

Women in Nuclear

a profile

REMOVING
GLASS CEILINGS
FOR WOMEN IN
THE NUCLEAR
ENGINEERING
INDUSTRY



Koeberg Nuclear Power Station

Where it started

Western Cape based Lesedi Nuclear Services, an AREVA NP company, has seen impressive growth in both size and project involvement in the last three years alone, propelling it to play an even bigger role in the provision of nuclear engineering services to South Africa through its main client, the public utility Eskom. Lesedi's parent company, AREVA NP, is the world's leader in the design and construction of nuclear power plants, fuel supply, maintenance, and modernisation services.

Now with a workforce of more than 800 people – more than 150 percent growth in personnel in less than four years – including 80 qualified engineers with extensive nuclear expertise, technicians, artisans, semi-skilled and administrative support personnel, as well as highly experienced project management professionals, Lesedi plays a pivotal role in helping the country deal effectively with its electricity supply challenges. With its core business located in the strategic fields of Project Management, Design Engineering, Maintenance and Operations, Plant Engineering, Welding and Fabrication and the provision of Technical Personnel, the company has already completed numerous projects in nuclear and conventional environments in recent years, primarily at Eskom's Koeberg Nuclear Power Plant, in the Western Cape.

Addressing the skills shortage

After coming to terms with the reality and impact of the dearth of essential nuclear engineering and related support skills in the local industry, the leadership of Lesedi took it upon itself to develop lasting solutions, first for its internal applications and, eventually, to contribute to the larger industry skills development initiatives in South Africa. The company is now in the process of implementing an intensive skills training initiative that aims to address this severe shortage of

human resources in the South African nuclear engineering sector.

Renier van Coller, Lesedi's Head of Human Resources, explained that the company's exponential growth over the last few years left it with no choice but to increase its investment in Human Resources Development. "Finding women engineers who are interested in the nuclear field and providing nurturing environments for them to further develop their expertise is no doubt at the core of our plans. South Africa is not going to be left out of the nuclear renaissance that is currently sweeping the world and, in our view, women engineers have a role to play in the renaissance of this industry," he explained.

At the beginning of 2007, Lesedi established an in-house Engineer-in-Training (EIT) program aimed at identifying newly qualified engineers and placing them in various units of the company to expose them to real project work and further on-the-job training in the nuclear field. The EIT program runs over a period of 18 months and encompasses both theoretical and practical aspects of working within the nuclear industry, including mentorship and coaching by highly qualified design engineering and project management professionals within the company. EIT is an integral part of Lesedi's skills development and transformation program but, more importantly, serves to build and develop today's newly qualified engineers into the country's future nuclear engineering capacity to compare with the best in the world. A significant thrust of this skills development initiative is based on Lesedi's partnership with multi-national nuclear engineering giant, AREVA, of which Lesedi is now a subsidiary.

THE FUTURE:

Women in the nuclear industry

The fact that AREVA, Lesedi's parent company, is headed by one of the most celebrated women in the world, Anne

Lauvergeon (recognised by Forbes magazine as one of the 10 most powerful women in the world) is no small feat!

While, historically, the engineering industry in general and the nuclear sector in particular, have always been dominated by men, this is set to change in a big way. During a long period from the 1980s to the early 1990s when little emphasis was placed on increasing specialist engineering capacity in this sector, there was even less incentive within the engineering industry as a whole to specifically develop women nuclear engineers. Today, however, Lesedi's positioning firmly embraces the recruitment of women in all aspects of its operations and, especially, in its engineering environments. The recruitment of women engineering graduates - some of them coming from South Africa's previously excluded and currently marginalised backgrounds - is at the forefront of Lesedi's recruitment strategy.

The company recruits engineering graduates from South African universities and technicians, puts them through the structured Engineer-in-Training (EIT) programme, and exposes them to key areas its business including, but not limited to, mechanical and electrical engineering, project management, and nuclear project training. Lesedi has been very successful in this most recent recruitment campaign. "Many graduates, both male and female, want to join dynamic companies which can offer international exposure and real work assignments while being trained," explained Mr van Coller. Lesedi's 2009 intake will be the third group to be taken in since the launch of the EIT programme. The EITs will be carefully fast-tracked within the programme and enabled to become professional engineers in the nuclear industry, adding much needed value to the industry and to South Africa's competitive capacity in this growing field. ▶

For the 2009 intake - already being rolled-out - 14 graduate engineers have already been identified. At least 40 percent of these applicants are females with degrees in Electrical, Mechanical and Electro Mechanical disciplines. Judging by the recruitment process alone – it comprised individual interviews, psychometric assessments and group technical exercises - it is evident that there is a growing interest by young women engineers to play a bigger role in the nuclear engineering field. The female graduate engineers that applied for a place in the EIT have also demonstrated a special sense of readiness and interest in making a great impact on the nuclear renaissance that is now rearing its head after many years of what could best be described as a prolonged lull.

