

ISSUES AND RESPONSES REPORT FOR DPMT'S PROPOSED SMELTER UPGRADE AND OPTIMISATION PROJECT

Meeting abbreviations

Date	Description	Abbreviation
Wednesday, 20 April 2016	Meeting with surrounding land owners, town residents and business people	M1
Wednesday, 20 April 2016	Meeting with Ondundu Community	M2
Thursday, 21 April 2016	Meeting with Tsumeb Town Council	M3
Thursday, 21 April 2016	Meeting with Nomtsoub Community	M4
Wednesday, 8 March 2017	Meeting with Tsumeb Town Council	M5
Wednesday, 8 March 2017	Meeting with Ondundu Community	M6
Thursday, 9 March 2017	Meeting with town residents and business people	M7
Thursday, 9 March 2017	Meeting with Nomtsoub Community	M8

Written comments received as part of the public participation process

Submitted by	Method and Date
André Neethling	E-mail, 13 April 2016
Dr PC Pretorius	E-mail, 18 April and 28 June 2016
Samson Mulonga – I&AP Registration	E-mail, 18 April 2016
Timoteus Hiholiwe	E-mail, 19 April 2016
Rensche Madderson - Goal Maize	E-mail, 20 April 2016
Stephen O'Rahilly	E-mail, 21 April 2016
Oscar Kakungha	E-mails, 11 and 12 April 2017
Marcus Gillman - Tsumeb Health and Environmental Action Network (THEAN)	E-mail, 22 May 2017
Genady Kondarev – Za Zemiata, Bankwatch, Earthlife Namibia	E-mail, 29 May 2017
Thilo Himmel – NAMFO	E-mail, 30 May 2017
Wouter Niehaus – Tsumeb Gimnasium CEO	E-mail, 03 July 2019
André Neethling	E-mail, 15 July 2019
Genady Kondarev – Za Zemiata, Bankwatch, Earthlife Namibia	E-mail, 16 July 2019
Marko Himmel – NAMFO	E-mail, 16 July 2019

Comments received prior to the distribution of the Draft ESIA Report have been categorised under the following headings:

1. Air quality and health;
2. Company reputation;
3. Socio-economic;
4. Project design;
5. EIA Process and specialist studies;
6. Public participation process;
7. Groundwater;
8. Noise;
9. Waste;
10. Soil contamination; and

11. General.

The Issues and Responses Report as included in the Final Scoping Report has been updated to indicate where relevant issues have been addressed in the Environmental Impact Assessment Report, specialist studies and EMP.

Comments received on the Draft ESIA Report have been addressed separately, starting on page 29 of this issues trail.

Following a 2019 revision of the ESIA Report, the report was distributed for another round of comment. The four comments received on the revised document are addressed at the end of this issues trail.

	NAME & COMMENT DETAILS	COMMENTS	RESPONSE
1	AIR QUALITY, HEALTH AND ARSENIC PLANT		
1.1	Mr P Zoganas, businessman and hotel owner, Tsumeb M1	The perception that the smelter is responsible for any health impact in Tsumeb is not correct. Many people have lived in Tsumeb for more than 30 years and even worked at the smelter, with no health impacts. It should be borne in mind that people often smoke and drink alcohol and blame any health impacts on the smelter. Whilst it is imperative that the smelter takes every possible precaution, there are other health impacts in every town.	It is acknowledged that not all health issues can be attributed to the smelter operations, however, should people have the perception that health concerns are related to the smelter, it should be addressed and investigated further. A community health assessment was undertaken as part of the EIA phase of the process in order to address potential health issues related to the proposed project. Based on the results of the study, the potential health-related impacts to the surrounding communities were considered to be of low negative significance. This result is largely attributable to the recent commissioning of the sulphuric acid plant and other engineering interventions to manage SO ₂ , arsenic and dust emissions. Refer to Section 4.12 of the EIA Report and Appendix I for further details in this regard.
1.2	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	If the SO ₂ emissions are not as well controlled despite the commissioning of the sulphuric acid plant, how will DPMT be able to control emissions with the increased production? My roof is rusting and people seem to have allergic reactions. The Smelter spent a very large amount of capital to control SO ₂ and arsenic emissions, but it is still not 100% under control. Will the expansion cause these fugitive emissions to increase again?	There has been a marked decrease in SO ₂ emissions after commissioning of the sulphuric acid plant. It must, however, be noted that at the time of this public meeting, the acid plant was still in its early stages of implementation. The efficient operations of the facility were still an ongoing process with the new converters still in the testing phase at the time. Fugitive emissions are still in the process of being addressed and additional measures will be implemented as part of the upgrade and optimisation project in order to further manage SO ₂ emissions. It must be noted that there may still be some emissions experienced during the shut-down and start-up periods of the smelter, as well as unexpected shutdowns during electricity failures. Please refer to Section 4.6 of the ESIA Report where updated SO ₂ emissions information is provided. It indicates the marked decrease in SO ₂ emissions after commissioning of the sulphuric acid plant.

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1.3	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	<p>The long term effects of SO₂ contact should be clarified in the specialist studies.</p> <p>Arsenic is the biggest concern, the percentage of arsenic emissions should be clarified and the long term side effects should be studied. It should be kept in mind that there are two types of arsenic, the one type occurs naturally in some food and in the ambient air, the other is harmful to people's health.</p>	Long term effects of SO ₂ exposure was investigated and assessed as part of the community health specialist assessment, with input from the air quality specialist. Refer to Section 4.6 of the ESIA Report and Appendices F and I. The community health assessment compared the emissions exposure and health conditions of Tsumeb and Oshakati families. Also refer to Response 1.2 above.
1.4	Mr Joseph Makozo, resident Ondundu M2	We understand that random sampling will be undertaken using urine tests. Our concern is that we seldom get any feedback when health studies are conducted. What would be the process, should arsenic be detected in the urine samples?	Feedback on the results of the community health assessment (see Appendix I) was provided to the community during a next round of public meetings as part of the assessment phase of the EIA process. It should be noted that arsenic does not build up in the human body and passes through within two to three days after exposure. Individuals who showed elevated urine arsenic levels on the day of sampling were provided with personalised feedback. Further follow-up community health monitoring was undertaken during the last quarter of 2018 with final results of the analysis still awaited. Should any health problems be identified from urine samples, the community members would be provided with the relevant support.
1.5	Mr Joseph Makozo, resident Ondundu M2	We are aware that some traces of arsenic were found in a control sample in Grootfontein during a previous government health assessment, which indicates that the presence of arsenic may not be closely linked to the Tsumeb smelter.	This comment is noted. The results from the government study that included the Grootfontein control sample was considered in the community health assessment conducted as part of this ESIA. Control samples from Oshakati was, however, utilised for the new assessment. Elevated levels of inorganic arsenic were not reported for the Oshakati samples.
1.6	Mr Hans Dai-Gaib, Ondundu resident M2	We need clarification on the process that can be followed if we do get sick from dust inhalation.	Any health concerns can be reported to DPMT. The community health and social assessments also considered complaints from the public regarding health concerns in their assessments.
1.7	Mrs Christina Hanes, resident Ondundu M2	In former days, the company who then owned the Smelter did regular blood tests to determine health impacts. Why has this been stopped?	Technology has changed and blood tests are not needed any more. Should any doubt regarding health impacts arise, a simple urine test would be able to pick up any irregularities.

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1.8	Mr Marius Scholtz, Afrox Tsumeb M1	My business is located in close proximity to the Smelter waste facility and my workers have to wear respirators because of the amount of dust emanating from the facility. Will the expansion cause even more dust?	This concern was forwarded to the air quality specialist and waste facility operators for consideration. It should, however, be clarified whether this impact is from visible dust or whether the respirators are needed due to SO ₂ (smell) emissions. The seasonality of these dust impacts must also be considered. It is suspected that dust in the vicinity of Afrox may be from the edge of the tailings dam area. Air quality monitoring stations in the vicinity of Afrox supports this assumption that the main source of dust emissions in the area is from the tailings area. With the implementation of the recommended mitigation measures for the management of emissions, it is not expected that the proposed expansion project would lead to an increase in dust emissions. Monitoring of dust levels will continue in line with the commitments made in the EMP and additional suppression measures implemented.
1.9	Mrs Erika du Plessis, AFSEC, facilitator M2	Does the Ondundu community, who lives close to the smelter perceive a difference in smell and visible dust?	Community members at the Ondundu meeting agreed that there was definitely a vast improvement in the smell and dust levels in the area. Community members remarked that they largely do not experience chest irritations anymore. This corresponds with the findings of the air quality and community health assessments (refer to Sections 4.6 and 4.12 in the EIA Report and Appendices F and I).
1.10	Mr Timoteus Hiholiwe, Resident Ondundu, written comment	I am a school teacher and reside on the Ondundu School premises. I have to deal with arsenic gas coming from the plant and I would like more information on how this might be affecting my health. I feel that your company should relocate me on its cost because my coughing could trigger my asthmatic attacks.	Concerns from asthma sufferers were considered as part of the community health assessment. DPMT cannot at this stage relocate community members at its own cost when there is no clear indication that an individual health complaint is related to the smelter operations. Findings of the community health assessment in this regard are included in Section 10 of Appendix I. The main findings indicated that there is an appreciable burden of irritative effects due to SO ₂ exceedances on the exposed population of Tsumeb when compared with the unexposed Oshakati area. The effects comprise mainly milder upper respiratory symptoms of cough and throat, with less frequent more severe lower respiratory symptoms. Previous research (Linn <i>et al.</i> 1987) has shown that SO ₂ exposures at a

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			level of magnitude higher than those experienced in Tsumeb did not result in any irreversible effects. No permanent effects on asthma sufferers from SO ₂ emissions are thus expected. The optimal operation of new engineering solutions for the management of emissions and implementation of recommended mitigation measures for the management of all emissions from the smelter should lead to further improvement in ambient air quality, reducing irritative effects on the surrounding communities.
1.11	Dr Pieter Pretorius, written comment on the Scoping Report	Numbers of gas produced, acid produced (ratios) and amount of rooftop emissions relived in the atmosphere.	An emissions inventory was compiled in order to investigate current air emission sources and levels. This information was considered as part of the air quality specialist assessment (see Appendix F).
1.12	Dr Pieter Pretorius, written comment on the Scoping Report	<i>"A recent largescale health survey in the Tsumeb area did not find any significant side effects related to smelter operations."</i> Is this survey details available?	The health survey referred to was undertaken by the Namibian Government. The only information made available by Government was in the form of a power point presentation summarising the key findings at public meetings in the Tsumeb area. No further results were made available to the public or DPMT. A direct request can be made to DPMT for the summary presentation. DPMT would, however, need to request permission from Government before the presentation can be distributed. The PowerPoint summary from the Government study was considered as part of the community health assessment and relevant results provided in Appendix I.
1.13	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	Did the community health specialist (Prof Myers) interview medical doctors in Tsumeb to identify any health-related trends?	Doctors do not have a systematic view of overall trends as they only see individual patients. The public were rather asked directly about their real complaints. According to the community health specialist, it was not deemed worthwhile to ask doctors the same questions. It must be noted some medical practitioners attended the community health assessment kick-off meeting with Prof Myers and volunteered to assist with the sourcing of participants and the handling of samples during the study. However, when the study kicked off, some of the health professionals elected not to take part in the study.

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1.14	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	Arsenic is still a scary word in the community, but seeing that there is a difference between total and inorganic arsenic (as explained in the community health specialist's presentation) made things clearer. If tyres on vehicles leaving the smelter are considered a source of arsenic exposure offsite, would DPMT consider rather transporting workers by bus?	There is no evidence yet of tyres transporting arsenic offsite, more research would be required in this regard. There is a facility at the smelter for the washing of work uniforms. Workers should be urged to not take dirty uniforms home to be washed by household members, in order to reduce exposure. Change house facilities are available to contractors and employees and a visitors' change house is in the process of being constructed.
1.15	Councillor for Nomtsoub area M5	I have been in Tsumeb for 27 years. Previously it was very difficult to breathe, but now we no longer smell the gasses from the smelter. There has been a definite positive change and the number of people getting sick and the risk of illness have also dropped. There is, however, a problem in the communities in that the people do not know the results of the health study findings. The information would need to be provided to them in a simple manner to help them understand. People smelt the gasses previously and now they no longer do. It needs to be explained to them what happened to cause this change. A simple document explaining the findings needs to be compiled.	The information was simplified for presentation to the community members in order to ensure that it was easily understandable. The simplified presentation has been provided in Appendix C of this report.
1.16	Ondundu Resident M6	For the first time in many years it seems that my maize and watermelon crops are not flourishing, but dying. It seems to be a new problem. We also often smell the SO ₂ at night, not during the day.	According to Prof Myers, the community health specialist, it would be unlikely that the crop problems would be related to the smelter, as monitoring results showed that there was a significant drop in emissions from the smelter in the last year. Further investigation of soil contamination will be undertaken as part of the ongoing Contaminated Land Assessment.
1.17	Mr Wouter Niehaus, Tsumeb Gimnasium Private School M7	Mr Niehaus indicated that the historic findings are not his main interest, but the potential day-to-day impact on the school should be discussed in detail. He requested a separate meeting to discuss any concerns.	A telephonic discussion was held with Mr Niehaus in order to present in more detail the findings of the community health specialist assessment.
1.18	Mrs Sylvia Nimengobe, Tsumeb Secondary School representative M7	Is the municipality aware of the higher exposure risk area in Ondundu?	Yes, a meeting to convey the results of the specialist studies was held with the municipality and further consultation took place with them in this regard. Based on discussions, the municipality put plans for a community vegetable garden in the area on hold in order for the ongoing contaminated land

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			assessment to be completed and provide advice on the most suitable location for the establishment of such a garden.
1.19	Mr Germanus Uupindi, Tsumeb resident M7	The process of arsenic particles settling in town and the way in which SO ₂ gas is spread, should be clarified.	Arsenic clings to dust particles that are too heavy to blow far across the town and will thus start settling to the ground. SO ₂ on the other hand is a gas and will spread further through air. It can thus be detected in town, at a greater distance away from the smelter. If dust particles are blown from the site it will, however, settle closer to the plant. Arsenic levels in dust showed higher levels at the monitoring station closest to the smelter (Plant Hill Station) and some of the dust particles blown downhill may settle in the closest residential area of Ondundu.
1.20	Mr Oscar Kakungha, Mineworkers Union of Namibia M7	<p>Arsenic is linked to an increased risk of lung cancer. Studies undertaken previously showed that people working at the smelter are being affected and DPMT are not taking care of sick people and do not want the unions to interfere. DPMT should respect the unions and should check up on sick people and not just send them home. Workers were examined from 2011 to 2013, but were not given their test results. DPMT is benefiting financially, but not the people.</p> <p>There is no trust and honest feedback is not always provided. Results are not presented properly and affected parties not fully consulted. Some people have hearing loss and were told that they might be compensated, but no compensation has taken place. I myself was retrenched and now have hearing loss in my one ear. I have not been provided with assistance or compensation.</p> <p>Mr Kakungha also referenced a 2015 New Era newspaper article in which concerns were raised about the operations of DPMT's Hazardous Waste Disposal Site. According to the article, the dust generated by copper being shipped from Europe has a different consistency and chemical content than local copper concentrates previously processed. The foreign mines who send copper concentrate to Tsumeb should take their arsenic waste back on the ships delivering the copper concentrate. He expressed the opinion that</p>	<p>The previous Government study did not find any cancer cases linked to the smelter operations. The investigation, however, did not include a detailed investigation into past employees, and therefore could not form an opinion on the reasons should people fall ill. If people were promised results by the Government, the appropriate Government body should be approached to provide such information.</p> <p>Feedback on the findings of the ESIA process and the community health assessment was provided to workers at a separate feedback session on 24 April 2017. More detailed results of the occupational health component of the study were presented to workers.</p> <p>Previous employees should approach DPMT through the correct channels to have their claims of health concerns assessed. The information centre can be approached in this regard.</p> <p>These comments are noted. The Hazardous Waste Disposal Site is currently being operated in line with the relevant approvals and operational manual. Surface water, groundwater and dust levels are continuously monitored to</p>

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		Government did not do proper research before making the decision to approve the Hazardous Waste Disposal Site and stressed that the people of Tsumeb demand a clean living and working environment.	ensure compliance with the relevant monitoring standards. Monitoring results do not currently indicate the disposal site as a source of groundwater contamination. A recent independent audit of the operations of the site showed that it was being operated to the highest standards and that it was not deemed as a source of air and groundwater contamination.
1.21	Mrs Sylvia Nimengobe, Tsumeb Secondary School representative M7	If elevated arsenic levels have been recorded for some people in Ondundu, they might not be healthy. What is being done to help these people? Will DPMT be contributing to their medical costs? Something must be done, especially as more people might be moving there soon.	It must be noted that although some elevated urine arsenic levels were recorded, these were still low and of similar value than for people in some other international cities where there are no copper smelters. The potential source pathway (e.g. soil, food, dust) will, however, be investigated further and appropriate actions taken to prevent future exposure. Some planned actions include ongoing monitoring of urine arsenic levels of Ondundu residents and an awareness campaign to inform residents of arsenic exposure pathways.
1.22	Mr Germanus Uupindi, Tsumeb resident M7	<p>I know there are a lot of health risks related to mining. What if a doctor proves that an illness is related to arsenic exposure and the person does not have medical aid? Will DPMT contribute to this person's care?</p> <p>What if somebody has kidney problems and cannot efficiently get rid of arsenic and then get sick?</p> <p>If a doctor cannot prove that an illness is directly related to arsenic exposure, DPMT may think that they can get away with not compensating people. Please be transparent and honest with workers. They are getting sick.</p>	<p>Cancer could be caused by a number of factors other than arsenic and it would not be possible to prove that it was directly related to arsenic exposure. Most diseases have multiple causes, except for specific illnesses related to asbestos or silica exposure. Cancer causes are hard to prove. If someone does develop cancer and can prove that they worked in a place where there was a carcinogen, then there would be an option to discuss compensation through a government worker compensation fund.</p> <p>The Workman's Compensation Fund has a list of conditions associated with certain industrial activities that can be consulted.</p> <p>DPMT is continuing to strengthen the hygiene and biological monitoring programmes as well as feedback loops to employees while implementing ongoing efforts to reduce workplace arsenic levels. DPMT's current removal policy also requires anyone with elevated urine arsenic levels to be removed from the area and only reintroduced once a significant drop in their urine arsenic levels has been achieved.</p>
1.23	Nomtsoub community member M8	There has been a definite improvement. The smelter gas	Thank you, this comment is noted.

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		(SO ₂) was very bad three years ago and my throat burned. The last two years that has stopped. Please continue making improvements for the environment and the people. I do not believe that there is arsenic in our food.	
1.24	Mr Titus M8	Workers throw away their old uniforms from the smelter and they end up in the local landfill site where poor people pick them up. People have taken old shoes from the landfill that could have come from the smelter. DPMT must not let old uniforms leave the site.	Workers are not allowed to dispose of old uniforms offsite. New uniforms are only issued upon receipt of the old uniforms and shoes. The old uniforms and shoes are incinerated in the furnace and do not leave the site. This comment will be investigated further in order to confirm that the appropriate process is followed for the disposal of old uniforms and shoes.
1.25	Nomtsoub community member M8	What is the effect on the human body if there is a little bit of arsenic in the urine?	Everybody has a little arsenic in their urine which may be related to industrial (unnatural/inorganic) exposures or to some types of food eaten (natural/organic). Namibia has limits for how much arsenic may be present in urine when tested. If these levels are elevated, there are concerns and the cause must be found. If there is exposure to industrial arsenic and the urine arsenic levels are low for a long period of time, there is nothing to be concerned about. If, however, the levels of exposure and related urine arsenic levels are high for long periods of time, there is a slightly higher risk of developing lung cancer. No other health-related issues are expected from arsenic exposure.
1.26	Nomtsoub resident M8	What if I sometimes cough a little?	There are many symptoms related to smelling and tasting SO ₂ . The symptoms are mostly related to irritation of the throat, but not any serious illnesses in Tsumeb. If somebody has asthma and is on medication for it, then SO ₂ exposure might make symptoms worse and could exacerbate shortness of breath. The community health assessment found that the number of people in Tsumeb with diagnosed asthma were similar to the number of people diagnosed in the unexposed control group in Oshakati.
1.27	Nomtsoub resident M8	Next time throat tests need to also be done.	There are no specific tests for throat issues; only questions can be asked to confirm symptoms experienced. The results of the community health assessment showed that there are no arsenic exposure problems in the Nomtsoub area, but there is

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			a small problem related to SO ₂ exposure, similar to the rest of Tsumeb. The emissions levels have, however, significantly decreased with the establishment of the sulphuric acid plant and will continue to decrease. Monitoring in this regard will continue.
1.28	Mr Germanus Uupindi, Tsumeb resident M7	The process of arsenic particles settling in town and the way in which SO ₂ gas is spread, should be clarified.	According to the community health specialist, Prof Myers, arsenic levels in dust showed higher levels at the monitoring station closest to the smelter (Plant Hill Station) and that dust particles blown downhill may settle in the closest residential area of Ondundu, but particles are too heavy to blow much further over the town. SO ₂ on the other hand is a gas and will spread further through air. It can thus be detected in town, at a greater distance away from the smelter.
1.29	Mr Moses Awiseb, community representative M8	I participated in the community health assessment and can confirm that water samples were taken at all houses were residents were tested. I compliment Dundee on the changes they have implemented and commend them for listening to complaints and addressing them. Community health is important. I believe that empty chairs at the meeting indicate that the people have taken note of the changes already made by DPMT and that the community may no longer have as many concerns as before.	Thank you, these comments are noted.
1.30	Mr Oscar Kakungha, e-mail correspondence received prior to distribution of the Draft EIR for comment	Government medical survey, Report for the 2011, 2012, 2013 health survey of Dundee precious metal employees, community people in Tsumeb. The audits concluded that the Dundee Tsumeb Smelter yes indeed negatively affecting the health of its employees, community and environment, but that those effects could be resolved, and there was no need to close down the Tsumeb Smelter. Our health quality of life are being negatively affected by the operation of Dundee precious metal Tsumeb, therefore we as a victims we are demanding the compensation from Dundee precious metal for contaminated with Arsenic, with	Concerns raised by Government have been addressed by commissioning the sulphuric acid plant in order to limit SO ₂ emissions. Upgrades also took place at the arsenic plant in order to improve handling of arsenic and thus reduce worker exposure. The arsenic plant was decommissioned at the end of February 2017 which would further reduce exposure of workers to arsenic.

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		<p>immediate effect.</p> <p>People suffered from skin rashes, cancer, hearing loss, as well as sulphur dioxide (asthma-related symptoms). SO₂ at standard atmosphere is a toxic gas with a pungent, irritating and rotten smell.</p> <p>Your study December 2016 also indicated and confirmed that people have arsenic and arsenic will stay forever in Tsumeb either Dundee expansion Tsumeb smelter yes or no!!</p> <p>What is needed to be done is compensation for victims, retired workers, unfair dismissed workers, and current workers on work site.</p> <p>As a notice from former Vice president & General manager of Dundee Precious Metals Tsumeb to all employees and contractors , dated on 23 September 2017 , Re Final report-Government medical survey he stated that, A number of long service employees and ex-employees with hearing loss that is occupation related were identified. In cases where this hearing loss is confirmed independently to be linked to the smelter, employees will be assessed for compensation under Dundee's government and Union mandated policies.</p> <p>I, myself I have a hole in my ear and its started painful some times and I cannot stay in a noise places for a long time.</p> <p>I forward this complaints to you consultants again as you people, you was said , you may have a private meeting with me after the public meetings but we never sit and talk private about my illness problems.</p> <p>I was working at smelter, as a full time shop steward, and I was unfairly victimized and unfairly dismissed by the regime of former vice President & General manager Hans Nolte on, 02 March 2015.</p> <p>Solutions and roles:</p> <ol style="list-style-type: none"> 1. Considering the specific cases of Tsumeb we recommended the different stakeholders to undertake actions in the name of the public health and the sound 	<p>Investigations into the cause of skin rashes showed that it was not related to arsenic exposures, but rather to high alkaline substances. This matter was addressed when the arsenic plant was still operational and the number of skin rash cases reduced substantially. The community health assessment undertaken as part of the EIA process showed that SO₂ caused a nuisance burden on the community, but that exposures had drastically decreased with the commissioning of the sulphuric acid plant. SO₂ exposure may exacerbate symptoms for asthma sufferers, but it was not found that more people in Tsumeb suffer from diagnosed asthma than in the control population of Oshakati.</p> <p>Although elevated urine arsenic levels were found in workers and a few outliers in the Tsumeb community, no cases of arsenic-related lung cancer have been identified. A reporting system is required that allows for retired and historic workers at the smelter to report any health concerns to the smelter for further investigation on whether the concerns were related to smelter operations and whether compensation could be provided.</p> <p>In line with the notice from the DPMT General Manager, where investigations into hearing loss indicated that it was related to work at the smelter, compensation could be provided in line with Namibian compensation requirements.</p> <p>If Mr Kakungha's hearing problems relate to his time working at the smelter, he is to formally report it to DPMT for investigation. At no time did the consultants indicate that a private meeting would be arranged to discuss Mr Kakungha's health problems. The correct avenue to follow is to approach DPMT's health department or the Information Centre to discuss health concerns that might be related to work at the smelter.</p> <p>1. Since its purchase of the smelter property in 2010, DPMT has already embarked on a number of upgrades and modernisation processes in order to improve the environmental</p>

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	<p>environmental future of Tsumeb and the entire region. Dundee precious metal should:</p> <p>2. Disclose all available environmental documentation on the smelter in Tsumeb.</p> <p>3. Disclose the real quantity of Arsenic trioxide left on spot in Tsumeb.</p> <p>4. Why Dundee Precious Metal keep Arsenic toxic as a waste product in the Namibian territory?</p> <p>5. There is any solution for Arsenic toxic to be converted into something else instead of dumping it here in Namibian territory?</p> <p>6. Why Dundee close down the Arsenic plant right now? Why not in 2011?</p> <p>7. Why now? What Union was asking?</p> <p>8. What is the problems there which is caused the closed down of Arsenic plant?</p> <p>9. Why workers are still have high level of Arsenic in urine?</p> <p>10. How many worker's on light duties? And how many</p>	<p>and health and safety impacts of operations.</p> <p>2. DPMT has made documentation available on their company website.</p> <p>3. Arsenic trioxide was sold to companies outside Namibia and not kept on-site for long periods. With the closure of the Arsenic plant no arsenic trioxide is produced.</p> <p>4. All industrial processes generate some waste and industry accepted practice is to treat such waste responsibly. The hazardous waste facility is an engineered and approved facility and operated in accordance with prevailing laws and practice.</p> <p>5. DPMT is currently investigating alternative options for the processing and disposal of arsenic waste. A pilot project was launched in the first quarter of 2019 to test a vitrification technique whereby arsenic waste could be encapsulated and rendered non-hazardous.</p> <p>6. The arsenic plant was upgraded since DPMT took over operations in order to improve the efficiency. It has, however, not proven to be economically viable to produce arsenic trioxide and the plant was thus closed with the added health and safety benefits of reducing arsenic exposure to employees.</p> <p>7. Refer to 6 above. According to DPMT the request was not made by a Union.</p> <p>8. Refer to 6 above.</p> <p>9. Based on the community health assessment, it was concluded that there are still fugitive arsenic dust emissions from plant operations that may be causing exposure of workers to arsenic linked to elevated urine arsenic levels. It also showed that the current PPE system was not working optimally and that engineering methods were required to reduce fugitive arsenic emissions. While some spikes are still being observed on occasion, an overall marked decrease in urine arsenic levels have been recorded across all business units during 2018.</p> <p>10. The number of workers on light duty varies and it should</p>

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		<p>workers on pull gangs and why?</p> <p>11. What is the total capacity of Arsenic toxic Dundee precious metal accommodated for current site disposal in the Namibian territory?</p> <p>12. If Dundee closed down Tsumeb smelter today for globally reason, who should be monitoring dumping site of Arsenic toxic on Namibian territory?</p> <p>13. Did Dundee have a company policies which cover all workers and community people in case of health, safety and environment damage or contamination which is already happen and done already for current now and for the future of Tsumeb town and the entire region?</p> <p>14. Dundee disclosure of the environmental clearance certificate under which the hazardous waste Arsenic site operated?</p> <p>15. Dundee disclosure of the environmental clearance certificate under which operates Ausmelt furnace?</p> <p>16. Dundee disclosure of the environmental clearance certificate under which operates was Arsenic plant?</p>	<p>be noted that light duty could be as a result of injuries as well as non-work related illnesses.</p> <p>11. The overall approved capacity for the hazardous waste disposal site is 201 500 m³. Up to the end of January 2017 a total of 55 515 m³ of arsenic-containing waste had been disposed of at the hazardous waste disposal site.</p> <p>12. Post-closure environmental monitoring is determined by Namibian legislation. DPMT has committed to carry out monitoring of water, air and rehabilitation post closure for at least five years for surface water and ten years for groundwater, if required or until a closure certificate is issued. In the case of the hazardous waste facility monitoring will take place to confirm success of closure measures implemented at the site until performance objectives and abandonment criteria are met (potentially 30 years after closure). The hazardous waste site EMP requires DPMT to "Provide the required long-term permanent (at least 100 years) solution/measures to limit at source the generation of contaminants which could adversely affect the environment and adjacent land uses and users, while being sufficiently robust to withstand the effects of the elements over this period (including resistance to animal burrows and the like)."</p> <p>13. Yes, this is covered in the company Closure Plan and the Health, Safety and Environment policy.</p> <p>14 – 16. All relevant Environmental Clearance Certificates have been made available on DPM's company website. The plant is being operated in terms of a renewed consolidated Environmental Clearance Certificate issued in September 2016.</p>

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		<p>We call upon and requested Dundee all the best practice required the publication of all these documents on the company webpage provide through electronic document and information centre office in Tsumeb town.</p> <p>Expansion and increased production from 240 000 to 370 000 t/a are biggest problems of health risks, safety environment violation and damage environment.</p> <p>High volume of production smelting, high volume of Arsenic dust produced and high volume of SO₂ produced during processing smelting. The more production you smelting, the more oxygen you needed to be smelting meaning that you are just increased problem to the health and safety environment for workers and community people.</p> <p>Here there is no interest for the health and safety environment for workers and community people.</p> <p>Here just is interest of Dundee to make more millions and millions and go back to Europe.</p> <p>Arsenic remain here in the Namibian territory while millions and Billions go back to Europe banks.</p> <p>Fairly equal business and honest business partnership, one copper bar, one bag of Arsenic toxic go back to Europe where it comes from. Why it's dumping here, why not in Europe?</p> <p>Finally better to be safe and healthy than sorry after Dundee destroyed our beautiful environment Tsumeb copper town by itself natural.</p>	<p>As stated above, the documentation has been made available on the DPM company website.</p> <p>The specialist studies undertaken as part of the ESIA process considered the potential cumulative impacts related to the proposed increase in throughput capacity of the smelter. No significant additional impacts were identified and where impacts would increase, mitigation measures were recommended to reduce the significance of the impacts. All the proposed mitigation measures were deemed to be feasible for implementation by DPMT in order to limit the impact on the environment and health and safety of the community and workers.</p> <p>DPMT is committed to continuous improvement and has implemented a number of measures since acquiring the smelter in the interest of health, safety and environment. There are, however, legacy issues that require addressing by the relevant stakeholders.</p>
2	COMPANY REPUTATION		
2.1	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	<p>We do not dispute that DPMT has brought about great improvements in the control of emissions from the Smelter, but this does not mean that we can stop being vigilant and involved in the environmental impacts of the Smelter. DPMT must be congratulated on all improvements that it has made. However, it does remain important for the public to be fully informed on the way DPMT conducts its business. If the expansion project is done correctly, DPMT will regain its</p>	<p>This comment is noted. DPMT places great importance on a good and transparent relationship with its neighbours. All IAPs are welcome to interact with DPMT management should any issues arise.</p>

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		good reputation in the town.	
2.2	Mr Arnaldo Silvano Martins, Owner Trek Petrol Station and Copper Guest House M1	As a business owner, I am very happy with the improvements made by DPMT in the past six years.	This comment is noted.
2.3	Mr Moses Awiseb, Principal Chairperson, Concerned Citizens Tsumeb M4	We started actions to improve the air quality many years ago and were often seen as trouble makers and shunned from employment opportunities. Yet, we did not give up on voicing our concerns. When DPMT came, they embraced our organisations and listened to our pleas for improvement. We are so proud today that the people's voice did not go unheard and would like to thank DPMT for this.	This comment is noted.
2.4	Mr Julius Gaebeeb, Nomtsoub community and member of Tsumeb Town Council M4	I was part of the group of people who protested against the environmental impacts caused by the smelter. I have, however, noticed that birds and bats have re-appeared in our gardens since the commissioning of the sulphuric acid plant. It is clear that the environment shows great improvement and we are very happy about this. This plant is now of international standard and we congratulate DPMT on these improvements.	This comment and Mr Gaebeeb's congratulations are noted.
2.5	Resident, Nomtsoub M4	I was fortunate to get employment with one of the sub-contractors during the construction of the sulphuric acid plant. I am so proud to have been part of this construction and have learnt many new skills and have certificates to prove it. We are very thankful to DPMT.	This comment is noted. The project team is happy to hear of the opportunities provided to the community members to learn new skills as a result of operations at the smelter.
3	SOCIO-ECONOMIC		
3.1	Mr Tobias Mwapopi, Manager Debonairs and Steers, Tsumeb M1	The presence of the smelter in Tsumeb is very good for all business people. Should the smelter cease to exist, the town would suffer economically.	This comment is noted. It is acknowledged that Tsumeb has shown marked economic growth in the last few years with the DPMT smelter as one of the contributors.
3.2	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	As far as the proposed specialist studies are concerned, it would be important for the socio-economic study to quantify the contribution that the smelter makes on a local, regional and national level, to the economy.	The smelter's economic contribution on a local, regional and national scale was addressed in the socio-economic specialist study (see Appendix H).
3.3	Mr Alfeus Benjamin, Chief Executive Officer, Tsumeb Town	Does the increased output mean an increase in job opportunities or are the upgrades computerised?	As the planned increased output would largely be realised through the optimisation of existing internal facilities, the

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	Council M3		proposed project would not create a high number of new employment opportunities, with current employees being redeployed within the smelter to fill positions created by the expansion project. Stakeholders must, however, be aware of the related ripple effects and benefits to local businesses, i.e. more people staying in town, using restaurants, filling stations etc. The proposed project would also improve efficiency and long term sustainability of the smelter and thus ensure long term job security.
3.4	Mr Mathews Hangula, Deputy Mayor, Tsumeb M3	What socio-economic benefits will be brought about by the expansion?	The expansion project would extend the life of the smelter and thus benefit the economy of the town. Some construction works would be required during the initial upgrade activities, creating some temporary job opportunities (estimated at equal to 185 person years) during the construction phase as well.
3.5	Mr Mathews Hangula, Deputy Mayor, Tsumeb M3	During the previous expansions and improvements, we found that Tsumeb had a skills deficit. It is important for the Council to know upfront what skills are needed for the proposed expansion so that we can be prepared.	This comment is noted and was considered as part of the socio-economic specialist study (see Appendix H).
3.6	Mr Mathews Hangula, Deputy Mayor, Tsumeb M3	There seems to be a shortage of artisans like fitters, boilermakers, welders etc. for construction works in Tsumeb. It would be prudent for the Council to keep this in mind.	DPMT currently assists with a number of training opportunities through the Dundee Trust Fund. This matter can be further discussed with the relevant community representatives and Council.
3.7	Mr Mathews Hangula, Deputy Mayor, Tsumeb M3	It is important for DPMT to make their requirements for construction labour known in advance.	This comment is noted and will be further addressed through DPMT's human resources department.
3.8	Community member, Nomtsoub M4	The arsenic and other airborne impacts have dramatically decreased and we are thankful for this, however job opportunities are still scarce and not enough to assist the people of Nomtsoub. What is the Smelter doing about this?	It is acknowledged that unemployment is a concern in the area. It is, however, not possible to provide unlimited employment opportunities to all at the smelter operations in order to satisfy the demands. Community members are urged to consider acquiring skills as part of the large number of support services in Tsumeb, e.g. in the hospitality industry, construction, food production, etc. All of these services will increase as the smelter continues to expand.
3.9	Community member, security guard at Rubicon Security Services, Nomtsoub M4	It seems that the opportunities for security trained personnel are diminishing. We request DPMT to not forget about us.	Security forms a major part of any industry and we trust that your services will be in even bigger demand in future as the smelter expands.

