

# **RÖSSING URANIUM MINE EXPANSION PROJECT - SOCIAL AND ENVIRONMENTAL IMPACT ASSESSMENT FOR PHASE 1<sup>1</sup>**

## **RECORD OF STAKEHOLDER ISSUES: DECEMBER 2007 – FEBRUARY 2008. -**

Issues/ questions/comments	Comment by:	Event/Communication	Response
<b>WATER</b>			
The pipeline currently going to Rössing - does this have enough capacity for Rössing 's increased demands and for the demands of Valencia?	E Förtsch, Scientific Society, Swakopmund	Public participation meeting Swakopmund 22 January 2008	Our information is that the existing pipeline has the necessary capacity for Rössing . In the past the Rössing pipeline delivered more than 10 million metres, and the projected use will be 5 million cubic metres, so the capacity is more than sufficient  As far as Valencia is concerned, we have not looked at this. This is outside the scope of our study.
It comes to my mind that there is a phenomenal amount of water used by the mines. What about pollution of the ground water?	Participant	Public participation meeting Arandis 24 January 2008	Firstly, drinking water does not come from this area, but from the Omaruru and Kuiseb Rivers. The Rössing mine is situated on the banks of the Kahn River. There are no drinking water resources. Most of Rössing's water (75%) is recycled and the rest mainly evaporates from the tailings.

<sup>1</sup> A number of the issues raised during this series of meetings relate to Phase 2 of the Rössing Mine Expansion Project. They are included here for completeness of record, and will also be reflected in the Phase 2 documentation.

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			<p>We use 3.3 million cubic metres per year but that does not mean that 3.3 million cubic metres is available to pollute groundwater. We have seepage control systems in place that pump out any seepage from the tailings dam. We have 7 cut-off trenches and twenty abstraction boreholes, ten or twelve of these on the tailings itself. These extract the water and ensure that it does not reach the environment. It is a big recycling system. What water we lose is generally through evaporation.</p>
<p>There was no concrete response on the concern posed by the stakeholders on the long term water pollution caused by the effluent from the mine.</p> <p>The use of chemicals in treating such effluent. An interesting photo catalyst, titanium dioxide has attracted world attention in combating water pollutions. Titanium dioxide, degrades pollutants and toxic substances, turning them into less harmless substances. Have you ever considered the recycling of post treated water? How are the effluent treated?</p>	<p>Elizabeth Hofeni, UNAM</p>	<p>Written submission. 15 February 2008</p>	<p>Process effluent at Rössing is pumped to the tailings dam and immediately recycled from there without any treatment (refer to process diagram below). We want to recover process chemicals such as sulphuric acid, iron and manganese, which could be lost if the water was treated.</p>

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			<p style="text-align: center;"><b>RUL Process Water Circuit</b></p> <p style="text-align: right; font-size: small;">Figures for 2007 in cubic metres per day</p> <p>Because there is extensive recycling of all effluents and no discharge to the environment, Rössing does not cause long-term pollution of any groundwater resources outside of the mining grant. If pollution did occur, say by an accident, it would affect the Khan River which contains brackish groundwater of around 5000 mg/L TDS (not suitable for human consumption). Rössing actively controls seepage from the tailings dam into the underlying bedrock and the mine closure plan includes measures to ensure that the water quality of the Khan River will not deteriorate in the long term after mine closure.</p>
<p>Could there be an effect on water provision given potential changes to underground fractures caused by blasting and mining?</p>	<p>H Kriess, farm owner Wolfskuppe</p>	<p>Focus Group Meeting, 6 December 2007</p>	<p>Based on projected peak particle velocities induced by blasting at Rössing an opinion will be sought from a Hydrogeologist and communicated.</p>

