

# Advanced NDT Techniques for Enhanced Integrity and Safety in the Energy Related Industries Including Nuclear

## 18, 19, 20, 21 August 2025



Mr Harold Jansen

### Webinar – NOW AVAILABLE – Register below

With the increasing demand for nuclear power, countries such as South Africa, the only country in Africa currently with a nuclear power station, are considering building greater nuclear capacity to meet the ever-increasing demand for electricity. To do this however, requires introducing more advanced NDT techniques into a country and a greater need for more skilled competent personnel as well as technological back up to maintain the stringent integrity requirements.

Links for registration for this Webinar are given later in this brochure on page 4.

*This presentation is brought to you by:*

**Mr Harold Jansen**  
NDT Consultant



*Interest in nuclear power capacity has increased significantly in recent times with over 60 reactors currently under construction in 15 countries*

Contacts at each organisation for more detailed discussion on this Webinar:

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# Advanced NDT Techniques for Enhanced Integrity and Safety in the Energy Related Industries Including Nuclear

**Presenter: Mr Harold Jansen, NDT Consultant**

Harold Jansen qualified as a solid state physicist from the Rand Afrikaans University (now the University of Johannesburg) in Johannesburg in the early 1990s. This gave him a perfect background for his working life in NDT gaining excellent experience in various industrial sectors such as power generation, petrochemical, marine, mining and transport.

He joined the Southern African Institute of Welding (SAIW) in 2010, following ten years working at Eskom and six years helping to establish African NDT Centre as a training, qualification and service company. Since 2010, he held the positions at SAIW Certification as NDT examiner, Systems and Quality Manager and NDT Qualification and Certification Manager as well as becoming the personnel Qualification and Certification Manager at the SAIW International Institute of Welding (IIW) Authorised Nominated Body (ANB).

During this period, Harold has been intimately involved in the International Atomic Energy Agency (IAEA) work with African countries. As the Regional Designated Centre for the IAEA in Anglophone-Africa, SAIW is spreading non-destructive testing expertise across the continent, and is currently expanding its industrial sectors into the nuclear field. Regional and tri-angular projects, facilitated by the IAEA, have been successful in establishing training programs in Kenya, Cameroon, and Sudan. Similar projects and collaboration with IAEA have been proposed aiming at establishing training centres that meet global standards and national personnel certification bodies (PCB), recognised by the World Organisation for NDT (ICNDT – International Committee for Non-Destructive Testing) in at least 5 countries over the next four years followed by an expansion program aiming at including all 54 African countries over the following ten years.

At the 20th World Conference on Non-Destructive Testing (WCNDT) in 2024, held in Incheon, South Korea, a highly esteemed and hugely successful event under the auspices of the International Committee for Non-Destructive Testing (ICNDT), Harold was awarded the prestigious ICNDT Honorary Membership. This honour recognises Jansen's distinguished contributions and activities within the scope of ICNDT's objectives.

This presentation will give particular attention to the following areas:

- \* Non-Destructive Testing (NDT): Why a different approach is required?
- \* Successful foundation – a thirty-year proven track record
  - › A highly successful thirty years of collaboration between the International Atomic Energy Agency (IAEA), the South African government's Department of Mineral Resources and Energy and the Southern African Institute of Welding.
- \* SAIW's roles in education, training, qualification and certification of NDT personnel
- \* Growing the South African NDT industry and embracing collaboration and networking
- \* Adapting to changes
  - › The African continents embrace of nuclear power generation
  - › Development of local nuclear capabilities
  - › Regulatory framework for Pressure Equipment regulations extended to registering of Nuclear Competent Persons under the South African Qualification and Certification Committee (SAQCC) Framework.
  - › Extending the SAQCC regulatory framework to include Non-Destructive Testing
- \* NDT methods and techniques: Current and future focus
  - › Ultrasonic Testing: Time of Flight Diffraction (TOFD) and Phased Array Ultrasonic Testing (PAUT).
  - › Electromagnetic Testing
  - › Other methods
- \* Directing further development and localisation of skills on the African continent: Nuclear Energy Council of South Africa (NECSA) Nuclear School of Excellence



## WHERE and WHEN:

The WEBINAR will be of one and a half hours duration including half an hour for questions and discussion. It will be held on four separate occasions to accommodate the four different regions of the globe: The Americas; Africa and Europe; Indian sub-continent; Asia and Australasia.

## WHO SHOULD ATTEND?

Personnel of all types and at all levels with an interest in NDT, manufacturing, fabrication, construction, maintenance, standards, regulatory, education, training and research organisations related to design, fabrication and construction are welcome to attend. Delegates are welcome to bring along their questions to contribute to discussions and positive outcomes.

## WHAT INDUSTRY SECTORS IS THE WEBINAR RELEVANT FOR?

All fabrication and construction energy related industry sectors will benefit from involvement in the webinar.

## SAIW's Roles in Non-Destructive Testing

During the past 45 years, the Southern African Institute of Welding (SAIW) has a fine record of supporting both the continental African community and the global community in welding and related activities. It is a founder member of the International Institute of Welding (IIW) in 1948 and has played prominent roles in working with many African and IIW member countries.