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3.10	Mr Julius Gaebebe, Nomtsoub community and member of Tsumeb Town Council M4	As far as socio-economic benefits are concerned, many small enterprises have benefitted from the Dundee Trust Fund. People should be encouraged to visit the DPMT Information Centre and find out how they can benefit.	This comment is noted. The DPMT Information Centre is open to, as far as possible, assist members of the public.
3.11	Mr Julius Gaebebe, Nomtsoub community and member of Tsumeb Town Council M4	Now that we have a world class Smelter, we should consider building a refinery in the area so that the produced materials can get beneficiated in the country and that the money and job opportunities do not leave the country as is the case at present.	This suggestion is noted.
3.12	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	You mentioned that government will not allow the expansion if the air quality challenges are not under control. I believe that the economic benefit of the Smelter will outweigh any environmental impacts when government needs to make decisions to approve the expansion.	Apart from government approval, DPMT is a global organisation with strict environmental safeguard policies and shareholder reporting in place. Should the Tsumeb Smelter transgress, this would affect DPMT's reputation and share price globally. The company operates guided by its values and policies and thus aim to address all environmental impacts as far as possible.
3.13	Dr Pieter Pretorius, written comment on Scoping Report	<i>"The project has the potential to directly and indirectly benefit the country and surrounding communities. It would not create a high number of new employment opportunities."</i> How many opportunities would be created? <i>"...potential increase in local and national revenue, additional employment opportunities and indirect financial spin-offs to businesses in Tsumeb..."</i> Please give a breakdown of the financial implications to 1) Tsumeb, 2) Namibia and 3) the number that will go OUT of the country. Are estimated numbers available for the income contribution to the local, regional and national economies?	The number of direct and indirect employment opportunities to be created during the construction and operational phases of the proposed project, as well as contributions to local, regional and national economies are described in detail in Section 7.6 of the ESIA Report and in Appendix H. Further details regarding DPMT's corporate social responsibility contributions and macro-economic benefits of the proposed project are also detailed in Appendix H.
3.14	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	There were some labour disputes when DPMT took over. The municipality then got together with DPMT to set up a register of workers. Consultants would then first check the register before employing people. This register system is still active today. During the last four years there have thus not been any real labour disputes.	These comments are noted.
3.15	Ondundu Resident M6	People need jobs. We are told to submit our CVs to the	DPMT will investigate the process with the municipality.

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		municipality, but do not believe that they are being sent through to DPMT for consideration.	
4	PROJECT DESIGN		
4.1	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	What is the amount of raw material that will be processed per year?	The proposed upgrade and optimisation project would enable DPMT to process up to 370 000 tonnes of complex copper concentrates per annum.
4.2	Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council M3	The estimated cost of the proposed expansion should be made known to the Council.	The proposed expansion currently has a budget of US\$70 million.
4.3	Mr Andre Neethling, Resident Tsumeb, written comment	Please provide me with the actual processing of concentrate (per month) over the past twelve months and the typical analysis of the concentrate composition.	A total of 196 107 tonnes of concentrate was processed in 2015, with an average monthly production rate of 16 342 tonnes per month. A total of 219 254 tonnes of concentrate was processed in 2017. Details of the concentrate composition cannot be provided at this stage. Further correspondence in this regard can be directed to the DPMT Information Centre.
4.4	Mr Andre Neethling, Resident Tsumeb, written comment	What is the expected concentrate composition in future?	The upgraded facility would continue to process complex copper concentrates. Should the composition change markedly in future and new waste products be produced, the appropriate action would be taken in consultation with MET to manage these waste products. The specific composition of future concentrates cannot be accurately predicted at this stage.
4.5	Dr Pieter Pretorius, written comment on the Scoping Report	<i>"Producing arsenic related products such as pesticides."</i> What tonnage: falloff, sold/used, produced and waste? What is the percentage as per tonne raw material? If the raw material contains 6% arsenic, would 370 000 tpa amount to the production of 22 200 tpa arsenic? Is rooftop emissions of arsenic dust being controlled?	Incoming concentrates currently contain approximately 5-7% arsenic. Of the arsenic trioxide that was produced as a by-product, approximately 50% was sold to third parties active in the herbicide and wood treatment industries. DPMT made the decision to cease operations at the arsenic plant, in part due to current economic feasibility. DPMT is currently investigating ways to optimise waste storage. More information regarding arsenic volumes and other emissions and their appropriate management is provided in the air quality assessment (Appendix F).
4.6	Dr Pieter Pretorius, written comment on the Scoping Report	<i>"The current raw water supply was found to be insufficient to meet the estimated increased demand. The pump capacity from the old mine shaft would need to be increased from 300</i>	The expected increase in raw water supply and potential impact on other water users was addressed in the groundwater specialist assessment in Appendix E. It is not expected that

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		<i>m³/h through the addition of a 75 m³/h raw water supply pump and 500 m pipe.” Will it have an impact on the raw water supply to users like the golf course?</i>	additional water requirements would affect other raw water supply users.
5	ESIA PROCESS, SPECIALIST STUDIES AND EMP		
5.1	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	Stakeholders must be careful not to see only the positive impacts that the upgrade and optimisation project would bring. If there were only positive impacts, a meeting such as this public meeting would not be necessary.	It must be noted that stakeholder engagement is a legal requirement as part of an EIA process. Although a public meeting itself is not a legal requirement, meetings were held in Tsumeb in order for DPMT to demonstrate that stakeholders' opinions have value and that all concerns or suggestions regarding improvement in the biophysical and social environments will be taken into consideration.
5.2	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	At present I am not against the optimisation, I would only like to see it done in the right way, with proper mitigation measures in place for any impacts.	It is acknowledged that there have been historical challenges in addressing environmental impacts. New technology has, however, already been introduced at a considerable cost in order to minimise environmental impacts. The proposed upgrade and optimisation project would include further mitigation measures in order to further reduce fugitive emissions from the smelter operations. In addition, all mitigation measures recommended as part of the independent specialist assessments have been included in the Consolidated EMP for the Smelter operations and would be implemented by DPMT to further ensure that negative impacts are reduced and benefits enhanced.
5.3	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	The Smelter and its consultants should not underestimate the knowledge and capacity of the Tsumeb community to understand environmental impacts.	It is acknowledged that social media and the internet have given all spheres of society access to information and that this should not be underestimated. The ESIA process is being conducted in a transparent manner and input from all community members is welcomed.
5.4	Mr Hiskia Tjarondo, Ixabashe Investment CC. Tsumeb M1	It would be interesting to see a comparison of impacts before and after the environmental improvements that DPMT has already put in place.	Monitoring of environmental impacts (e.g. air and water quality) is done on a continuous basis and data is available for such a comparison. Once all components of the environmental improvement project are fully operational, these comparisons can be made.
5.5	Dr Pieter Pretorius, General Practitioner and Occupational	As a health practitioner I would be happy to contribute any knowledge to the specialist studies.	This offer is noted and appreciated. Dr Pretorius' contact information was provided to the relevant specialists.

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	Health Specialist M1		
5.6	Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council M3	We are happy that a number of specialist studies are being conducted. The information sourced for the socio-economic study will be very valuable to the Council, as it will provide us with an insight into which companies, mines or other parties contribute to the economic welfare of the town.	Relevant information can be sourced from the socio-economic specialist studies in Appendices H1 and H2.
5.7	Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council M3	We would be very interested in the findings of the specialist studies, in particular the groundwater study. The Council is planning an industrial area to the north-west of the DPMT smelter and has already completed a structure plan for the area. The specialist studies will assist in identifying any limitations to development in the area, especially related to groundwater quality.	Although the surface and groundwater studies were largely confined to the smelter site itself, the direction of groundwater flows was investigated. These findings have been included in the groundwater specialist report in Appendix E. An updated groundwater dispersion model was also produced in the first quarter of 2018 and included with the specialist report in Appendix E. Based on the dispersion model, groundwater flow is largely in a north-easterly direction along a clear watershed. Contaminated groundwater from the smelter site is thus not expected to flow towards any planned developments north-west of the smelter.
5.8	Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council M3	Any information in your waste management study will also be useful to the Council and it would be appreciated if your specialists could consult with us before doing their studies.	Relevant Council members were consulted regarding waste management aspects. The waste management specialist report is included in Appendix D.
5.9	Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council M3	The Council is faced with many challenges in the town and cooperation in finding solutions will be welcomed.	This comment is noted. DPMT is committed to being a good neighbour ensuring close cooperation with the Council.
5.10	Dr Pieter Pretorius, written comment on the Scoping Report	<i>"...even though no new listed activities would be triggered."</i> – albeit new and significant environmental impacts??	All potential environmental impacts related to the proposed smelter upgrade and optimisation project were cumulatively assessed as part of the EIA (refer to Section 7 of the ESIA Report and Appendices D to J).
5.11	Dr Pieter Pretorius, written comment on the Scoping Report	The potential negative impacts on human health from long term SO ₂ and arsenic exposure are very relevant. When, how and by whom would the human health investigation be undertaken? Please make sure that there is zero chance for conflict of interest. I would like to discuss this concern.	The community and occupational health assessment was undertaken by retired Professor Emeritus Jonny Myers from the University of Cape Town (UCT). Ethical clearance for the assessment was issued by both UCT and the Namibian Ministry of Health. It was a collaborative project with UNAM's School of Public Health. No conflict of interest is expected. Note that the public participation process is an ongoing process and further consultation as part of the assessment phase will

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			be conducted.
5.12	Dr Pieter Pretorius, written comment on the Scoping Report	The socio-economic assessment should try to determine the historical negative impact to the community/property due to H ₂ SO ₄ (acid) rain.	This matter was referred to the socio-economic specialists for consideration. It must be noted, however, that the one known acid rain event impacting on commercial farmers in the area took place as a result of rare weather phenomena and smelter emissions prior to the construction of the sulphuric acid plant.
5.13	Dr Pieter Pretorius, written comment on the Scoping Report	How will the specialist study proposals be monitored for adherence? Who will make the decisions to discard or accept the proposals?	The proposed Terms of Reference for the specialist assessments was adhered to as part of the EIA phase and the assessments undertaken according to these. MET issued acceptance of the Scoping Report in August 2016 and in doing so provided the go-ahead for the EIA phase of the project.
6	PUBLIC PARTICIPATION PROCESS		
6.1	Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council M3	You mentioned that you would return with the findings of the specialist studies later in the year. Tsumeb hosts a Copper week once a year in October. It should be considered to use the same week to present the findings to stakeholders.	This suggestion is noted. The EIA process timeline did not allow for a feedback session during October 2016. The opportunity of engaging with stakeholders during future Copper Week activities will, however, be considered by DPMT.
6.2	Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council M3	DPMT is the main sponsor of the Copper Week, so it is a good suggestion to engage with stakeholders during that week. Please emphasise the importance of public participation to the Executive at the Smelter. It is of the utmost importance and not enough is being done at present. Do not take the current good relationship with the public for granted.	These comments are noted. DPMT will continue to build on the good relationship it currently has with the public.
6.3	Her Worship the Mayor, Mrs Kasiringua Veneza, Tsumeb Town Council M3	We suggest that you also involve the local Ministry of Education in your information dissemination.	This suggestion is noted. The relevant government departments will be kept informed of the EIA process.
6.4	Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council M3	There is a great interest nationwide in things that are happening in Tsumeb. DPMT is setting a very good example by consulting and informing the public. However, we find that DPMT is a bit media shy. Good news should also be shared. Consideration should be given to site tours for residents as well as the media.	This comment is noted. DPMT has already commenced with the planning for future open days where the public would be given the opportunity to attend guided tours through the smelter facilities. These future tours would be managed through the DPMT Information Centre.
6.5	Her Worship the Mayor, Mrs Kasiringua Veneza, Tsumeb Town	We thank you for meeting with us, it is always very good to sit around a table and have discussions. Your presentation	These comments are noted. Presentations to the local communities were adapted in order to ensure that attendees

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	Council M3	was good, but very technical. If you meet with the communities, please ensure that you explain aspects of the proposed expansion to them in simple language and in the language of their choice. The public meetings are an excellent initiative, not only for Tsumeb but for the country as a whole. We thank DPMT for this initiative and wish them well with the public meetings.	understood the full scope of the proposed upgrade and optimisation project. After consultation with attendees at the Nomtsoub and Ondundu Village meetings, information was presented in Afrikaans and attendees were welcome to ask questions and raise concerns in the language of their choice. Interpreters were present at the meetings.
6.6	Mr Michael Heita, DPMT M6	Based on queries why the meeting was not as well attended as expected, Mr Heita indicated that it was announced at the municipal meeting the previous night.	The community members also confirmed that community members received text messages about the meeting, but just did not attend. They were all, however, aware of the meeting taking place.
7	GROUNDWATER		
7.1	Mr Hans Dai-Gaib, Ondundu resident M2	Our borehole and tap water was tested a number of years ago, and found to be unsafe for drinking. At the time some water tanks were erected, but they are not serviced any more. Is our water safe now?	The boreholes around the Smelter are monitored regularly and results have indicated that the water is of a good standard. To provide additional assurance in this regard, Mr Nico Potgieter of DPMT had undertaken follow-up sampling of tap water in Ondundu. The results showed that water sampled at three points in Ondundu (two at the school, one in the community) can be classified, based on constituents tested for, as Group B water (water with good quality) as per the NamWater drinking water guidelines. All constituents tested for in fact fell within Group A guidelines (water with an excellent quality), except for Total Hardness, which fell into Group B. As such, water quality as a whole is classified as Group B. Arsenic levels were recorded as < 0.001 mg/liter in all three samples. The limit for Group A water is 0.1 mg/liter, whereas some international standards are set at 0.01 mg/liter. Arsenic levels were thus recorded well below the accepted international standards for drinking water. Further follow-up drinking water samples were taken as part of the community health assessment. The main findings showed that for Tsumeb as a whole and in all the exposed areas, all drinking water samples were well below the WHO limits for arsenic (10µg/l). It was concluded that drinking water is not a source of significant inorganic arsenic exposure to Tsumeb residents. Further

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			detailed results are presented in Section 9 in Appendix I.
7.2	Mr William Pingas, Ondundu Resident M2	Again, we would appreciate some feedback when water and other sampling is done in our community.	Mr Nico Potgieter of DPMT provided the relevant feedback to the community. Refer to Response 7.1 above.
7.3	Dr Pieter Pretorius, written comment on the Scoping Report	<i>“Elevated concentrations, above Namibian drinking water standards, of sulphate (SO₄), arsenic (As) and molybdenum (Mo) were measured at the boreholes situated on the smelter site. Groundwater monitoring from January to July 2015 showed elevated levels of arsenic at two boreholes on the smelter site.”</i> How acceptable is this deviation? Increase of production will increase toxic waste and will increase the water contamination??	No drinking water is currently extracted from boreholes within the boundaries of the smelter site and there has been no evidence of below standard water being recorded at boreholes outside the smelter precinct. The potential for groundwater contamination from the proposed higher throughput capacity was investigated by the appointed groundwater specialist and results and recommended mitigation measures included in Section 7.3 of the ESIA Report and Appendix E. The results showed that the current groundwater impacts largely relate to legacy issues and that the additional cumulative impact of the proposed higher throughput capacity would be minimal when compared to historic impacts. In order to predict the potential for contaminated groundwater from the smelter site to migrate to outside the smelter boundary, an updated groundwater dispersion model was developed by a specialist consultant. The findings are set out in Section 4.4.3 of the ESIA Report and in the Addendum to Appendix E. The main findings show that the geology to the north of the smelter site have a retarding effect on groundwater flow and that, even over a 200-year modelling period, it is not expected that contaminated groundwater would reach the irrigation farms located to the north-east of the smelter site. This model followed a conservative approach and show a worst case scenario where no action is taken to remediate groundwater contamination.
7.4	Mrs Christie Mentz, Tulipamwe Catering Services M7	Has borehole water around the farms to the northwest where the Jordan River ends, been tested? A water bottling plant is currently being planned there and will be the first source for contaminated water should the water source be polluted. The bottling plant owners tested the water quality to ensure that it was fit for human consumption. The results showed that it was of very good drinking water quality. Mrs Mentz agreed to send the results of the water tests to the project	Water in the boreholes at the NAMFO sites have been tested and were of good drinking water quality. After the meeting, the project team reviewed the results of water tests undertaken by the company proposing to set up the water bottling plant. Although the results showed Level A drinking water quality, no results were shown for arsenic or lead levels. Mrs Mentz was advised to request further water

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		team.	testing results before making the decision to purchase bottled water from the company.
7.5	Mr Nikasius Hangula, Nomtsoub community representative M7	I am concerned about the health and safety of Tsumeb residents. Is the domestic water in town and at the smelter site of the same quality? When I worked at the smelter previously we were told not to drink the water used for washing hands at the canteen. Are there thus differences in the water quality? Is it safe to drink the water in town?	The drinking water on the smelter site was not tested as part of the community health assessment. A large number (96) of drinking water taps were, however, tested for quality in and around Tsumeb. All were found to be of good drinking water quality with no elevated arsenic levels detected. The Smelter drinking water is provided from municipal sources. The smelter regularly tests drinking water and no adverse quality issues have been detected.
7.6	Nomtsoub resident M8	Was water in the Endombo residential area also tested?	Yes, all areas were tested and the water was found to be of good drinking water quality.
8	NOISE		
8.1	Mr P Zoganas, businessman and hotel owner Tsumeb M1	I maintain that noise is a normal side effect of having a large operation like the Smelter and people should not exaggerate its effects.	This comment is noted. A noise specialist study was undertaken as part of the EIA process in order to assess noise impacts at the closest receptors and for employees within the DPMT grounds. The main findings showed that the impact of current noise levels from the smelter on the closest noise receptors is considered to be of low significance and it is not expected that the proposed expansion project should cause any increase in noise levels. Further details are provided in the noise specialist assessment in Appendix G and in Section 7.5 of the EIA Report.
8.2	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	The hospital and one community are located directly south of the hill separating the Smelter from the town. Noise could become an issue when the plant capacity is increased. A noise specialist study should be included as part of the EIA.	The noise specialist assessment is included in Appendix G.
8.3	Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist M1	There does not seem to be representation of the workers inside the Smelter at this meeting. Noise is a definite issue inside the Smelter area.	A separate meeting has been held with DPMT management and an e-mail was sent to all staff to inform them of the proposed upgrade and optimisation project. Noise mitigation measures recommended as part of the noise specialist assessment will be implemented in order to address current and potential future increased noise impacts. Specific recommendations were made for maintenance of noise filters at the No.2 oxygen plant in order to limit noise within the

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			smelter area for workers.
8.4	Dr Pieter Pretorius, written comment on the Scoping Report	More detail about the noise impact and how it will be controlled is required. Currently the night noise in particular is sometimes disturbing.	See Responses 8.1 to 8.3 above.
8.5	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	I have been in Tsumeb for nine years. When I first arrived, loud explosions were still audible from the smelter operations. With the upgrades made by DPMT, this is no longer happening. This is a positive change.	This positive change is noted.
9	GENERAL WASTE AND HAZARDOUS WASTE SITE		
9.1	Dr Pieter Pretorius, written comment on the Scoping Report	Where can a copy of the 2012 hazardous waste site EIA Report be obtained.	This report is available on request to DPMT.
9.2	Dr Pieter Pretorius, written comment on the Scoping Report	<i>"The facility has capacity to contain approximately 280 000 m³ of hazardous waste."</i> How much capacity (%) is available?	Details regarding the current available capacity and calculations of future capacity after an increase in the throughput capacity are provided in Section 5.4.8 of the ESIA Report and further discussed in Appendix D.
9.3	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	Would the municipality be able to make use of the general waste incinerator should DPMT decide to establish one on the site? Could DPMT please consider this option?	DPMT is not currently considering the establishment of an incinerator. Should DPMT, however, decide to pursue the option to establish an incinerator it would be small due to the extensive costs involved, and thus only large enough to service DPMT. A general waste disposal site design is currently being finalised for construction to commence in 2019.
9.4	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	It must be made clear to the public that the waste site referred to in the presentation is located on DPMT property and that the presentation does not refer to the municipal landfill site.	This comment is noted and was relayed as such to the public at the subsequent public information-sharing meetings.
10	SOIL CONTAMINATION		
10.1	Mr Glen Kearns, Health Manager, Tsumeb Town Council M5	When looking at Ondundu, it must be taken into consideration that the area was historically part of a working mine, so any soil contamination there might be related to historic impacts. There used to be a community vegetable garden in Ondundu and plans have been developed to re-establish a 20 ha garden in that area.	It is not believed that all the detected contamination is from historic activities only. Previous studies have proposed that a buffer zone of approximately 1-2 km be considered around the smelter where vegetables should preferably not be grown. Recent studies in 2014 and 2016 found similarly high levels of arsenic in the top soil layer and in plants growing

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		<p>Studies done between 2004 and 2006 have proven to not be very accurate. Much more research has been done since and results are now being viewed differently.</p>	<p>there. Arsenic in the top soil layer can get into plants, food, air and dust in the home and can therefore be ingested.</p> <p>Arsenic in PM₁₀ levels at the Plant Hill monitoring station above Ondundu are an order of magnitude higher than levels at the two town monitoring stations, although the elevated Plant Hill site levels are not sufficient to explain the significantly elevated urine arsenic levels in some Ondundu residents compared with those in other parts of Tsumeb. Arsenic in tap water levels were higher in Ondundu than other parts of Tsumeb, but all levels were well below the WHO environmental limit. Urine arsenic levels were also higher in Ondundu residents who grew and consumed their own vegetables and fruits compared with other Ondundu residents.</p> <p>Due to these findings, the Municipality was urged to reconsider planning of a community garden in Ondundu until the source of these higher arsenic levels in the area had been established. As part of the community health assessment it was recommended to undertake further soil and plant sampling to verify whether crops may be an arsenic exposure pathway, and to establish beyond doubt that it would be safe to grow vegetables in the area earmarked. The analysis of further soil sampling undertaken during 2018 is currently still underway as part of an ongoing Contaminated Land Assessment. The preliminary results of the soil sampling campaign have identified some historic mine dump sites with high arsenic content, unrelated to current smelter activities, in the area surrounding Ondundu. The municipality has put their plans for a vegetable garden on hold until the final results are available and a suitable safe area has been identified in consultation with DPMT's appointed soil sampling specialist.</p> <p>Any plans by the Municipality to relocate Tsumeb residents from Soweto to the Ondundu area should similarly be</p>

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			reconsidered.
10.2	Mr Germanus Uupindi, Tsumeb resident M7	It is important to consider future environmental impacts from contamination accumulating through the years. Measures to control this should be taken seriously and calculated steps should be taken to reduce contamination. Are cars being washed before exiting the smelter site? Cars leaving the smelter park in town e.g. at the shopping malls and may carry arsenic from the site. A washbay with proper drainage and water treatment should be considered to prevent this.	This comment is noted. There is currently no evidence of tyres transporting arsenic offsite and more research would be required in this regard. The suggestion of washing of cars is currently being considered by DPMT.
10.3	Mrs Christie Mentz, Tulipamwe Catering Services M7	There are currently plans for the Municipality to move Soweto residents to Ondundu while they upgrade infrastructure in Soweto. If Ondundu is a higher risk area in terms of arsenic exposure, moving more people there is a clear concern. Municipal and regional government must be made aware of any risks for future development at Ondundu and possible rehabilitation must be considered.	This concern is noted and will be discussed further with the municipality. Options for rehabilitation of contaminated areas are currently being investigated as part of an ongoing Contaminated Land Assessment.
10.4	Nomtsoub resident M8	Methods to reduce arsenic in the soil and water should be investigated. Can the creation of wetlands reduce the spread of arsenic? Could bio-filtration through wetlands be used to get rid of historic arsenic sources?	Wetlands are a good way to capture contaminants. Recommendations have been made for phytoremediation and to revegetate and stabilise slimes dams on the smelter site. It has also been recommended to plant suitable species along the edges of the Jordan River and creating settling areas to capture contaminants and prevent them from dispersing offsite.
11	GENERAL		
11.1	Mr William Pingas, Ondundu Resident M2	We would like to enquire whether DPMT can assist us with refuse removal and the provision of dustbins or waste drums. We have no waste bins and no refuse removal.	Although DPMT is prepared to assist as far as possible, refuse removal in Ondundu Village is the responsibility of local government. The problems will, however, be relayed to Tsumeb Town Council.
11.2	Mr William Pingas, Ondundu Resident M2	Our houses are leaking when it rains and our pleas with the municipality have fallen on deaf ears. The municipality refers us to Weatherlys because the Ondundu houses used to belong to them. They refer us back to the municipality. This process sometimes takes days and we get no answers. Could DPMT assist us?	As mentioned above, this concern will be relayed to the Tsumeb Town Council.
11.3	Ms Monique Muturi, Human	Has the nursery (for the phytoremediation trials) already	Yes, the nursery on the smelter site was completed in 2016

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	Resources Manager, Tsumeb Town Council M5	been established in Tsumeb?	and propagation as part of phytoremediation trails commenced in 2018. The process of phytoremediation entails the use of certain plants that are known to take up heavy metals for the extraction of chemicals and heavy metals of concern from contaminated soils. The plants identified for use by a specialist are all indigenous and will be propagated at the nursery at DPMT's cost.

Written comments received on the Draft Environmental and Social Impact Assessment Report.

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1.1	Marcus Gillman for THEAN, written comment on Draft ESIA Report dated 20 May 2017	<p>Firstly, the EIA as a whole represents an improvement on previous ones, the specialist studies are better and more comprehensive and the main EIA report of a better quality generally. However, there are some critical omissions and obfuscations which we suspect have been forced on the EIA by Dundee – having reviewed enough of these studies to see how they work we can easily pick up the signs.</p> <p>An EIA in THEAN's view is probably the most critical document in a company's lifecycle because it gives the public insight into what impact the company is currently having – and intends to have – on people's environment and health. Independence is paramount. At no other point is the proper opportunity provided for stakeholders to interrogate a company's intention. It is the only point at which the public can have a say into the granting of authorisation or permission for a company to proceed.</p> <p>Many companies, like Dundee, view the EIA as a check box exercise, something to be done quickly and cleanly, something that can be managed – akin to a PR exercise. Also, the only other EIAs that Dundee have been involved in are Eastern European ones, obviously, the active managing (read interference or massaging) of this process by management is the norm there. But this is not Bulgaria. Namibia is not a country, like Bulgaria, "<i>where capture of...important industry sectors defines reality</i>". (Andrej</p>	<p>With regards to the integrity of the EIA and the process, DPM relies on SLR as the independent consultants and the adjudication of the government authorities in terms of the Namibian environmental legislation and process requirements. SLR is bound by professional codes of practice and professional registration bodies. Commentary and input from DPM management was limited to review in order to ensure accuracy of technical information.</p> <p>Response by DPM: "We take the EIA process very seriously. We go to great lengths and expense that clearly demonstrate that we are meeting our commitments to safety, environmental impact and responsible community engagement. Furthermore, DPM has experience with EIA's in Namibia and in Bulgaria which is part of the European Union. Allegations of "active managing or forcing...obfuscations" of the process are entirely</p>

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		<p>Nosko, Open Society Foundation).</p> <p>This interference and indifference mindset is obvious reading through the EIA, dissecting it and considering the actions around the process: the new MD of the smelter didn't deem any of the EIA public meetings important enough to attend, Dundee also actively misled the public at the public meetings – but more about that later. We also find it suspicious that there has been such a recent exodus of experienced senior people around Dundee expansion decisions.</p> <p>This submission is being copied to the chairman of Dundee's board and to the office of the Canadian CSR counsellor, amongst others. Dundee must be held to account.</p> <p><u>CRITICAL ISSUES</u></p> <p>1. The ARSENIC PLANT: The official line of the company, that the arsenic plant was closed due to commercial reasons, is a fabrication. PR spin which was demonstrated during the public meetings by company representatives. The meeting we attended at the Makalani Hotel in Tsumeb on 20 April displayed this well. The opening address by Buks Kruger (speaking on behalf of the MD) went to pains to emphasise that the plant was closed only because of commercial reasons. It's not a good start to an EIA process to lie to the public AS WAS DONE HERE.</p> <p>The arsenic plant was closed because the environmental and health impacts were too severe, it was too costly and complicated to fix them, and Dundee would have not qualified for a loan from the EBRD if they didn't close it. Simple as that. Check with EBRD and check with Dundee – they would be lying if they said anything else. SLR needs to correct this misstatement in the EIA.</p> <p>Well intentioned and good advice from internal and external resources has, for the last few years, been ignored by the CEO and COO of Dundee to keep the plant open at all costs. Even, apparently, to human health. There had to be the appearance of arsenic processing capacity to ostensibly differentiate DPMT from competitors who couldn't process complex (read arsenic containing) concentrate. Except the arsenic plant was so old and</p>	<p>without merit. We are open, responsible and committed to a fair and responsible dialogue with our stakeholders.”</p> <p>The public meetings undertaken as part of the EIA process was facilitated by a stakeholder engagement specialist and SLR as the environmental consultant. The meetings were attended by senior DPMT staff members who were in a position to answer any technical questions from stakeholders. The managing director did not attend the public meetings as it may have discouraged employees attending meetings to openly share any concerns they might have.</p> <p>DPMT fully disclosed reasons for closing the arsenic plant when the decision was announced in late 2016. In October 2016 DPMT made the decision to direct its efforts and resources to the optimisation and growth of the smelting business. The international market for arsenic trioxide was declining, the plant incurred years of losses and despite significant investments toward health and safety, it was not making sufficient progress on environmental controls. As a result, DPMT decided to permanently close the Arsenic Trioxide Production Plant, as upgrades to the plant were not commercially viable. Closure of the plant also removes the main source of arsenic exposure to employees and contractors. The plant was finally closed in February 2017, following engagement with the Ministry of Environment and Tourism.</p> <p>It must also be noted that the 20 April meeting referred to was not undertaken as part of the EIA process and that the closure of the arsenic plant does not form part of the proposed expansion project.</p>