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<b>NOISE AND VIBRATION</b>			
About the blasting and the wind blowing, I have another problem. When you blast, we have a problem in Arandis, you know how you built the houses, With the blasts, we feel as if our houses are going to fall down. You should, before the blast, inform the community so that we know when blasting is taking place - some of the people have heart problems.	M Goliath, participant	Public participation meeting Arandis 24 January 2008	Noted
Rössing has been in existence for about 32 years, and moves forward, but the houses in Arandis - blasting is destroying the houses.	Participant	Public participation meeting Arandis 22 January 2008	Concerns about this have been noted previously, and yours is recorded.
Vibration is a major concern given that windows shuddered during blasting and overall the feeling is very disturbing. Cracks in buildings reported earlier had widened to 4 to 6 mm. Since the early part of the 2007, the blasting became very aggressive and more frequent. This has improved recently as blasting seemed to have decreased in the last few months. Dust affects the farm of Mr Gossow and rock falls have occurred on Mr Horn's farm.	E Meyer, farm owner, Namibplaas	Focus Group Meeting, 6 December 2007	Blast vibration monitoring will be carried out on the farm to determine Rössing specific blasting parameters needed to calculate blasting affects 20km away from the blasting centre. Evaluation results will be fed back when available.
When there is a blast, some of my corrugated roof sheets rattle out of position. The sound comes in waves.	H Kriess, farm owner Wolfskuppe	Focus Group Meeting, 6 December 2007	The concern is noted.
The farmers would be happy to have a permanent vibration and noise monitoring station(s) on their farm(s) and will provide a gate key for access if necessary.	E Meyer, farm owner, Namibplaas	Focus Group Meeting, 6 December 2007	The company appreciates the opportunity offered to establish a monitoring station(s) on the farm(s).
<b>ACID PLANT</b>			
What tonnages of sulphur are you moving out of Walvis Bay?	M Brueckner, NEC	Public participation meeting Swakopmund 22 January 2008	We are importing 30,000 metric tonnes of sulphur per shipload. We will transport about 400-500 tonnes

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			<p>per day, so one load will be moved within a period of about 75 days, working every 2nd day. Currently we transport about a thousand tonnes of acid to the mine daily. Bulk sulphur will be moved from the closed-up stock-pile at Walvis Bay to the mine in specially designed rail cars.</p> <p>The sulphuric acid plant is designed to produce 1200 metric tonnes of sulphuric acid, and requires 400 tonnes of sulphur. Significantly less volumes of sulphur are required compared to current acid volume imports, so transport volumes and frequency will decrease by approximately two thirds. We will not be transporting sulphuric acid but solid sulphur, which is much safer.</p>
<p>The stack emissions at 2 micrograms per cubic metre do not seem to be the problem.- what is the limiting value for that?</p>	<p>Siegfried Eckleben participant</p>	<p>Public participation meeting Swakopmund 22 January 2008</p>	<p>The international guideline value is significantly greater - in the thousands. Something like sulphur dioxide sounds dangerous, but when the air quality expert looked at it and when we considered alternative design, we realised that we were well within the guideline value and it was an issue that we did not need to consider any further.</p>
<b>SOCIO-ECONOMIC</b>			
<p>Housing - will RU become involved directly as</p>	<p>Frank Löhnert</p>	<p>Public participation meeting</p>	<p>We are looking at all alternatives. RU</p>

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developers?	Access Property Innovations CC	Swakopmund 22 January 2008	will first look to the market. If it is cheaper for us to build, we will build, but we are currently evaluating the circumstances.
You mentioned three archeological sites. Can you explain a bit more about the permits that were granted to destroy them all?	Jana Smit, Namib Times	Public participation meeting Walvis Bay 23 January 2008	The heritage survey started about two years ago to identify possible archeological sites. Three sites were found, and assessed as of insignificant heritage value, i.e. no value in preserving them. One was a hole in a rock where bees were nesting and a rock platform below to climb up on, another was a hunting hide, where flakes for weapons were found. The archeologist was of the opinion that there were so many similar sites in the greater vicinity, that there was no need to preserve these sites.
What other construction camps are there in the area?	Michelle Yates – Environmental consultant	Public participation meeting Swakopmund 22 January 2008	There are a number of mines – Trekkopje for instance, would have a construction camp. This recommendation is based on the cumulative impact of a large number of mines, each with their own construction camp, and the use by more than one company of a construction crew would limit the impacts.
How many new jobs will be created?	Participant	Public participation meeting, Swakopmund 22 January 2008	We have numbers projected to 2026 but these cannot be regarded as final and fixed. We have peaks in some years (2012 for example). The

