SWAKOP URANIUM

NAMIBIA'S GIFT TO GLOBAL GREEN ENERGY

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Chinese capital and the combined resources of southern Africa's experience in mining come together in the Husab uranium mine, a project that confirms Namibia's leading position as a uranium oxide producer

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Construction of one of the world's largest uranium mines was officially inaugurated on April 18 this year, with fireworks, foot-stomping, marimbas and a fountain that danced to classical music, when a ground breaking ceremony took place at the mine site in the desert near Swakopmund in Namibia. Swakop Uranium's $2.5 billion Husab project has been in development since the signing in Beijing of an EPCM contract in November last year, but the ground breaking ceremony was an opportunity for the partners in the project, including the China Africa Development Fund, the China Guandong Nuclear Power Holding Company (CGNPC) and the Namibian government-owned Epangelo Mining Company to reiterate the project's importance for Namibia.

The Swakop deposit is undoubtedly the most significant uranium discovery of recent years, even decades, said Swakop Uranium's CEO, Mr. Zheng Keping. "It will elevate Namibia past Niger, Australia and Canada to the second rung on the world ladder of uranium producers," he said. "The eight kilometre uranium mineralisation has been confirmed as the highest grade, granite-hosted uranium deposit in Namibia."

Until April 2012, Swakop Uranium was a 100 percent owned subsidiary of Extract Resources, an Australian company listed on the Australian, Canadian and Namibian stock exchanges. During April 2012, Taurus Minerals Limited of Hong Kong, a subsidiary of CGNPC, a large, clean energy corporation under the supervision of the State-owned Assets Supervision and Administration

Commission (SASAC) of the State Council of China, became the new owners following a successful takeover of Extract Resources which was subsequently delisted. CGNPC's investment in Swakop Uranium was not only the biggest in Namibia since the country's independence, but also by far the single biggest investment by China in Africa. In November 2012, the Namibian state-owned mining company, Epangelo, and Swakop Uranium finalised an agreement for the subscription of a ten percent stake in Swakop Uranium in a deal valued at $226-million. More than $100 million was spent in getting the project to the construction phase, which as we have seen will cost another $2.5 billion.

The mine is being developed as a conventional, large-scale load-and-haul opencast mine, feeding directly into a conventional agitated acid lead process, incorporating ion exchange and solvent extraction circuits. Both these processes are necessary to obtain the optimum amount of uranium from the ore and to concentrate and

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purify it. Construction of the Husab mine, is progressing well. Most of the main contracts have been awarded, bulk earthworks are well in progress, construction of the permanent road and bridge to the mine site is under way. Nampower, Namibia's state energy supply company, has approved guaranteed power supply of 50 MW for the mine and the first water was delivered via a temporary pipeline from the Rössing reservoir into a newly-built pond on the Husab mine in February 2013. For this purpose, Swakop Uranium purchased a redundant pipeline from Areva (owner and developer of the Trekkopje uranium mine). Permanent water will be come from a desalination plant, either from the large-scale plant Areva built to supply water to its own mine, or from a new desalination plant that is going to be built near Swakopmund.

The tight schedule for construction envisages a plant in full sustainable production by the end of 2016. Pre stripping will commence next year; the next significant target is to have a stockpile of a million tonnes of run of mine (ROM) material ready by mid-2015, with the permanent water supply so critical to the project available by the end of the third quarter of that year. At that point it will be possible to 'cold' commission' the plant, with first uranium production taking place by the end of 2015.

Assembly of the massive Komatsu haul trucks that will be used on the mine started in August 2013. The trucks, each with a payload of 327 tonnes, are delivered to site in a knocked-down kit form at a rate of two trucks per month. While 26 of these trucks will be procured during the project phase, 39 of them will be operating on the mine when the mine starts producing at its nameplate capacity of 15 million pounds of uranium oxide per annum. Getting the first two dump bodies the 2,250 kilometres from Johannesburg to the site in June was a major logistics operation. The bodies are 14.6 metres long, 10.7 metres wide and 5.4 metres high. "Every step of the journey had to be carefully measured and investigated before the 50-tonne load could be granted permission to travel. Even then, strict conditions were applied and the vehicles needed to be accompanied by at least two escorts from the transportation company Transcor, as well as two South African road authorities," said Komatsu's Gerhard Klopper. The huge dump bodies are the last part of the truck to be fitted: it takes two cranes to lift them.

> "EACH GIGAWATT OF INCREASED NEW CAPACITY WILL REQUIRE ABOUT 150 TPA OF EXTRA URANIUM MINE PRODUCTION"

$2.5 BILLION

Capital cost of the Husab Project

15 million pounds of uranium oxide (U_3O_3) is within spitting distance of the largest uranium mine in the world, McArthur River in Canada, which can produce up to 18 million pounds a year. It is certainly a lot more than its local competitors Rössing, the longest running operation producing around four million pounds annually and Langer Heinrich at about five million pounds. That it is backed by China comes as no surprise.

Despite the question mark that Germany's retreat from nuclear posed, as well as the Fukushima incident, nuclear remains the most developed source of green power and is being enthusiastically pursued by China, India – and even the UK. Swakop Uranium's, director of communications and stakeholder involvement Grant Marais, says that even though the uranium price will remain low in the short term, the company believes that prices will increase substantially in the medium and long term.

The World Nuclear Association 2011 Market Report reference scenario (following the Fukushima accident) shows a 48 percent increase in uranium demand from 2013 to 2023, he says. "Each gigawatt of increased new capacity will require about 150 tpa of extra uranium mine production routinely, and about 300 to 450 tonnes of uranium for the first fuel load. About 435 reactors with a combined capacity of over 370 GWe, require some 78,000 tonnes of uranium oxide concentrate, containing 66,000 tonnes of uranium from mines, or the equivalent from stockpiles or secondary sources, each year. This includes initial cores for new reactors coming on line." Uranium mines worldwide currently supply some 68,800 tonnes of uranium oxide, containing 58,344 tonnes of uranium. That's about 86 percent of utilities' annual requirements and it leaves a significant shortfall, he adds. BE

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