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	<p>poor performing that it only processed 14% of what went through the plant and dispersed the rest of the arsenic to wind and other elements. Smoke and mirrors Dundee. Well, rather, arsenic dust and mirrors. The fact that it was finally closed in February 2017 is too little too late in our view.</p> <p>The legacy of the arsenic plant should not be DPM's entirely own to bear. We know this. But they must take leadership in dealing with the repercussions. They knowingly sanctioned high exposures to workers (sometimes in excess of 100x the EU limits) for more than 6 years, putting many in harm's way intentionally in terms of potential lung and bladder cancers in the future. And they didn't make serious efforts to manage it, with top level leadership ignoring internal and external advice for years. It took the actions of a small NGO (Bankwatch) to effectively stop them via a massive, nervous European Bank. The irony! Not that Dundee would ever admit this of course, they refuse to engage with Bankwatch.</p> <p>Where was Dundee's board through all of this? Were they actively misled? Provided watered down versions of the arsenic risk data? We are going to put in a request for copies of board minutes and compare them to reality on the ground. At the very least, EBRD should. EBRD, as significant shareholders in this process must now force Dundee to correct their intentional oversights. Like the stern headmaster watching delinquent schoolboys. In fact, taken to its extreme, EBRD using their shareholders advantage, should force out the management components of Dundee that wilfully let this arsenic exposure happen. A full retroactive investigation is warranted. We are planning to buy some DPM stock (cheap now, even for a NGO!) and inject a healthy dose of shareholder activism. Shake up those dreary Toronto shareholder meetings. Watch this space...</p> <p>This EIA should not be considered by the authorities in any shape or form until:</p> <ul style="list-style-type: none"> • A full and proper accounting of cancer risk is undertaken, taking the good work that was done by Prof Myers in the EIA 	<p>DPMT welcomed the 2012 government study into the effects of arsenic exposure on current and former employees. Over 1 700 people were tested in what remains the largest worker health study in Southern Africa. The results of the survey confirmed there were no cases of cancer attributable to arsenic exposure and the majority of concerns were related to skin rashes.</p> <p>Dundee Precious Metals is a publicly-traded company listed on the Toronto Stock Exchange and operates under the strict governance and disclosure provisions of Canadian securities law, including availability of board decisions. Board members are respected and experienced business people who are fully informed and understand their obligations to maintain the core values of the company.</p> <p>Although the 2012 health study into 1 700 current and past workers showed there were no incidences of cancer</p>

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		<p>further by presenting a monitoring and mitigation plan which tracks exposed individuals regularly and provides real time and iterative assessment of cancer risk. Direct engagement with government on creating a registry or database and formalising proactive treatment and compensation protocols should be vigorously pursued. Dundee and Louis Dreyfuss must be forced to do this by EBRD and or the government. They will not do it willingly.</p> <ul style="list-style-type: none"> • A proper and honest statement on the closure of the arsenic plant and the rationale behind it should be revised and included in the EIA. <p>DPM together with Louis Dreyfuss (they are complicit in this because they provide the concentrate and have been negligent in anticipating environmental and health risk) must set up a higher level assessment process to understand the big picture impacts of arsenic import, processing and health and environmental risk in Namibia. This should be open to public review.</p>	<p>attributable to the smelter, DPM is committed to improving the health status of the community. DPM indicated that it supports Prof Myers' proposal for a National Cancer Registry and very much want to be active participants in its development. It should be an inclusive and comprehensive approach involving a broad stakeholder group of other industries, medical specialists, community representatives, government and NGOs. DPM indicated that it looks forward to helping begin those discussions with the Namibian government and stakeholders.</p> <p>As per the community health specialist's recommendations, further health monitoring of community members commenced in the fourth quarter of 2018 in order to further understand the potential arsenic exposure pathways and what remedial actions are to be taken. When viewed in conjunction with the preliminary results of an ongoing contaminated land assessment, the likely exposure pathways of concern are from contaminated soil related to historic mine dump areas outside of the smelter boundary and related dust emissions from these historic contaminated areas.</p>
1.2	Marcus Gillman for THEAN, written comment on Draft ESIA Report dated 20 May 2017	<p>2. The EMP and EBRD: The EMP is the instrument that gives flesh to the mitigation and management actions of the EIA. It's the tool that gives the public verifiable confidence that "what is said, is done". Why then no mention of the EMP (or environmental action plan) that Dundee has to commit to for EBRD? Instead we are presented in the EIA with a EMP that seems to say, "<i>it's OK we are in Africa so we can commit to lower standards and levels of actions that we would otherwise normally have to</i>". One, consolidated EMP should be issued and committed to, albeit with phased targets for meeting certain higher EU standards.</p>	<p>The ESIA is an assessment against national and international standards. The relevant standards that need to be met are identified and compliance will be ensured through the implementation of the EMP specifications. Aspects of the EBRD required environmental action plan are included in the EMP.</p>

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1.3	Marcus Gillman for THEAN, written comment on Draft ESIA Report dated 20 May 2017	3. The Hazardous Waste site – a hulking “carcinoma in waiting” on the hill. Pitifully low level detail is given in the EIA re the plans for the closure of that waste site. Was this intentional? We suspect so. In fact, Dundee is gayfully going ahead with extending the hazardous waste site by expanding the facility. Government made a significant mistake authorising that facility and should now revoke authorisation or at the very least force Dundee to present alternatives/technology to deal with the waste – in a very tight time frame. Namibia can no longer sit back and do nothing while (eventually) 300 000 tonnes of a class 1 carcinogen sits atop a massive aquifer which feeds the country’s most populous regions to the north (pages 165 and 62, Atlas of Namibia, Mendelsohn <i>et al.</i> (2022)).	The hazardous waste disposal facility was designed and constructed to international standards and is operated in line with these standards and good international practice. It is monitored and controlled by DPMT and is regularly inspected by the Government and externally assured by an independent consultant. The latest external audit was conducted in June 2017 by SRK Consulting. The site was found to be engineered and operated to the highest international standards. All the details of the available storage capacity and current state are provided in the ESIA (see Section 5.4.9 and the specialist study in Appendix D). DPMT has committed to finding alternative solutions for the handling and disposal of arsenic waste and are currently pursuing further investigations in this regard. These include development of a regional hazardous waste disposal facility, utilisation of other existing approved facilities (including outside of Namibia) and technology for reducing arsenic solubility of arsenic bearing products. One of the technologies being investigated includes vitrification which would encapsulate arsenic bearing products. A pilot vitrification plant was commissioned during February 2019 and will be operated for six months. If the pilot project proves successful (expected based on preliminary investigations) a full vitrification plant may be established (after the required approval process).
1.4	Marcus Gillman for THEAN, written comment on Draft ESIA Report dated 20 May 2017	4. The Ondundu Arsenic levels. Good work has been done by this EIA to quantify the (low) exposure of the residents of Tsumeb by and large to arsenic. The small community of Ondundu is not so lucky though. Their levels of Arsenic are 10x the rest of Tsumeb. This is not entirely unexpected given their proximity to the hazardous waste site (~800m) and likely contaminated soil that they live on. What we find strange is this is entirely downplayed in the main portion of the EIA – with reference to it being “unclear” where the arsenic comes from. Are you kidding? An idiot can see a causal link. Yes, it may be partially contributed by historical arsenic contamination but the extant environmental monitoring	The exposure pathways are more complex than merely using the Plant Hill site monitoring data and making inferences. The arsenic levels recorded at the Plant Hill air quality monitoring site is not high enough to explain the urine arsenic levels. This position has been confirmed by the independent specialist, Prof Myers. What is thus unclear is how the arsenic is reaching the residents. Further studies were thus recommended on the food pathway and hand to mouth behaviour in order to explain the exposure pathways. This may be a combination of different factors, but not exclusively related to air quality data alone.

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		<p>data from Dundee's OWN stations ("the hill site") show exposure levels in this area are high. The hazardous waste site windblown dust is contributing to the arsenic load on Ondundu residents.</p>	<p>DPM is aware of and concerned about the higher arsenic levels found in Ondundu and is unequivocal in its commitment to finding a solution. However, it would be premature at this point to determine the exact cause. What has been ruled out is that the source is drinking water. Testing confirms tap water levels meet both the Namibia and WHO standards. Options for remediation are currently being investigated and it is planned to conduct further monitoring to identify the source and to develop remediation options in collaboration with the community.</p> <p>As part of these plans, further soil sampling and analysis of edible plants and insects are already being undertaken as part of the ongoing Contaminated Land Assessment. Reference is made to preliminary results in the 2018 update of the Community Health Assessment included in Appendix I. Some edible plants were found to have elevated arsenic levels and a correlation was found between individuals who collected edible plants and elevated urine arsenic levels. Further analysis in this regard is, however, still required and would only follow once all Contaminated Land Assessment results and analysis of further testing of urine arsenic levels undertaken in the fourth quarter of 2019 is available. This process is to be dealt with as an ongoing community monitoring process by DPMT outside of this ESIA Amendment process.</p>
1.5	<p>Marcus Gillman for THEAN, written comment on Draft ESIA Report dated 20 May 2017</p>	<p>5. Government needs to force Dundee to properly quantify historical pollution load and by some agreed weighting work out historical liability. Secondly, a development buffer should be enforced around the facility. In no country in the world would communities be allowed to live so close to a high hazardous waste site. It shouldn't be done in Namibia. What Dundee is doing by softening statements around this important impact is deflecting attention from an issue that is at the core of the company's (and government's) moral and ethical duty.</p>	<p>As stated in the ESIA Report, a Contaminated Land Assessment is currently ongoing in order to quantify the level of contamination and historical pollution for input into the next update of the Closure Plan.</p> <p>The consideration of a buffer has been proposed for discussion with the local government for many years. It is not within DPMT's power to establish, regardless of how much it may support the idea. Discussions around this are to be formalised and a working groups set up with the Tsumeb Municipal council. The Tsumeb Municipality was also advised to reconsider planning proposals in the vicinity of Ondundu, specifically plans for a largescale vegetable garden, until</p>

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			<p>further soil sampling has been done in the area. The municipality has since put their plans for a vegetable garden on hold and will identify a more suitable area in line with the results of the ongoing Contaminated Land Assessment.</p>
2.1	<p>Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report</p>	<p>(The comment has been shortened to exclude some large extracts from the ESIA Report, without losing the essence of the comment. The full written comment is enclosed.) <u>Community, environmental and social issues</u> The data presented in the ESIA and the appendices show a severe contamination of the soils with arsenic and other hazardous components. They also show that this contamination continues and migrate as the area around Tsumeb is predominantly karstic, which is characterised by underground drainage systems with sink holes and caves. The updated groundwater model from March 2016 shows that contamination may be moving off-site and that the arsenic plume will continue to migrate to the north.</p> <p>Based on the emissions in the air at the base scenario (current situation) the impact of arsenic on the receiving environment and nearby air quality sensitive receptors was found to be at the upper level of what might be considered acceptable, from a non-carcinogenic and carcinogenic inhalation health exposure perspective. No one should deny that these quantities of emissions, currently accumulated in the bodies of Tsumeb citizens and the soils, increase the exposition to harmful substances. The Figure 7-8 on page 7-18 regarding the lifetime cancer risk related to arsenic inhalation exposure is interpreted in the ESIA as medium risk for the smelter site and low risk for the city of Tsumeb, but if we look at the figure we see that the smelter site is under high risk (0.1-0.001 µg/m³) and half of the city falls in the medium risk zone (0.001-0.0001 µg/m³) according to WHO URF standard for pollutant concentration. The findings of the health report show that some of this arsenic is being brought home on</p>	<p>The updating and refining of the groundwater model was originally included as a recommendation in the draft ESIA Report. The decision was made to commission the updating of the model prior to submission of the final ESIA Report to MET for consideration. The updated groundwater model is included as an Addendum to the Groundwater and Surface Water Report in Appendix E. The main findings of the groundwater model showed that the arsenic plume may be moving in a north-easterly direction, but that it is not expected to reach irrigation farms to the north-east, not even over a 200-year modelling period. The model is considered as conservative and as a worst case scenario without any remedial action taken to treat contaminated groundwater within the smelter precinct. With the further implementation of groundwater containment and treatment, it is thus not expected that contaminated groundwater would reach farms to the north-east.</p> <p>The air quality assessment focussed on mass balances for input and output of arsenic to indicate arsenic dust levels that might be present in the atmosphere. For the 2018 update of the air quality assessment, additional analysis of dust particles was also undertaken in order to confirm arsenic emission levels. The community health assessment focussed on actual exposure of residents to arsenic by measuring urine arsenic levels. The results showed that the air exposure pathway alone was not responsible for elevating urine arsenic levels.</p>

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		<p>clothes, shoes, bags and vehicles and other objects, finding its way probably via the hand-to-mouth route and ingestion to household members. It also shows that the arsenic at the neighbourhood closer to the smelter comes from the homegrown food. And the ESIA concludes by mentioning that the arsenic in airborne dust and drinking water could not be responsible for the elevated urine arsenic levels and that attention must be directed to other pathways, such as food and hand to mouth behaviour. It is also recommended to stop collecting wild fruits and herbs and growing food at home. Of course, there is no other arsenic source of contamination than the smelter operations and, of course, the people stopping to grow food at home will increase the economic activity by buying their fruits and vegetables at the market, but we don't think that this is socially fair.</p> <p>The fact is that the legacy of the smelter and the current operation put additional pollution burden and, in that way, deteriorate the life quality of the affected people. This is the main subject of concern as all studies show that the emission will increase drastically with the increase of the production capacity of the smelter as underlined by the health report and the social assessment. According to the studies the increase in production throughput is unlikely to introduce a new hazard but may increase the exposures to hazards already present, including arsenic, SO₂, noise and fatigue. SO₂ emissions will increase by 53%, PM₁₀ emissions are expected to increase by 19%, arsenic emissions by 54% and H₂SO₄ emissions by 42%.</p> <p>From an economic perspective such increase of the capacity probably will be beneficial for the company, but from a social perspective the benefits are negligible since no new workplaces will be created. Anyway, the entire employment rate of the smelter of 667 (550 in the health report), even if "the largest single employer in Tsumeb" is a really small number compared to the Tsumeb population estimated of 25 000. In 2012, the</p>	<p>It is agreed that preventing people from growing food crops would be unfair but it is better than allowing them to grow these crops and to be exposed to arsenic. It should be noted that a large proportion of this contamination is legacy contamination from more than 90 years of mining and related activities in the area prior to the time that Dundee acquired the smelter site. This is a complex issue and investigations into contamination are ongoing. DPMT stands by the conclusions from completed and ongoing specialist studies as included in the ESIA. It is, however, too early to draw definite conclusions on the exposure pathways and as recommended by the community health specialist, investigations will continue in this regard. Preliminary results of the Contaminated Land Assessment have, however, showed that there are historic mine dump sites with signs of arsenic contamination in a number of areas surrounding the Ondundu community. This is located outside of the smelter boundary.</p> <p>Whilst emissions will increase from current levels, it must be noted that emissions had been decreased significantly by DPMT by implementing improvements in dust capture, air cleaning and also in particular by significantly decreasing SO₂ emissions. The projected emission increases were calculated on a mass balance basis and assumes that no capture would take place. A very conservative approach was followed. With improved gas capture methods and other engineering solutions currently investigated, it would be possible to limit fugitive emissions even further.</p> <p>Whilst DPMT might be a relatively small employer, the ripple effects of the smelter, a major copper producer in Namibia, are enormous on the town, its businesses and on Namibia as a whole. The increase in production will therefore have a much greater socio-economic impact in terms of employment of businesses benefiting from the smelter and of increased foreign exchange, taxes and infrastructure such as the rail-link</p>

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		unemployment rate of Tsumeb was 36%, significantly bigger than the entire Oshikoto region with 26.4%.	to the coast and associated road network and electricity supply grid. The ESIA states "It should thus achieve in-principle compatibility with key Namibian economic policies and plans, provided environmental and other impacts can be adequately mitigated."
2.2	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report	<p><u>Environmental issues connected to the current smelter operations</u> Since the acquisition of the smelter by DPM in 2010 modernizations and improvements have been implemented, however, several important problematic issues continue to persist and most of them are well described in the document. Some of the reasons are the legacy of the pollution but some others are related to management issues at different level. Regarding the occupation health issue the conclusions are clear, whilst DPM has invested substantial sums on capital improvements and there has been longitudinal improvement in exposures since 2011, it is not sufficient to meet either international or Namibian standards for arsenic workplace exposures. PPE is not providing sufficient levels of protection. There is an appreciable occupational lung cancer risk on average for the plant as a whole.</p> <p>The hazardous waste disposal site, despite its: "design and construction according to best practices", poses serious problems, some are subject of day to day management as described in the waste specialist report. These problems relate to disposal not always taking place in terms of the DPMT Hazardous Waste Disposal Site Operations Manual where it concerns temporary storage of arsenic waste prior to disposal and the handling of arsenic cages and bags.</p> <p>The main problem refers to the top level decision made by the company, namely to export the copper concentrate from Bulgaria, where the treatment is prohibited because of the high arsenic content, the transportation through half of the world and the deposition of the arsenic in Namibian territory. Two years ago, the company pretended that this arsenic is not a deposited waste, but a resource which is stored and sold abroad as a by-product for</p>	These comments are noted. Refer to responses in 1.1 and 1.3 above.

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		<p>production of pesticides and substances for wood treatment. Already at that time it was clear that the exported quantities of arsenic are only a small part of the entire production and that the biggest portion is left in Tsumeb HWDS in old sugar bags under the weather conditions. We alarmed the company that the arsenic is accumulated in accelerated terms much faster than the initial plan indicated. The company denied this issue, but the ESIA report now confirms that the arsenic dust is disposed over a long period of time and that the capacity of the waste disposal site, after the upgrade of the smelter increasing the quantities by 80%, will be exhausted in 8 years' time.</p> <p>Other waste issues well described in Appendix D "Waste Management Review" relate to the general waste handling area where waste burning and disposal of ash on-site was taking place at the time of the waste specialist's review. General waste management was noted as inadequate and burning of waste and disposal of ash would be considered unlawful in Namibian and South African, unless specifically licensed. The environmental clearance of the General Waste Landfill Site was valid for a period of 3 years and has now expired.</p> <p>There are several surface and groundwater issues identified in the report. These include:</p> <ul style="list-style-type: none"> - Abstraction and discharge without the necessary permits - Risks connected to the operation of the sewage plant and discharge of untreated effluent to the reed bed - Despite the work already done, improvement of the groundwater model and better monitoring system is needed 	<p>DPMT are currently working on improving general waste management, including the addition of waste skips for sorting of waste. A general waste disposal site is also in the process of being designed and will be constructed within the next financial year.</p> <p>An abstraction permit has been issued to DPMT for further groundwater abstraction.</p> <p>The sewage treatment plant is fully operational and treated water is being discharged under a valid discharge permit.</p> <p>Since the distribution of the draft ESIA Report, the groundwater model has been updated and is included as an Addendum to Appendix E. The monitoring system has also been improved and further monitoring boreholes are to be drilled in the next</p>

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		<p>- A more effective storm water system is needed</p> <p>With regards to the storm water system, two storm water management reports were submitted to DPMT by Aurecon in 2013. According to the surface water specialist report in the ESIA, it is understood that the clean water diversion berm may not be implemented as the cost is too high. Obviously, the company has decided to not take into account all recommendations from the Aurecon report by reducing some elements of the system and spreading the implementation for “the next few years” which poses problems as the phased approach may be only partial and spread over a number of years, which will result in an increased likelihood of storm water problems in the short-term. Of serious concern is the cancelling of the clean water (non-contact) separation diversion berm and channel, as this will allow a significant volume of additional storm water to access the main plant area, overloading the planned dirty water gravity collectors and pollution control dams.</p> <p>Substantial elements missing in the ESIA – both the operation and transport from the Kliplime quarry or Walvis Bay are not properly assessed and those should be added in the report.</p>	<p>financial year. The relevant permits have already been issued in this regard. DPMT is currently busy implementing the updated stormwater management project in phases. As a first phase, the concrete lining of the main stormwater channel through the smelter site has already been completed. The construction of a pollution control dam is currently underway.</p> <p>The addition of a clean water diversion berm has been included in the updated stormwater management project and will be implemented. The relevant specialist study has been amended to include this. The stormwater management project has been committed to and is progressing in phases over a 3 – 4 -year period.</p> <p>As stated above, the clean water diversion berm has not been cancelled and is included in the latest stormwater management plan. The relevant specialist report has been updated to reflect this.</p> <p>Minimal material is transported from the Kliplime quarry on an annual basis and the impact of such transport is deemed to be insignificant. As transport from Walvis Bay will be continuing by rail and the number of additional truck trips per day would be limited, it was not deemed as a significant impact for detailed assessment. The necessary emergency response plans for road and rail transport between Walvis Bay and Tsumeb are also in place. Transport requirements are included in Section 5.4.7 of the ESIA Report.</p>

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2.3	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report	<p><u>Access to information</u></p> <p>The access to information seems a seriously problematic issue both for DPM and the national authorities. As environmental protection organizations we were striving to obtain information on the Environmental Clearance Certificates of the already implemented improvements of the smelter, the requirements set by these ECCs and any evidence that the relevant authorities monitor and control the implementation of them. From 2014, such information was required through intensive communication to DPM management staff ranging from the vice-presidents to the environmental officer in Tsumeb (including a visit to the smelter) and, until now, the result was close to zero with different, sometimes ridiculous explanations and, surprisingly, we confronted the same secrecy from the responsible national authorities at MET and especially from the Environmental Commissioner.</p> <p>In the current documentation, such information is also not available. Only the ECC from 2016 regarding the approval of the Environmental Management Plan is attached as Appendix A, and hereof only the stamped and signed front page without any detailed explanation or the conditions and requirements under which the certificate was issued. Even more, the short text of the certificate states that "...this clearance letter does not in any way hold Ministry of Environment and Tourism accountable for misleading information nor any adverse effect that may arise from this project activity" which practically means that the competent authority issued the ECC on a documentary basis without thorough examination and verification of the approved activities.</p> <p>In that way, the interested or the affected public is impeded to assess what operations and activities are allowed, what are not, and how these are implemented and what is the level of control of the competent authorities.</p> <p>Since the custom of publication of such documents in electronic format on the company's and / or the competent authority's</p>	<p>It must be noted that Environmental Clearance Certificates in Namibia consist of only a signed page to confirm that the submitted documentation was deemed sufficient to address the identified impacts and that a development may proceed in compliance with the submitted EMP documentation. No detailed documentation is issued that duplicates targets and recommendations set out in the EMP documentation. The Environmental Clearance Certificate provided in Appendix A of this ESIA report serves as an approval to continue operating the smelter and hazardous waste disposal site in line with the original submitted EMP documentation.</p> <p>Reviews of operational activities in order to show progress against the EMP requirements are undertaken regularly and reported to MET.</p> <p>The ESIA Report and consolidated EMP are currently available on the SLR and DPM websites and will remain on the DPM website upon completion of the ESIA process.</p>

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		<p>webpages is rather well known and largely adopted good practice, we asked by means of an official letter in 2015 both DPM and MET to release both the Environmental Assessment Reports and the ECC issued. Until this moment this good administrative practice was not implemented.</p> <p>As it was said by company representatives during the public hearings that “We strive to be as transparent as possible” and “This EIA report is available on request to DPMT (regarding the 2012 hazardous waste site EIA)” we demand that this international company get in line with the international best practices in Namibia too. It cannot be tolerated that African countries are treated with less respect and less strict standards!</p>	
2.4	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report	<p><u>Legal issues connected to the DPMT operations</u></p> <ul style="list-style-type: none"> - The main concern is the dumping of arsenic dust for long term periods <p>According the Annex I of the Basel Convention on the control of hazardous wastes and their disposal, the content of the HWDS should be classified as category Y24 - hazardous waste containing arsenic and arsenic compounds. The disposal of hazardous waste at DPMT breaches Art. 95 (k) of the Namibian Constitution “Promotion of the Welfare of the People” which requires “...the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory”. If until now the company pretended that the HWDS is a temporary storage of the arsenic as a sellable by-product and obtained a permit on this basis, the current report reveals that the HWDS will be used for a long term disposal of the hazardous waste which cannot be further tolerated. The ESIA mentions better waste practice as the vitrification. The ongoing ESIA procedure should be complemented with the results of this investigation, as well as other possible best practices and finally such an option should be chosen.</p>	Copper concentrate (which is a valuable product and not a waste) containing arsenic is transported from Bulgaria to Tsumeb in Namibia. It is only during the smelting process that arsenic is produced as a waste product. Arsenic waste per se is therefore not transported to Namibia. Previously, before the Arsenic plant was shut down, arsenic trioxide was produced as a saleable by-product.

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		<p>- Permitting and control</p> <p>The approach of the company to proceed with separate permits for each of the modernization projects is a bad practice called “salami approach”, which approves each facility without holistic assessment. We understand that the initial bad conditions and legacy of the smelter may have triggered such approach and we welcome the company’s determination to change the approach with the current procedure.</p> <p>However, this approach until now, despite the improvements, resulted in a number of unlawful practices, operation without the necessary permits and activities which were permitted but not implemented as identified in the ESIA report. This poses environmental and social risks of deterioration in addition to the legacy issues.</p> <p>The fact that these issues were identified by external experts and not through inspections of the competent authorities poses again the relevant question on the manner in which the competent authority approves the operations and the lack of proper and systematic control by the State. These practices should cease and the competent authorities should execute systematic control and not allow any further deterioration due to smelter operations.</p>	<p>It was not possible at the outset of DPM’s acquisition and commencement of operations to predict all the requirements for a total modernisation project and to undertake a single assessment for all future modernisations. The current ESIA process thus serves as a process to consolidate the different EMPs previously approved for the smelter operations. Apart from consolidation, the impacts were also assessed cumulatively to existing impacts, an approach that will be followed for all future impact assessment processes.</p>
2.5	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report	<p><u>EBRD performance requirements</u></p> <p>The ESIA report refers to the performance requirements of the EBRD. This is a good approach as it improves the quality of the entire procedure. However, the described deficiencies above show that the company does not comply fully with these requirements. In some cases, it takes into account only part of them, in other cases proposed measures are not adopted as considered too costly, and in cases as the waste classification are not fulfilled at all.</p> <p>As a company with international reach, it is advocated that DPMT should also give consideration to the European Bank for Reconstruction and Development’s performance requirements with relevance to waste management. This includes Performance Requirement (PR) 3: Resource</p>	<p>The EMP and associated ESIA are attempts by the company to improve its environmental performance to an acceptable standard, albeit from a low base caused to a large extent by legacy issues. It will take time and a considerable amount of capital to achieve this goal.</p> <p>DPMT is striving to improve its waste management procedures in line with the EBRD’s PR3 regarding Resource Efficiency and Pollution Prevention and Control, where it is found to be lacking.</p>

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		<p>Efficiency and Pollution Prevention and Control which is explained as follows:</p> <ul style="list-style-type: none"> - The Performance Requirement recognises that increased economic activity and urbanisation can generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels. <p>Therefore, resource efficiency and pollution prevention and control are essential elements of environmental and social sustainability and projects must meet good international practice in this regard. This PR outlines a project-level approach to resource management and pollution prevention and control, building on the mitigation hierarchy, the principle that environmental damage should as a priority be rectified at its source, and the “polluter pays” principle. The project-related impacts and issues associated with resource use, and the generation of waste and emissions need to be assessed in the context of project location and local environmental conditions.</p> <ul style="list-style-type: none"> - Avoid or minimise the generation of hazardous and non-hazardous waste materials and reduce their harmfulness as far as practicable. Where waste generation cannot be avoided but has been minimised, reuse, recycle or recover waste, or use it as a source of energy; where waste cannot be recovered or reused, treat and dispose of it in an environmentally sound manner. <p>If the generated waste is considered hazardous, assess technically and financially feasible and cost-effective alternatives for its environmentally sound disposal considering the limitations applicable to transboundary movement and other legal requirements.</p> <ul style="list-style-type: none"> - When waste disposal is transferred offsite and/or conducted by third parties, obtain chain of custody documentation to the final destination and use contractors that are reputable and legitimate enterprises licensed by the relevant regulatory agencies. Also ascertain whether licensed disposal sites are being operated to acceptable standards. Where this is not the case, consider 	<p>In addition, alternative solutions for the handling and disposal of hazardous arsenic waste products are actively being sought (refer to the response in 1.3 above).</p>

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	<p>alternative disposal options, including the possibility of developing own recovery and disposal facilities at the project site.</p> <p>The EBRD PR3 Section 18 notes that “For projects with a high water demand (greater than 5,000 m³/day), the following must be applied:</p> <ul style="list-style-type: none"> - A detailed water balance must be developed, maintained and reported annually to the EBRD”. The water balance had not been finalised at the time of the writing of the specialist water reports. <p>The Aurecon report complies with EBRD PR4 Health and Safety, Section 31 (Natural hazards), which stipulates “The client will identify and assess the potential impacts and risks caused by natural hazards, such as earthquakes, landslides or floods as these relate to the project.” It is, however, understood that parts of the storm water plan is to be implemented in a phased approach over the next few years and that the water diversion berm may not be implemented due to costs.</p> <p>The groundwater monitoring network as well as groundwater modelling studies address EBRD PR3 Section 19 which states “The client will need to consider the potential cumulative impacts of water abstraction upon third party users and local ecosystems. Where relevant, the client will assess the impacts of its activities on the water supply to third parties and will need to demonstrate that its proposed water supply will not have adverse impacts on the water resources crucial to third parties or to sensitive ecosystems. As part of the client’s environmental assessment process, the client will identify and implement appropriate mitigation measures that favour the prevention or avoidance of risks and impacts over minimisation and reduction in line with the mitigation hierarchy approach and good international practise.” Based on specialist recommendations, DPMT’s current groundwater model requires improvement.</p>	<p>A detailed water balance has been developed for the smelter operations and is currently in draft format.</p> <p>The stormwater plan is in the process of being implemented and activities will include the addition of a water diversion berm.</p> <p>The updating and refinement of the groundwater model was completed in the first quarter of 2018 and has been included as an Addendum to Appendix E. Also refer to response 2.1 above. A project investigating the sources of contamination and targeted groundwater treatment is also currently underway.</p>

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2.6	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on the Draft ESIA Report	<p><u>Further recommendations on the ESIA report</u></p> <p>1. The proposed increase of the smelter capacity is proved to have significant increase of the emitted pollutants. Taking into account the legacy of pollution which is still not remediated, continue to migrate in a karst underground and poses immediate risk to public health and the environment we recommend that such increase should be approved only if implemented together with a massive remediation program of soils and underground waters. This is a matter of citizen's interest and both the State and the company should invest in it, but the company must take even further steps making sure to find a long term solution to its ever increasing amounts of toxic waste (each year of work of the smelter equals 4-5 years of the arsenic pollution at the previous capacity prior to DPM ownership – this is monstrous ticking ecological timebomb).</p> <p>2. We recommend the competent authorities to not approve the ESIA report before the proper assessment and confirmed engagement of the company to adopt and implement technology which will convert the arsenic waste into a non-hazardous material. The current HWDS should be used as a temporary storage of the hazardous waste, but not as a final solution for disposal – this dumpsite cannot remain there to be deal with on the expense of the Namibians if DPM is not there in a while.</p> <p>3. A number of ongoing studies are mentioned in the ESIA report. Preliminary results of some of them are reflected in the current report, but some others not. We recommend that the ESIA should not be approved before the finalization of these studies and integration of their results in the report. Some of these studies as the Contaminated Land Assessment should be used as a basis for the above mentioned remediation program.</p> <p>4. To increase the transparency, we recommend that all previous</p>	<p>The ESIA assessed the potential cumulative impacts of the proposed expansion project and concluded with an EMP to ensure that adequate management of the potential impacts is implemented. It also provided direction on the additional studies required to further understand the required remediation and historic contamination. DPMT has indicated that it is committed to implementing the measures recommended in the EMP. As stated in responses above, alternative solutions for the handling and disposal of hazardous waste is currently being actively pursued with a pilot vitrification plant commissioned in February 2019.</p> <p>Deposition of hazardous waste into an engineered and managed disposal facility is an accepted practice worldwide. As mentioned above, DPMT is, however, currently investigating several alternatives for the handling and disposal of arsenic waste.</p> <p>The preliminary recommendations from the Contaminated Land Assessment have been included as required actions in the EMP. If further recommendations are made after finalising of the Contaminated Land Assessment, these will be added to the EMP and Closure Plan for remediation of the site, as applicable. DPMT will take the necessary measures in line with the “Duty of Care” principle, but its exact responsibility in terms of legacy contamination issues will be considered in consultation with Government.</p> <p>Relevant information will be made public through the available</p>

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		<p>ECC and EIA reports to be published in electronic format on the DPMT and MET websites.</p> <p>5. An extensive medical investigation regarding the state of health of the residents of Tsumeb especially the workers should be done by independent experts in order to evaluate a possible increase in cancer cases and other serious diseases probably caused by the activities of the copper smelter over many decades. This should include retrospective assessment of previous studies both on health of workers and citizens as well as pollutant monitoring data.</p> <p>To put it straight – under the current situation Za Zemiatra – Friends Of The Earth Bulgaria, Earthlife Namibia and CEE Bankwatch Network consider that the very operations of this smelter at the moment do not cover properly the environmental standards and are not acceptable. Let alone plan for the expansion of the smelter of such scale!</p>	<p>channels, i.e. the Information Centre, website and focused meetings.</p> <p>Ongoing monitoring of community health parameters will be undertaken in line with the specialist recommendations and tasks specified in the EMP.</p>
3.	Thilo Himmel - NAMFO	<p>As Namfo (Fresh Produce Manufacturer) we have three short but critically important comments to make on the EIA, both related to groundwater pollution and the potential for this to impact on our industry.</p> <p>1.The groundwater modelling detail do not go far enough in tracking potential contaminated plume movement from the calcine boreholes in a northerly direction. There needs to be more information on rate of movement and directionality, including a specific risk mitigation scenario for dealing with aquifer contamination impacting on Namfo.</p>	<p>One of the key mitigation measures included in the draft ESIA Report was the updating of the current groundwater model. In line with this recommendation, the groundwater model was updated and refined to consider rate of movement and directionality. The main findings showed that it is not expected that contaminated groundwater would reach the Namfo farms to the north any time within the 200-year modelling window. As mentioned above, this is a conservative assessment that does not take into account any groundwater containment and treatment. Refer to the Groundwater Model Addendum in Appendix E.</p> <p>In line with the key mitigation measures recommended as part of the ESIA and included in the EMP, a study into</p>

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		<p>2. There is no information on measures which must be employed at site (source) by the smelter to address existing high arsenic levels. This could be pump and treat or other measures but we believe the potential is serious enough that in the next 12-24 months there must be a physical intervention on site to contain and treat and contaminated groundwater.</p> <p>3. Finally, the source of both realised and potential groundwater contamination is both the historical waste (which Dundee has not removed) and the hazardous waste site. Both these sources represent far too great a threat to groundwater integrity both regionally and locally. Critically, the potential to impact on the commercial of Namfo's operations is high and the smelter does not seem to have a plan to address the long term presence of the waste site and the historical waste (arsenic) sources.</p> <p>Our view as Namfo is that they all should be removed as soon as possible with a maximum of 5 year time frame.</p>	<p>contamination sources and targeted solutions for groundwater treatment and pollution source elimination is currently underway.</p> <p>The problem of the historical waste (from the arsenic calcine dump) will be addressed over the long term via the alternative solutions currently under investigation. A Contaminated Land Assessment and additional study into the different contamination sources on the site and how these are to be remediated is currently underway. These studies will define what measures are to be undertaken in addition to the following key measures already prescribed in the EMP:</p> <ul style="list-style-type: none"> • "Complete the study on sources of contamination and potential remedial action"; • "Rehabilitate polluting dumps in line with the closure plan recommendations."; and • "Dispose of general (non-hazardous) waste material at a suitable disposal site. This would require the establishment of a formal general waste site or addition of incinerator for the additional waste volumes to be generated." In this regard, DPMT is planning to commence with construction of a general waste disposal site within the next financial year. <p>It must be noted that DPMT has committed to responsibly dispose of the historical calcine dumps on the smelter site, but that removing of all arsenic waste from the approved hazardous waste disposal facility would not be undertaken.</p>

Written comments received on the 2019 Revised Environmental and Social Impact Assessment Report.

