Swakop Uranium is preparing for 2012 as the approval date for the construction of the Husab mine. The Swakop Uranium project team is ready to start placing contracts the moment the company receives the green light from its shareholders to proceed with the development of the Husab mine near Swakopmund. Once in full production, Husab will be one of the largest uranium mines in the world.

The new shareholders, Taurus Minerals Limited (an entity owned by China Guangdong Nuclear Power Company (CGNPC) Uranium Resources Co. Ltd. and the China-Africa Development Fund), have already indicated their intention to start the Husab Project as soon as possible. Taurus recently took over Swakop Uranium’s previous owners, Extract Resources.

Zhiping Yu, the new non-executive Chairman of Extract Resources, says Extract Resources and Taurus are eager to proceed with the Husab project as soon as possible. “We wish to emphasise the importance of the Husab Project to CGNPC as a company. It supports our strategy of expanding our field of competence from the construction and operation of nuclear power plants to the upstream uranium mining and refining business.”

To this end, some CGNPC personnel will be joining the Swakop Uranium teams in Windhoek and Johannesburg subject to the usual regulatory requirements. Mr Yu emphasised that such members must be able to add value and make a contribution to the project.

Michele Kilbourn Louw (left), Swakop Uranium’s environmental manager, Jose Kaumba, warden for the northern section of the Naukluft National Park, and Angie Kanandjembo, Swakop Uranium’s environmental site manager, joyfully hold some of the rain gauges that Swakop Uranium donated to the Naukluft National Park for rainfall measurements around the park.

Gauges everywhere, but not a drop of rain!
We’re getting READY TO GO!

Norman Green, CEO of Swakop Uranium, recently visited China to discuss the project with senior CGNPC representatives. This was followed by another visit by Norman and some members of his team to a technical review of the project. Says Norman, “Swakop Uranium is preparing for 2012 as the approval date for the construction of the Husab mine on condition, of course, that the necessary CGNPC’s requirements are completed in time.”

Among the first contracts that will be placed, are those for the temporary and permanent access roads, the temporary pipeline from the Rössing Reservoir, the bulk earthworks, the construction camp, the acid plant, the main intake substation, the 98/6/4 transformers, the mobile pit substation, the fuel depot, the Engineering, Procurement and Construction Management (EPCM) service provider and equipment such as crushers, shovels, haul trucks, production drill rigs, water trucks, wheel dozers and front-end loaders.

According to Gavin Daly, engineer manager for the Huab Project, Chinese vendors will, where appropriate, be included on the bidders’ list for certain items of mining and process plant equipment.

Besides making Namibia the second largest uranium producer in the world, Huab is set to boost the country’s exports by 20%. It will also add 5% to the country’s gross domestic product.

Key financial, social and environmental issues around the Huab Project are identified by simple icons as follows:

- Burning issue
- In the marketplace
- Green notes
- Room for a view
- People are talking about...
- Project pipeline
- Did you know?

Number of nuclear reactors on mainland China...27
Number of nuclear reactors already under construction in China...
China’s position as a nuclear-generating nation by 2050...

NUCLEAR POWERHOUSE

The nuclear reactors being planned by China include some of the world’s most advanced designs. The new built programme will give a five- or six-fold increase in nuclear capacity to at least 50 GWe by 2020 and a massive 400 GWe by 2030. This is likely to vault China into the top position of nuclear-generating nations.

The programme is seen as an alternative to the polluting CO2-emitting coal-fired plants that supply 60% of the country’s electricity. China is rapidly becoming self-sufficient in reactor design and construction, as well as other aspects of the nuclear fuel cycle. China imported more than 16 000 tonnes of uranium in 2011, almost three times as much as the Huab mine’s projected production of 6 800 tonnes. Namibia, along with Kazakhstan, Uzbekistan and Australia, contributed more than 95% of China’s imports of uranium in 2011.

Our bursary holders

Namibia’s engineering skills pool widens

Swakop Uranium’s latest bursary recipients are eager to complete their studies and ply their trade at the company.