Below are the profiles of Jasmine Vraagom, one of Lesedi's EIT's, as well as Nicky van der Poel, Lesedi's Services Manager.



Jasmine Vraagom

"I grew up in Atlantis and matriculated at Atlantis Senior Secondary school in 2002. It was during my school holidays when I used to assist my father in his electrical work shop that I got exposed to the electrical field and work in a technical-

engineering environment. I found it to be quite challenging and exciting. That's when I made my decision about studying electrical engineering. My family were very supportive of my decision. After matriculating, I went to study electrical engineering at a college where I completed my N4 (Level 4 National Certificate). I then did part-time lecturing at a college in Atlantis for a number of months, lecturing Electrical Trade Theory and Logic Systems.

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I was then afforded the opportunity to work at the construction of the first gas plant to be built in South Africa, in Atlantis, the Open Cycle Gas Turbines (OCGT). I was one of very few females to work on site and I found the environment to be very challenging, as it was required that I adopt a strong personality for this industry. After two months of working on the construction site, I was granted an opportunity to work for Lesedi Nuclear Services as a Design Engineer in Training. With that came a lot of additional opportunities that included, importantly, my first exposure to the nuclear engineering industry. I got involved with many projects, including testing and commissioning during outages. In the nearly two years that I have worked for Lesedi I have gained knowledge and developed my skills to extents that I had not imagined at first. I also recently got an overseas training and working assignment in the AREVA group. Many of my fellow EITs already have had similar exciting overseas projects. My future goal is to constantly expand my knowledge in the

nuclear industry and further my studies. I see myself playing an important role in South Africa's nuclear Energy Field, and being a role model for many other female engineers."



Nicky Van Der Poel

She joined Lesedi Nuclear Services in 2003 and has, since then, grown through the ranks. She was originally employed as site financial manager based at Koeberg Nuclear Power Station. From 2003 to 2006 she was responsible for the finance and administration of all labour based contracts, as well as the financial administration of the company's project driven activities on site. Through this involvement, she managed to establish herself well with her peers and, also, with the client, Eskom. Over the years, she has also assisted with the preparation and the planning of outage maintenance activities at Koeberg Nuclear Power Station for AREVA and Eskom. When AREVA acquired the additional stake of 6 percent in Lesedi Nuclear Services in November 2006, this created new opportunities for Lesedi to start training and investing in local resources and fostering broader international relationships in the nuclear industry. Nicky became one of the early beneficiaries of the training impetus that

Completed OCGT (Open Cycle Gas Turbine) Project in Atlantis Cape Town



Extension (GAS1) which Lesedi is busy with in Atlantis



came with the increased involvement of AREVA in South Africa. Today, she has no reason to look back, except with much pride!

Nicky's new responsibilities involve, but are not limited to:

- All rates based maintenance contracts with AREVA and Eskom
- All international outage maintenance service/activities
- All technical personnel contracts
- Lesedi coordination of (IRMA) initiatives

In order to succeed in her new position, she is required to be constantly informed

AREVA, Lesedi's parent company, is headed by one of the most celebrated women in the world.

and kept abreast of the constant changes and developments in the nuclear industry (especially on matters relating to safety, health, quality and technology). Each country has different legislative requirements that need to be met, and these tend to change all the time.

According to Nicky, "South Africa is a country with diverse cultures. Although

a lot of changes have taken place in the past 14 years, I do believe there is still a lot more that needs to be done in many sectors. One of the main challenges for role players in the local nuclear engineering sector is to change their behavior and mindsets and come to terms with the fact that women can also reach their full potential and make massive contributions to the growth of our sector. I look forward to being one of those women whose destiny it is to pave the way for more future female nuclear engineers." **TW**

By Lesedi Nuclear Services