hydraulics	2009-2013	Dawid van Wyk	Dr Andre' Bester
D	Committee on Concrete Dams	2012-2015	Q Shaw	J Kroon H-J Wright A Botha D Ochan
E	Committee on Embankment Dams	2010-2014	D Badenhorst	H Elges Johan Beukes K Legge (Geofabrics)
F	Committee on Engineering Activities Associated with the Planning Process for Water Resources Projects	2011-2014	S Mabuda	Menard Mugumo
New	Committee on Dam Surveillance	2012-2016	Dr C Oosthuizen	A Botha DJ Hagen
H	Committee on Dam Safety	2012-2016	I Segers	Dr C Oosthuizen L Hattingh L van den Berg Bongani Sibanda Alan Kockott
L	Committee on Tailings Dams	2011-2014	Duncan Grant-Stuart	
M	Committee on Operation, Maintenance and Rehabilitation of Dams	2012-2015 ¹	PD Pyke	L Moloï Rep of Umgeni Water
O	Committee on the Register of Dams & Documentation	2011-2014	Mr Bertrand Collet	Leo vd Berg from the Dam Safety Office (DSO).
Q	Committee on Dams for Hydroelectric Energy	2007-2012	L Furstenburg	Janus Basson John Sawyer
Z	Ad Hoc Committee on Capacity Building	2012-2015	[K Wall] ²	

Representation cannot be changed in the case of an **ad hoc committee**. SANCOLD Working Group members make inputs into the ICOLD Committee via the SANCOLD Representative.

1. Reappointed Committee to complete the work of the previous Committee.
2. Corresponding Member

SANCOLD Membership Fees 2012

All invoices have been sent out and so far we have received a 73% and 80% return of fees for the Corporate and Individual Members respectively. An appeal is made to those members who have not paid to settle your account urgently.

ICOLD Publications and Website

ICOLD took a decision in 2009 regarding easier (and cheaper) dissemination of its publications. This will be done via the revamped ICOLD website (www.icold-cigb.net). A password has been issued to each National Committee which allows access to the Members' Section on the website and also for free downloading of ICOLD Bulletins (reports). Any SANCOLD member who requires this access must apply to the SANCOLD Secretary for the password.

With kind regards and I look forward to comments on this SANCOLD News and SANCOLD's activities.

Paul Roberts Pr Eng
Secretary: SANCOLD