	NAME & ORGANISATION	COMMENTS	RESPONSE
1	Wouter Niehaus – Tsumeb Gimnasium, written comment on 2019 Revised ESIA Report dated 03 July 2019	<p>Can you please advise me on the following:</p> <p>Where will the arsenic waste bags be dumped? On the same site it is dumped and compacted currently? On top of the hill south of the plant?</p>	<p>It is currently anticipated that, in the interim, the disposal of arsenic waste bags would continue at the existing hazardous waste disposal site on the hill south of the plant in line with its current authorisation. Alternative solutions are, however, still being investigated, including vitrification of the flue dust for which a pilot plant is currently being operated at the smelter. This technology would render the arsenic waste non-hazardous, resulting in a reduction in the volume of hazardous waste to be disposed of. Please refer to Section 5.5.9 of the revised ESIA Report for further details in this regard.</p>
2	André Neethling – Tsumeb resident, written comment on 2019 Revised ESIA Report dated 15 July 2019	<p>I take note of a professional and highly technical report. My concern is that the ongoing “tar like” smell around my house (erf 1573) is an indication of high emissions from the smelter. I do not know the expected concentrate feed composition but I am aware of high concentrations of sulphur and arsenic. In the past and even now there are high emissions and the formation of chemical combinations such as sulphuric acid that damage human tissue, animals and plants (specifically young children and senior people). I have filed a complaint in the past about pollution and damage to my garden. The evidence was obvious and the claim, in terms of the Environmental Act, has been registered at the Municipality. I hope and pray that the conditions will improve as my house is in the Ondundu area. We have diluted the smelter feed in the past and I suggest you increase the smelter capacity by adding “clean” copper concentrate. The blending of the feed material will improve environmental conditions and prevent pollution. Please indicate the design smelter feed composition including the “high and low” limits.</p>	<p>As the date of Mr Neethling’s formal complaint is not provided, it is not known whether it was lodged before or after commissioning of the sulphuric acid plant. Since commissioning of the acid plant, SO₂ emissions have drastically been reduced. In addition to improved capture of fugitive emissions, engineering improvements at the smelter in recent years have further reduced arsenic dust emissions. With the proposed expansion and improved capture of emissions in line with the air quality specialist’s recommendations, it is expected that there would be a reduction in the spread of emissions off-site.</p> <p>With regards to the blending of feed material, DPMT has confirmed that non-complex copper concentrates are currently blended with complex concentrates as part of its normal operations. Further details regarding smelter feed composition can be requested directly from DPMT.</p>

	NAME & ORGANISATION	COMMENTS	RESPONSE
3.1	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p>We welcome the results and amendments presented in the Final ESIA report. Our opinion is that the ESIA procedure has fulfilled to large extend its meaningful purpose.</p> <p>We will underline the following most important achievements:</p> <ul style="list-style-type: none"> • The initial reports and studies were well elaborated and gave much better description and explanation not only for the general public, but also to the responsible Namibian authorities, European Bank for Reconstruction and Development and the Company itself; • Interested and affected parties were registered, informed and consulted according to clear and transparent process; • As result of proper identification of the issues connected to the current and previous operation of the Tsumeb smelter and the initial round of comments, there were conducted additional assessments and amendments in the documents, but also a number of industrial and behavioural measures were undertaken by the Company as the Health and Hygiene Plan, Arsenic Exposure Reduction Plan or the closure of the Arsenic Plant and the introduction of a pilot Arsenic Vitrification Facility. <p>However, despite the positive development, many of the issues from our statement in 2016 are still valid. We will not repeat all of them here, but will focus on the crucial issues related to the work which should be done after the submission of the Report for a decision by the responsible EIA department of the Ministry of Environment and Tourism. Therefore, our comments from 2016 should be considered as integral part of our statement in the EIA procedure.</p>	These comments on the revision of the ESIA Report are noted.

	NAME & ORGANISATION	COMMENTS	RESPONSE
3.2	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p><u>Increased emissions</u></p> <p>Although the Company is improving the emitters of harmful substances, the studies shows that the emissions after the upgrade will increase significantly, for example “<i>Simulations showed that ground level ambient arsenic levels could potentially increase by approximately 54% due to the proposed increased throughput capacity of the smelter.</i>” Or “<i>Simulated arsenic levels at the smelter boundary and at sensitive air quality receptors at Ondundu and Endombo are predicted to be above the EU annual exposure criteria for the expansion scenario.</i>”</p> <p>Other subject of concern is the existing level of hazardous contamination within and out of the smelter borders: “<i>Preliminary results of a follow-up soil sampling programme confirmed that there are numerous historic mine dump sites, exposed reefs and ongoing small scale mining sites surrounding Ondundu which showed elevated soil arsenic levels, further indicating soil as an arsenic exposure pathway.</i>”</p> <p>“<i>There are currently significant contamination levels at the smelter property and surrounds mainly due to historic mining and smelter operations and legacy waste stockpiles.</i>”</p> <p>“<i>Although it is acknowledged that the current DPMT operations, since DPMT purchased the facility in 2010, has contributed to and continue to contribute to the overall contamination load, the majority of the measured contamination levels and related impacts (i.e. groundwater and community health) are attributable to historic operation prior DPMT taking control of operations.</i>”</p> <p>“<i>The Contaminants of Concern (CoC) identified on and off site, with surface concentrations of orders of magnitude greater than local geochemical backgrounds (i.e. primarily from mined ores and smelting) include: sulphur (S), arsenic (As), copper (Cu), chromium (Cr), cadmium (Cd), lead (Pb), antimony (Sb), vanadium (V) and zinc (Zn). Additional contaminants, of lesser or low concern, are cobalt (Co), iron (Fe), manganese (Mn), molybdenum (Mo), nickel (Ni), selenium (Se) and tin (Sn).</i>”</p> <p>“<i>Significant contamination of Tsumeb is localised to the northern section and appears to have emanated from the historical smelter and mining operations, overlain by the modern smelter impact. The main dispersion area of significant contamination from the DPMT property is off-site to the west, northwest and southwest, and appears to extend off-site at medium</i></p>	

NAME & ORGANISATION	COMMENTS	RESPONSE
	<p><i>to severe levels (depending upon CoC)."</i></p> <p>Our position is that these harmful conditions in Tsumeb existed for too long a period and should not be tolerated anymore. It is not acceptable from a social and environmental point of view to allow further, even slight, contamination without undertaking serious measures for improvement of the contaminated soil, dust coming from it and the contaminant pathway to agricultural products and human bodies.</p> <p>If the increase of the smelter capacity is approved, one of the conditions should be the prompt implementation of a soil rehabilitation project which will allow the establishment of acceptable basic environmental conditions for the affected population. Any restriction of the land use contradicts the EBRD PR 5 and can be only a temporary measure for a year or two, but not a solution.</p> <p>The results of the studies show contamination in limited areas and in shallow soil layers, which means that, both technically and financially, the implementation of such a rehabilitation project is viable and achievable.</p> <p>Of course, the whole financial burden for such rehabilitation should not be the responsibility of DPMT. The Company is helping already with some measures, expertise, eventually with the increase of the environmental allocation of the Tsumeb Community Trust which now is 7,5%.</p> <p>But the initiative should come from the Namibian Government, respectively the responsible Ministry of Environment and Tourism.</p> <p>We see the additional benefits of employment and experience which will be extremely useful further as the Republic of Namibia has a large number of old and operating mining sites which require certain levels of land rehabilitation.</p> <p>The Namibian Government and DPMT have to develop an integrated project to deal with this heritage and this should not be further postponed in time.</p>	<p>A contaminated land assessment (CLA) is currently still being finalised. Based on the final outcome of the assessment, DPMT will be liaising with national and local government regarding the required remediation and the responsible parties. A number of recommendations for rehabilitation from the preliminary CLA results have already been included in the EMP and would thus need to be implemented by DPMT should the expansion project be approved.</p> <p>DPMT confirmed that it plans to consult all stakeholders, including Government, on the outcomes of the CLA in order to ensure a participatory approach to rehabilitation of contaminated soil.</p>

	NAME & ORGANISATION	COMMENTS	RESPONSE
3.3	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p><u>Arsenic Hazardous Waste Disposal Site</u></p> <p>As mentioned above, some important measures have been undertaken already and other solutions are recommended by the ESIA, but to become a real engagement these measures, namely the vitrification of the arsenic waste, disposal on a potential regional hazardous waste site, the transport to sites in South Africa or combination of these should be set as obligatory conditions at the EIA decision and the Environmental Clearance Certificate.</p> <p>Our position is to consider the vitrification solution to be the first option as important steps for its introduction are implemented already, but also the storage of the vitrified residues will be much more harmless. The other options are insecure as the regional site is just an idea and the transport of hazardous materials to hundreds of kilometers is always subject of serious concern. Further relocation of arsenic by-products should not be allowed unless it is aimed at long term safe disposal. Just moving the problem from one place to another is no solution.</p>	<p>This comment is noted. The pilot plant is currently in operation to test the technology in an industrial environment. Further decisions on future larger scale implementation can only be made after completion of the pilot study.</p>
3.4	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p><u>EBRD Performance Requirements</u></p> <p>The assessment of the ESIA report towards the EBRD PR's is useful exercise bringing the document to the highest standards. But from theoretical recommendations and options, these high standards will become real goals only if they are set as conditions at the EIA decision and the Environmental Clearance Certificate. These obligatory conditions should refer at least to the following:</p> <ul style="list-style-type: none"> • Vitrification of the arsenic waste as most advanced safe disposal method to date; 	<p>These conditions are noted.</p> <p>As a new technology, vitrification can be a potential solution, but it can also carry some risks. Through the lab tests, pilot plant test and now the demo plant, DPMT is developing design and operating conditions that would ensure management of the risks associated with new technology. As a responsible operator DPMT, in cooperation with the Authorities and in line with the relevant requirements, will select the best alternative which will safeguard human health and safety as well as natural and biotic environment.</p>

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		<ul style="list-style-type: none"> • No further transportation and relocation of arsenic and its by-products for further disposal or for use in agriculture (like use of arsenic trioxide as pesticide or for wood treatment which is a harmful practice and is being phased out globally) unless they are being sent there for vitrification and long term safe disposal. • Rehabilitation of the contaminated land and enabling of healthy basic conditions for the workers and the citizens in the region (as a broader area) • Water balance and water abstraction from public sources which may lead to water scarcity if not planned accordingly; • Transport of the concentrate only by railway; • Strict implementation, monitoring and regular reporting of all DPMT plans and programmes. <p>We will add here a request for a deployment of a renewable energy park which will reduce the financial burden of the Company and the national energy system which imports nearly 60% of the electricity, but also will coincide with the EBRD requirements for resource efficiency and the UN Sustainable Development Goals, basis of the EBRD Mining Strategy.</p>	<p>With regards to transport of waste, DPMT confirmed that it is committed to the requirements of the Basel Convention.</p> <p>Refer to response in section 3.2 above.</p> <p>DPMT is studying various options for energy efficiency and will make such decisions in consultation with the regulator and other stakeholders.</p>
3.5	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p><u>Occupational Health and Safety</u></p> <p>Managing health, safety and security risks to workers as well as to project-affected communities – as underlined in EBRD Environmental and Social Policy, PR2,3 and 4 – in this particular case should consist of preventing the exposure to the hazardous substances and introducing the engineering control to protect the workers and communities collectively.</p> <p>DPMT has the primary responsibility to provide safe and healthy conditions for their workers (also these employed indirectly) and informing, instructing, training, supervising and consulting workers on health and safety. There are about 700 people employed in the Tsumeb smelter by DPM, but 900 more in contractor firms. Contract workers often have to do the dirtiest work with the worst health impacts. In line with PR2, p.22 of EBRD ESP, non-</p>	<p>DPMT confirmed that it does not differentiate in its treatment of contractors and employees regarding OHS management, which follows the hierarchy of controls in managing OHS risks. Contractor workers receive the same training, medical surveillance, biological monitoring and PPE as the employees.</p> <p>OHS controls, management / action plans, policies and</p>

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		<p>employee workers should be treated equivalently as employee workers when it comes to contracts, non-discrimination, access to worker's organisations, OHS measures including Personal Protective Equipment (PPE), monitoring the health and wellbeing and preventing the situations of imminent danger (PR4, p.11-15). They should also have access to the effective grievance mechanism for workers (PR2, p.21).</p> <p>According to the Workers Union representative interviewed by Za Zemiata, Bankwatch and Earthlife Namibia during the FFM in 2019: "The Company Policy allows for the medical scheme/insurance to be valid only 3 months after the worker is dismissed or retired. After that the ex-workers do not have medical insurance and cover of medical expenses." His testimony also indicated that workers are not aware of the symptoms of As exposure. According to him, if the arsenic level in urine of a worker exceeds 100µg, the worker is transferred to another less exposed position till the urine level is down (normally after 3–4 weeks). If a worker's urine level is very high, e.g. 600µg, he might be fired. It is also not clear, if workers have access to their medical records. Mineworkers Union of Namibia (MUN) representatives interviewed by Za Zemiata and CEE Bankwatch Network and EarthLife Namibia in 2019, complained that "Often 3-4 years after retirement workers pass away. There is no investigation on this."</p> <p>According to the Health and Hygiene Plan (2017-2021) a number of measures are undertaken to protect the workers, but the testimonies collected indicate that workers with high arsenic content in urine during the regular medical checks are either forced to take a rest for some weeks, or are moved to another, not so exposed, work. These kind of measures don't solve the arsenic exposure issue.</p> <p>International Agency for Research on Cancer (IARC), a part of the World Health Organization (WHO), whose of a major goals is to identify causes of cancer, classifies arsenic and inorganic arsenic compounds as "carcinogenic to humans." There is sufficient evidence in humans for the carcinogenicity of mixed exposure to</p>	<p>procedures include contractors, and adherence is expected.</p> <p>This is not particular to DPMT and is considered common practice by all companies in Namibia. Companies typically do not pay medical aid post-retirement. In Namibia, retirees are taken care of by the public health system.</p> <p>According to DPMT, formal training is provided to all workers and contractors on arsenic and its exposure symptoms.</p> <p>According to DPMT, no person is fired due to high exposure levels - this would be against Labour legislation. Measures are taken to investigate and control high exposures, including temporary removal from the workplace, re-induction / awareness training to the affected employee and investigation into personal hygiene and workplace practices and conditions. Brochures detailing arsenic pathways, controls and exposure symptoms were commissioned and are being printed currently to further raise awareness amongst employees and contractors.</p> <p>DPMT confirmed that all workers have access to their biological monitoring results at any time (as well as to any other medical surveillance results) and group-based exposure results are communicated to line management on a regular basis.</p> <p>DPMT confirmed that to date, no formal evidence or complaint regarding deaths of retired / ex-employees have been registered.</p>

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		<p>inorganic arsenic compounds, including arsenic trioxide. They cause cancer of the lung, urinary bladder, and skin. Also, a positive association has been observed between exposure to arsenic and inorganic arsenic compounds and cancer of the kidney, liver, and prostate.</p> <p>In line with EBRD ESP, PR 2, p.8-10, DPMT should provide workers and project affected communities with relevant information, instruction and training relating to health and safety hazards, risks, protective and preventive measures and emergency arrangements that are necessary for their health and safety. Where any accidents, injury and ill-health occurs in the course of works associated with the project, DPMT should ensure appropriate financial compensation for any persons suffering injury or ill-health that is caused by project activities.</p> <p>DPMT should create the working conditions, which will allow the full control over the workers' health and safety. It should also make sure, they as well as the communities living in the vicinity are fully aware of the measures, they have to take in order to avoid the negative impact on their health and wellbeing and they know the potential impact of the arsenic on their health.</p> <p>The workers should be monitored, undergo relevant medical checks, be effectively and appropriately informed about their health conditions. They should also receive the medical help in case of any ill-health occur.</p> <p>Additionally, we hope that the Arsenic exposure reduction plan and Health and hygiene plan will improve the situation to certain level and we will propose some measures for even better control with these additional elements of it:</p> <ul style="list-style-type: none"> • Elaboration of understandable materials describing the arsenic toxicity, possible paths for contamination and health reactions due to arsenic contamination. The brochure should be widely disseminated among workers and Tsumeb residents, particularly the most affected communities like the one in Ondundu; • Training of the doctors in Tsumeb on arsenic toxicity, possible 	<p>DPMT recently commenced the development of its community Health Safety and Environment framework which could address these comments.</p>

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		<p>paths for contamination, symptoms and health reactions due to arsenic contamination. The necessary medicaments should be available;</p> <ul style="list-style-type: none"> • Once or twice per year doctors from other parts of the country should come for examinations and alternative opinion; • DPMT Grievance mechanism should contain a very clear description of who and what is eligible for grievance. From the text in the SEP we have the impression that the mechanism is referred only to DPMT personnel. If so, it should be extended and adjusted to any potentially affected party, with the special attention put to the most polluted areas of Tsumeb, Ondundu, Kuvukiland and Endomdo. 	
3.6	Genady Kondarev for Bankwatch, Za Zemiata and Earthlife Namibia, written comment on 2019 Revised ESIA Report dated 16 July 2019	<p><u>Access to information on the ECC</u></p> <p>Despite the list of ECCs and the approved project components available in the final ESIA report and its Appendices, these still do not provide essential information on the conditions attached to the ECC, how they are monitored and how the Company is conform to these conditions. We will give this simple example – the last ECC is from 2016, but the decommissioning of the Arsenic plant was implemented in 2017 and we, as interested party, cannot identify what will be the benefits, but also the challenges of this action, or if it is permitted at all!</p> <p>The lack of this information seems a systematic issue for the responsible Ministry of Environment and Tourism and do not allow any affected or interested party to have evidence about the permitted industrial facilities, the conditions and mitigation measures under which these facilities are permitted, what type of control is held by the responsible authorities and what are the results of the control.</p> <p>With particular letter from 2015 addressed to the Minister of MET and the Environmental Commissioner and under this procedure again we recommend to the responsible authorities to overcome</p>	<p>DPMT reported to a MET Technical Committee on a quarterly basis leading up to the closure of the Arsenic Plant and also after decommissioning.</p> <p>It is agreed that MET's system of only issuing a one-page ECC does not allow for the listing of any specific conditions of approval. By issuing the ECC, however, the EMP, which sets out the mitigation measures, is authorised and is the document used to monitor compliance. According to the latest EMP, an internal audit against the specifications of the EMP will be conducted and results submitted to MET on an annual basis. In addition, an external audit would also be undertaken every other year, and the results submitted to MET.</p> <p>This request to MET is noted.</p>

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		<p>this problematic issue through the simple and well known good administrative practice to publish such information to the website of the Ministry or other appropriate web based platform. The easy for the public approach will be to publish the ECC, but also the implemented control and the results of the monitoring by annual reports.</p>	
4.	Marko Himmel - NAMFO	<ol style="list-style-type: none"> 1. We are a commercial farm, producing fresh produces and are situated about 8 km north of Tsumeb. Namfo has existed and has been farming for 27 years. We produce about 30% of local fresh produce in the Namibian market. We mainly use irrigations systems whereby underground water is used to irrigate the crops. We employ in excess of 300 people directly at Namfo and the farming operation of Namfo and associated companies was created by investment in excess of N\$150 million. 2. As we are situated in very close proximity to DPMT smelter site, the pollution created and the environmental impact of the current operations and the proposed expansion is of a great concern to our business and the remaining farmers within the same area. It is for this reason that we need to provide our Feedback. 3. We have unfortunately only become aware of this matter on the 3 July 2019 by virtue of your email, which has left us with limited time to prepare a detailed and complete response to the concerns arising from this matter. We shall address the concerns in full as soon as possible, but due to the time constraints these concerns cannot be addressed at this time and we need your indulgence for us to consult with experts who need to research this complex matter and thereafter deliver our reply and objections. 	<p>This information on Namfo's activities and importance as a source of employment in Tsumeb is acknowledged.</p> <p>Noted.</p> <p>It must be noted that the ESIA process for the proposed smelter expansion project has been underway since 2016 and that Namfo has since that time been notified of all available documentation and steps in the ESIA process. Namfo provided comment on the draft version of the ESIA report via Mr Thilo Himmel in May 2017. At the time, the comments only related to groundwater concerns. In response, DPMT commissioned the undertaking of further groundwater studies and the development of a contaminated groundwater flow model. Apart from the inclusion of the contaminated groundwater flow model, there were no notable changes in the</p>

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		<p>4. Our preliminary issue deals with how the additional pollution in the various areas, such as the underground water pollution, air pollution and soil pollution will affect our farm, the agricultural sector in the area and the town as a whole. The effect of the various forms of pollution on our plants and animals which are sold for human consumption is of major concern.</p> <p>5. Upon perusal of the Non-Technical Summary of your ESIA dated June 2019 it reveals that:</p> <p>5.1 significant potential environmental impacts are associated with the general operations of a smelter of this nature;</p> <p>5.2 the smelter site and historic mining operations have already impacted significantly on groundwater quality on site;</p> <p>5.3.the main emissions from the smelter site include sulphur dioxide, sulphuric acid and arsenic particulate matter, all of which are harmful to humans and especially if vegetables and fruit produced for human consumption would be contaminated therewith;</p> <p>5.4 there are exceedances of SO₂ emissions of the South African and EU standards for such emissions in close proximity to the smelter site during upset conditions at the sulphuric acid plant and it is expected that SO₂ emissions will increase in line with the proposed increased material throughput and production rates;</p>	<p>main final outcomes of the ESIA process from the previous version of the report that Namfo commented on. Namfo will be requested to provide information on the experts that it is planning to consult with.</p> <p>The matters raised by Namfo have all been addressed in the ESIA process with input from specialist consultants in the different fields. The results have not shown any specific danger to Namfo properties to the north. Further studies into potential soil pollution beyond the smelter boundaries are continuing as an ongoing contaminated land assessment outside of the current ESIA process. Preliminary results of soil sampling have also not indicated any contamination on Namfo properties.</p> <p>This is not disputed. The aim of the ESIA process and specialist studies was to identify measures to mitigate these potential environmental impacts;</p> <p>This has been confirmed by the groundwater specialist as historic impacts.</p> <p>Noted.</p> <p>While it is true that increased throughput of concentrate at the smelter would lead to an increase in SO₂ emissions, these emissions would still be routed through the sulphuric acid plant. With a 90% utilisation of the sulphuric acid plant, it would be possible to limit exceedances of South African and EU standards to within the smelter boundary. It is, however, acknowledged that there may still be unplanned events where elevated SO₂ levels would be experienced outside of the smelter boundary. This would not be linked to normal</p>

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		<p>5.5 the proposed increased throughput capacity is expected to increase both long and short term ambient PM₁₀ and PM_{2.5} concentrations;</p> <p>5.6 arsenic levels in the PM₁₀ fraction exceed the EU ambient air quality reference concentration outside of the smelter footprint and simulations showed that ground level ambient arsenic levels could potentially increase by approximately 54% due to the proposed increased throughput capacity of the smelter.</p> <p>6. The non-technical summary addressed various risks in various areas, however, the effect of the current and proposed additional pollution on plants and animals seems not to be addressed or at the very least is not addressed fully. Further investigation needs to be made of the full ESIA report in order to clarify our concerns.</p> <p>7. It is known that the Tsumeb area has very good conditions for the growing of vegetables and fruit and thereby is a perfect platform to stimulate the growth of the agricultural sector of Namibia. However, should pollution contaminate this platform, such pollution will curb the growth, and viability of the agricultural sector and in large the Namibian Economy.</p>	<p>operations and measures have been proposed to limit these events.</p> <p>With proposed measures for improving the capture of fugitive emissions, it is not expected that particulate matter concentrations would exceed South African and EU standards outside of the smelter footprint. Elevated PM₁₀ concentrations recorded in other parts of Tsumeb outside of the smelter boundary are likely related to farming activities, traffic on unpaved roads, domestic fuel burning and other community activities and not related to smelter activities.</p> <p>The simulations were based on a conservative approach that did not consider improved capture of fugitive emissions. Additional contribution to arsenic emissions from the proposed new Rotary Holding Furnace is considered to be minimal as part of the expansion project. In addition, it must be noted that although the conservative assessment indicated that groundwater arsenic levels may likely exceed EU levels at the nearby Ondundu and Endombo residential areas, the community health assessment found that these levels were still too low to influence urine arsenic levels in residents and would thus not pose a meaningful cancer risk.</p> <p>The soil, water and air quality specialist studies did not identify any additional significant impacts related to the current and future proposed expanded smelter operations. Historic activities on and surrounding the smelter property contributed largely to the known polluted areas and ongoing studies commissioned by DPMT are in the process of quantifying these contributions in order to come up with solutions in partnership with the local authority.</p> <p>This is noted.</p>

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		<p>Tsumeb has been called the fruit basket of the north of Namibia and of Namibia itself, and should thus be utilized in that sense.</p> <p>8. What is apparent at this stage, is that the implications of such an expansion will have a substantial impact on the Tsumeb area and the farms surrounding it and in turn will have negative implications on the agricultural sector of Namibia as regards vegetables and fruits produced locally.</p> <p>9. We strongly object to any further expansion of the current operation of DPMT given the impact this has on and will have on food production and agricultural sector in the Tsumeb area unless our fear of increased pollution can be addressed.</p> <p>10. It is for this reason that we require an engagement with yourselves in order to clarify the issues and provide a detailed and complete summary of the concerns before the ESIA is submitted to the Ministry for the granting of the Environmental Clearance Certificate.</p> <p>11. We shall also engage the Ministry of Land Reform, the Ministry of Environment and Tourism, the Ministry of Agriculture, Ministry of Urban and Rural Development and the Ministry of Agriculture to raise our concerns with these relevant Ministries as well. We strongly recommend that the Ministries' input and approval also be obtained before any further expansion is undertaken or made.</p>	<p>The findings of the ESIA did not support the statement that the proposed expansion would have a substantial impact on Tsumeb and the surrounding farming activities.</p> <p>With the implementation of the mitigation measures proposed in the ESIA, it is not expected that there would be an increase in pollution outside of the smelter boundary.</p> <p>Namfo's request for an engagement will be responded to and necessary arrangements made. Longer term engagement will take place as part of DPMT's Stakeholder Engagement Plan. The submission of the ESIA can, unfortunately, not be delayed at this stage, due to time constraints related to the current Environmental Clearance Certificate lapsing in September 2019.</p> <p>This comment is noted.</p>

INTERESTED AND AFFECTED PARTY DATABASE – MARCH 2019

AUTHORITIES	
INTEREST	CONTACT PERSON
Chairperson of the Management Committee, Tsumeb Local Municipality	Ndangi Linekela Shetekela
Mayor Tsumeb Local Authority	Mrs Veeza Kasiringua
Chief Executive Officer, Tsumeb Local Municipality	Mr Alfeus Benjamin
Tsumeb Municipality	Karolina E Damaseb
Deputy Mayor, Tsumeb Local Municipality	Mr Mathews Hangula
Tsumeb Municipality	Glenn E Kearns
Tsumeb Municipality	Mr Hendrick Shikongo
Tsumeb Municipality	Mr Lemmy Geinbob
Councillor, Tsumeb Local Municipality	Mr D K Venaani
President	Hage Geingob
Deputy Prime Minister's Office	Netumbo Ndaitwa
Ministry of Environment & Tourism	Environmental Commissioner Mr Theofilus Nghitila
Ministry of Environment & Tourism	Director Freddy Sikambonge
Ministry of Health & Social Services	Dr Ali, Chief Medical Officer
Ministry of Labour, Industrial Relations & Employment Creation	Minister Erkki Nghimtina or Chief Labour Inspector Occupational Health & Safety Sebastian Mr Kapeng
Ministry of Agriculture, Water & Forestry	Elizabeth Mbandeka
Ministry of Industrialization, Trade and SME Development	Hon. Minister Immanuel Ngatjizeko
Ministry of Finance	Hon. Minister Calle Schlettwein
Ministry of Public Enterprises	Hon. Engel Nawatiseb, Deputy Minister
Ministry of Poverty Eradication	Bishop Zephania Kameeta
Nampower	Acting MD Kahenge Simson Haulofu
	Board Chairperson Maria Nakale
Transnamib	Station Master, CEO - Hippy Chivikua
Regional Governor's Office	Hon. Kankoshi, Reg. Councillors
Namibian Ambassador in Washington	Martin Andjaba, Ambassador, Washington

LANDOWNERS/BUSINESSES	
INTEREST	CONTACT PERSON
Gate Way Holdings (pty) Ltd	Rudi Colesky
Private	Gustave Heins
Private (next to smelter)	Andre Neethling
Private	Irma Neethling
Private	Marinda Pretorius
Private, Tsumeb private hospital & OHP	Pieter Pretorius
EOH Health - NCS	Dr Fiona Robinson
NCS	Violine Kavindjima

INTEREST	CONTACT PERSON
NCS	Florence Williams
Roads Authority Natis Tsumeb	Mr. Julius Antonius
G.P	Sigi Basson
Nailoke Solar house	Nailoke Niingungo
SDFN	Juliana Semses
Rubicon Security Services	Rudi Vaessler
Manager, Debonairs & Steers	Mr Tobias Mwapopi
Owner Trek Petrol and Copper Guest House	Mr Arnaldo Silvano Martins
Business owner	Mrs Maggie Mulundu
Resident and OHS specialist	Dr Pieter Pretorius
Employee, DPMT	Mr Max Tietz
Employee, DPMT	Mr Isai Nekundi
Employee, DPMT	Mr Nico Potgieter
Manager Afrox	Mr M Scholtz
Resident, Woodtec Joinery	Ms Letitia A van Wyk
Resident, Megabuild	Ms Louise Liebenberg
Resident, Megabuild	Mr McLean Willemse
Resident, MVF Health	Mr Ruusa N. Sakarias
Owner Makalani Hotel	Mr A K Zorganas
Tulipamwe Catering Services	Christie Mentz
Gateway holdings & industries	Daleen Boshoff
EOH Health - NCS	Dr Fiona Robinson
ABA Architect	C Mtshana
ABA Architect	Nm V. Wyk
ABA Architect	Adolf Botes
ABA Architect	Teta Tapiwa
ABA Architect	Brian Muzwembiri
Tsumeb Gimnasium Private School	Wouter Niehaus
Goal Maize	Rensche Madderson
Tsumeb Farmers Association	Juanita Keyser
NAMFO	Thilo Himmel
ONDUNDU RESIDENTS	
	Klementine Kanjaku
	Louisa Hanes
	Sakaria Kariseb
	Teopolina Kambuli
	Louisa Kadheba
	Matias Welama
	Resident
	Hans Dai-Gaib
	Ludwig Williams
	Peter Kambuli
	Sakaria Pinahs
	K Simon

INTEREST	CONTACT PERSON
ONDUNDU RESIDENTS	Johannes Namutenga
	Genti Kanataus
	Monika Heibes
	Tobias Mwapopi
	Klaudia Naboka
	Emmanuel Hiebieb
	William Pienas
	Rita Mongabes
	Elfriede Soroes
	Christina Hanes
	Rosa Khaibes
	Noleshi Shahonya
	Rosalia Matheus
	Paulus Helaria
	David Elias
	Silas M
	Paulus David
	Lakale Victa
	Kristofina Manda
	Lukas Lukas
	Naemi Lukas
	Salom Shafokutya
	Makozo Joseph
	Lina Shinuna
	Lottie Mukozo
	Immanuel Lukas
	Emilia Haihambo
	Emilia Timoteus
	Halweendo Anania
	Job Nawinda
Morgena Geingos	
Paisley Clirab	
Sakaria Tjingwari	
Trestande Amuganga	
NOMTSOUB RESIDENTS	
	Amon Gabriel
	Peter Nanghama
	Moses Awiseb
	Julia Antonio
	Tomas Namwandi
	John Kanema