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			employment graph is in the report. The last figure we had for use in the documents was 700, but growth in employment will not be unilinear.
<p>I am very disappointed in this. This shows no faith in the uranium business. Rössing doesn't want to build houses in Arandis. Arandis will be a central point of all the mines that are opening. For Rössing to say they will rather go up and down to Swakopmund is ridiculous.</p>	J Kluft, participant	Public participation meeting Arandis 24 January 2008	<p>Because of many new mines around Arandis, we look at past dependency on the mining industry. When that tremendous input stopped, the economy of the town collapsed and we have high unemployment and a local authority that has lost a large part of its revenue base. We could be complacent about the possibility of all the mining companies investing in housing in Arandis, but mining companies will close, a number of them probably within a relatively short time of each other.</p> <p>When the income from mining ceases we could find Arandis back where it was in 1992/3. The recommendation with regard to housing does not mean that we are recommending that Rössing should turn its back on Arandis. What we are recommending is Rössing's support for growth of other economic activities in Arandis to decrease dependency on the mining sector.</p>
The economy has not managed to develop so far.	J Kluft, participant	Public participation meeting Arandis 24 January 2008	It has failed because the economy has not diversified. Now we have to look at economic diversification very seriously and look at economic

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			activities that will last beyond the closure of the uranium mines.
<p>Why did Rössing start this town here – there has been no development. They have an opportunity now, Rössing has a new opportunity with the other mines that are opening, but they are moving away from the town. What about the people here?</p>	Alex	Public participation meeting Arandis 24 January 2008	<p>The recommendations are not that Rössing turns its back on Arandis, but that it co-operate with other mines in the development of the town. We cannot recommend measures that will increase the risk of dependency continuing but need to look at alternatives for avoiding it. We cannot recommend the building of large numbers of houses in the town when those houses could stand empty when mining stops, and the Town could lose a major source of revenue.</p>
<p>The difference between then and now, currently the chances for development are better, work is being done to ensure sustainability after mine closure. Maybe the growth in mining will act as a booster, at least for now. Increased population could increase the buying power in the town.</p>	C Namene, Town Council of Arandis	Public participation meeting Arandis 24 January 2008	<p>What we see as a booster is the increase in uranium mining activity which should be used to boost other activities than just those that depend on the mining sector. Initiatives can be strengthened by the mining companies, but not only by and for the mining companies. Other economic sectors should also be brought in.</p>
<p>The mine will be there for about 30 years – what has the mine in mind for the community. When it closes, the pit will be there, and the impacts, but where will the community be? What will it benefit once the mine closes?</p>	David	Public participation meeting Arandis 24 January 2008	<p>The aim of any mining company that acts responsibly, is to ensure that, when the mine closes the community can carry on with the development that the mine has stimulated. The mine will have created employment, provided skills training and will</p>



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			have stimulated other economic activities to help the community to carry on sustainably after closure.
The mine is going to be extended so the pit is also going to be extended. When the mine closes the pit will still be there. What is going to be the effect of the visual impact on tourism?	Participant	Public participation meeting Arandis 24 January 2008	From the Arandis side you will not be able to see the pit, but on the other side the rock dumps and, the tailings will become higher. This could have a visual impact. The report indicates what we should do to minimize these impacts. In the continuation of these studies we will try to ensure that these impacts will not affect the tourist industry.
The plans to increase production might not be essential for the continued viability of the company. It would be much more sustainable (and sustainable development is high on Rio Tinto's agenda) to mine the remaining resources at a slower pace in order to maintain RUL's contribution to the Namibian economy and Arandis's livelihood for a longer time.	S Muller, I&AP	Written submission, 6 February 2008	Noted. This issue will be addressed in the assessment of Phase 2 issues.
The proposal to house the construction teams at Trekkopje will introduce its own problems and a different approach should be considered.	A Genis, Rössing Uranium	Written submission. 7 February 2008. The full submission is included in Appendix B	The relevant recommendations in the draft SEIA have been amended to incorporate this suggestion.
Some feel that tourism is already affected because tourists are afraid of potential radiation hazards in the area.	Participants	Focus Group Meeting 6 December 2007	This concern is noted. Promoting a wider awareness about the low levels of radiation in the area needs to be addressed on a broader level and discussions are ongoing with the Chamber of Mines to develop suitable information.
<b>BIODIVERSITY</b>			
I am concerned that we are going to affect	S Muller, I&AP	Written submission, 6 February 2008	Noted. This issue will be addressed