The SAIW embraces collective international action, cooperating and collaborating, where possible, to apply global solutions to global challenges. For example, SAIW is working in line with the South African Government's national initiatives to help South Africa to achieve the United Nations Sustainable Development Goals (SDGs) by 2030. The SAIW also supports the International Institute of Welding (IIW) NWC-SDGs report released on 1st May 2024

<https://iiwelding.org/iiw-jointothefuture/iiw-and-sustainable-development/>

and the IIW NWC GN 5 Establishing a National Welding Capability (NWC)-NWC Guidance Note GN 5 Implementing the 'Education, Training, Skills and Careers' Building Block, published on 20th June 2025

<https://iiwelding.org/iiw-jointothefuture/nwc-gn/>

SAIW has provided world class education, training, qualification and certification services to industry since 1978. It was the catalyst and driving force for the establishment and management of the South African Qualification and Certification Committee for NDT (SAQCC-NDT) in 1985. It opened its SAIW School of Non-Destructive Testing in 1980 as well as providing technological support to industry. Over the years, it has also provided opportunities for disadvantaged young people to be given free training leading to careers in NDT and welding inspection.

A very good example of African collaboration is shown by the support of the International Atomic Energy Agency (IAEA) in the development of non-destructive techniques



*With delegates from Department of Energy and Electricity, NECSA and SAIW are, far left: Michel WARNAU, IAEA Section Head for Technical Cooperation in Africa; and middle front, Lerato Makgae, IAEA Chief Director, National Liaison Office.*

for industrial quality control in Africa. In 1994, IAEA first started funding a pan-African NDT training, qualification and certification programme conducted at the SAIW.

The Southern African Institute of Welding (SAIW) is powering ahead with its collaboration with the International Atomic Energy Agency (IAEA), and the Nuclear Energy Council of South Africa (NECSA). Facilitated by the South African Department of Mineral Resources and Energy, an initiative to establish a comprehensive Nuclear School of Excellence and introduce advanced training techniques to bolster the continent's nuclear sector has been started. The School of Excellence and SAIW will offer a range of specialised courses, including TOFD and PAUT, focusing on welding and non-destructive testing within the nuclear sector, nuclear safety and precision measurement, as well as providing comprehensive technical support to industry.

## SAIW South Africa (Africa and Europe Regions)

Course Part	Course Date	Location / Time Zone / Starting Time	
1	Monday, 18 August 2025	Johannesburg, Genoa ... 12:00-13:30 Mumbai... .. 15:30-17:00	London, Lisbon and Nigeria ... .. 11:00-12:30 Istanbul ... .. 13:00-14:30

- Registration Link:**

<https://www.saiw.co.za/win-webinar-advanced-ndt-techniques-for-enhanced-integrity-and-safety-in-the-energy-related-industries-including-nuclear-18-august-2025/>

[Click here to Register](#)

## IIW-India (Sub-continent plus other Middle East and Asian regions)

Course Part	Course Date	Location / Time Zone / Starting Time	
1	Tuesday, 19 August 2025	India, Sri Lanka ... .. 12:30-14:00 Bangladesh ... .. 13:00-14:30 Saudi Arabia, Kuwait and Bahrain. ... .. 10:00-11:30	Singapore, Perth and Shanghai... .. 15:00-16:30 Seoul and Tokyo ... .. 16:00-17:30 Sydney ... .. 17:00-18:30 Auckland ... .. 19:00-20:30

- Registration Link:**

<https://tinyurl.com/yhsatfh4>

[Click here to Register](#)

## CWB Group Canada (Americas North and South)

Course Part	Course Date	Location / Time Zone / Starting Time	
1	Wednesday, 20 August 2025	West Coast Canada and USA ... .. 08:00-09:30	Toronto, Santiago ... .. 11:00-12:30 Rio de Janeiro ... .. 12:00-13:30

- Registration Link:**

<https://www.eventbrite.ca/e/advanced-ndt-techniques-for-enhanced-integrity-and-safety-tickets-1481835663359?aff=oddtcreator>

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## HERA, New Zealand (Asia and Australasia)

Course Part	Course Date	Location / Time Zone / Starting Time	
1	Thursday, 21 August 2025	Perth and Singapore ... .. 14:00-15:30 Seoul and Tokyo ... .. 15:00-16:30	Melbourne, Sydney. ... .. 16:00-17:30 Auckland ... .. 18:00-19:30

- Registration Link:**

<https://zfrmz.com.au/O0AORDSOZLPuMkoWOJY8>

[Click here to Register](#)

**Register Today** – To register, follow the registration links above.

**Cost** – The webinar is free to all applicable areas. Membership may be required.

**Cancellations** – *Please note:* The organisers reserve the right to cancel the webinars due to insufficient registrations or other reasons beyond their control, as well as altering the programme if they deem it necessary. The organisers also have the right to refuse registrations.

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