INTEREST	CONTACT PERSON
NOMTSOUB RESIDENTS	Abisai Penehafo
	Teofilus Nhishoono
	Nikasius Shifeleni
	David Johannes
	Claudia Dausas
	David Johannes
	Elfriede Garises
	Elizabeth Guios
	Emilia Abisai
	Julius Gaebeb Cnl.
	Isay Naseb
	Alberes Kamore
	Josef Awaseb
	Sarie Hodes
	Victoria Damases
	Marius Shikongo
	Eradiny Abraham
	Josef David
	Belinda Tjitzimunisa
	Musese Tyameya
	Mushongo Shifafure
	Helena Tjizao
	Josia Shilumbu
	Ismael Angula
	Albert Neidel
	Aletta Garises
	Amon Horaseb
	Titus Goachab
	Emma Kambengulu
	Ester Awises
	Evangeline Maris
	Fillipina Uwulchaes
	Gabriet Uri-Khob
	Germanus Uudindi
	Haraes Adeltroud
	Inguela Iiyambo
	Isaskou Aunt
	Jacky Hamases
	Johannes Kalola
	Landine Mazuva
	Landine Oxurus

INTEREST	CONTACT PERSON
NOMTSOUB RESIDENTS	Laurencia Neis
	Lovisa N Iiyambo
	Mekondjo Johannes
	Lusia Naibes
	Menisia Nepembe
	M Wathali
	Natalia Garises
	Oscar Kakungha
	Petronella Neibes
	Regina Naibas
	Salatviel Katunohange
	Samson Mulonga
	Sara Khaindbas
	Sylvia T Nimengobe
	Talishi Jacob
	Titus Katunohange
	Tuyenikela Haiduwa
	Veronica Nases
	Victoria Nases
Willem Muronga	
Zitu Vatilifa	
CIVIL SOCIETY/NGO	
Earth Life Namibia	Bertchen Kochs
Traditional authorities - Tribal Leaders	Carel Oaeseb, Traditional Chief
TCCC	Moses Awiseb, Community activist
Law Centre of Namibia	Corinna v Wyk
BankWatch	Genady Kondarev
Za Zemiata – Friends of the Earth, Bulgaria	
THEAN	Marcus Gillman
MEDIA	
The Villager/Prime Focus	Tiri Masawi, Managing editor
	Linekela Halwoodi, Journalist & Editor
Republikein	Dani Booyesen
Confidente	Max Hamata
Namibian Sun	Festus Nakatana
	Denver Isaacs
NAMPA	Jata Kazondu
New Era Newspaper	Chrispin Inambao
	Carlos Kambaekwa
Etosha Corporate Agenda Newsletter	Hon. Engel Nawatiseb
Informante	Nghidipo Nangolo
	Michael Uugwanga
Windhoek Observer	Kuvee Kanguhehi
	Rochelle Neidel

Namibia Economist	Daniel Steinmann
	Mandisa Rasmeni
The Namibian	Tangeni Amupadhi
	Wonder Guchu
Algemeine Zeitung	Stephan Fischer
	Bianca Ahrens
DPMT CUSTOMERS	
Lonza (previously Arch) - South Africa (arsenic trioxide)	K Govender
Ancom Chemicals - Malaysia (arsenic trioxide)	Lee Cheun Wei
INTEREST	CONTACT PERSON
Rossing (acid)	General Manager, Duvenhage
UNIONS	
Current Employees	Selected few, balanced quarter
Mineworkers Union (MUN)	Eben Zaarondo, General Secretary.
Namibia National Labour Union	Evaristus Kaaronda, General Secretary
MUN - Branch Executive Committee (BEC)	Chairman & Secretary, Christian Tjamba, Leonard Kwenda
National Union of Namibian Workers	NUNW President Ismael Kasuto
	Secretary General Job Muniaro
SCHOOL OF PUBLIC HEALTH	
Dean	Dr Mitonga
Student	Anna Shilunga
Student	Olivia Nakwafila
Student	Ooni Haggayi
Student	Penehafo Ndeshipanda
Student	Indileni Hamukoto
Student	Kinkdjai Uugwanga
DUNDEE PRECIOUS METALS	
	Alexia Hoeses
	Anne-Marie Jordaan
	Leani Swanepoel
	Z Kasete
	H Zandberg
	E Sichone
	E Sipunga
	A Garises
	I Liyambo
	S January
	M Trust
	M Hattingh
	J Heiser
	B Kruger
	B Plaatjies
	Bruce Mcleroth

	Benadicta Uris
OTHER	
DPM Advisory Council	Haroldt Urib
	Clara Bohitile
	Dr Zedekia Ngavirue
	Hon Rosalia Mwashekele Sibiya
PRIVATE	William Skinner
	Hans Nolte
	Ludwig Matthysen
	Stephen O'Rahilly



**DUNDEE PRECIOUS METALS: TSUMEB SMELTER OPTIMISATION AND UPGRADE PROJECT
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT**

- **Invitation to register as an Interested and Affected Party (I&AP)**
- **Notice of a Public Meeting**

Dear Resident,

It has been a while since we met to discuss the construction of a Sulphuric Acid Plant (SAP) at the Tsumeb Smelter. You may recall that this plant was designed to capture the bulk of the sulphur dioxide (SO₂) previously emitted into the atmosphere, resulting in an improvement of the ambient air quality. We are happy to report that the Acid Plant has now been constructed and commissioned.

The Smelter can now optimise and upgrade their current operations in order to achieve an increase in concentrate processing capacity from the current 240 000 to 370 000 tons per annum. The *Environmental Management Act, 7 of 2007* and the *ESIA Regulations* require an amendment of the Smelter's *Environmental Clearance Certificate* (ECC). To achieve this, an ESIA amendment needs to be submitted to the *Ministry of Environment and Tourism*.

SLR Environmental Consulting Namibia (Pty) Ltd, an independent environmental consulting company, has been engaged to conduct the ESIA amendment process. A public participation process forms part of such an ESIA and we welcome comments and input from all I&APs in Tsumeb.

Registration as an I&AP

If you are interested to become involved in the ESIA process for the proposed upgrade project, please register as an I&AP by completing the attached Registration Sheet and returning it to the consultant's office below.

Invitation to a Public Meeting

We cordially invite you to a Public Meeting to discuss the proposed upgrades and discuss any concerns you might have in this regard. Three meetings will be held and you are welcome to attend the meeting most suited to your programme as outlined below:

Public Meeting 1	Public Meeting 2	Public Meeting 3
Makalani Hotel	Ondundu School Hall	Nomtsoub Community Hall
Wednesday, 20 April 2016	Wednesday, 20 April 2016	Thursday, 21 April 2016
10:00 – 12:00 AM	18:00 – 20:00 PM	18:00 – 20:00 PM

To register as an I&AP or for further information please contact:

Mr Simon Charter, Environmental Assessment Practitioner, SLR Consulting Namibia (Pty) Ltd,
Tel: +264 (0) 64 402 317; Fax: +264 (0) 64 403 327; E-mail: scharter@slrconsulting.com

We are looking forward to meeting with you.

Kind regards,

Simon Charter
SLR Consulting Namibia (Pty) Ltd

SLR Environmental Consulting (Namibia) (Proprietary) Limited

www.slrconsulting.com

Registered Address: 8 General Murtala Muhammed Str, Eros, Windhoek, Namibia
Postal Address: P O Box 86386, Windhoek, Namibia
Reg. No.: 2009/831 VAT No.: 5067.931-01-5

Windhoek Office: Physical address: 8 General Murtala Muhammed Str, Eros, Windhoek / Postal address: P O Box 86386, Windhoek / T: +264 61 231 287 / F: +264 61 231 289
Swakopmund Office: Physical address: Schumacher House, 6 Tobias Hainyeko Str, Swakopmund / Postal address: P O Box 807, Swakopmund / T: +264 64 402 317 / F: +264 64 403 327



Directors: A Bittner, B Stobart, W Petrick, A Sheppard

DUNDEE PRECIOUS METALS
ESIA for optimisation and upgrading of
the Tsumeb Smelter
Registration as an I&AP
April 2016

PUBLIC PARTICIPATION OFFICE
 Simon Charter
 Environmental Assessment Practitioner,
 SLR Consulting Namibia (Pty) Ltd,
 Tel: +264 (0) 64 402 317;
 Fax: +264 (0) 64 403 327;
 E-mail: scharter@slrconsulting.com

Please complete by 18 April 2016 and return to the Public Participation Office (as above)

CONTACT DETAILS:

TITLE		FIRST NAME	
INITIALS		SURNAME	
STREET ADDRESS			
POSTAL ADDRESS			
		POSTAL CODE	
TEL NO		FAX NO	
E-MAIL		CELL NO	
ORGANISATION:			

Please register me as an I&AP. I would like to submit the following comments:

I would like to attend the Public Meeting on the following date (please mark with an X):

<u>Public Meeting 1</u>		<u>Public Meeting 2</u>		<u>Public Meeting 3</u>	
Makalani Hotel	Y	Ondundu School Hall	Y	Nomtsoub Community Hall	Y
Wednesday, 20 April 2016, 10:00 – 12:00 AM	N	Wednesday, 20 April 2016, 18:00 – 20:00 PM	N	Thursday, 21 April 2016 18:00 – 20:00 PM	N

Date **Signature**

THANK YOU FOR YOUR CONTRIBUTION

Eloise Costandius

From: Simon Charter
Sent: 12 April 2016 05:07 PM
Subject: Dundee Precious Metals Tsumeb Optimisation and Upgrade Project
Attachments: 20160411_Stakeholder letter.pdf; Stakeholder registration and comment sheet.docx

Good day,

Notice is given in terms of the Environmental Management Act, 7 of 2007 and Regulation 21 of the Environmental and Social Impact Assessment (ESIA) Regulations, of the proposed amendment of the Dundee Precious Metals Tsumeb (DPMT) Smelter Environmental Clearance Certificate (ECC) to allow for the optimisation and upgrade of their current operations. DPMT require the necessary assessment to allow for various operational improvements which will enable an increase in concentrate processing capacity from 240 000 to 370 000 tons per annum.

Prior to commencing the proposed optimisation and upgrade, an ESIA Amendment process will be conducted and an application for an ECC amendment will be submitted to the Ministry of Environment and Tourism (Environmental Commissioner) in terms of the above-mentioned regulations. SLR Environmental Consulting Namibia (Pty) Ltd, an independent environmental consulting company, has been engaged to conduct the ESIA amendment process.

Please find attached a notification letter regarding the project as well as an invitation to the various public meetings planned for the project. Also attached is a stakeholder registration and comment sheet for your convenience.

Kind regards

Simon Charter

Environmental Assessment Practitioner
SLR Consulting Namibia (Pty) Ltd

Email: scharter@slrconsulting.com

Mobile: +264 81 147 4427

Tel: +264 64 402 317

Fax: +264 64 403 327

SLR Environmental Consulting (Namibia) (Pty) Ltd
House Schumacher
6 Tobias Hainyeko Street, Swakopmund,
Namibia



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BACKGROUND INFORMATION

DOCUMENT FOR

ENVIRONMENTAL AND SOCIAL

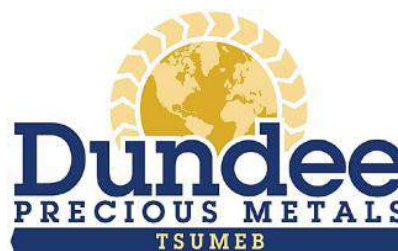
IMPACT ASSESSMENT

AMENDMENT APPLICATION FOR

THE PROPOSED TSUMEB

SMELTER OPTIMISATION AND

UPGRADE PROJECT



INTRODUCTION

Dundee Precious Metals Tsumeb (DPMT) is a subsidiary of the Canadian based Dundee Precious Metals (Pty) Ltd, which is an international company engaged in the acquisition, exploration, development, mining and processing of precious metals.

DPMT require an Environmental and Social Impact Assessment (ESIA) and Environmental Management Plan (EMP) amendment for their proposed Tsumeb Smelter optimisation and upgrade project, which entails a new amendment application to the Ministry of Environment & Tourism (MET).

DPMT require the necessary assessment to allow for various operational improvements which will enable an increase in concentrate processing capacity from 240 000 to 370 000 tons per annum.

ENVIRONMENTAL APPROVAL

Prior to the commencement of the proposed activities, an amendment application will be submitted to the Ministry of Environmental and Tourism (MET) and an ESIA process conducted in terms of the Environmental Management Act, 7 of 2007.

SLR Environmental Consulting (Namibia) (Pty) Limited (SLR), is an independent firm of environmental consultants and has been appointed to manage the ESIA amendment process.

PURPOSE OF THIS DOCUMENT

This document has been prepared to inform you:

- * about the proposed amendment
- * about the ESIA process to be followed
- * of possible environmental impacts
- * how you can have input into the ESIA process.

YOUR ROLE

Public involvement is an essential part of the ESIA process.

You have been identified as an interested and affected party (IAP) who may want to know about the proposed activities and have input into the ESIA process.

All comments will be recorded and addressed in the ESIA process.

HOW TO RESPOND

Responses to this document can be submitted by means of the attached comments sheet or through communication with the contact person listed below.

If you would like your comments to be addressed in the scoping report please submit them by **22 April 2016**.

WHO TO CONTACT

Simon Charter

064 402 317 (phone) or 064 403 327 (fax)
or scharter@slrconsulting.com

DESCRIPTION OF THE PROPOSED OPTIMISATION AND UPGRADE FOR TSUMEB SMELTER

The original Tsumeb Smelter included a lead smelter based on a sinter plant and two blast furnaces and a copper smelter fitted with a reverberatory furnace, as well as two Peirce-Smith converters. These plants started up in 1962, with a capacity of about 81 000 tons per annum (t/a) of lead and about 32 000 t/a of copper. Some additional improvements including a third converter were completed in 1976. The Tsumeb Smelter now processes high sulphur, high arsenic and low copper grade concentrates.

DPMT acquired the plant in 2010 with the objective to treat concentrate at the smelter. Since that time, DPMT has embarked on a modernization program to expand the plant with additional concentrates and improve the environmental performance. Following the purchase of the plant in 2010, DPMT began a series of upgrades and environmental improvement projects including the following:

- Addition of a second oxygen plant (2012)
- Improvement of the off-gas handling systems (2012-2013)
- Closure of the reverberatory furnace (2013)
- Addition of a 1,540 t/d acid plant (2015)
- Addition of two new and larger 13 ft by 30 ft Peirce-Smith converters (2015)
- A new effluent treatment plant

The above measures have brought the smelter capacity to an annualized rate of 240,000 (t/a) of copper concentrates. At this production rate the Ausmelt represents the plant bottleneck on account of lack of matte holding capacity to feed the converters. The new O₂ plant and acid plant have capacity to treat up to ~400,000 t/a concentrate. With additional custom concentrates available and further areas for operational improvements identified, Dundee Precious Metals Tsumeb (DPMT) is planning the expansion of their current operations in order to increase their concentrate processing capacity from 240 000 to 370 000 tons per annum.

This will be implemented as follows:

- Upgrade Ausmelt feed and furnace
- Install a rotary holding furnace (RHF)
- Implement slow cooling of RHF and converter slag
- Upgrade slag mill to improve copper recovery and handle increased tonnage from slow cooled slags
- Install a third Peirce-Smith (PS) converter

POTENTIAL ENVIRONMENTAL ISSUES

The following list of environmental parameters and/aspects will be investigated during the ESIA amendment process:

- Air quality
- Groundwater
- Surface water
- Noise
- Socio-economic
- Waste management

THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT AMENDMENT PROCESS

The ESIA process provides information on the proposed activities and the environment in which it is situated; it identifies, in consultation with IAPs, the potential negative as well as positive impacts of the proposed activities; and reports on management measures required to mitigate such impacts to an acceptable level.

The likely process steps and time frames are provided below.

STEPS IN THE ESIA AMENDMENT PROCESS
<p>PHASE 1 - Project initiation/screening (February - March 2016)</p> <ul style="list-style-type: none"> ▪ Discussion with the Ministry of Environment and Tourism (MET) ▪ Site visit and identify issues (SLR and DPMT) ▪ Identify key stakeholders ▪ Determine ESIA requirements
<p>PHASE II - Scoping/Assessment Phase and EMP (April - May 2016)</p> <ul style="list-style-type: none"> ▪ Notify other regulatory authorities and IAPs of the proposed project <i>(via newspaper advertisements, this document, emails, site notices)</i> ▪ Key stakeholder (focus group) and public meetings ▪ Compile scoping report and make it available for comment by regulatory authorities and other I&APs ▪ Submit a final Scoping Report and Issues and Response Report to MET ▪ Record of decision from MET
<p>PHASE III - ESIA Phase (June - September 2016)</p> <ul style="list-style-type: none"> ▪ Specialist investigations ▪ Compile ESIA and EMP and make them available for comment by regulatory authorities and other I&APs ▪ Submit the final reports to MET ▪
<p>RECORD OF DECISION FROM MET (October - December 2016)</p>

Parties to be involved in the environmental assessment process are identified in the table below. Please let us know if there are any additional parties that should be involved.

PARTIES INVOLVED IN THE ASSESSMENT PROCESS
<p>PROJECT PROPONENT</p> <ul style="list-style-type: none"> ▪ Dundee Precious Metals Tsumeb
<p>PROJECT TEAM</p> <ul style="list-style-type: none"> ▪ SLR <ul style="list-style-type: none"> ○ EAP ○ Groundwater ○ Surface water ○ Waste management ▪ AFSEC - stakeholder engagement ▪ Airshed Planning Professionals <ul style="list-style-type: none"> ○ Air quality ○ Noise ▪ Tony Barbour and Hugo van Zyl - Socio-economic Impact Assessment
<p>IAPS</p> <ul style="list-style-type: none"> ▪ Surrounding landowners ▪ Members of the public ▪ Media ▪ NGOs ▪ Parastatals (NamWater, NamPower) ▪ Unions
<p>REGULATORY AUTHORITIES</p> <ul style="list-style-type: none"> ▪ Ministry of Environment and Tourism (MET) ▪ Ministry of Mines and Energy (MME) ▪ Ministry of Health and Social Services (MHSS) ▪ Ministry of Labour, Industrial Relations & Employment Creation ▪ Ministry of Agriculture, Water & Forestry ▪ Ministry of Industrialization, Trade and SME Development ▪ Ministry of Finance ▪ Ministry of Public Enterprises ▪ Ministry of Poverty Eradication ▪ Relevant regional, local and traditional authorities

**ENVIRONMENTAL IMPACT ASSESSMENT AMENDMENT APPLICATION FOR THE
PROPOSED TSUMEB SMELTER OPTIMISATION AND UPGRADE PROJECT
REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES**

DATE		TIME	
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER	
CELL PHONE NUMBER		E-MAIL ADDRESS	

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT
PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE

Please return completed forms to:

Simon Charter
SLR Consulting (Namibia)
Fax: 064-403 327
Email: scharter@slrconsulting.com



INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT AMENDMENT
FOR THE PROPOSED TSUMEB SMELTER OPTIMISATION AND UPGRADE
PROJECT**

Notice is given in terms of the Environmental Management Act, 7 of 2007 and Regulation 21 of the Environmental and Social Impact Assessment (ESIA) Regulations, of the proposed amendment of the Tsumeb Smelter Environmental Clearance Certificate (ECC) to allow for the optimisation and upgrade of their current operations.

Prior to commencing the proposed optimisation and upgrade, an ESIA Amendment process will be conducted and an application for an ECC amendment will be submitted to the Ministry of Environment and Tourism (Environmental Commissioner) in terms of the above-mentioned regulations. SLR Environmental Consulting Namibia (Pty) Ltd, an independent environmental consulting company, has been engaged to conduct the ESIA amendment process.

Name of proponent

Dundee Precious Metals Tsumeb

Description/nature of proposed activities

DPMT is proposing the optimisation and upgrade of their current operations in order to achieve an increase in concentrate processing capacity from the current 240,000 to 370,000 tons per annum.

Registration of IAPs and availability of a Background Information Document (BID)

To ensure that you are registered as an Interested and Affected Party (IAP) and that your issues and/or comments are included in the ESIA amendment process, please submit your name, contact details and interest in the proposed project to the SLR address given below, by 22 April 2016.

More detail regarding the proposed project is available in a Background Information Document (BID). If you would like a copy of the BID, please contact Simon Charter below.

Name of consultant to contact for further information

Contact person: Simon Charter
Tel: +264 (0) 64 402 317
Fax: +264 (0) 64 403 327
E-mail: scharter@slrconsulting.com

Notice of public scoping meetings

Venue: Makalani Hotel Date: 20 April 2016 Time: 10:00AM	Venue: Ondundu School Hall Date: 20 April 2016 Time: 18:00PM	Venue: Nomsoub Community Hall Date: 21 April 2016 Time: 18:00PM
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SLR



INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT AMENDMENT
FOR THE PROPOSED TSUMEB SMELTER OPTIMISATION AND
UPGRADE PROJECT

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Name of proponent

Dundee Precious Metals Tsumeb (DPMT)

Description/nature of proposed activities

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Time: 10:00AM	Time: 18:00PM	Time: 18:00PM



INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY

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FOR THE PROPOSED TSUMEB SMELTER OPTIMISATION AND UPGRADE
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Name of proponent

Dundee Precious Metals Tsumeb

Description/nature of proposed activities

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E-mail: scharter@slrconsulting.com

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SLR

INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT AMENDMENT FOR THE PROPOSED TSUMEB SMELTER OPTIMISATION AND UPGRADE PROJECT

Notice is given in terms of the Environmental Management Act, 7 of 2007 and Regulation 21 of the Environmental and Social Impact Assessment (ESIA) Regulations, of the proposed amendment of the Tsumeb Smelter Environmental Clearance Certificate (ECC) to allow for the optimisation and upgrade of their current operations.

Prior to commencing the proposed optimisation and upgrade, an ESIA Amendment process will be conducted and an application for an ECC amendment will be submitted to the Ministry of Environment and Tourism (Environmental Commissioner) in terms of the above-mentioned regulations. SLR Environmental Consulting Namibia (Pty) Ltd, an independent environmental consulting company, has been engaged to conduct the ESIA amendment process.

Name of proponent

Dundee Precious Metals Tsumeb (DPMT)

Description/nature of proposed activities

DPMT is proposing the optimisation and upgrade of their current operations in order to achieve an increase in concentrate processing capacity from the current 240,000 to 370,000 tons per annum.

Registration of IAPs and availability of a Background Information Document (BID)

To ensure that you are registered as an Interested and Affected Party (IAP) and that your issues and/or comments are included in the ESIA amendment process, please submit your name, contact details and interest in the proposed project to the SLR address given below, by 22 April 2016.

More detail regarding the proposed project is available in a Background Information Document (BID). If you would like a copy of the BID, please contact Simon Charter below.

Name of consultant to contact for further information

Contact person: Simon Charter
Tel: +264 (0) 64 402 317
Fax: +264 (0) 64 403 327
E-mail: scharter@slrconsulting.com

Notice of public scoping meetings

Venue: Makalani Hotel	Venue: Ondundu School Hall	Venue: Nomtsoub Community Hall
Date: 20 April 2016	Date: 20 April 2016	Date: 21 April 2016
Time: 10:00AM	Time: 18:00PM	Time: 18:00PM



INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY

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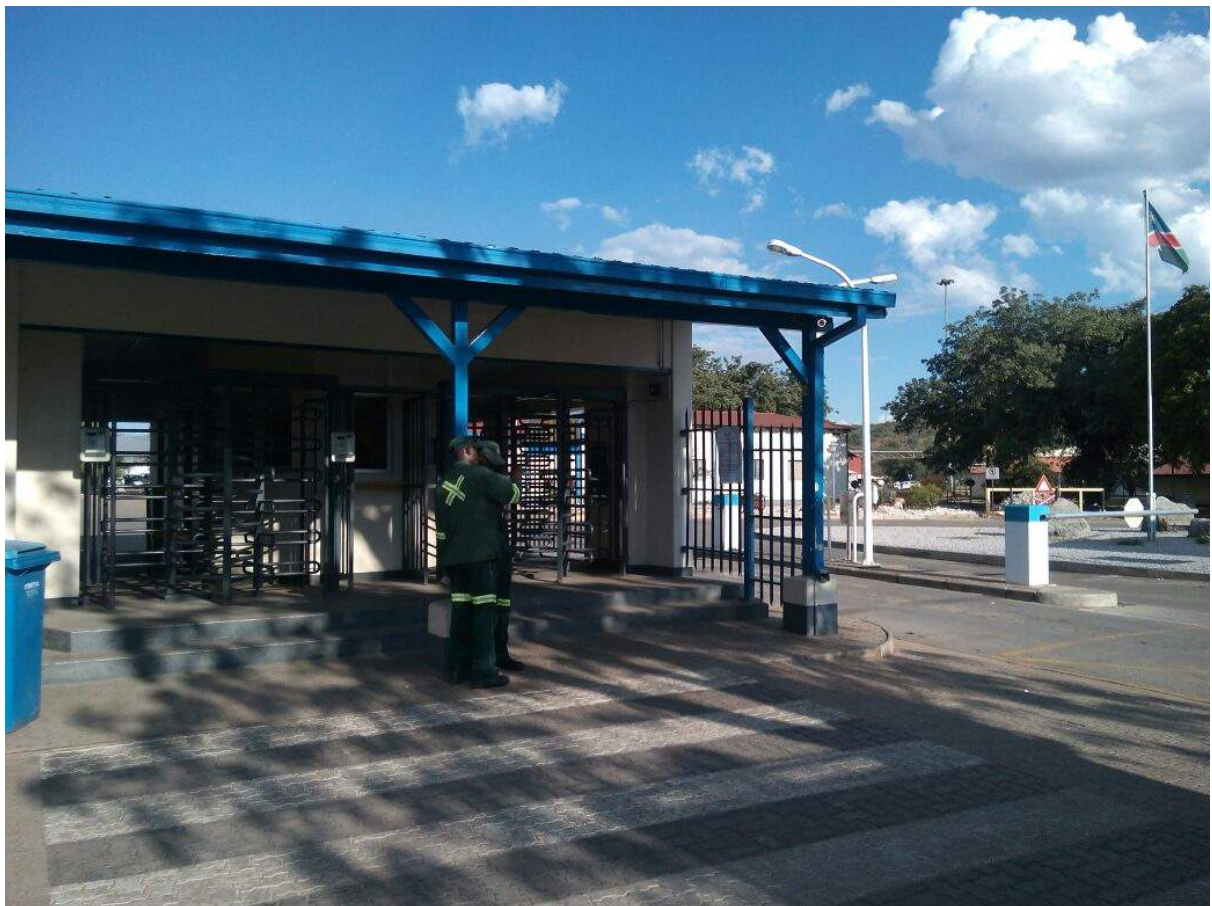
Contact person: Simon Charter

Tel: +264 (0) 64 402 317

Fax: +264 (0) 64 403 327

E-mail: scharter@slrconsulting.com

PHOTOGRAPHS OF THE NOTICE AT THE DPMT SMELTER ENTRANCE GATE





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TSUMEB SMELTER OPTIMISATION AND UPGRADE PROJECT ESIA AMENDMENT PROCESS



Stakeholder meeting



21/04/2016

Guidelines for productive discussion

- Focus on the issue, not the person
- Work through the facilitator
- One person at a time
- Agree to disagree
- Mobile phones on silent
- Discussion to take place at the end of the presentation

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SLR 
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**TSUMEB SMELTER OPTIMISATION AND
UPGRADE PROJECT
ESIA AMENDMENT PROCESS**

Stakeholder meeting



21/04/2016

Agenda

- Meeting formalities & aims of meeting
- Brief history
- Overview of proposed project
- The ESIA Amendment process
- Overview of specialist input
- General discussion, comments & questions
- Way forward
- Close



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Formalities & aims

- Overview of the proposed project
- Understand the ESIA Amendment process being followed
- Discuss potential environment impacts
- Input into the ESIA Amendment process
- NB - Scoping Phase



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Brief history

- Original plant 1962:
 - Lead smelter – sinter & 2 blast furnaces
 - 81 000 t/a
 - Copper smelter - reverberatory furnace & 2 PS convertors
 - 32 000 t/a
- Improvements 1976:
 - Complex copper concentrates



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Brief history

- DPMT acquired plant in 2010 – treat concentrate
- Modernisation program:
 - Address hygiene issues
 - Improvement of the off-gas handling systems (2012-2013)
 - Closure of the reverberatory furnace (2013)
 - Addition of a second oxygen plant (2012)
 - Upgrade of arsenic plant (2012-2014)
 - Address environmental issues
 - Addition of acid plant (2015)
 - Addition of two new and larger Peirce-Smith converters (2015)
 - A new effluent treatment plant (2015)
- 240,000 – 265,000 t/a of copper concentrates



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Dundee SLR

Current operations



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Dundee SLR

Smelter Optimisation & Upgrade Project

- Additional complex concentrates available
- Further areas for operational improvements identified
- Expansion of their current operations
 - increase concentrate processing capacity from 240 000 to 370 000 t/a
- Motivation is long term sustainability

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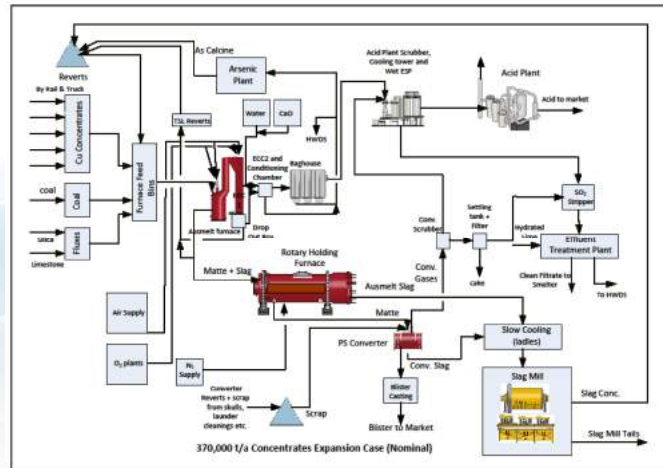
Smelter Optimisation & Upgrade Project

- Upgrade primary smelting furnace
- Install holding furnace
- Implement slow cooling holding furnace and converter slag
- Upgrade slag mill to improve copper recovery and handle increased tonnage from slow cooled slags
- Install an additional converter
- Utility upgrades and tie-ins: HP/LP air, HP and LP oxygen, raw water, reclaim water, LFO, HFO, and electrical power

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Smelter Optimisation & Upgrade Project



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ESIA Amendment Process

- Amendment of existing ESIA and EMP to include optimisation and upgrade activities.
- The DPMT appointed SLR to carry out an ESIA Amendment process.
- Environmental Clearance Certificate (ECC) Amendment must be obtained from the Ministry of Environment and Tourism (MET).
- Existing ECC conditions and EMP commitments will be adhered to.

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ESIA Amendment Process



Screening

- February – March 2016
- Stakeholder identification

Scoping

- April – May 2016
- Authority notification
- Public consultation
 - Initial comment period
- Specialist and ESIA Amendment ToR
- Scoping Report Compilation
- Public consultation:
 - Document review
- Authority review

ESIA amendment

- June – September 2016
- Specialist investigations
- Compile ESIA and EMP Amendments
- Public consultation:
 - Present findings – public open day
 - Document review
- Authority review

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Specialist investigations

ENVIRONMENTAL PARAMETER	SPECIALISTS
Air quality	• Airshed Planning Professionals
Noise	
Groundwater	• SLR specialists
Surface water	
Waste management	
Socio-economic	• Tony Barbour & Hugo van Zyl
Community health	• UCT & (provisionally) UNAM
Stakeholder engagement	• AFSEC
Other existing studies will be drawn upon during the ESIA Amendment process	

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Thank You

Comments and questions

Fax/Mail further comment to Simon Charter

Fax: +264 64 403 327

Email: scharter@slrconsulting.com

Phone: +264 64 402 317

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From: Nadine Soutschka [<mailto:nsoutschka@slrconsulting.com>]
Sent: Monday, June 13, 2016 3:52 PM
To: undisclosed-recipients:
Subject: EIA AMENDMENT PROCESS FOR THE TSUMEB SMELTER UPGRADE AND OPTIMISATION PROJECT: SCOPING REPORT

Dear Sir/Madam,

EIA AMENDMENT PROCESS FOR THE PROPOSED TSUMEB SMELTER UPGRADE AND OPTIMISATION PROJECT: SCOPING REPORT FOR COMMENT

With reference to previous correspondence, Dundee Precious Metals Tsumeb (DPMT) is proposing to upgrade and optimise their current Tsumeb Smelter operations in order to increase the throughput capacity from 270 000 tonnes per annum (tpa) to 370 000 tpa. DPMT currently holds an Environmental Clearance Certificate (ECC) for their smelter operations in Tsumeb. The proposed upgrade and optimisation project would require the amendment of their current ECC to allow for the proposed new and upgraded components.

DPMT appointed SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR) to manage the Environmental Impact Assessment (EIA) Amendment process for the proposed project.

The EIA Amendment public participation process commenced in April 2016 with the distribution of a Background Information Document for comment and public information-sharing meetings.

Subsequently, SLR prepared a Scoping Report that is now available for review by Interested and Affected Parties (IAPs). Please find the Scoping Report (excluding the Appendices) as well as the Issues and Response Report attached.

A hard copy of the (full) Scoping Report will be available at the following places (not to be removed) from 15 June 2016:

- Tsumeb Public Library
- DPMT Information Centre

Alternatively, electronic copies of the Scoping Report and all of its supporting documents are available on request to the undersigned.