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habitats about which we don't know enough and think more alternatives should be included and evaluated in Phase 2.			in the assessment of Phase 2 issues.
<p>Avoiding the extension of the mine's footprint would also fit in better with the Rio Tinto environmental standards, for instance:</p> <ul style="list-style-type: none"> <li>• Best practice for mineral waste disposal is either reuse of waste or backfilling of existing pits</li> <li>• The biodiversity guidelines call for avoidance of impacts as the first choice, then minimisation, then mitigation</li> </ul>	S Muller, I&AP	Written submission, 6 February 2008	Noted. This issue will be addressed in the assessment of Phase 2 issues.
<b>ENERGY</b>			
Just recently we have heard that SA is not going to supply us with power any more. What do we do? Are the mines not using a lot of electricity? What can we do about it? I know that big machinery uses more electricity.	Participant	Public participation meeting Arandis 24 January 2008	If you have read the newspaper on Nampower's media release, the private consumer will be treated the same way as large consumers. Load shedding will affect everyone in the same way.
You have got excess heat to generate electricity. How much energy are you going to consume to produce this extra electricity.	Participant	Public participation meeting Walvis Bay 23 January 2008	Acid plant will consume 4.5 Mw of power, generate almost 14.5 MW of power, so net odd 10MW of power which we will use on the mine.
We are in an energy crisis situation, but Rössing and other mines are there. You say you recover a certain %, I don't know how much. You are going to use more enrgy... You should seriously look at solar energy. It is being used on a big scale. The future is nuclear power and solar energy. Arandis could, because of its climate, be an example to the rest of the world as to what can be done with solar power.	J Klufft	Public participation meeting Arandis 24 January 2008	Noted. The acid plant will produce a total of 14.5 MW and its own use will be about 4.5 MW so about 10 MW is available RU uses a total of 36 MW at the moment. With the additional 10 we will draw less from the national grid, load-shedding will not be so intense and we hopefully will have a positive impact on power

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			availability.
I want to say we are not the only mining company mining uranium. If you think forward, are we really going to sit back and just wait for these black outs? Can't we consider, or has consideration already been given to the possibility of erecting a nuclear power plant. I understand that safety concerns are given as a reason, but our customers are buying and using uranium to build a power station.	Participant	Public participation meeting Arandis 24 January 2008	That is a decision that will have to be made at government level.
Your comment in your report, after a question on solar power that you are investigating, seems hardly sufficient for a report of the size you produced.	J Klufft, community member, Arandis.	Written submission, 17 February 2008	As mentioned in the Arandis public meeting the mine will generate about 1/3 of its current electricity consumption through the new acid plant. Solar energy is utilised in areas of the mine where it is currently feasible (remote instrumentation, pumps etc) but generating the mine's own solar energy is not Rössing's core business. Power is bought from NamPower and discussions are ongoing to reduce the risk of load shedding. Research and development of alternative power generation should be left with the bulk supplier of power.
Have you done a costing of the power going off for a number of hours on a regular basis?	J Klufft, community member, Arandis.	Written submission, 17 February 2008	Yes, this costing has been done.
<b>MINING</b>			
Heap-leaching - if you look at Namibia's evaporation rate, obviously you would have to minimise surface area or you will need excessive amounts of water.	Martin Amedick, Municipality of Walvis Bay	Public participation meeting Walvis Bay 23 January 2008	The alternative mining methods in the RU open pit - The orebody is quite a long drawn-out body, interspersed with waste rock, and it