Mwewutupa Iiyambo, one of Swakop Uranium’s two bursary recipients for 2012, chose Electrical Engineering because she has been fascinated by electricity, its uses and its benefits since childhood. “I care about people and I believe I can contribute to solving real-life electrical problems and make life more comfortable and better for everyone.”

This field of study is interesting and challenging as I am presented with tasks that require logical and critical thinking to solve them.”

Some of the challenges Mwewutupa had to overcome in her first year, included adapting to a demanding university schedule, the teaching and studying methods and peer pressure.

Mwewutupa says Swakop Uranium’s bursary paved the way for her to complete her studies, and reduces the financial burden on her parents. “What remains is for me to pass well and complete all my modules. Once done with my studies, I will be able to apply my skills and acquired knowledge to the benefit of Swakop Uranium.”

Mwewutupa says, “Having been awarded this bursary, I am no longer concerned as to who will pay my tuition fees or buy my study materials, since all that and more is covered by the bursary. Now I can focus on my studies.”

Tonata Silvanus, the second recipient of a Swakop Uranium bursary, is studying toward obtaining a Bachelor of Science in Mechanical Engineering.

“I am inspired by the workings of Mechanical Engineering in the world around us.” He cites automobiles, cranes, milling machines and other machinery as examples of a culmination of smaller machine parts put together to create a bigger machine. “There is nothing more fun than designing large systems, say a power plant, and managing such systems, to ensure optimal and profitable end results.”

Tonata likes listening to the radio, reading newspapers, and doing research on the internet. “It is also like playing volleyball, chess and boxing.”

“The number of nuclear reactors already under construction in China...1
What was the original plan?

In the original EIA, for which the Husab mine has received an environmental clearance certificate, the dry tailings were to have been disposed by depositing them within individual tailings storage cells inside the waste rock dump. A study to identify a suitable site for the tailings storage facility, its design and pollution control management, has therefore been initiated.

What will change?

The waste rock dump will be in the same location, but will only be used for waste rock disposal. While the dump will reduce in length, it will now be marginally higher.

Since the finer tailings cannot be dewatered sufficiently to dispose as a dry tailing, a dedicated TSF of about 4 km² (located east of the waste rock dump) will be required. Since commissioning will not take place before 2015, tailings will not be generated before then. The shape and size of the two mine pits will also change because

1. Water supply (8-million m³ per annum desalinated water)
2. Life of mine (about 20 years)
3. Employment opportunities (4 000 construction jobs and 1 200 permanent employees)
4. Topography (additional changes in landscape)
5. Visual aspects

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What stays the same?

The open pit mining method;
- Acid plant;
- Power supply (NamPower and two generators on site for back-up power)

What are the potential environmental impacts?

The proposed changes may have the following potential environmental impacts:

- Surface and groundwater (water quality and quantity associated with the proposed additions/changes)
- Air quality (potential increase in dust from the TSF and gaseous emissions)
- Radiological impacts
- Biodiversity (potential additional impacts on the fauna and flora)
- Archaeology (potential additional impacts on archaeological resources)

What happens next in terms of the amendment?

The issues and concerns raised by the public will be collated in the Scoping Reports, to be circulated to the public for review, and will inform the environmental studies that will take place over the next few months. Once the field work has been completed and reports written, the impact assessment will be undertaken. The primary objective of the assessment will be to determine negative impacts, to advise Swakop Uranium accordingly and make recommendations to avoid or minimise impacts through design or layout. For those impacts that cannot be avoided or minimised, additional recommendations on how to manage them will be given in the existing approved environmental management plan.

More uranium, more preparation

But what do the amendments entail, and why does Swakop Uranium have to submit a new application to the Ministry of Environment and Tourism (MET), given that the company received an environmental clearance certificate for the proposed Husab mine as far back as January 2011?

Werner Petrick of SLR Environmental Consulting (Namibia) says Swakop Uranium's Mine Optimisation and Resource Extension (MORE) phase has been evaluating process enhancements to increase uranium recovery and/or lower capital and operating costs. Test work to date has indicated that grinding ore more finely prior to leaching, is likely to lead to an increase in uranium recovery, resulting in the tailings containing less uranium.