Please submit any comments you might have on the Scoping Report by **29 June 2016**.

Regards,

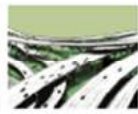
Nadine Soutschka
Environmental Assessment Practitioner
SLR Consulting Namibia (Pty) Ltd

Email: nsoutschka@slrconsulting.com
Tel: +264 64 402 317
Fax: +264 64 403 327

SLR Environmental Consulting (Namibia) (Pty) Ltd
House Schumacher
6 Tobias Hainyeko Street, Swakopmund,
Namibia



Industry



Infrastructure



Mining & Minerals



Oil & Gas



Planning & Development



Renewable & Low Carbon



Waste Management

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**DUNDEE PRECIOUS METALS (PTY) LTD
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED TSUMEB SMELTER EXPANSION
PROJECT, TSUMEB, NAMIBIA PUBLIC MEETINGS 20 April 2016 – 21 April 2016**



PUBLIC MEETING MINUTES



Purpose of this document:

This document records all comments made during a number of public meetings held to announce the ESIA process for the proposed Upgrade and Optimisation Project for the DPMT Tsumeb Smelter. Four public meetings were held during the week of 19 April to 21 April 2016. The meetings held were as follows:

- Meeting with surrounding land owners, town residents and business people – Wednesday, 20 April 2016
- Meeting with Ondundu Community – Wednesday, 20 April 2016
- Meeting with Tsumeb Town Council – Thursday, 21 April 2016
- Meeting with Nomtsoub Community – Thursday, 21 April 2016

The meetings were widely advertised, in two newspapers, the Republikein and the Namibian as well as by means of personalised letters including a registration and comment sheet to stakeholders with known details. Letters were distributed by hand to all businesses in the Tsumeb area and also to community leaders in the two communities, Nomtsoub and Ondundu. Posters were put up at the municipal building and various other public places and notification letters were left at local restaurants to be distributed to patrons. . The attendance registers are included at the end of this appendix.



TSUMEB TOWN PUBLIC MEETING, MAKALANI HOTEL, 20 APRIL 2016

SOURCE	COMMENT	RESPONSE
Mr P Zoganas, businessman and hotel owner, Tsumeb – Makalani Hotel meeting, 20 April 2016	The perception that the smelter is responsible for any health impact in Tsumeb is not correct. Many people have lived in Tsumeb for more than 30 years and even worked at the smelter, with no health impacts. It should be borne in mind that people often smoke and drink alcohol and blame any health impacts on the smelter. Whilst it is imperative that the smelter takes every possible precaution, there are other health impacts in every town.	Thank you for your testimony, it is good to know that you are in such good health. However, even if people only have the perception that the Smelter has an impact on their health, this should be investigated in the proposed Community Health Assessment.
Mr Tobias Mwapopi, Manager Debonairs and Steers, Tsumeb – Makalani Hotel meeting, 20 April 2016	The presence of the smelter in Tsumeb is very good for all business people. Should the smelter cease to exist, the town would suffer economically.	The town has shown remarkable economic growth in the last few years, we appreciate your understanding that the Smelter is also a contributor to that prosperity.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	What is the amount of raw material that will be processed per year?	The optimisation will enable the Smelter to process up to 370 000 tonnes of copper concentrates per annum.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	As far as the proposed specialist studies are concerned, it would be important for the Socio-Economic study to quantify the contribution that the smelter makes on a local, regional and national level, to the economy.	Thank you for this suggestion, this will be forwarded to the specialists conducting the socio-economic study.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	Stakeholders must be careful not to see only the positive impacts that the upgrade and optimisation project would bring, if there were only positive impacts, a meeting such as this public meeting would not be necessary.	The Public Meetings are not a legal requirement at this stage, however, DPMT would like to demonstrate that stakeholder's opinion matters to them and will take all suggestions regarding improvement of environmental and social circumstances into consideration.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	At present I am not against the optimisation, I would only like to see it done in the right way, with proper mitigation measures in place for any impacts.	DPMT acknowledges that there are historical challenges that are being addressed as fast as possible. The new technology that is being introduced at a considerable cost should minimise impacts considerably.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	The Smelter and its consultants should not underestimate the knowledge and capacity to understand environmental impacts of the Tsumeb community.	Thank you for this comment, it is indeed so that social media and the internet have given access to all spheres of society and we welcome their input. We strive to be as transparent as possible.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist –	The hospital and one community is located directly south of the hill separating the Smelter from the town. Noise	The possibility of increased noise will be addressed in the Noise study that has already been commissioned.

SOURCE	COMMENT	RESPONSE
Makalani Hotel meeting, 20 April 2016	could become an issue when the plant produces more product and this should definitely form part of the specialist studies.	
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	There does not seem to be representation of the workers inside the Smelter at this meeting. Noise is a definite issue inside the Smelter area.	A separate meeting has been held with DPMT management and an e-mail was sent to all staff to inform them of the proposed upgrade. Once the findings of the studies are available, staff or their representatives will be informed of the findings.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	There is still an issue with emissions that fall onto buildings in the Tsumeb town. The Smelter spent a very large amount of capital to control SO ₂ and arsenic emissions, but it is still not 100% under control. Will the expansion cause these fugitive emissions to increase again?	Whilst the Sulphuric Acid Plant has been commissioned, the converters are still in the testing phase. Once all of the new equipment can be safely operated, there will be a marked improvement. It is important to note that electricity failures like experienced all over Namibia in the past few days necessitate the re-start of the plant and this then still causes some emissions to be released into the air above the plant.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	You mentioned that government will not allow the expansion if the air quality challenges are not under control. I believe that the economic benefit of the Smelter will outweigh any environmental impacts when government needs to make decisions to approve the expansion.	Apart from government approval, DPMT is a global organisation with strict environmental safeguard policies and shareholder reporting in place. Should the Tsumeb Smelter transgress, this will affect the DPMT reputation and share price globally. The aim is to prevent this at all costs.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	If the SO ₂ emissions are not as well controlled despite the commissioning of the Sulphuric Acid Plant, how will you be able to control emissions with the increased production?	DPMT is confident that all environmental improvements are in place to ensure the environmentally responsible operation of the plant.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	My roof is rusting and people seem to have allergic reactions. The long term effects of SO ₂ contact should be clarified in the specialist studies.	An additional Air Quality study will be done by an independent company as well as a Community Health Assessment to study any long-term negative effects on the town and its people.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	Arsenic is the biggest concern, the percentage of arsenic emissions should be clarified and the long term side effects should be studied.	A Community Health specialist study has been commissioned as part of the current ESIA in order to investigate long-term human health implications of emissions from the smelter. The study will compare Tsumeb families to Grootfontein families. The focus of the study will be on children. Urine samples would be taken and dust samples from homes. Arsenic levels in the human body are also influenced by smoking and how much fish people eat. There is a

SOURCE	COMMENT	RESPONSE
		difference between organic arsenic from fish and inorganic harmful arsenic emitted from the smelter. This will also be considered. The previous government health study was found to not be rigorous enough.
Mr Marius Scholtz, Afrox Tsumeb – Makalani Hotel meeting, 20 April 2016	My business is located in close proximity to the Smelter waste facility and my workers have to wear respirators because of the amount of dust emanating from the facility. Will the expansion cause even more dust?	It should be clarified whether this impact is dust that can be physically seen or whether the respirators are needed due to SO ₂ (smell) emissions. Also whether the dust impact shows seasonal tendencies. This information will be submitted to the specialists who will be conducting the Air Quality study and also to the operators of the waste facility at the plant.
Mr Hiskia Tjarondo, !xabashe Investment CC. Tsumeb – Makalani Hotel meeting, 20 April 2016	It would be interesting to see a comparison of impacts before and after the environmental improvements that the Smelter has already put in place.	Monitoring is done on a continuous basis and data is available for such a comparison. Once all components of the environmental improvement project are fully operational, these comparisons can be done.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	We do not dispute that DPMT has brought about great improvements in the impacts generated by the Smelter, but this does not mean that we can stop being vigilant and involved in the environmental impacts of the Smelter.	DPMT places great importance on a good and transparent relationship with its neighbours. Please do not hesitate to interact with management should any issues arise.
Mr Arnaldo Silvano Martins, Owner Trek Petrol Station and Copper Guest House – Makalani Hotel meeting, 20 April 2016	As a business owner, I am very happy with the improvements made by DPMT in the past six years.	Thank you for your comment.
Mr P Zoganas, businessman and hotel owner Tsumeb – Makalani Hotel meeting, 20 April 2016	I still maintain that noise is a normal side effect of having a large operation like the Smelter and people should not exaggerate its effects.	Thank you for your positive attitude. The findings of the specialist studies will confirm whether noise and other effects are within World Health Standards or not.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	It should be kept in mind that there are two types of arsenic, the one type occurs naturally in some food and in the ambient air, the other is harmful to people's health.	The historical arsenic challenges have been largely eliminated due to the construction of various environmental improvement measures on the plant.
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	Town residents agree that environmental impacts have shown a huge improvement in the past few years. DPMT must be congratulated on all improvements that they have made. However, it does remain important for the public to be fully informed on the way DPMT conducts its business. If the expansion project is done correctly, DPMT will regain its good reputation in the town.	DPMT is planning continuous dialogue with stakeholders through the life of the Smelter and appreciate your kind words.

SOURCE	COMMENT	RESPONSE
Dr Pieter Pretorius, General Practitioner and Occupational Health Specialist – Makalani Hotel meeting, 20 April 2016	As a health practitioner I would be happy to contribute any knowledge to the specialist studies.	DPMT appreciates your offer to assist and will provide your information to the entity conducting the Community Health Assessment.

ONDUNDU COMMUNITY MEETING, ONDUNDU SCHOOL HALL, 20 APRIL 2016

SOURCE	COMMENT	RESPONSE
Mrs Erika du Plessis, AFSEC, facilitator – Ondundu meeting, 20 April 2016	Does the Ondundu community, who lives close to the Smelter perceive a difference in smell and visible dust?	There is definitely a vast improvement in the smell and dust in the area. People do not have chest irritations anymore.
Mr William Pingas, Ondundu Resident – Ondundu meeting, 20 April 2016	We would like to enquire whether DPMT can assist us with refuse removal and the provision of dustbins or waste drums. We have no waste bins and no refuse removal.	Although DPMT is always prepared to assist as much as they can, they must be careful not to take on the responsibilities of local government. We suggest that a representative of DPMT discusses your request with the Tsumeb Town Council.
Mr Hans Dai-Gaib, Ondundu resident – Ondundu meeting, 20 April 2016	We need clarification on the process that can be followed if we do get sick from dust inhalation.	
Mr William Pingas, Ondundu Resident – Ondundu meeting, 20 April 2016	Our houses are leaking when it rains and our pleas with the municipality have fallen on deaf ears. The municipality refers us to Wetherlys because the Ondundu houses used to belong to them. They refer us back to the municipality. This process sometimes takes days and we get no answers. Could DPMT assist us?	As mentioned earlier, we will request a representative of DPMT to forward your request to the Tsumeb Town Council.
Mrs Christina Hanes, resident Ondundu – Ondundu meeting, 20 April 2016	In former days, the company who then owned the Smelter did regular blood tests to determine health impacts. Why has this been stopped?	Technology has changed and blood tests are not needed any more, should any doubt regarding health impacts arise, a simple urine test will be able to pick up any irregularities. A Community Health Assessment will form part of the specialist studies. Members of the community will be informed of the next steps in due course.
Mr Joseph Makozo, resident Ondundu – Ondundu meeting, 20 April 2016	We understand that random sampling will be undertaken using urine tests. Our concern is that we seldom get any feedback when health studies are conducted. What would be the process, should any impacts be detected in the urine samples?	DPMT commits to give feedback once the Community Health Assessment has been completed.
Mr Joseph Makozo, resident Ondundu – Ondundu meeting, 20 April 2016	We are aware that some traces of arsenic were found in a control sample in Grootfontein, which indicates that the presence of arsenic is not closely linked to the Smelter.	Thank you for this information.

SOURCE	COMMENT	RESPONSE
Mr Hans Dai-Gaib, Ondundu resident – Ondundu meeting, 20 April 2016	Our borehole and tap water was tested a number of years ago, and found to be unsafe for drinking. At the time some water tanks were erected, but they are not serviced any more. Is our water safe now?	The boreholes around the Smelter are monitored regularly and results have indicated that the water is of good standard. Mr Nico Potgieter of DPMT has indicated that he will sample the taps in Ondundu as a extra measure to set people's minds at rest.
Mr William Pingas, Ondundu Resident – Ondundu meeting, 20 April 2016	Again, we would appreciate some feedback when water and other sampling is done in our community.	Mr Nico Potgieter will contact community representatives and give them the necessary information when it becomes available.

MEETING WITH MAYOR AND TOWN COUNCIL, TSUMEB COUNCIL CHAMBERS, 21 APRIL 2016

SOURCE	COMMENT	RESPONSE
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	The estimated cost of the proposed expansion should be made known to the Council.	The proposed expansion currently has a budget of US\$70 million.
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	Does the increased output mean an increase in job opportunities or are the upgrades computerised?	Unfortunately the upgrades have at the most 12 new job opportunities, but stakeholders must be aware of the ripple effects of such an expansion ie. more people staying in town, using restaurants, filling stations etc.
Mr Mathews Hangula, Deputy Mayor, Tsumeb – Town Council meeting, 21 April 2016	What socio-economic benefits will be brought about by the expansion?	The expansion project ensures that the life of the Smelter gets extended and this in itself is beneficial to the economy of the town. Some construction will need to be done and this will ensure some temporary job opportunities as well.
Mr Mathews Hangula, Deputy Mayor, Tsumeb – Town Council meeting, 21 April 2016	During the previous expansions and improvements, we found that Tsumeb had a skills deficit. It is important for the Council to know upfront what skills are needed for the proposed expansion so that we can be prepared.	Thank you for this comment, this information will be conveyed to the specialists conducting the socio-economic study.
Mr Mathews Hangula, Deputy Mayor, Tsumeb – Town Council meeting, 21 April 2016	There seems to be a shortage of artisans like fitters, boilermakers, welders etc. for any construction in Tsumeb. It would be prudent for the Council to keep this in mind.	DPMT does assist with a number of training opportunities, we will request their Community Representative to contact you.
Mr Mathews Hangula, Deputy Mayor, Tsumeb – Town Council meeting, 21 April 2016	It is important for DPMT to make their requirements for construction labour known in advance.	This request will be conveyed to their Human Resources Department.
Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town	We are happy that a number of specialist studies are being conducted. The information sourced for the socio-	The specialists conducting the socio-economic studies will be requested to make contact with you.

SOURCE	COMMENT	RESPONSE
Council – Town Council meeting, 21 April 2016	economic study will be very valuable to the Council, as it will provide us with an insight on which companies, mines or other contribute to the economic welfare of the town.	
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	We would be very interested in the findings of the groundwater studies. The Council is planning an industrial area to the north-west of the Smelter and need to understand the water quality and its restrictions in that area.	The water studies are very much confined to the site itself, but the findings of these studies might indicate directions of water flow etc. These findings will be made available to the Council.
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	We have completed a structural plan for the proposed new industrial area, but need to obtain a wider understanding of the limitations of the area. Your studies will be very helpful in this regard.	These findings will be made available to the Council.
Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council – Town Council meeting, 21 April 2016	Any information in your waste management study will also be useful to the Council and it would be appreciated if your specialists could consult with us before doing their studies.	These findings will be made available to the Council.
Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council – Town Council meeting, 21 April 2016	The Council is faced with many challenges in the town and cooperation in finding solutions will be welcomed.	DPMT is committed to being a good neighbour and looks forward to close cooperation with the Council.
Mr Ndangi Shetekele, Chairperson of the Management Committee, Tsumeb Town Council – Town Council meeting, 21 April 2016	You mentioned that you would return with the findings of the specialist studies later in the year. Tsumeb hosts a Copper week once a year in October. It should be considered to use the same week to present the findings to stakeholders.	Thank you for this suggestion. The findings might have to be conveyed at an earlier stage as the application will be submitted to government at the end of September. However, the opportunity of the Copper Week to engage with stakeholders will be kept in mind for further interactions.
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	DPMT is the main sponsor of the Copper Week, so it is a good suggestion. Please emphasise the importance of public participation to the Executive at the Smelter. It is of the utmost importance and not enough is being done at present. Do not take the current good relationship with the public for granted.	We thank you for lending your support to the public participation process, this will certainly ensure that a process of further engagement is planned.
Her Worship the Mayor, Mrs Kasiringua Veneza, Tsumeb Town Council – Town Council meeting, 21 April 2016	We suggest that you also involve the Ministry of Education in your information dissemination.	Thank you for this suggestion, we will include the Ministry in further communications.

SOURCE	COMMENT	RESPONSE
Mr Alfeus Benjamin , Chief Executive Officer, Tsumeb Town Council – Town Council meeting, 21 April 2016	There is a great interest in things that are happening in Tsumeb nationwide. DPMT is setting a very good example by consulting and informing the public. However, we find that DPMT is a bit media shy. Consideration should be given to site tours for residents as well as the media.	Your suggestions are very good and will be conveyed to the DPMT communications department.
Her Worship the Mayor, Mrs Kasiringua Veneza, Tsumeb Town Council – Town Council meeting, 21 April 2016	We thank you for meeting with us, it is always very good to sit around a table and have discussions. Your presentation was good, but very technical. If you meet with the communities, please ensure that you explain aspects of the proposed expansion to them in simple language and in the language of their choice.	We are honoured that you made time to meet with us and will take your suggestions to heart. The presentation to communities is conducted in Afrikaans and technical aspects are explained to build the capacity of the people.
Her Worship the Mayor, Mrs Kasiringua Veneza, Tsumeb Town Council – Town Council meeting, 21 April 2016	The public meetings are an excellent initiative, not only for Tsumeb but for the country as a whole. We thank DPMT for this initiative and wish them well with the public meetings.	Thank you for your comment.
Mr Moses Awiseb, Principal Chairperson, Concerned Citizens Tsumeb – Town Council meeting, 21 April 2016	We started actions to improve the air quality many years ago and were often seen as trouble makers and shunned from employment opportunities. Yet, we did not give up on voicing our concerns. When DPMT came, they embraced our organisations and listened to our pleas for improvement. We are so proud today that the people's voice did not go unheard and would like to thank DPMT for this.	DPMT is proud to have good cooperation from Civil Society and looks forward to further interactions and suggestions from the CCT.

NOMTSOUB COMMUNITY MEETING, NOMTSOUB COMMUNITY HALL, TSUMEB, 21 APRIL 2016

SOURCE	COMMENT	RESPONSE
Community member, Nomtsoub – Nomtsoub Community meeting, 21 April 2016	The arsenic and other airborne impacts have dramatically decreased and we are thankful for this, however job opportunities are still scarce and not enough to assist the people of Nomtsoub. What is the Smelter doing about this?	There will never be enough employment opportunities at the Smelter itself to satisfy the demand, we urge communities to look at the bigger picture and skill themselves in jobs in the hospitality industry, construction, food production etc. All of these services will increase as the Smelter continues to expand.
Community member, security guard at	It seems that the opportunities for security trained	Security forms a major part of any industry and we trust that your

SOURCE	COMMENT	RESPONSE
Rubicon Security Services, Nomtsoub – Nomtsoub Community meeting, 21 April 2016	personnel is diminishing. We request DPMT to not forget about us.	services will be in even bigger demand in future.
Mr Julius Gaebeb, Nomtsoub community and member of Tsumeb Town Council – Nomtsoub Community meeting, 21 April 2016	I was part of the people who agitated against the environmental impacts caused by the Smelter. However, I have noticed that birds and bats have suddenly re-appeared since the SA Plant has been commissioned. It is clear that the environment shows great improvement and we are very happy about this.	We thank you for the kind words and especially for a new angle that has not come up previously i.e. the wildlife returning to the area. This is indeed a very good observation.
Mr Julius Gaebeb, Nomtsoub community and member of Tsumeb Town Council – Nomtsoub Community meeting, 21 April 2016	This plant is now of international standard and we congratulate DPMT on these improvements.	Thank you for your encouragement.
Mr Julius Gaebeb, Nomtsoub community and member of Tsumeb Town Council – Nomtsoub Community meeting, 21 April 2016	As far as socio-economic benefits are concerned, many small enterprises have benefitted from the Dundee Trust Fund. People should be encouraged to visit the DPMT Information Centre and find out how they can benefit.	DPMT will strive to promote these benefits in more detail in future.
Mr Julius Gaebeb, Nomtsoub community and member of Tsumeb Town Council – Nomtsoub Community meeting, 21 April 2016	Now that we have a world class Smelter, we should consider building a refinery in the area so that the produced materials can get beneficiated in the country and that the money and job opportunities do not leave the country as is the case at present.	It is very good to have a firm future vision, thank you for this suggestion.
Resident, Nomtsoub – Nomtsoub Community meeting, 21 April 2016	I was fortunate to get employment with one of the sub-contractors during the construction of the SA Plant. I am so proud to have been part of this construction and have learnt many new skills and have certificates to prove it. We are very thankful to DPMT.	What a very good testimonial, we are happy for you and other community members who received the opportunity to learn a skill as a result of the Smelter's expansion.

Eloise Costandius

From: Andre Neethling <baasco@afol.com.na>
Sent: 13 April 2016 08:43 PM
To: Simon Charter
Subject: RE: Dundee Precious Metals Tsumeb Optimisation and Upgrade Project

Dear Simon,

I am currently traveling outside Namibia. I am interested to be registered as an interested and affected party. I will however not be available for the scheduled meetings. In order to make a meaningful contribution can you please provide me with the actual processing of concentrate (per month) over the past twelve months and the typical analysis of the concentrate composition. What is the expected concentrate composition in future?

Andre Neethling baasco@afol.com.na
11 Omeg Allee, Tsumeb
Cell 0811228502

Regards

Andre

From: Simon Charter [<mailto:scharter@slrconsulting.com>]
Sent: Tuesday, 12 April 2016 4:07 PM
To: undisclosed-recipients:
Subject: Dundee Precious Metals Tsumeb Optimisation and Upgrade Project

Good day,

Notice is given in terms of the Environmental Management Act, 7 of 2007 and Regulation 21 of the Environmental and Social Impact Assessment (ESIA) Regulations, of the proposed amendment of the Dundee Precious Metals Tsumeb (DPMT) Smelter Environmental Clearance Certificate (ECC) to allow for the optimisation and upgrade of their current operations. DPMT require the necessary assessment to allow for various operational improvements which will enable an increase in concentrate processing capacity from 240 000 to 370 000 tons per annum.

Prior to commencing the proposed optimisation and upgrade, an ESIA Amendment process will be conducted and an application for an ECC amendment will be submitted to the Ministry of Environment and Tourism (Environmental Commissioner) in terms of the above-mentioned regulations. SLR Environmental Consulting Namibia (Pty) Ltd, an independent environmental consulting company, has been engaged to conduct the ESIA amendment process.

Please find attached a notification letter regarding the project as well as an invitation to the various public meetings planned for the project. Also attached is a stakeholder registration and comment sheet for your convenience.

Kind regards

Simon Charter

Environmental Assessment Practitioner
SLR Consulting Namibia (Pty) Ltd

Email: scharter@slrconsulting.com
Mobile: +264 81 147 4427
Tel: +264 64 402 317
Fax: +264 64 403 327

DUNDEE PRECIOUS METALS

ESIA for optimisation and upgrading of the Tsumeb Smelter

Registration as an I&AP April 2016

PUBLIC PARTICIPATION OFFICE
Simon Charter
Environmental Assessment Practitioner,
SLR Consulting Namibia (Pty) Ltd,
Tel: +264 (0) 64 402 317;
Fax: +264 (0) 64 403 327;
E-mail: scharter@slrconsulting.com

Please complete by 18 April 2016 and return to the Public Participation Office (as above)

CONTACT DETAILS:

TITLE	Dr and Mrs	Name	Pieter Marinda
INITIALS	PC	SURNAME	Pretorius
STREET ADDRESS	Omeg Allee 24, Tsumeb		
POSTAL ADDRESS	1252 Tsumeb		
		POSTAL CODE	
TEL NO	067222899	FAX NO	
E-MAIL	pcmpretorius@mweb.co m.na	CELL NO	0811274855 (dr) 0811274844 (mrs)
ORGANISATION:	Private resident / Occupational medical practitioner		

Please register me as an I&AP. I would like to submit the following comments:

I would like to attend the Public Meeting on the following date (please mark with an X):

Public Meeting 1 Makalani Hotel Wednesday, 20 April 2016, 10:00 – 12:00 AM	yes	Public Meeting 2 Ondundu School Hall Wednesday, 20 April 2016, 18:00 – 20:00 PM	Y	Public Meeting 3 Nomtsoub Community Hall Thursday, 21 April 2016 18:00 – 20:00 PM	Y
	N		N		N

Date18 April 2016.....Signature

A handwritten signature in cursive script, appearing to read 'P. Retonius'.A handwritten signature in cursive script, appearing to read 'A. Ret'.

THANK YOU FOR YOUR CONTRIBUTION

Eloise Costandius

From: Samson Mulonga <mulongas@yahoo.com>
Sent: 18 April 2016 05:48 PM
To: Simon Charter
Subject: Registration for EISA amendment for the proposed Tsumeb Smelter Optimization and Upgrade Project

Dear Simon

I would like to register as an IAP for the above Project.

Regards

Samson

Eloise Costandius

From: Timoteus Hiholiwe <timoteus3@gmail.com>
Sent: 19 April 2016 02:32 PM
To: Simon Charter
Subject: IAP

Follow Up Flag: Follow up
Flag Status: Completed

Good day!

My name is Mr Timoteus Hiholiwe and i am a school teacher at Ondundu Primary school. I also reside on the school premises which is located just behind DPMT and everyday i have to deal with the arsenic gas coming from your plant. I am really just a concerned citizen and i would like more information on how this might be affecting my health.

I feel that maybe your company should relocate me to another location in tsumeb on its cost, because this coughing could trigger my asthmatic attack and that would be another bad case. I would really appreciate it if you took my matter/health into consideration.

My contact details: 0814664668 or timoteus3@gmail.com

Concerned Citizen!!
Timoteus Hiholiwe

DUNDEE PRECIOUS METALS
ESIA for optimisation and upgrading of
the Tsumeb Smelter
Registration as an I&AP
April 2016

PUBLIC PARTICIPATION OFFICE
 Simon Charter
 Environmental Assessment Practitioner,
 SLR Consulting Namibia (Pty) Ltd,
 Tel: +264 (0) 64 402 317;
 Fax: +264 (0) 64 403 327;
 E-mail: scharter@slrconsulting.com

Please complete by 18 April 2016 and return to the Public Participation Office (as above)

CONTACT DETAILS:

TITLE	MIS	FIRST NAME	Rensche
INITIALS	R	SURNAME	Madderson
STREET ADDRESS	Ed 1216 Makalani Street North Industrial, Tsumeb		
POSTAL ADDRESS	Box 1361 Tsumeb		
		POSTAL CODE	9000
TEL NO	220726	FAX NO.	
E-MAIL	cfa@jwan.na	CELL NO	
ORGANISATION:	Joni Maize cc		

Please register me as an I&AP. I would like to submit the following comments:

Received Invitation very late no time to make arrangements

I would like to attend the Public Meeting on the following date (please mark with an X):

Public Meeting 1		Public Meeting 2		Public Meeting 3	
Makalani Hotel	Y	Ondundu School Hall	Y	Nomtsoub Community Hall	Y
Wednesday, 20 April 2016, 10:00 – 12:00 AM		Wednesday, 20 April 2016, 18:00 – 20:00 PM		Thursday, 21 April 2016 18:00 – 20:00 PM	
	N		N		N

Date 20.4.16 Signature R Madderson

THANK YOU FOR YOUR CONTRIBUTION

Eloise Costandius

From: Stephen O'Rahilly <STEPHEN.ORAHILLY@LDCOM.COM>
Sent: 21 April 2016 11:46 AM
To: Simon Charter
Subject: BID: DPMT

Dear Simon

As per the notice in the paper regarding the EIA amendment for DPMT, please could you provide me with a copy of the BID as highlighted.

Thank you

Kind regards

Stephen

Stephen O'Rahilly

Mobile South Africa: +27 82 379 2083

Mobile Namibia: +264 81 766 0348

Email: stephen.orahtilly@ldcom.com

Please note that Louis Dreyfus Commodities has been renamed Louis Dreyfus Company.

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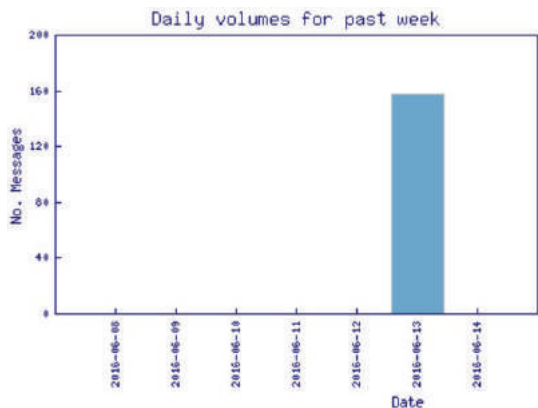
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Message history

Time sent	Recipients	Status	Message Preview	
2016-06-13 17:23:53	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:23:21	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:22:47	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details

Message history

Time sent	Recipients	Status	Message Preview	
2016-06-13 17:21:58	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:21:17	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:20:46	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:20:14	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:19:36	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:19:00	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:18:02	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:17:26	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details

Message history

Time sent	Recipients	Status	Message Preview	
2016-06-13 17:16:39	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:15:40	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:15:03	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:14:09	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:13:23	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:12:38	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:11:56	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:11:03	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details

Message history

Time sent	Recipients	Status	Message Preview	
2016-06-13 17:10:19	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:09:31	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:08:28	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 17:00:30	114 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details
2016-06-13 16:53:02	2 recipients		Concatenated SMS (part 1 of 2): Public Notice: EIA Amendment Scoping Report for the Proposed Tsumeb Smelter Upgrade and Optimisation Project is available for review from 15 to 29 June 2	Details

Note: Message History is only kept for one month.

Eloise Costandius

From: Eloise Costandius
Sent: 21 February 2017 09:01 AM
To: Eloise Costandius
Subject: DPMT Smelter Upgrade Project - ESIA Public Feedback Meetings Invitation

Dear Stakeholder

With reference to previous correspondence, Dundee Precious Metals Tsumeb (DPMT) proposes to optimise and upgrade their current smelter operations in Tsumeb in order to increase the copper concentrate throughput capacity from 240 000 tons per annum (tpa) to 370 000 tpa.

DPMT appointed SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR) to undertake the required Environmental and Social Impact Assessment (ESIA) Amendment process for the proposed project.

The ESIA scoping phase commenced with a round of public meetings in Tsumeb from 20 to 21 April 2016. The scoping phase was completed (taking interested and affected parties' comments into consideration), after which various specialist investigations were conducted.

You are hereby invited to attend one of three public feedback meetings to be held in Tsumeb on 8 and 9 March 2017 (details below). The findings of the specialist investigations and assessment phase of the ESIA will be presented at these meetings and stakeholders will be provided with an opportunity to provide further comments and ask questions. The meetings will also serve as a feedback session for the community health specialist assessment conducted by Prof Jonny Myers in 2016, in which a number of community members participated.

The meetings will take place as follows and you are welcome to attend the meeting most suited to your programme:

Public Meeting 1 (evening)	Public Meeting 2 (morning)	Public Meeting 3 (evening)
Ondundu School Hall Wednesday, 8 March 2017 18:00 – 20:00	Makalani Hotel Thursday, 9 March 2017 10:00 – 12:00	Nomtsoub Community Hall Thursday, 9 March 2017 18:00 – 20:00

The findings of the ESIA has been compiled into a draft ESIA Report that will be made available for a 30-day public review and comment period. The report will be made available on the SLR Consulting website and at the Tsumeb Library and DPMT Information Centre. All stakeholders will be notified in a follow-up e-mail once the report is available for comment.