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<p>Alternative mining methods - have you looked at the long section where the valuable material is at the bottom? You need to mine an enormous amount of waste rock above that. Are you considering any way to minimise the use of energy and the generation of waste?</p> <p>The depositing of waste rock - can you deposit on exhausted mine areas so that you start early with a rehabilitation of already mined areas?.</p>			<p>would be difficult to undertake underground mining, given the potential for dilution of the ore, which would make it financially not viable to treat in a plant . We look at these issues on an ongoing basis.</p> <p>If you look at the expansion of the SJ pit, it is in all directions, to the north, south and east and at certain stages it is not possible to dump back into the pit - if one looks at the expansion to the eastern side you could make the western side available. Ideally you could do this at a later stage, but at the initial stages it is not possible because you are still deepening the pit. For SK4, if we only mine this area within SK, and finish the three years of mining, then there will be a void, and it should be possible to fill it.</p> <p>We can't answer the heap leach question at the moment, but we are doing a pilot heap leach on the tailings facility to optimise the design in terms of economics and conserving water. One method already used is transparent plastic on top of the heap to prevent evaporation. There are a number of alternatives, but we don't know yet what the preferred option will be. The evaporative area is certainly a</p>

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			consideration that need to go into the equation.
About the conveyor belts taking the ore from the pit to the crusher - transport by road need a lot of water, conveyors do not. Is it more expensive by conveyor or road?	E Förtsch, Scientific Society Swakopmund	Public participation meeting Swakopmund 22 January 2008	With regard to the ore-sorter plant, information at this time indicates that there is not much difference in terms of engineering cost. If you look at SK4, in order to transport ore by conveyor, we must crush it at SK4, and this would require a new crusher and coarse ore stock pile . Given the current power issues, we would tend to avoid this, and economically, it would probably not be viable. We intend reviewing the option of conveying for the heap leach.
At Phalaborwa they have transportable crushers in the pit?	E Förtsch, Scientific Society Swakopmund	Public participation meeting Swakopmund 22 January 2008	The difference is life-of-mine.
If SK4 is developed to the full extent, has the company considered underground mining? This would minimise waste rock that has to be transported. There was a big amount of rock that had to be moved to get to the orebody in the existing pit.	D McQuinn, RU	Public participation meeting Swakopmund 22 January 2008	Underground mining is much more expensive. Given the elongated shape of the orebody, it is more economical to mine it as an open pit.
At Phalaborwa and Finch they went underground. Your diagram showed high grade ore and a lot of waste. Why not go underground?	E Förtsch Scientific Society Swakopmund	Public participation meeting Swakopmund 22 January 2008	Phalaborwa was feasible for underground mining because of geometry, it is virtually circular. At Rössing it is difficult to mine all the tonnage and send it through the crusher before separating the waste from the ore. We need a method to take waste out at the earliest possible

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			stage. The only way is to use a selective mining process, which is best in an open pit. The Rössing ore-body is elongated and this makes it difficult to formulate low-cost mining alternatives. After much review we are confident that the open pit is the best way of mining economically and with the least likelihood of failure.
The open pit – it is getting bigger. What about the tailings dam near Arandis. Is it going to come closer?	M Moshesho	Public participation meeting Arandis 24 January 2008	The tailings dam is not getting closer to Arandis, it is just getting higher.
What tonnages of raw ore are you moving out of SK4? About 25 years ago there was talk of transporting the ore by conveyor rather than by road. Has this been considered again?	M Brueckner, NEC	Public participation meeting Swakopmund 22 January 2008	<p>Conveying the ore out of the SK4 pit has not been part of our assessment. With regard to the ore sorter, moving the reject material from the ore sorter to its disposal site was looked at both from the point of view of conveying and trucking, but a final decision has not been taken on this.</p> <p>As far as the tonnage out of SK4 is concerned the estimated life of SK4 pit is about 3 years and the volume of the ore in that area will just replace lower grade material that we are not mining in the current open pit. In the overall scheme, we will not mine more than we have mined before. The total rock estimated to be removed from SK4 is 27 Mt.</p>
An option that could be included to allow for an	S Muller, I&AP	Written submission, 6 February 2008	Noted. This issue will be addressed