"While the finer grind results in higher uranium recovery and reduced capital costs, the tailings can no longer be disposed of as dry tailings because the slurry cannot be dewatered to the desired consistency. The tailings from the plant extraction process therefore have to be pumped to a dedicated tailings storage facility," he explains.

Since the proposed TSF structure did not form part of the original Husab mine EIA, Swakop Uranium decided to apply for an amendment to the original certificate. Werner emphasises that, should the EIA amendment not be approved by the MET, Swakop Uranium will revert to the previous design and the concept of

José Kaumba, warden for the northern section of the Naukluft National Park, and Ingrid Scholz of Reptile Uranium were among the about 40 interested and affected parties who attended the meeting in Swakopmund. Michele Kilbourn Louw, Swakop Uranium's environmental manager (right), points out the access routes to the Husab mine to the Arandis town council. The councillors are (from left) D Tsaneb, R Geises and M Goliath.

In cheerful mood at the EIA amendment presentation in Swakopmund were (from left) Marcia Stanton, George Erb, Brandon Stobart of SLR Environmental Consulting, and Elke Erb. What stories are the things we’re concerned about
Hydroponics is something new to us and we’ve been grateful for the training we’ve received in irrigation methods, fertilisers, insecticides and seedling production,” she adds.

Florida Husselmann is perhaps Ellie’s biggest fan and for good reasons. “We believe that good things come to good people because Ellie and her team are passionate about what they do. They have been successful entrepreneurs as they have been prepared to take risks and commit themselves totally to the challenge.”

Next step: hydroponics for the region

The Swakop Uranium Foundation is excited about helping Ellie take her production under hydroponics to a new level, says Grant Marais, Swakop Uranium’s Manager: Corporate Strategy and Business Development.

One of the first benefits of this backing showed itself when Ellie, accompanied by her mentor, attended a hydroponics course that was held in Pretoria, South Africa. “The two-day course was attended by 11 other people who came from all over South Africa. My mentor and I were the only people from Namibia,” says Ellie. “It was a very informative course and I learned many new and interesting things about cultivating vegetables the hydroponics way.”

According to Grant, Swakop Uranium will also provide training in hydroponic methodology for Ellie’s staff. “Once the training is complete and business plans have been agreed, we will also provide Ellie with the equipment and mentoring to expand and improve her production capability.”

The grand vision is to ensure that Arandis is able to supply all households and businesses in Arandis with fresh vegetables in the future and then to provide Swakopmund as well.

According to Grant, the Arandis Sustainable Development Project expresses the desire to ensure that all households and businesses in Arandis have access to fresh vegetables in the future and then to provide Swakopmund as well.

Hands-on management: Ellie dons her blue overall to help Samuel Matroos water their lush spinach crop.

Ellie Nowases asked herself whether she was going to be an employee or an employer, she took one look at her green fingers and decided that she had the ability to grow far more than healthy vegetables.

“After the training I was getting from Florida Husselmann, CEO of the Aranda municipality, and the financial backing of a sponsor, I felt confident to tackle the challenge head-on. I’m proud to say that not only are we doing well with cultivating vegetables, but we’ve also managed to train some people as part of our commitment,” Ellie says.

Ellie took over the vegetable cultivation project and she soon established herself as the one person with truly green fingers in Arandis. “We grow our vegetables in wooden boxes that we make up from scrap wood donated by various mines,” Ellie says. “To protect the plants from the harsh Namibian sun, we cover the growing areas with shade cloth.”

Her spinach, lettuce, green peppers, tomatoes, pansy, cabbage and carrots are in high demand in Arandis. The demand comes from the town’s inhabitants as well as the local supermarket and restaurant. According to Ellie, the town-folk love coming to the garden and picking the vegetables themselves to take home produce as fresh as can be.

Another aspect of their business is supplying businesses with shrub-like plants for office foyers and public areas.

“We also buy artificial flower petals from a Chinese shop in Windhoek and add them to sticks we find lying around,” says Paulina Gaoxas, Ellie’s daughter. “Our fresh flower arrangements are very popular for weddings and funerals and special occasions like Mother’s Day.”