For further information, please reply to this mail or contact:

Mr Werner Petrick, Environmental Assessment Practitioner, SLR Consulting Namibia (Pty) Ltd
Tel: +264 (0) 64 402 317 Fax: +264 (0) 64 403 327 E-mail: wpetrick@slrconsulting.com

Kind regards

Eloise

Eloise Costandius

Senior Environmental Consultant
SLR Consulting

Email: ecostandius@slrconsulting.com

Tel: +27 21 461 1118
Fax: +27 21 461 1120

SLR Consulting (Cape Town office)
Unit 39, Roeland Square
Cnr Roeland Street and Drury Lane, Cape Town, 8001
South Africa



Industry



Infrastructure



Mining & Minerals



Oil & Gas



Planning & Development



Renewable & Low Carbon



Waste Management


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**TSUMEB SMELTER OPTIMISATION AND
UPGRADE PROJECT
ESIA AMENDMENT PROCESS**

Stakeholder Feedback Meeting



09/03/2017

Guidelines for productive discussion

- Focus on the issue, not the person
- Work through the facilitator
- One person at a time
- Agree to disagree
- Mobile phones on silent
- Discussion to take place at the end of the presentation

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**TSUMEB SMELTER OPTIMISATION AND
UPGRADE PROJECT
ESIA AMENDMENT PROCESS**

Stakeholder Feedback Meeting



09/03/2017

Agenda

- Overview of proposed project
- The ESIA Amendment process
- Key findings of specialist studies
- Community Health Assessment feedback
- General discussion, comments & questions
- Way forward
- Close



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Formalities & aims

- Overview of the proposed project
- Understand the ESIA Amendment process being followed
- Feedback on specialist assessments of environment impacts
- Comments for input into the ESIA Amendment process
- Formal comment period to follow



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Brief history

- Original plant 1962:
 - Lead smelter
 - Copper smelter
- Improvements 1976:
 - Complex copper concentrates



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Brief history

- DPMT acquired plant in 2010 – treat concentrate
- Modernisation program:
 - Address hygiene issues
 - Address environmental issues
- 240,000 t/a of copper concentrates



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Dundee SLR

Current operations



Smelter Optimisation & Upgrade Project

- Additional complex concentrates available
- Further areas for operational improvements identified
- Expansion of their current operations
 - increase concentrate processing capacity from 240 000 to 370 000 t/a
- Motivation is long term sustainability

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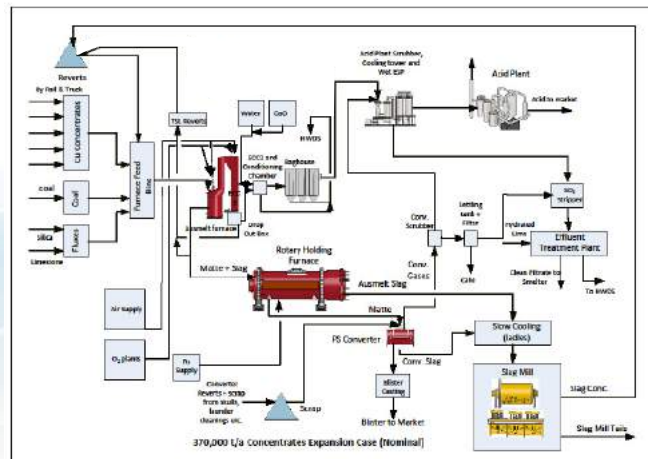
Smelter Optimisation & Upgrade Project

- Upgrade primary smelting feed and furnace
- Install holding furnace
- Implement slow cooling of the holding furnace and converter slag
- Upgrade slag mill to improve copper recovery and handle increased tonnage from slow cooled slags
- Option to install an additional converter
- Utility upgrades and tie-ins: HP/LP air, HP and LP oxygen, raw water, reclaim water, LFO, HFO, and electrical power

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Smelter Optimisation & Upgrade Project



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ESIA Amendment Process

- Amendment of existing ESIA and EMP to include optimisation and upgrade activities.
- Consolidated EMP to include approved EMPs and additional mitigation measures for new components
- DPMT appointed SLR to carry out an ESIA Amendment process.
- Permission must be obtained from the Ministry of Environment and Tourism (MET).

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ESIA Amendment Process

Screening

- February – March 2016
- Stakeholder identification

Scoping

- April – June 2016
- Authority notification
- Public consultation
 - Initial comment period
- Specialist and ESIA Amendment ToR
- Scoping Report Compilation
- Public consultation:
 - Document review
- Authority review

ESIA amendment

- June –March 2017
- Specialist investigations
- Compile ESIA and EMP Amendments
- Public consultation:
 - Present findings – public feedback meeting
 - Document review
- Authority review

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Specialist investigations

- Waste management review
- Groundwater
- Surface water
- Air quality
- Noise
- Socio-economic
- Community health
- Stakeholder engagement

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Waste Management Review

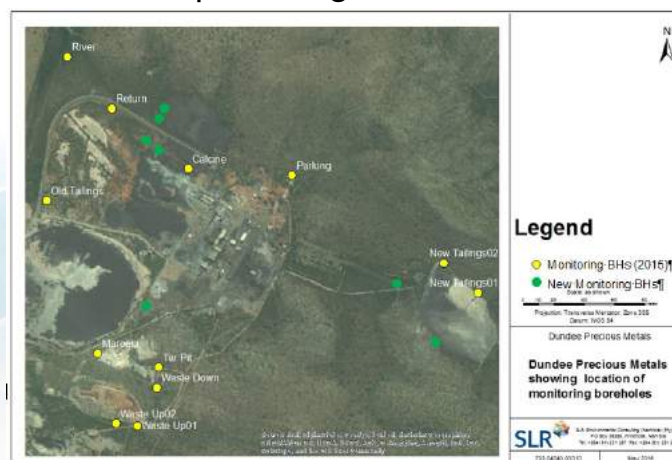
- Improvement of waste sorting
- Establishment of formalised general waste site or incinerator
- Hazardous Waste Disposal Site's permitted lifespan calculated at estimated 7 to 8 years
- Alternatives for hazardous waste disposal:
 - regional Namibian site
 - transport a small volume to South Africa
 - vitrification process

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Groundwater

- Historic impact on groundwater on-site



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Groundwater

- Proposed expansion not expected to contribute significantly to groundwater impacts
- Modelled data show likelihood that it could move off-site in future
- Recommendations:
 - refining of the model used to make accurate predictions
 - complete study on sources of contamination
 - targeted solutions for treatment and source elimination to reduce potential off-site pollution
 - drill additional offsite monitoring boreholes

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Groundwater

- undertake phytoremediation trials as part of ongoing rehabilitation plans
- nursery constructed in 2016, permit still awaited

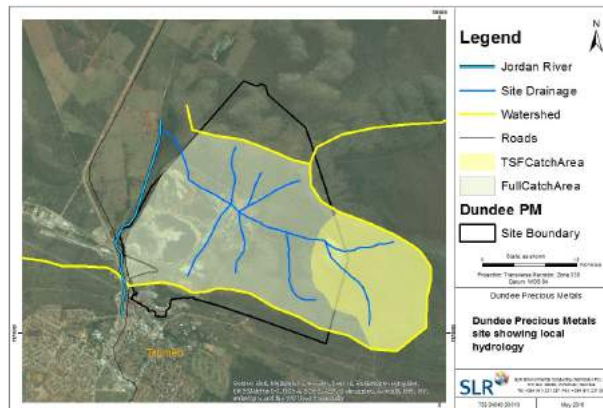


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Surface Water

- No natural surface water sources present, only stormwater runoff



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Surface Water

Recommendations:

- Ensure stormwater system capacities are sufficient to handle additional contact runoff
- Improved stormwater management in line with stormwater management plan currently undertaken in phases
 - lined polluted water control dams
 - clean water diversion channel
 - water quality monitoring in the Jordan River

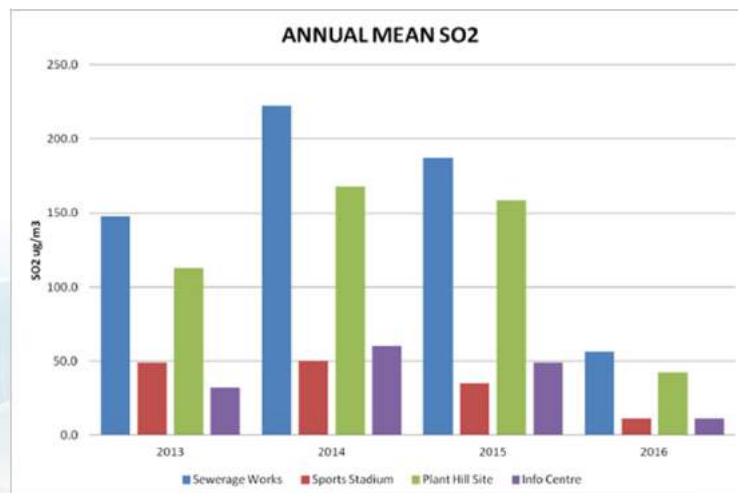
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Air Quality

- Significant decreases in air emissions during 2016 due to sulphuric acid plant and decommissioning of reverberatory furnace
- SO₂ baseline
 - significant downward trends from 2015
 - still some exceedances at monitoring sites close to the smelter

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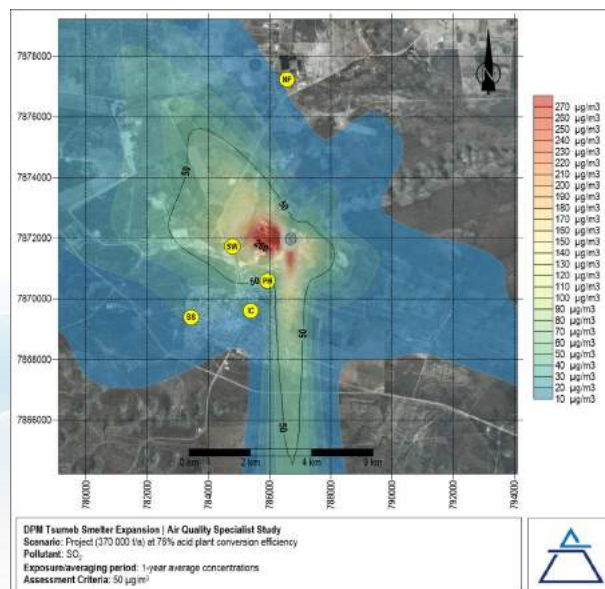
Air Quality

- SO₂ - project
 - simulated at ambient air quality stations
 - 76% acid plant efficiency used in modelling, but expected to reach 90 - 95%
 - increase in SO₂ expected
 - simulations show exceedance of annual criteria to east of Tsumeb and short term criteria across most of Tsumeb should efficiency not improve

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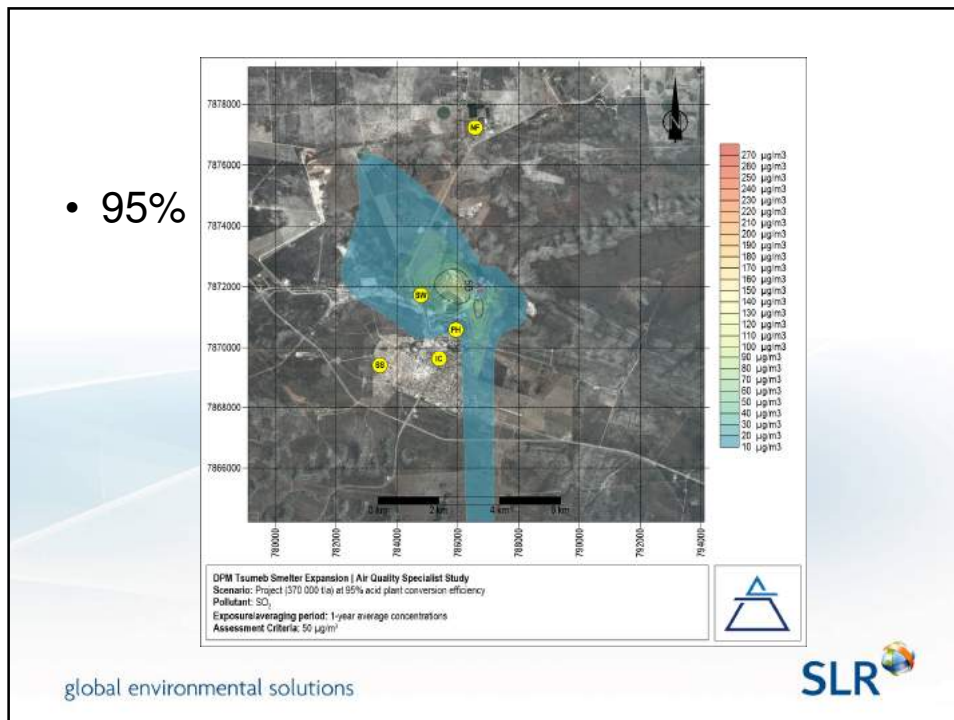


- 76%



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Air Quality

- Sulphuric acid and airborne particulate matter (PM₁₀) were found to not exceed ambient air quality limits offsite
- Arsenic
 - marked decrease in annual average concentrations from 2013 to 2016 at all stations
 - exceedances linked to fugitive emissions and dust during dry and windy months
 - ambient arsenic levels could potentially increase, assuming that furnace building fugitive emissions increase linearly with production rates

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SLR

Air Quality

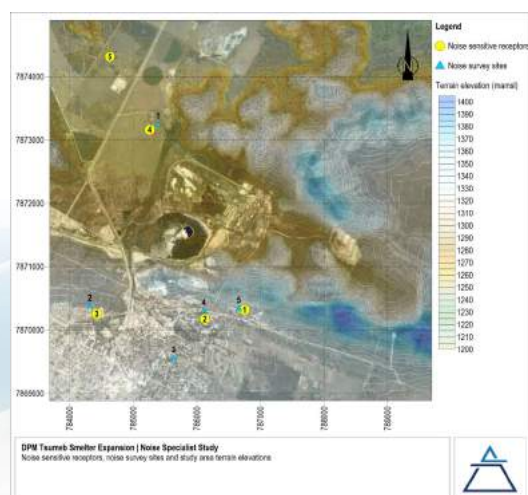
- additional arsenic from holding furnace is minimal
- Recommendations
 - reduce building fugitive emissions through effective engineering controls
 - improve acid plant conversion efficiency
 - undertake continuous emissions monitoring and add additional ambient air quality stations in order to more accurately predict dispersion

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Noise

- Only noise sensitive receptor – farmstead 650 m northwest of smelter



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Noise

- In town noise levels affected by community activities and dependent on wind speed
- Daytime and night time noise guideline levels are not currently exceeded at NSRs
- Expansion would not result in exceedances of noise level guidelines
- Recommendations
 - improve silencer at No. 2 oxygen plant
 - implement noise monitoring programme

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Socio-Economic

- Construction phase expenditure
 - direct, indirect and induced impacts
 - estimated 185 person years of employment
 - N\$722 million on all aspects for 18 months
 - recommended to use local labour and sub-contractors as far as possible and to provide training
- Operational phase expenditure
 - no new direct employment opportunities
 - largely indirect employment linked to service providers, e.g. electricity, transport, engineering

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Socio-economic

- DPMT's corporate social responsibility spending might also increase with the increased revenue generated
- Macro-economic benefits
 - foreign exchange earnings up by US\$66 million per year in addition to current US\$140 million
 - positive impact on Namibian economy
- Recommendations
 - purchase from Namibian suppliers as far as possible

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Socio-economic

- Construction workers on local community
 - could disrupt family structures
 - risks of increased alcohol and drug use
 - already rapid increase in population and high numbers of truck drivers, additional workers should not have significant impact
- Recommendations
 - brief local communities on risks
 - appoint local labour as far as possible

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Socio-economic

- Decommissioning and closure
 - high number of permanent employees
 - loss of income and implications for households
 - effective and well planned retrenchment and downscaling programme required
- Recommendations
 - ensure appropriate retrenchment packages
 - implementation of skills training programmes
 - ensure finances in place to fund Closure Plan objectives

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Community Health

- Presented by Prof Jonny Myers

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Conclusions

- Not expected that expansion would significantly contribute to historic and current operational impacts with mitigation
- Significant positive economic impacts
- Studies currently still underway into remediation

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Conclusions

- Recommendations
 - optimising of engineering solutions for capturing emissions
 - ongoing monitoring of emissions and community health
 - decisions to be made on future solutions for the ongoing disposal of hazardous arsenic waste
- Way forward
 - Draft Impact Report to be made available for a 30-day public comment period soon
 - all comments to be considered in a Final Impact Report for submission to MET for decision-making

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Thank You

Comments and questions

Fax/Mail further comment to Werner Petrick

Fax: +264 64 403 327

Email: wpetrick@slrconsulting.com

Phone: +264 64 402 317

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**HEALTH IMPACT ASSESSMENT FOR THE
ENVIRONMENTAL IMPACT
ASSESSMENT OF THE DUNDEE
PRECIOUS METALS TSUMEB SMELTER
EXPANSION PROJECT**

PROFESSOR J E MYERS
MARCH 2017

**Community Health Risks in Tsumeb
and surrounds**

- Arsenic - is associated with a risk of lung cancer
- SO₂ – is associated with a risk of respiratory health and irritation

Different possible exposure areas

- All of Tsumeb divided into high/medium/low exposure areas
- NAMFO Farms to the North West
- Further outlying farms
- Oshakati residents organised by UNAM as external unexposed control group
- Residents older than 10 years of age

Exposure zones and residential suburbs in Tsumeb



Methods

- Stakeholder engagements
- Objections and suggestions
- Community monitors for custody
- 6 Research assistants who were Public Health students from the School of Public Health, UNAM, Oshakati organised by the Dean, Dr Mitonga.

Community Monitors

- Coordinated by Mr Moses Awiseb
- 6 monitors
- Present throughout
- Custodians of the questionnaire administration as well as urine sample collection, tap water sample collection, safe delivery of samples to Pathcare

Measurements

- DPMT air quality monitoring stations for dust, SO₂ and Arsenic
- Inorganic Arsenic in urine
- Total Arsenic in drinking water
- Questionnaire for respiratory health symptoms

FINDINGS

- Air quality monitoring



Dust (PM₁₀)

- Dust levels complied with Namibian/South African limits (75µg/m³)
- However, using the European Union and World Health Organisation standards (50µg/m³) there were some exceedances, basically once a week
- WHO 2016 reported that 92% of global population is overexposed to PM₁₀
- WHO estimates that for Tsumeb in Namibia only about 2.5 days per person will be lost in an average lifetime due to overexposure to PM₁₀

SO₂

- Levels at the community monitoring stations complied with Namibian/South African and EU limits in 2016, but not with the stricter WHO limits that were exceeded once weekly
- Levels of exposure are low though, and any health effects are likely to be mild and reversible

Arsenic in dust

- Measurements from the Stadium and Info Centre stations in the community were around 0.05 µg/m³ which is ten times higher than the EU limit, but serious health effects are not expected at these levels
- Measurements at the Sewerage Works and Plant Hill stations closer to the smelter are higher (0.4 – 0.5 µg/m³)

Summary findings for air quality

- Based on these measurements we are not expecting dust and arsenic effects from airborne exposures
- Only SO₂ is expected to cause some respiratory symptoms and irritation

Arsenic in drinking water

- 96 tap water measurements were all well below the Namibian (100µg/L) & stricter WHO (10µg/L) limits for drinking water
- Water is not an exposure source for residents

Health survey of 245 Tsumeb & Oshakati residents

ASTHMA-RELATED SYMPTOMS

- Twice as many residents complained of respiratory symptoms compared with residents in Oshakati
- The same was found in the 2012 Government Survey compared to Grootfontein.
- About a third of Tsumeb residents had episodes of these symptoms
- About half of these again experienced symptoms once weekly, which is seen as a significant health burden
- These symptoms do not mean asthma cases that are diagnosed by a doctor and which are on treatment
- Asthma cases on treatment were only 2.9% in Tsumeb
- And actually higher at (5%) in Oshakati
- So severity of asthma related symptoms was mild to moderate

Odour perception due to SO₂

- 24% of Oshakati residents were bothered by unpleasant odours (sewerage plant and veld fires) compared with 85% of Tsumeb residents (SO₂)
- Tsumeb residents experienced this once weekly on average
- Matches the once weekly SO₂ exceedances
- 82% felt that this was less frequent in the past year compared with previously.

Symptoms of irritation

- Of those aware of odour 83% of Tsumeb residents had symptoms
- Only 10% in Oshakati had these symptoms
- Mainly cough and dry throat in Tsumeb
- Mild symptoms but still uncomfortable

Urine Arsenic

Inorganic Arsenic in urine for Tsumeb residents as a whole

- Inorganic Arsenic in urine in Tsumeb ($15.2\mu\text{g/g}$) as a whole significantly higher than Oshakati ($10.3\mu\text{g/g}$)
- Both are low and similar to international populations unexposed to Arsenic
- Tsumeb is similar to Belgian adults ($15.9\mu\text{g/g}$)
- Oshakati is similar to Belgian youth ($9.3\mu\text{g/g}$) and French adults ($11.9\mu\text{g/g}$)

Zooming into results for residential suburbs in Tsumeb



Comparing inorganic Arsenic in Tsumeb suburbs with Oshakati

- Town Central ($12.9\mu\text{g/g}$) and NAMFO ($12.3\mu\text{g/g}$) are similar to Oshakati ($10.2\mu\text{g/g}$)
- Town North ($21.3\mu\text{g/g}$) and Town South ($22.2\mu\text{g/g}$) are twice as high as Oshakati ($10.2\mu\text{g/g}$)
- Within Town North
Endombo = $14.3\mu\text{g/g}$
Ondundu = $41.9\mu\text{g/g}$

Gender

- Females and males had similar urine Arsenic levels in Tsumeb as a whole
- In Town North females had higher urine Arsenic levels in Ondundu

Age

- Adults and children had similar levels of urine arsenic in both Tsumeb and Oshakati

Gender and age combined

- For Tsumeb as a whole no pattern
- For Town North there was a tendency for young females and young males to have the highest and older males the lowest levels
- Suggesting behavioural factors - house cleaning, gardening, diet

Diet

- Significantly increased inorganic urine Arsenic
 - Eating fish in past two days
 - Growing and consuming vegetables at home
 - Picking and consuming wild fruit
- No effect on inorganic urine Arsenic
 - Eating rice or cereal (maize) had no effect
 - Smoking tobacco had no effect

Other contributors

- Urine Arsenic levels were higher if there was a household member working at the smelter
- Visiting the smelter in the past two days also had a slight non-significant effect

Lung cancer risk based on Arsenic in dust

- Tsumeb residents as a whole (~ 25 000) have a 3.5% excess lifetime risk adding 6 lifetime cases to 183 expected, which is a low risk.
- Ondundu residents have higher exposures and risk, but this affects only a very small proportion of the total Tsumeb population, so numbers of cases will be very small (0.5 - 1).

Effect of the increased throughput

- Statistical modelling of increased throughput of ore showed no meaningful effect on Arsenic in air exposure for residents

Individual feedback on abnormal urine arsenic levels to survey participants

- More than 95% of 250 people studied had normal levels
- Abnormal is considered higher than the highest levels of the control group in Oshakati
- Abnormal levels do not indicate serious health problems, just an increased risk in the long term, therefore, NO NEED TO PANIC
- Only 12 people had abnormal levels and these people will be contacted in person by the study team
- If not contacted, assume everything is normal

Recommendations

- Continue to reduce SO₂ and Arsenic emissions from the plant by all means possible
- Employees to return home in clean clothes, including shoes and bags
- Uniforms are to be washed at the plant
- Further investigate possible sources of arsenic for Ondundu, because the levels can't be explained by Arsenic in air and water
- Investigate ways of reducing/minimising other sources of Arsenic for Ondundu
- Expanded monitoring programme

Expanded monitoring programme

- Additional monitoring to increase sample numbers in some areas of Tsumeb – Ondundu, Endombo, Kuvukiland and Oshakati
- Verification of study results and ongoing monitoring where indicated
- Routine periodic monitoring as currently for SO₂ and Arsenic
- To include monitoring of soil and locally grown vegetables and fruit consumed, as well as household dust and urine

DUNDEE PRECIOUS METALS (PTY) LTD
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED TSUMEB SMELTER EXPANSION
PROJECT, TSUMEB, NAMIBIA PUBLIC FEEDBACK MEETINGS 8 – 9 March 2017



PUBLIC FEEDBACK MEETING MINUTES



Purpose of this document:

This document records all comments made during a number of public meetings held to provide feedback on the key findings of specialist studies undertaken as part of the ESIA process for the proposed Upgrade and Optimisation Project for the DPMT Tsumeb Smelter. Four public meetings were held on 8 and 9 March 2017. The meetings held were as follows:

- Meeting with Tsumeb Town Council – Wednesday, 8 March 2017
- Meeting with Ondundu Community – Wednesday, 8 March 2017
- Meeting with surrounding land owners, town residents and business people – Thursday, 9 March 2017
- Meeting with Nomtsoub Community – Thursday, 9 March 2017

The meetings were advertised by means of personalised notification letters and text messages to stakeholders with known details and attendees of previous public meetings held in April 2016.

Posters

advertising the meetings were also put up at public places in Tsumeb. The attendance registers are included at the end of this appendix.



MEETING WITH TOWN COUNCIL, TSUMEB COUNCIL CHAMBERS, 8 MARCH 2017

SOURCE	COMMENT	RESPONSE
<p>Mr Glen Kearns, Health Manager, Tsumeb Town Council</p>	<p>Would the municipality be able to make use of the general waste incinerator should DPMT decide to establish one on the site? Could DPMT please consider this option?</p> <p>I have been in Tsumeb for nine years. When I first arrived, loud explosions were still audible from the smelter operations. With the upgrades made by DPMT, this is no longer happening. This is a positive change.</p> <p>There were some labour disputes when DPMT took over. The municipality then got together with DPMT to set up a register of workers. Consultants would then first check the register before employing people. This register system is still active today. During the last four years there have thus not been any real labour disputes.</p> <p>Did the community health specialist (Prof Myers) interview medical doctors in Tsumeb to identify any health-related trends?</p>	<p>Should DPMT decide to pursue the option to establish an incinerator it would be small due to the extensive costs involved, and thus only large enough to service DPMT.</p> <p>This positive change is noted.</p> <p>Thank you for your comments. The accuracy of the register will be confirmed with the municipality.</p> <p>Doctors do not have a systematic view of overall trends as they only see individual patients. The public were rather asked directly about their real complaints. It was not deemed worthwhile to ask doctors the same questions. It must be noted some medical practitioners attended the community health assessment kick-off meeting with Prof Myers and volunteered to assist with the sourcing of participants and the handling of samples during the study. However, when the study kicked off, some of the health professionals elected not to take part in the study.</p>
<p>Mr Glen Kearns, Health Manager, Tsumeb Town Council</p>	<p>It must be made clear to the public that the waste site referred to in the presentation are located on DPMT property and that the presentation does not refer to the municipal landfill site.</p> <p>When looking at Ondundu, it must be taken into consideration that the area was historically part of a</p>	<p>This comment is noted.</p> <p>It is not believed that all the detected contamination is from historic activities as there is preliminary evidence that elevated contamination levels outside of the smelter boundary are present</p>

SOURCE	COMMENT	RESPONSE
	<p>working mine, so any soil contamination there might be related to historic impacts.</p> <p>There used to be a community vegetable garden in Ondundu and plans have been developed to re-establish a 20 ha garden in that area.</p> <p>Studies done between 2004 and 2006 have proven to not be very accurate. Much more research has been done since and results are now being viewed differently.</p>	<p>only in the top soil layer (2-5 cm depth) and not deeper into the soil. It is also important to note that arsenic does not build up in human bodies, so it can be deduced that arsenic in urine would be related to current exposures. Due to these findings, the current planning of a community garden in Ondundu should be reconsidered until the source of higher arsenic levels in the area has been established. As part of the community health assessment it is recommended to undertake further soil and plant sampling to verify whether crops may be an arsenic exposure pathway and to establish beyond doubt that it would be safe to grow vegetables in the area earmarked.</p> <p>Previous studies indicated that a buffer zone of approximately 1-2 km should be considered around the smelter where vegetables should preferably not be grown.</p> <p>Prof Myers again noted that some people presenting with elevated urine arsenic levels were recorded in Ondundu and that these results are deemed significant.</p>
<p>Mr Glen Kearns, Health Manager, Tsumeb Town Council</p>	<p>Arsenic is still a scary word in the community, but seeing that there is a difference between total and inorganic arsenic (as explained in the community health specialist's presentation) made things clearer.</p> <p>If tyres on vehicles leaving the smelter are considered a source of arsenic exposure offsite, would DPMT consider rather transporting workers by bus?</p>	<p>There is no evidence yet of tyres transporting arsenic offsite, more research would be required in this regard.</p> <p>There is a facility at the smelter for the washing of work uniforms. Workers should be urged to not take dirty uniforms home to be washed by household members, in order to reduce exposure.</p>
<p>Ms Monique Muturi, Human Resources Manager, Tsumeb Town Council</p>	<p>Has the nursery (for the phytoremediation trials) already been established in Tsumeb?</p>	<p>Yes, the nursery on the smelter site was completed in 2016 and environmental permits are currently awaited to commence with plant collection and phytoremediation trials. The process of phytoremediation entails the use of certain plants that are known to take up heavy metals for the extraction of chemicals and heavy metals of concern from contaminated soils. The plants identified for use by a specialist are all indigenous and will be propagated at the nursery at DPMT's cost.</p>
<p>Councillor for Nomtsoub area</p>	<p>I have been in Tsumeb for 27 years. Previously it was very difficult to breathe, but now we no longer smell the gasses from the smelter. There has been a definite</p>	<p>The information will be simplified for presentation to the community members so that it is easily understandable. A simplified document with the key findings can also be produced.</p>

SOURCE	COMMENT	RESPONSE
	positive change and the number of people getting sick and the risk of illness have also dropped. There is, however, a problem in the communities in that the people do not know the results of the health study findings. The information would need to be provided to them in a simple manner to help them understand. People smelt the gasses previously and now they no longer do. It needs to be explained to them what happened to cause this change. A simple document explaining the findings needs to be compiled.	

ONDUNDU COMMUNITY MEETING, ONDUNDU SCHOOL HALL, 8 MARCH 2017

SOURCE	COMMENT	RESPONSE
Ondundu Resident	People need jobs. We are told to submit our CVs to the municipality, but do not believe that they are being sent through to DPMT for consideration.	DPMT will investigate the process with the municipality. Applicants need to meet certain criteria to come into consideration for positions i.e. no history of alcohol or drug abuse or previous employment that was ended due to non-performance, e.g. absenteeism.
Ondundu Resident	For the first time in many years it seems that my maize and watermelon crops are not flourishing, but dying. It seems to be a new problem. We also often smell the SO ₂ at night, not during the day.	According to Prof Myers, the community health specialist, it would be unlikely that the crop problems would be related to the smelter, as monitoring results showed that there was a significant drop in emissions from the smelter in the last year. The matter will be investigated.
Mr Michael Heita, DPMT	Based on queries why the meeting was not as well attended as expected, Mr Heita indicated that it was announced at the municipal meeting the previous night.	The community members also confirmed that community members received text messages about the meeting, but just did not attend. They were all, however, aware of the meeting taking place.

TSUMEB TOWN PUBLIC MEETING, MAKALANI HOTEL, 9 MARCH 2017

SOURCE	COMMENT	RESPONSE
Mr Wouter Niehaus, Tsumeb Gimnasium Private School	Mr Niehaus indicated that the historic findings are not his main interest, but the potential day-to-day impact on the school should be discussed in detail. He requested a separate meeting to discuss any concerns.	The project team members will make themselves available to discuss any matters specific to the school with Mr Niehaus at a later date.
Mr Germanus Uupindi, Tsumeb resident	<p>It is important to consider future environmental impacts from contamination accumulating through the years. Measures to control this should be taken seriously and calculated steps should be taken to reduce contamination.</p> <p>Are cars being washed before exiting the smelter site? Cars leaving the smelter park in town e.g. at the shopping malls and may carry arsenic from the site. A washbay with proper drainage and water treatment should be considered to prevent this.</p>	<p>This comment is noted.</p> <p>There is currently no evidence of tyres transporting arsenic offsite and more research would be required in this regard. The suggestion of washing of cars will be conveyed to DPMT.</p>
Mrs Christie Mentz, Tulipamwe Catering Services	Has borehole water around the farms to the northwest where the Jordan River ends, been tested? A water bottling plant is currently being planned there and will be the first source for contaminated water should the water source be polluted. The bottling plant owners tested the water quality to ensure that it was fit for human consumption. The results showed that it was of very good drinking water quality. Mrs Mentz agreed to send the results of the water tests to the project team.	<p>Water in the boreholes at the NAMFO sites have been tested and were of good drinking water quality.</p> <p>After the meeting, the project team reviewed the results of water tests undertaken by the company proposing to set up the water bottling plant. Although the results showed Level A drinking water quality, no results were shown for arsenic or lead levels. Mrs Mentz was advised to request further water testing results before making the decision to purchase bottled water from the company.</p>
Mr Nikasius Hangula, Nomtsoub community representative	I am concerned about the health and safety of Tsumeb residents. Is the domestic water in town and at the smelter site of the same quality? When I worked at the smelter previously we were told not to drink the water used for washing hands at the canteen. Are there thus differences in the water quality? Is it safe to drink the water in town?	The drinking water on the smelter site was not tested as part of the community health assessment. A large number (96) of drinking water taps were, however, tested for quality in and around Tsumeb. All were found to be of good drinking water quality with no elevated arsenic levels detected.
Mrs Christie Mentz, Tulipamwe Catering Services	There are currently plans for the Municipality to move Soweto residents to Ondundu while they upgrade infrastructure in Soweto. If Ondundu is a higher risk area	This concern is noted and will be discussed further with the municipality.