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increase in production is the processing of low-grade waste rock, which could be financially viable now. Looking at Valencia and Bannerman's ore grades they are quite similar to RUL's former cut-off grades for waste. This option would most likely need the ore sorter plant to avoid processing uranium-free or very low-grade rock types.			in the assessment of Phase 2 issues.
Will the SK4 development be similar to the current pioneering work?	E Meyer, Farm Owner, Namibplaas	Focus Group Meeting, 6 December 2007	This is not likely as, following the initial three months of pioneering work within the SK4, the mine pit will descend lower into the valley and will no longer be in line of sight of the farms. Blast noise and vibration will therefore reduce.
<b>AIR QUALITY</b>			
Is there any chance that the plume from the stack could reach Arandis?  Will the plume from the stack reach Arandis?	D McQuinn, RU  Dave Makoena - Rössing .	Public participation meeting Swakopmund 22 January 2008  Public participation meeting, Swakopmund 22 January 2008	The specialist air quality report does not indicate that this is an issue. Different weather conditions were taken into account in arriving at this assessment, as well as ordinary and extraordinary (eg upset, start-up) operating conditions.
When it comes to blasting, do you check where the wind blows, because the wind comes towards the community?	Mashosho	Public participation meeting Arandis 24 January 2008	We have undertaken dust emission studies over a period of 10 years. There was a weather station on the other side of Arandis in the vicinity of the hospital where we sampled the dust and looked at the dust values. The amount of dust was never shown to be a problem in Arandis. Recent studies included using

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			<p>computers to calculate what dust would do if the wind would blow in te direction of Arandis. These have also shown that the results are acceptable. We will reestablish these dust monitors and will invite the people to look at the results and , compare the results to the standards. These will not go up in the next few weeks, but they will be re-installed during 2008.</p>
<p>The tailings dam at Rössing is quite elevated already, and can be seen from the main road. Phase 2 will introduce more tailings. Has Rössing ever determined the extent of migration of sand and dust into surrounding areas.</p>	<p>Tim Eiman Namport</p>	<p>Public participation meeting Walvis Bay 23 January 2008</p>	<p>There are two issue - dust on the ground and in the air. In the early 90s a number of surveys traversed the area around the tailings dam and three different zones were identified. 1) physical dust on the ground, which will be removed on decommissioning. This is easily done; 2) dust behind little rocks and bushes 3) dust only identified by taking radiometric samples and comparing it to other sand. This dust can only be measured in a multi-channel analyser, you can't actually see it. The Closure Plan has details of these. In the air quality study we have modelled how much dust will be dispersed into the air and made comparisons with air quality standards. The specialist report has details of this.</p>



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I have major concerns with respect to dust during N and NW wind conditions. I am concerned about dust settling on plants and having a long term effect. I would like an understanding of the extent of the dust cloud, especially after a blast. The dust extends to heights requiring airplanes to go to 3000 ft.	H Kriess, farm owner Wolfskuppe	Focus Group Meeting, 6 December 2007	Dust generated during N and NW wind conditions could have been generated from different dust sources, as the Rössing Mine is situated to the SW of Wolfskuppe. Modeling of dust from blasting will be done during 2008. Changes in the time of blasting to take place during calm periods are being considered.
<b>HEALTH AND SAFETY</b>			
How safe is the mine for the people working there?	M Moshesho - Erongo Services	Public participation meeting Arandis 23 January 2008	Rössing is one of the safest mines in the world. Rio Tinto is an extremely large mining company, and only two sister mines of Rössing had better records that we did last year. Many people that have worked for Rössing over the 30 years of operation have never sustained an injury or illness related to Rössing. That does not mean it never happens, it does happen occasionally, and one injury is one too many. For a mining company Rössing does extremely well when it comes to safety.
I was concerned about environmental and health risks, but am happy to find that mitigation measures will be applied to make the risks acceptable. If you look at air quality, if the acid plant goes ahead, for how long will the air quality be acceptable - until closure, or will we have a build-up of impacts, leading to a dangerous health risk?	Patricia van Nooten	Public participation meeting Arandis 23 January 2008	There are a number of gases that have different effects on the environment. From the acid plant we typically get sulphur dioxide which causes acid rain in the atmosphere. In the desert environment, this is not a main consideration. As the plant gets older, and materials in the plant