Next step: hydroponics for Ellie

As a result of her success, Ellie was offered the chance to grow vegetables by means of hydroponic methods. The hydroponic project had been run as a pilot project and Ellie’s success with the conventional growing method, prompted the Town Council to offer her the chance to make the project work as well.

“Hydroponics means that you grow plants in nutrient-rich water, without the use of soil as a growing medium,” Ellie explains. “Take lettuce as an example: the seedlings are wrapped in foam strips and planted in holes cut into polystyrene boards, which float on the water’s surface. This helps to regulate the water temperature, isolating it from the hotter ambient temperatures.

“Hydroponics is something new to us and we’ve been grateful for the training we’ve received in irrigation methods, fertilisers, insecticides and seedling production,” she adds.

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In an effort to broaden the training to benefit a wider audience, other budding entrepreneurs will also be invited to attend the hydroponic course in Arandas. “By broadening the focus, we hope to encourage the community to consider hydroponic vegetable growing as a means to support their families. Since hydroponics thrive in regions where there is limited water, our climate and conditions are ideal for this method of farming,” informs Grant.

For a grand vision is to ensure that Arandis is able to supply all households and businesses in Arandas with fresh vegetables in the future and then to provide Swakopmund as well.

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Tears of Hope
nourish dreams

Currently, 17 children between the ages of 10 months and 18 years live with Naftalina. Ten of the children go to school, while the rest are under the age of five. Walter (10 months) is the youngest. Naftalina’s biggest relief is that none of the children are infected with HIV, although they do have other illnesses. Eleven children who used to live with her, are now grown up and able to look after themselves. She has three biological sons, all adults and living on their own.

SQUEEZING

18 people into a two-bedroom, one-bathroom house is not just a matter of logistics. It is a question of love for Naftalina Mauha and the 17 children in her care. While most people cannot begin to picture the living conditions in such a small house, Naftalina says there is space for everyone to sleep at night, and preparing for school in the morning goes smoothly, despite having only one bathroom.

This situation is going to change in the foreseeable future, thanks to the assistance and sponsorships of several people and companies, including the Swakop Uranium Foundation.

The home is now registered as a welfare organisation called Tears of Hope, a name that links to the suffering of the children but with the promise of hope that people will help to improve their living conditions.

There’s no saying “no”

But how did Naftalina land up sharing a house with so many children? “It all happened gradually,” she explains. “Way back in 1976 a child was entrusted to my care. I was 17 at the time. A few years later I started to care for my young nephew and I now had two children to take care of. In 1984 I moved to Swakopmund, Swakopmund, in search of a job and more children came to live with me. At that stage I turned my home into an informal safe house for adults and children in need.”

Naftalina takes care of the children whose parents ask her to do so. “I see a need in the community and I cannot say no. I am motivated by the positive change in the children’s lives after they have joined me. At least I know that they are better off than children who end up living at a dump site or on the streets.”

A purpose-built orphanage would improve Naftalina and her foster children’s living conditions immensely, but at a cost of around N$400 000 this seemed an impossible dream. However, the trustees of Tears of Hope have already managed to raise the bulk of the money and the Swakop Uranium Foundation has pledged N$70 000 that will go towards a girls’ dormitory in the new orphanage.

Steven Ambabi, Chairperson of the Swakop Uranium Foundation, says: “No one wants to see children roaming the streets because they have no home. Naftalina is doing a great job keeping these children off the street and providing them with shelter and other basic needs.” During a visit to Naftalina’s home, it was evident to the trustees that the children were well taken care of.

“ Their confidence, happiness and trust belie their circumstances."

Discovering what we are

Naftalina became an Aids Action volunteer in 2002 and qualified as a counsellor and care-giver. She engaged women from the ORC settlement in Swakopmund and soon realised that those women who were infected with HIV would hide from the community, resulting in their children being neglected. During this time, she discovered many children who had been orphaned when their parents died of Aids, and began to take them into her home.

She approached the Erongo Governor in 2003 when she had just six children in her care.