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			<p>may not be well maintained, the potential for emission levels could go up. In the plant there is a catalyst which binds the sulphur dioxide to the water, and if that is used up after about 2.5 years, we will need to replace it and you may see a slight rise in sulphur dioxide levels. A sulphur dioxide monitor will be placed in the chimney to measure the gas on a continuous basis. The old acid plant was built more than 30 years ago, technology has developed tremendously since then, and we are, very confident that we are applying best practice and that we will not have a problem with the new acid plant.</p> <p>In addition, we will instal sulphur dioxide monitors between the mine and Arandis.</p>
<p>When you talk about tailings, if you are extracting uranium out of the rock, let's say for example 20% is left - we know that uranium grows. If the mine closes, it will remain there and grow, and dust will then become a concern for the community. Is there a way they can recover that uranium from the tailings?</p>	<p>A Kamgooha</p>	<p>Public particiation meeting Arandis 23 January 2008</p>	<p>When we say uranium grows it means that one atom makes two atoms, and so forth, but the mass stays the same and as such it does not grow. With time and the process of radioactive decay, less and less radiation is given off. So it does not become more dangerous.</p> <p>On closure a rock cover will be placed over the tailings to ensure that dust is not dispersed and rain does not wash tailings material into the</p>

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			environment. Modelling has shown that long-term effects will not be detrimental to the community.
<p>What impact does the radiation have? Do we have any figures or %s over the thirty years of mine operation about the increase in radiation?</p>	Participant	Public participation meeting Arandis 23 January 2008	<p>The radiation of the area has stayed constant. The area opened up has not stayed constant. If you make a hole in a normal surface, you create a bigger surface, hence more radon gas can be emitted. As we go on with mining activities, the potential for radon gas emanation is increased. This is the main issue we are investigating in the SEIAs. The radiation monitoring work we have done so far in Arandis has determined a background level of 2.4 MSz per annum, the dose which comes from the mine is much less than .3 MSz, the limit set by the IAEA. Although radiation levels increase slightly, they are well below international standard. As we go on with mine planning and produce a new rock dump or tailings facility, we will redo calculations to make sure that radiation stays within limits.</p>
<p>Surely, during the thirty years that the mine has been operating, the radiation must have increased. Where does all that radiation go? Are there radiation figures available that we can look at to assure ourselves? The accumulation of the radiation during the time that Rössing has been</p>	Participant	Public participation meeting Arandis 23 January 2008	This information is available in the library.

Issues/ questions/comments	Comment by:	Event/Communication	Response
mining - are there radiation figures available so that we can make sure there is no danger to human health?			
The safety issue - I have been around for some time and Rössing is very serious about safety. Although it has been mentioned that certain measures are in place to measure dust, water pollution, etc., I am a bit worried that this happens on the mine but not in the community. Arandis is closer to the mine than Swakopmund, so although measures have been put in place, things can go wrong that can endanger lives over a certain period of years. We have random checking of dust levels and other things - is this just for Rössing employees, or is it also going to Arandis? Although the levels indicated are very low, this could be life threatening over a long period	Participant	Public participation meeting Arandis 23 January 2008	We will put up the monitors which will measure the levels. As far as the long-term effects are concerned, eg breathing in a low level of sulphur dioxide over a long period, standards have been developed to take care of long-term effects. Standards are so low that exposure over, say 20 years, to a certain level, will not have an effect. This will be checked by the monitoring systems.
<b>GENERAL</b>			
There is the option that the mine continues producing at the current rate (say 14 Mt milled per year), instead of ramping up to 22 Mt/a. In this case a lot of problems could be solved: <ul style="list-style-type: none"> <li>• No need to employ more people but rather keep on the existing staff until retirement age and plan to have suitably trained replacements available in time</li> <li>• No need for more housing, schooling, other infrastructure</li> <li>• If the SJ pit was mined out first, it could be backfilled with tailings and waste rock, e g from the SK area</li> <li>• No additional processing plant, heap</li> </ul>	S Muller, I&AP	Written submission, 6 February 2008	Noted. This issue will be addressed in the assessment of Phase 2 issues.