“I asked the Governor to put the children in foster care. Because the children were entrusted to me by the children’s biological parents, the Governor said I should rather register a welfare organisation.”

It took almost five years to register as a welfare organisation. During that time three more children were brought to her and when the government officials came for their routine inspection, they noticed that Naftalina now lived with nine children. Because of the number of children she had in her care, she was advised to register an orphanage.

Registering as an orphanage came with its own set of conditions, which included bigger premises, more suited to the number of people housed. This is where British nationals Ken and Doreen Mathews, who were in search of projects where they could lend a helping hand, got involved.

They offered to help raise funds for a new orphanage, while the Swakopmund Municipality offered a piece of land at no cost, on condition that the Trust raised the funds to construct a new home of safety for Naftalina and the children.

Top: Steven Ambabi, Chairperson of the Swakop Uranium Foundation, talks to the children during a visit to the home.

Middle: Two of the children look at life through Grant Marais’s spectacles. Grant is Swakop Uranium’s Business Development and Corporate Strategy Manager.

The new premises will accommodate 24 children. More than 80% of the money needed for the orphanage has been raised and it is expected that the rest of the funds will soon be sourced.

Help comes from everywhere. A firm of attorneys pays the municipal bill every month from the donations collected monthly from various businesses at the coast. Naftalina and the children also receive random donations of food, clothing and money, which goes into a fund for their daily needs. Five trustees were enlisted to oversee the management of local cash donations and one of the trustees does the home’s grocery shopping from this fund.

Unemployed, yet still helping

A setback came when Naftalina lost her job a couple of years ago. The New Start centre for HIV/AIDS counselling where she was employed, closed in 2010 and she’s been unemployed since. “It goes without saying that being unemployed makes it a bit tougher to make ends meet,” she says.

During school holidays, Naftalina loads the children onto arranged transport and they spend the holiday on her family’s communal farm in the Omatjete area, about 300 km from Swakopmund. Here the children learn to herd and milk goats while enjoying the open spaces. In trying to generate an income for the home, Naftalina sells freshly baked bread while she takes fish and canned food on her holidays to the farm to sell to the farming community. “I always look for ways to make an income to sustain the family,” she says.

“My greatest wish is to provide the children with the opportunity to live out their God-given potential,” says Naftalina. Although they do not have the ideal space to do their homework or study, the children get good grades and continue to pass.

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popularise indigenous plants among landscapers, gardeners and the general public. Some plants were also given to the embryonic Namib Botanic Garden in Swakopmund for replanting.

According to Coleen, very few replanting and propagation trials have been done in Namibia. “With the assistance of the Swakop Uranium environmental staff, we will ... rate. We will also test different seed treatments to help germination, as well as test cuttings for propagation.”

Because of their stored food reserves, it is difficult to determine the survival rate of stem succulents in the first year. These reserves can carry them for a couple of seasons before they die. Whatever happens, we will make the information available as reference for mining companies and other large-scale infrastructure projects,” says Coleen.

**Small area; large impact**

Coleen Mannheimer, an independent botanist, says C. oblanceolata is a vulnerable near-endemic species with a highly restricted area of occurrence in the central Namib. “It has what we call a disjunct distribution. This means it occurs in sub-populations in geographically isolated patches, so you might even find different subspecies between populations,” she adds.

“In addition, they have a highly restricted habitat; they only occur on rocky, mostly marble ridges,” informs Coleen. “Thus, even though the ridge being affected is very small in the overall mining footprint, you are affecting quite a large proportion of the suitable habitat. Meaningful numbers of C. oblanceolata have only been found on Husab and one other mine site in the central Namib. Anything restricted to such a small area is considered to be at high risk.”

While Swakop Uranium has mapped these plants and tried to avoid many of them in mine planning, some will still be damaged or destroyed if left in place. The company has thus decided to remove them to areas where there will be no mining in future.

“We would like to put them in spots where we think they will survive,” says Coleen. “We prefer areas previously damaged by exploration activities.” She explains why: “When you remove a shrub with an established root system, you have to disrupt a large area and, in the process, damage the substrate and the plants around it. So we prefer to use a damaged site to replant them whenever possible.”

Because of their root system, these plants were carefully lifted and replanted further south along the same rocky ridge, in an area where construction and infrastructure will not impact the plants.

**Planting for the future**

While the majority of the plants were relocated on site in the Swakop Uranium mining licence area, some plants were donated to the National Botanical Research Institute (NBRI) and to the Ministry of Agriculture, Water and Forestry for propagation trials. In this way, should any mines in the area need endemic plants for restoration work, the Botanical Gardens will be able to supply them. These plants are also popular with gardeners, and part of the work of the NBRI is to continue their propagation efforts and to help ensure their survival.

**Mining footprint treads lightly around flora**

**WHEN** development meets nature, something has to give.

Swakop Uranium has recently given some vulnerable plants a new home by extracting 48 Commiphora oblanceolata from areas where future mine construction and infrastructure development will take place.

C. oblanceolata is one of several plants on the Husab Project site that are being used in trials to determine the best method of propagation, so as to ensure the availability of plants for future restoration on mine sites as well as to increase knowledge of these special plants.

“The Husab Project planning has tried to avoid as many plants of significance as possible, but not every plant can be avoided by construction and other infrastructure,” says Angie Kanandjembo, Swakop Uranium’s site environmental manager. A number of C. oblanceolata on a marble ridge had to be moved to another suitable habitat, in the hope that they will survive there. Various propagation methods are also being tested to use them for restoration purposes.

“We would not like to lose any valuable flora around the Husab Project,” Angie says.

**“If vulnerable, endemic, or protected flora are going to be impacted in an adverse way, we either plan properly by avoiding any damage, or we minimise that damage. This is in line with our commitment to protect biodiversity in our area of influence,” she explains.**
TO be part of the team that will build the biggest mine ever in Namibia and among the biggest in southern Africa, drove Deon Garbers’ decision to join Swakop Uranium. Deon, who has worked in the mining industry his whole career, started on 1 May 2012 as Swakop Uranium’s Chief Operations Officer. Before joining Swakop Uranium, Deon was Head of Business Development at Trafıgura in Johannesburg, with a key focus on Africa.

He started his career in the mining industry as Process and Development Engineer at Rosh Pinah Zinc Corporation (RPZC) in Namibia before he became their Manager Plant Operations, and then Manager Continuous Improvement at the same company.

Staying in the same group of companies, he became the Plant Superintendent at Sishen Iron Ore Company (SIOC) in South Africa, then the Operations Manager at Zincor and finally the Production Manager at SIOC.

He then became the Managing Director (Mine Manager) at RPZC before moving to Exxaro’s Corporate Office in Pretoria as Manager Business Improvement for the Base Metals and Industrial Minerals division. This was followed by a stint as Managing Director of Weatherly Mining Namibia in Windhoek, after which he moved to Trafıgura.

While Deon has his feet firmly planted in the corporate world, having executed various roles in leading positions, he remains a devout Christian. “I have many aspirations, the most important of which is to be a humble Christian and through that set an example in all aspects of life.”

He believes the development of the Husab mine will contribute significantly towards the growth of the Namibian economy that will benefit, among others, the people of Namibia.

Deon says the Husab mine is a big uranium deposit, which can sustain the planned 15 million pound uranium production per year for 20 years or longer with an upside to discover even more uranium. “The cost of production and capital expenditure to develop the mine is globally competitive, which made it such an attractive asset to foreign investors. I am excited to be part of the team that is developing the project over a relatively short period of 33 months,” Deon says.

He believes a factor that counts in favour of the uranium industry, is that the demand for uranium is currently higher than the supply. “This will be even more so in future due to a historically low uranium price over extensive periods of time. This resulted in not too many uranium mines being developed in the past few decades. We will, therefore, probably see the uranium price increase steadily in years to come.”

Timing of the development of the Husab project coincides with an upward trend in the uranium price, which makes the development of any commodity project attractive. “I believe one of the biggest challenges for the mining industry is to attract and keep the right people to develop and operate mines. There are many ways to deal with this, but one important way is to create an environment in which people want to work,” he says.