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leach area or tailings dam required No need to disturb/destroy critical biotope areas			
The Environmental Management Plan for the construction period does not interface with the project management team and allocates responsibilities for decisions which can be counterproductive in the execution of the project.	A Genis, Rössing Uranium	Written submission. 7 February 2008. The full submission is included in Appendix B	The proposal for an effective management system will be amended to conform to Rössing's well established contractor management system.
The statement that environmental aspects should not be overshadowed by safety aspects is not acceptable.	A Genis, Rössing Uranium	Written submission. 7 February 2008. The full submission is included in Appendix B	The recommendations in the SEMP will be amended to conform to established HSE systems at Rössing which do not differentiate priorities according to discipline but rather to assessed risk.
We are specially concerned that the increased exploration activities in the area cause increased traffic off roads and that the peace which was experienced in the past is under threat.	Participants	Focus Group Meeting, 6 December 2007	This concern is noted and shared.
There is disturbing uncertainty about the potential impacts from the new activities, including increased use of water and power in the Erongo Region.	Participants	Focus Group Meeting, 6 December 2007	This cumulative impact will have to be addressed in cooperation between all new mines and the bulk water supplier. The Chamber of Mines is taking a facilitating role to assess these impacts and develop a regional management plan.
On behalf of the farmers, we would like information and feedback on any major development and pioneering work e.g. the commencement of SK4 operations.	E Meyer, farm owner, Namibplaas	Focus Group Meeting, 6 December 2007	Rössing will inform the farmers of any major developments.
J Kluft, community member, Arandis. Written submission, 17 February 2008 There is water/electricity consumption by the mine and other mines planned in our region. The reason these issues are so important, more than anything else, is the fact that the high consumption of water/electricity by mines will affect availability to and cost for every other consumer!			
<b>RESPONSE:</b> You are correct that the impact of the increased mining activity in the region will have a combined impact on the resources needed to supply the towns as well to run the new mining operations. This has been realised by NamPower and NamWater and plans are being put in place to			

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<p>build a power plant in Walvis Bay and a desalination plant at Wlotzka's Baken. It is therefore not foreseen that water shortages will arise from mining activities, but rather that power shortages will result from shortages of power generation in South Africa in the medium term.</p> <p>It is intended that the entire water demand for the mining industry will be supplied from desalinated water so that the aquifers can be rested and that recharge can take place with time. The towns would still be supplied with aquifer water and the distribution of costs to the consumer would match this scenario.</p> <p>A rise in electricity cost is foreseen, regardless of increased mining activities. Please note that Rössing is planning to generate its own electricity by converting heat from the acid plant into about 10 MW of power for own use. Additional four emergency generators also producing a total of 10 MW will be installed at the mine. The mine is currently using 35 MW.</p> <p>The assessment report has reviewed Rössing's impact on water and electricity but has not reviewed the combined impacts on the region. Such a study is currently being planned by the Namibian Chamber of Mines and recommendations to the mining industry how to deal with these cumulative impacts will inform the mines' future plans.</p> <p>Through the Chamber of Mines Rössing Uranium and other companies are in consultation with NamPower to discuss a short term solution to power shortages that will potentially affect the mines' operations. An upgrade to the Paratus power station in Walvis Bay providing up to 180 MW of power is being considered as an interim solution to generate power for the country as a whole and to bridge potential shortfalls. This project could be completed within 12 to 18 months. Other key stakeholders are urged to follow similar approaches. However, in order to provide a long term solution - which takes longer to establish - and in line with a Namibian Cabinet decision NamPower is looking at a range of solutions utilising alternative energy sources for electricity generation. A likely source is the Kudu gas field and wind and solar power are being considered. However, the last two sources will not be large enough to supply substantial proportions of the national demand and further expansions are required in the long term.</p> <p>Big projects in Southern Africa have already been postponed or cancelled due to power shortages. Power is cut in South Africa on a daily basis.</p>			