SOURCE	COMMENT	RESPONSE
	in terms of arsenic exposure, moving more people there is a clear concern. Municipal and regional government must be made aware of any risks for future development at Ondundu and possible rehabilitation must be considered.	Options for rehabilitation of contaminated areas are currently being investigated as part of an ongoing Contaminated Land Assessment.
Mrs Sylvia Nimengobe, Tsumeb Secondary School representative	Is the municipality aware of the higher exposure risk area in Ondundu?	Yes, a meeting to convey the results of the specialist studies was held with the municipality and further consultation will take place with them in this regard.
Mr Germanus Uupindi, Tsumeb resident	The process of arsenic particles settling in town and the way in which SO ₂ gas is spread, should be clarified.	Prof Myers explained that arsenic levels in dust showed higher levels at the monitoring station closest to the smelter (Plant Hill Station) and that dust particles blown downhill may settle in the closest residential area of Ondundu, but particles are too heavy to blow much further over the town. SO ₂ on the other hand is a gas and will spread further through air. It can thus be detected in town, at a longer distance away from the smelter.
Mr Germanus Uupindi, Tsumeb resident	Is there a process by which arsenic can be neutralised so that it is no longer deemed a harmful substance?	Prof Myers explained that it was not possible to detoxify arsenic by burying it, but chemical processes like vitrification could cause the arsenic to become inert (lifeless) and thus prevent further exposure. The feasibility of vitrification is currently being investigated by the smelter, with positive early results.
Mr Oscar Kakungha, Mineworkers Union of Namibia	<p>Arsenic is linked to an increased risk of lung cancer. Studies undertaken previously showed that people working at the smelter are being affected and DPMT are not taking care of sick people and do not want the unions to interfere. DPMT should respect the unions and should check up on sick people and not just send them home. Workers were examined from 2011 to 2013, but were not given their test results. DPMT is benefiting financially, but not the people.</p> <p>There is no trust and honest feedback is not always provided. Results are not presented properly and affected parties not fully consulted. Some people have hearing loss and were told that they might be compensated, but no compensation has taken place. I myself was retrenched and now have hearing loss in my</p>	<p>It must be noted that the previous Government study did not include an investigation into cancer cases of current and past employees, and therefore could not form an opinion on the reasons for people falling ill. If people were promised results by the Government, the appropriate Government body should be approached to provide such information.</p> <p>DPMT will provide feedback to workers on the results of the ESIA process and community health assessment, which included an occupational health component, as part of a separate feedback session.</p> <p>Previous employees should approach DPMT through the correct</p>

SOURCE	COMMENT	RESPONSE
	<p>one ear. I have not been provided with assistance or compensation.</p> <p>Mr Kakungha also referenced a 2015 New Era newspaper article in which concerns were raised about the operations of DPMT's Hazardous Waste Disposal Site. According to the article, the dust generated by copper being shipped from Europe has a different consistency and chemical content than local copper concentrates previously processed. The foreign mines who send copper concentrate to Tsumeb should take their arsenic waste back on the ships delivering the copper concentrate. He expressed the opinion that Government did not do proper research before making the decision to approve the Hazardous Waste Disposal Site and stressed that the people of Tsumeb demand a clean living and working environment.</p>	<p>channels to have their claims of health concerns assessed.</p> <p>These comments are noted. The Hazardous Waste Disposal Site is currently being operated in line with the relevant approvals and operational manual. Surface water, groundwater and dust levels are continuously monitored to ensure compliance with the relevant monitoring standards. Monitoring results do not currently indicate the disposal site as a source of groundwater contamination.</p>
Mrs Sylvia Nimengobe, Tsumeb Secondary School representative	If elevated arsenic levels have been recorded for some people in Ondundu, they might not be healthy. What is being done to help these people? Will DPMT be contributing to their medical costs? Something must be done, especially as more people might be moving there soon.	It must be noted that although some elevated urine arsenic levels were recorded, these were still low and of similar value of people in some other international cities where there are no copper smelters. The potential source pathway (e.g. soil, food, dust) will, however, be investigated further and appropriate actions taken to prevent future exposure.
Mr Germanus Uupindi, Tsumeb resident	<p>I know there are a lot of health risks related to mining. What if a doctor proves that an illness is related to arsenic exposure and the person does not have medical aid? Will DPMT contribute to this person's care?</p> <p>What if somebody has kidney problems and cannot efficiently get rid of arsenic and then get sick?</p> <p>If a doctor cannot prove that an illness is directly related to arsenic exposure, DPMT may think that they can get away with not compensating people. Please be transparent and honest with workers. They are getting sick.</p>	<p>Prof Myers explained that he does not believe that a doctor would be able to prove that a specific sickness was caused by arsenic. Cancer could be caused by anything and it would not be possible to prove that it was directly related to arsenic exposure. Most diseases have multiple causes, except for specific illnesses related to asbestos or silica exposure. Cancer causes are hard to prove. If someone does develop cancer and can prove that they worked in a place where there was a carcinogen, then there would be an option to discuss compensation.</p> <p>If somebody has kidney problems that can be confirmed with tests, they may have grounds for a claim.</p> <p>The Workman's Compensation Fund has a list of conditions associated with certain industrial activities that can be consulted.</p>

SOURCE	COMMENT	RESPONSE
		Further discussions with DPMT would be required to allay fears of workers and the unions.

NOMTSOUB COMMUNITY MEETING, NOMTSOUB COMMUNITY HALL, TSUMEB, 9 MARCH 2017

SOURCE	COMMENT	RESPONSE
Nomtsoub community member	There has been a definite improvement. The smelter gas (SO ₂) was very bad three years ago and my throat burned. The last two years that has stopped. Please continue making improvements for the environment and the people. I do not believe that there is arsenic in our food.	Thank you, this comment is noted.
Mr Titus	Workers throw away their old uniforms from the smelter and they end up in the local landfill site where poor people pick them up. People have taken old shoes from the landfill that could have come from the smelter. DPMT must not let old uniforms leave the site.	Workers are not allowed to dispose of old uniforms offsite. New uniforms are only issued upon receipt of the old uniforms and shoes. The old uniforms and shoes are incinerated in the furnace and do not leave the site. This comment will be investigated further in order to confirm that the appropriate process is followed for the disposal of old uniforms and shoes.
Nomtsoub community member	What is the effect on the human body if there is a little bit of arsenic in the urine?	Everybody has a little arsenic in their urine which may be related to industrial (unnatural/inorganic) exposures or to some types of food eaten (natural/organic). Namibia has limits for how much arsenic may be present in urine when tested. If these levels are elevated, there are concerns and the cause must be found. If there is exposure to industrial arsenic and the urine arsenic levels are low for a long period of time, there is nothing to be concerned about. If, however, the levels of exposure and related urine arsenic levels are high for long periods of time, there is a slightly higher risk of developing lung cancer. No other health-related issues are expected from arsenic exposure.
Nomtsoub resident	What if I sometimes cough a little?	There are many symptoms related to smelling and tasting SO ₂ . The symptoms are mostly related to irritation of the throat, but not any

SOURCE	COMMENT	RESPONSE
		serious illnesses in Tsumeb. If somebody has asthma and is on medication for it, then SO ₂ exposure might make symptoms worse and could exacerbate shortness of breath. The community health assessment found that the number of people in Tsumeb with diagnosed asthma were similar to the number of people diagnosed in the unexposed control group in Oshakati.
Nomtsoub resident	Next time throat tests need to also be done.	There are no specific tests for throat issues; only questions can be asked to confirm symptoms experienced. The results of the community health assessment showed that there are no arsenic exposure problems in the Nomtsoub area, but there is a small problem related to SO ₂ exposure, similar to the rest of Tsumeb. The emissions levels have, however, significantly decreased with the establishment of the sulphuric acid plant and will continue to decrease. Monitoring in this regard will continue.
Nomtsoub resident	Methods to reduce arsenic in the soil and water should be investigated. Can the creation of wetlands reduce the spread of arsenic? Could bio-filtration through wetlands be used to get rid of historic arsenic sources?	Wetlands are a good way to capture contaminants. Recommendations have been made for phytoremediation and to revegetate and stabilise slimes dams on the smelter site. It has also been recommended to plant suitable species along the edges of the Jordan River and creating settling areas to capture contaminants and prevent them from dispersing offsite.
Nomtsoub resident	Was water in the Endombo residential area also tested?	Yes, all areas were tested and the water was found to be of good drinking water quality.
Mr Moses Awiseb, community representative	I participated in the community health assessment and can confirm that water samples were taken at all houses where residents were tested. I compliment Dundee on the changes they have implemented and commend them for listening to complaints and addressing them. Community health is important. I believe that empty chairs at the meeting indicate that the people have taken note of the changes already made by DPMT and that the community may no longer have as many concerns as before.	Thank you, these comments are noted.

Eloise Costandius

From: Oscar Kakungha <okakungha@gmail.com>
Sent: 11 April 2017 07:46 PM
To: Werner Petrick
Cc: myers.jonny@gmail.com; Eloise Costandius
Subject: Tsumeb Arsenic victims await Dundee Precious Metal compensation

Government medical survey, Report for the 2011, 2012, 2013 health survey of Dundee precious metal employees, community people in Tsumeb.

The audits concluded that the Dundee Tsumeb Smelter yes indeed negatively affecting the health of its employees, community and environment, but that those effects could be resolved, and there was no need to close down the Tsumeb Smelter.

Our health quality of life are being negatively affected by the operation of Dundee precious metal Tsumeb, therefore we as a victims we are demanding the compensation from Dundee precious metal for contaminated with Arsenic, with immediate effect.

People suffered from skin rashes, cancer, hearing loss, as well as sulphur dioxide (asthma-related symptoms). So₂ at standard atmosphere is a toxic gas with a pungent, irritating and rotten smell.

Your study december 2016 also indicate and confirmed that people have arsenic and arsenic will stay forever in Tsumeb either dundee expansion Tsumeb smelter yes or no!!

What is needed to be done is compensation for victims , retired workers, unfair dismissed workers, and current workers on work site.

As a notice from former Vice president & General manager of Dundee precious metal Tsumeb to all employees and contractors , dated on 23 September 2017 , Re Final report- Government medical survey he stated that, A number of long service employees and ex-employees with hearing loss that is occupation related were identified. In cases where this hearing loss is confirmed independently to be linked to the smelter, employees will be assessed for compensation under Dundee's government and Union mandated policies.

I, my self I have a hole in my ear and its started painful some times and I can not stay in a noise places for a long time.

I forward this complaints to you consultants again as you people, you was said , you may have a private meeting with me after the public meetings but we never sit and talk private about my ilines problems.

I was working at smelter, as a full time shopsteward, and I was unfairly victimized and unfairly dismissed by the regime of former vice President & General manager Hans Nolte on, 02 march 2015.

I look forward from you SLR consulting.

Warm disappointed,

Mr. Oscar Tataleni Kakungha
Community Representative
Republic of Namibia
Friends of the Earth

Eloise Costandius

From: Oscar Kakungha <okakungha@gmail.com>
Sent: 11 April 2017 10:22 PM
To: Werner Petrick
Cc: myers.jonnes@gmail.com; Eloise Costandius
Subject: Health and safety environment for Tsumeb town

Solutions and roles:

1. Considering the specific cases of Tsumeb we recommended the different stakeholders to undertake actions in the name of the public health and the sound environmental future of Tsumeb and the entire region.

Dundee precious metal should:

2. Disclose all available environmental documentation on the smelter in Tsumeb.
3. Disclose the really quantity of Arsenic trioxide left on spot in Tsumeb.
4. Why Dundee precious metal keep Arsenic toxic as a waste product in the Namibian territory?
5. There is any solution for Arsenic toxic to be converted into something else instead of dumping it here in Namibian territory?
6. Why Dundee close down the Arsenic plant right now? Why not in 2011?
7. Why now?, what Union was asking?
8. What is the problems there which is caused the closed down of Arsenic plant?
9. Why workers are still have high level of Arsenic in urine?
10. How many worker's on light duties? And how many workers on pull gangs and why?
11. What is the total capacity of Arsenic toxic Dundee precious metal accommodated for current site disposal in the Namibian territory?
12. If Dundee closed down Tsumeb smelter today for globally reason, who should be monitoring dumping site of Arsenic toxic on Namibian territory?
13. Did Dundee have a company policies which cover all workers and community people incase of health, safety and environment damage or contamination which is already happen and done already for current now and for the future of Tsumeb town and the entire region?
14. Dundee disclosure of the environmental clearance certificate under which the hazardous waste Arsenic site operated?
15. Dundee disclosure of the environmental clearance certificate under which operates Ausmelt furnace?
16. Dundee disclosure of the environmental clearance certificate under which operates was Arsenic plant?

We call upon and requested Dundee all the best practice require the publication of all these documents on the company webpage provide through electronic document and information centre office in Tsumeb town.

Expansion and increased production from 240 000 to 370 000 t/a is a biggest problems of health risks, safety environment violation and damage environment.

High volume of production smelting, high volume of Arsenic dust produced and high volume of SO₂ produced during processing smelting. The more production you smelting, the more oxygen you needed to be smelting meaning that you are just increased problem to the health and safety environment for workers and community people.

Here there is no interest for the health and safety environment for workers and community people. Here just is interest of Dundee to make more million's and millions and go back to Europe.

Arsenic remain here in the Namibian territory while million's and Billion's go back to Europe banks.

Fairly equal business and honest business partnership, one copper bar, one bag of Arsenic toxic go back to Europe where its come from. Why its dumping here , why not in Europe?

Finally better to be safe and healthy than sorry after Dundee destroyed our beautiful environment Tsumeb copper town by it self natural.

Warm regards,

Mr. Oscar Tataleni Kakungha
Community Representative
Republic of Namibia
Friends of the Earth
Mobile: +264812149983
Mobile: +264818148200

THEAN



Tsumeb Health and Environmental Action Network

SUBMISSIONS ON RELEVANT ASPECTS OF DUNDEE PRECIOUS METALS TSUMEB OPERATIONS, IN TERMS OF THE EIA PROCESS PUBLIC REVIEW – May 18, 2017

Copied to:

csr-counsellor@international.gc.ca jgoodman@metaforminvestments.com lea-coxj@ebrd.com
tnghitila@yahoo.com

22May 2017

To: SLR Consultants,

Firstly the EIA as a whole represents an improvement on previous ones, the specialists studies are better and more comprehensive and the main EIA report of a better quality generally. However. There are some **critical omissions and obfuscations which we suspect have been forced on the EIA** by Dundee– having reviewed enough of these studies to see how they work we can easily pick up the signs.

An EIA in THEAN's view is probably the most critical document in a company's Lifecycle because it gives the public insight into what impact the company is currently having - and intends to have - on people's environment and health. Independence is paramount. At no other point is the proper opportunity provided for stakeholders to interrogate a company's intention. It is the only point at which the public can have a say into the granting of authorisation or permission for a company to proceed.

Many companies, like Dundee, view the EIA as a check box exercise, something to be done quickly and cleanly, something that can be managed - akin to a PR exercise. Also, the only other EIAs that Dundee have been involved in are Eastern European ones, obviously, the active managing (read interference or massaging) of this process by management is the norm there. **But this is not Bulgaria. Namibia is not a country, like Bulgaria, "where capture of ...important industry sectors defines reality". (Andrej Nosko, Open Society Foundation).**

This interference & indifference mindset is obvious reading through the EIA, dissecting it and considering the actions around the process: the new MD of the smelter didn't deem any of the EIA public meetings important enough to attend, **Dundee also actively misled the public at the public meetings** – but more about that later. We also find it suspicious that there has been such a recent exodus of experienced senior people around Dundee expansion decisions.

This submission is being copied to the chairman of Dundee's board and to the office of the Canadian CSR counsellor, amongst others. Dundee must be held to account.

CRITICAL ISSUES:

1. **The ARSENIC PLANT:** The official line of the company, that the arsenic plant was closed due to commercial reasons, is a fabrication. PR spin which was demonstrated during the public meetings by company representatives. The meeting we attended at the Makalani hotel in Tsumeb on 20 April displayed this well. The opening address by Buks Kruger (speaking on behalf of the MD) went

to pains to emphasise that the plant was closed only because of commercial reasons. **It's not a good start to a EIA process to lie to the public AS WAS DONE HERE.**

The Arsenic plant was closed because the environmental and health impacts were too severe, it was too costly and complicated to fix them, and Dundee would have not qualified for a loan from the EBRD if they didn't close it. Simple as that. Check with EBRD and check with Dundee – they would be lying if they said anything else. SLR needs to correct this misstatement in the EIA.

Well intentioned and good advice from internal and external resources has, for the last few years, been ignored by the CEO and COO of Dundee to keep the plant open at all costs. Even, apparently, to human health. There had to be the **appearance** of arsenic processing capacity to ostensibly differentiate DPMT from competitors who couldn't process complex (read arsenic containing) concentrate. Except the arsenic plant was so old and poor performing that **it only processed 15% of what went through the plant and dispersed the rest of the arsenic to wind and other elements.** Smoke and mirrors Dundee. Well, rather, arsenic dust and mirrors. The fact that it was finally closed in February 2017 is too little too late in our view.

The legacy of the arsenic plant should not be DPM's entirely own to bear. We know this. But they must take leadership in dealing with the repercussions. **They knowingly sanctioned high exposures to workers (sometimes in excess of 100X the EU limits) for more than 6 years, putting many in harm's way intentionally in terms of potential lung and bladder cancers in the future. And they didn't make serious efforts to manage it, with top level leadership ignoring internal and external advice for years.** It took the actions of a small NGO (Bankwatch) to effectively stop them via a massive, nervous European Bank. The irony! Not that Dundee would ever admit this of course, they refuse to engage with Bankwatch

Where was Dundee's board through all of this? Were they actively misled? Provided watered down versions of the arsenic risk data? We are going to put in a request for copies of board minutes and compare them to reality on the ground. At the very least, EBRD should. EBRD, as significant shareholders in this process must now force Dundee to correct their intentional oversights. Like the stern headmaster watching delinquent schoolboys. **In fact, taken to its extreme, EBRD using their shareholder advantage, should force out the management components of Dundee that wilfully let this arsenic exposure happen. A full retroactive investigation is warranted. We are planning to buy some DPM stock (cheap now, even for a NGO!) and inject a healthy dose of shareholder activism. Shake up those dreary Toronto shareholder meetings. Watch this space...**

This EIA should not be considered by the authorities in any shape or form until:

- A full and proper accounting of cancer risk is undertaken, taking the good work that was done by Prof Myers in the EIA further by presenting a monitoring and mitigation plan which tracks exposed individuals regularly and provides real time and iterative assessment of cancer risk. Direct engagement with government on creating a registry or database and formalising proactive treatment and compensation protocols should be vigorously pursued. **Dundee and Louis Dreyfuss** must be FORCED to do this by EBRD and or the government. They will not do it willingly.
- A proper & honest statement on the closure of the arsenic plant and the rationale behind it should be revised and included in the EIA.
- **DPM together with Louis Dreyfuss (they are complicit in this because they provide the concentrate and have been negligent in anticipating environmental and health risk)** must set up a higher level assessment process to understand the big picture impacts of

arsenic import, processing & health and environmental risk in Namibia. This should be open to public review.

2. **The EMP & EBRD.** The EMP is the instrument that gives flesh to the mitigation and management actions of the EIA. It's the tool that gives the public verifiable confidence that "what is said, is done". **Why then no mention of the EMP (or environmental action plan) that Dundee has to commit to for EBRD? Instead we are presented in the EIA with a EMP that seems to say, "its OK we are in Africa so we can commit to lower standards and levels of actions that we would otherwise normally have to".** One, consolidated EMP should be issued and committed to, albeit with phased targets for meeting certain higher EU standards.
3. **The Hazardous Waste Site – a hulking "carcinoma in waiting" on the hill.** Pitifully low level detail is given in the EIA re. the plans for the closure of that waste site. Was this intentional? We suspect so. In fact, Dundee is gayfully going ahead with extending the hazardous waste site by expanding the facility. Government made a significant mistake authorising that facility and should now revoke authorisation or at the very least force Dundee to present alternatives/technology to deal with the waste – in a very tight time frame. Namibia can no longer sit back and do nothing while (eventually) 300 000 tonnes of a class 1 carcinogen sits atop a massive aquifer which feeds the country's most populous regions to the north (pages 165 and 62, Atlas of Namibia, Mendelsohn et al (2202))
4. **The Ondundu Arsenic levels.** Good work has been done by this EIA to quantify the (low) exposure of the residents of Tsumeb by and large to arsenic. The small community of Ondundu is not so lucky though. Their levels of Arsenic are 10X the rest of Tsumeb. This is not entirely unexpected given their proximity to the hazardous waste site (~800m) and likely contaminated soil that they live on. What we find very strange is this is entirely downplayed in the main portion of the EIA – with a reference to it being "unclear" where the arsenic comes from. Are you kidding? Any idiot can see a causal link. Yes it may be partially contributed by historical arsenic contamination but **the extant environmental monitoring data from Dundee's OWN stations ("the hill site") show exposure levels in this area are high.** The hazardous waste site windblown dust is contributing to the arsenic load on Ondundu residents.
5. Government needs to force Dundee to properly quantify historical pollution load and by some agreed weighting work out historical liability. Secondly, a development buffer should be enforced around the facility. **In no country in the world would communities be allowed to live so close to a high hazardous waste site. It shouldn't be done in Namibia.** What Dundee is doing by softening statements around this important impact is deflecting attention from an issue that is at the core of the company's (and governments) moral and ethical duty.



Marcus Gillman

For THEAN

20 May 2017



To:

Dundee Precious Metals

SLR Consulting

Environmental Commissioner

EBRD

Tsumeb Municipality

Re: ESIA Amendment Process for the Proposed Tsumeb -

**Round Of Comments On Smelter Upgrade and Optimisation Project:
Environmental Impact Assessment Report**

We welcome the efforts of DPMT to provide and SLR Consulting to collect and assess the available information and reports on the environmental conditions at the smelter site and the nearest territories, on the community health and social issues and the DPMT management of the smelter facilities. We appreciate the information given in the document.

After detailed review of the available information and documentation on the ESIA for the proposed Tsumeb smelter upgrade and optimisation we have the following observations and recommendations. For better understanding our related comments we did cut and paste the relevant text given in the EISA outlining the shortcomings in the management of the smelter, although this makes our submission quite long.

Community, environmental and social issues

The data presented in the ESIA and the appendices show a severe contamination of the soils with arsenic and other hazardous components.

„There are significant contamination levels on the smelter property and surrounds due to historic mining and smelter operations and legacy waste stockpiles. Although it is acknowledged that the current DPMT smelter operations, since DPMT purchased the facility in 2010, have contributed to and continue to contribute to the overall contamination load, the majority of the measured contamination levels are attributable to historic operations.” P. 4-21

They also show that this contamination continues and migrate as „The area around Tsumeb is predominantly karstic, which means that it is formed from the dissolution of soluble base rock (mainly dolomite and limestone in this area) which is characterised by underground drainage systems with sink holes and caves.”

The updated groundwater model from March 2016 shows that:

“The pH condition existing at the site is conducive to precipitation of arsenic in the presence of iron containing minerals. The iron saturation in the aquifer is not high enough to cause significant precipitation of arsenic on-site and the fact that a legacy of more than 100 years of contamination exists, would have caused the system to have reached equilibrium on-site. This means that very little arsenic is being captured in the aquifer on-site, leading to contamination moving off-site;

The arsenic plume prediction was run for the year 2038, and showed that the plume will continue to migrate to the north, with off-site boreholes closer to the site potentially ending up with arsenic concentrations higher than the Namibian drinking water limit of 0.3 mg/l. It is also stated that the modelled predictions could be too low, due to the uncertainty related to existence of fractures, faults and other geological structures. (Figure 17).” P. 29

The assessment of the emissions in the air shows at the base scenario (current situation) “SO₂, PM₁₀, arsenic and H₂SO₄ emissions were estimated at 41 316 t/a, 520 t/a, 42.8 t/a and 12.7 t/a respectively”. **Despite the interpretation of the authors that** “the impact of arsenic on the receiving environment and nearby AQSRs (air quality sensitive receptors) was found to be at the upper level of what might be considered acceptable, from a non-carcinogenic and carcinogenic inhalation health exposure perspective.

Based on the above findings, the severity of the potential health risk to AQSRs in the Tsumeb area due to the proposed increased throughput capacity of the smelter is considered to be medium, since exceedance of the assessment criteria at AQSRs would occur given current performance levels of the sulphuric acid plant and fugitive emissions management systems. With mitigation, impact severity may be reduced to low-medium”,

no one should deny that these quantities of emissions, currently accumulated in the bodies of Tsumeb citizens and the soils, increase the exposition to harmful substances.

The Figure 7-8 on p. 7-18 regarding the lifetime cancer risk related to arsenic inhalation exposure is interpreted in the ESIA as medium risk for the smelter site and low risk for the city of Tsumeb, but if we look at the figure we see that the smelter site is under high risk (0,1-0,001 µg/m³) and half of the city falls in the medium risk zone (0,001-0,0001 µg/m³) according WHO URF standard for pollutant concentration.

The findings of the health report show that some of this arsenic is “being brought home on clothes, shoes, bags and vehicles and other objects, and finding

its way probably via the hand-to-mouth route and ingestion to household members”.

It also shows that the arsenic at the neighbourhood closer to the smelter comes from the homegrown food.

“It is highly likely that the soil is a source of arsenic exposure both from legacy emissions and from current emissions, especially for Ondundu which is proximate to the waste disposal site.”

And the ESIA concludes *“As the results of the investigation showed that arsenic in airborne PM₁₀ and in drinking water could not be responsible for the elevated urine arsenic levels in earlier samples from Ondundu, attention must be directed to arsenic in dust from roadways and garden soil, arsenic in vegetables and fruit grown locally in Ondundu, and hand to mouth behaviour by both children and adults resulting in arsenic ingestion.”* **recommending to stop collecting wild fruits and herbs and grow food at home. Of course, there is no other arsenic source of contamination than the smelter operations and, of course, the people stopping to grow food at home will increase the economic activity by buying their fruits and vegetables at the market, but we don’t think that this is socially fair.**

The conclusions on the health effect of the arsenic exposure are the following *“Assuming that the population of Tsumeb is 25 000, we could expect a background of 183 lifetime lung cancer cases, which would go up to 189, which is an additional 6 lifetime cases”* and *“This is considered to be a very low risk and would for practical purposes be unmeasurable in the case of Tsumeb. Probably given historical exposures all of this is an underestimate of the true risk. Also exposures for some people in some areas may be higher than those measured by the 2 monitoring stations in North-Central town. They would however be less than an order of magnitude higher for a very small proportion of the total Tsumeb population.”*

Fact is that the legacy of the smelter and the current operation put additional pollution burden and, in that way, deteriorate the life quality of the affected people. This is the main subject of concern as all studies show that the emission will increase drastically with the increase of the production capacity of the smelter as underlined by the health report and the social assessment.

“The increase in production throughput is unlikely introduce a new hazard but may increase the exposures to hazards already present, including arsenic, SO₂, noise and fatigue” **and calculated at the other documents** *“At a processing rate of 370 000 t/a, SO₂, PM₁₀, arsenic and H₂SO₄ emissions were estimated to increase to 64 652 t/a, 620 t/a, 65.9 t/a and 18.1 t/a respectively”* **or SO₂ emissions will increase by 53%, PM₁₀ emissions are expected to increase by 19%, arsenic emissions by 54% and H₂SO₄ emissions by 42%.**

From an economic perspective such increase of the capacity probably will be beneficial for the company, but from a social perspective the benefits are negligible since no new workplaces will be created. Anyway, the entire employment rate of the smelter of 667 people (550 in the health report), even if *“the largest single employer in Tsumeb”* is a really small number

compared to the Tsumeb population estimated of 25 000. In 2012, the unemployment rate of Tsumeb was 36% significantly bigger than the entire Oshikoto region with 26.4%.

Environmental issues connected to the current smelter operations

Since the acquisition of the smelter by DPM in 2010 modernizations and improvements have been implemented, however several important problematic issues continue to persist and most of them are well described in the document. Some of the reasons are the legacy of the pollution but some others are related to management issues at different level.

Regarding the occupational health issue the conclusions are clear: *“Whilst DPM has invested substantial sums in capital improvements in the smelter, and there has been longitudinal improvement in exposures since 2011, the arsenic biomonitoring data indicates that the general level of improvement, with a few exceptions (Power Plant), is not sufficient to meet either international or Namibian standards for arsenic workplace exposures.”*

“The PPE / respiratory protection program that has been the mainstay of exposure control to date has only met with partial success; the urine arsenic biomonitoring data demonstrates that the PPE is not providing a sufficient level of worker protection.”

“The current exposure situation at the smelter is accumulating significant future risks and liabilities by way of a potential burden of future adverse medical outcomes, i.e. lung cancer. Whether work-related lung cancer cases have occurred is unknown and probably unknowable due to limitations in the Namibian medical surveillance system. There is therefore an appreciable occupational lung cancer risk on average for the plant as a whole.”

The hazardous waste disposal site, despite its :”design and construction according the best practices”, poses serious problems, some are subject of day to day management as described below:

“No evidence was provided to SLR of the current classification of wastes at the Tsumeb Smelter in terms of the WCMR, although there was some evidence of certain of the waste having been assessed in terms of the Minimum Requirements for Waste Disposal by Landfill (2nd Ed, 1998). Such prior classification remained valid in terms of the WCMR until August 2016. However all wastes are now required to be classified (or reclassified) in terms of the WCMR. Neither was there evidence of Safety Data Sheets for the hazardous wastes generated at the Tsumeb Smelter. The relevant classification results for each waste stream and the date completed should be documented in the Waste Register.”

“The arsenic dust is ‘disposed’ of at the hazardous waste site and not ‘stored’ on site as indicated. Any storage of the arsenic wastes prior to disposal should only be done in a bunded area. The procedure should specify that waste handling and

disposal operations for the arsenic dust and bags must be undertaken in terms of the DPMT Hazardous Waste Disposal Site Operations Manual.”

“Arsenic cages and bags: It should be specified that these are hazardous wastes and need to be appropriately managed. Storage of the bags and cages needs to be in bunded areas or under roof. The procedure for storing and handling these should be updated to reflect this. Restrictions should be placed on where and how these cages are cleaned as the wash bay is presumably not designed to manage hazardous material residues. If disposed to the hazardous waste site then reference the Hazardous Waste Disposal Site Operations Manual.”

The main problem refers to the top level decision made by the company, namely to export the copper concentrate from Bulgaria, where the treatment is prohibited because of the high arsenic content, the transportation through half of the world and the deposition of the arsenic in Namibian territory. Two years ago, the company pretended that this arsenic is not a deposited waste, but a resource which is stored and sold abroad as a by-product for production of pesticides and substances for wood treatment. Already at that time it was clear that the exported quantities of arsenic are only a small part of the entire production and that the biggest portion is left in Tsumeb HWDS in old sugar bags under the weather conditions. We alarmed the company that the arsenic is accumulated in accelerated terms much faster than the initial plan indicated. The company denied this issue, but the ESIA report now confirms that the arsenic dust is disposed over a long period of time and that the capacity of the waste disposal site , after the upgrade of the smelter increasing the quantities by 80%, will be exhausted in eight years time.

Other waste issues well described in Appendix D “Waste Management Review”:

“General waste handling area:

The current general waste handling area is a significant cause of concern and its operation is likely to be resulting in impacts to the environment as well as occupational health risks. Other than being fenced, the site has no facilities to enable the appropriate management of general waste (also see Section 4.1). The site is considered by DPMT as a ‘general waste site’ and yet there was evidence of various hazardous wastes within the waste stream, as well as active management of these hazardous waste streams (separation of Tyvek suits and other materials). See Plate. This approach is not considered to be in line with responsible best practice waste management, as general and hazardous wastes should be managed separately from source. It is recommended that the source practices which are resulting in hazardous wastes being included in the general waste stream be altered immediately. No hazardous wastes should be delivered to the general waste handling area, OR the general waste site handling area could be upgraded to include a dedicated area and facilities (bunded and under roof) for the storage and handling of hazardous wastes.”

“The second concern is that the general waste handling area is being operated for the:

- storage of unsorted wastes;*
- for the undertaking of sorting;*
- for the storage of sorted wastes;*
- for waste burning, and*
- for the disposal of ash from the burning of waste.*

*This combination of activities at a site with no facilities, and which is subject to limited management, is considered the incorrect approach. The general waste handling area does not have any waste management facilities and none of the site aspects or its operations are in line with best practice for waste management. **The latter two practices in particular are inadequate and would be considered unlawful in Namibian and South African law,** unless specifically licensed. Management and operations of this general waste handling area need to be revised as a soon as possible and a waste disposal solution added.”*

“The residual portion of the waste stream requiring disposal should be subject to improved management. Open air burning of such wastes is not an acceptable waste management solution and should be stopped immediately. An alternative, improved solution must be implemented for the disposal of residual waste. If such burning were to continue in the short-term (for practical reasons) then the disposal of the resultant ash onto the ground at the general waste handling area must be stopped immediately. The ash has the potential to be hazardous and it is recommended that it should be disposed to the Hazardous Waste Site.”

The environmental clearance of the General Waste Landfill Site was valid for a period of 3 years and has now expired.

There are several surface and groundwater issues identified in the report.

- Abstraction and discharge without the necessary permits

“Requests have been made to the Client for details of any abstraction and discharge permits that are in the possession of DPMT for the smelter site. It is known that relatively large volumes of water are abstracted from Mine Shaft 1 (current installed pumping capacity of about 300 m³/h) for use at the smelter site (Worley Parsons, 2015), but no abstraction permits has been approved for this. It is also known that the new sewage treatment plant discharges to the reed beds, but no discharge permit has been awarded for this or other effluent discharged on site. Requests have been made to the Client for abstraction and discharge data, but none has been provided at this stage while the water balance is being updated, but not available yet.” P.18

- Risks connected to the operation of the sewage plant

“It is understood that the sewage plant is relatively new and therefore anticipated to be adequate to

manage the sewage requirements of the DPMT. The plant was however not operational at the time of the site visit due to hydrocarbons entering the sewage system and potentially damaging the infrastructure. Thus untreated effluent was being pumped to a lagoon/reed bed near the calcine dump. Residual sludges are to be dried on evaporation pads. The source of the hydrocarbons in the sewage is subject to an investigation. The sewage plant should be restored to operation as soon as is possible. **The untreated effluent is likely to be a health and safety risk and the area should be adequately signed and possibly fenced. There are also risks of surface and groundwater contamination from the faecal content as well as from heavy metals.**

- **Despite the work already done, improvement of the groundwater model and better monitoring system is needed**

“The current groundwater model for DPMT is very simplistic and can be regarded as a low confidence, high level model. An improved model that accounts for the more complicated geology of the area and that relies on new boreholes (still to be drilled) to provide water level, geological, geophysical and chemical data, need to be developed for more accurate predictions on plume migration and the impact of groundwater abstraction.”

- **A more effective storm water system is needed**

*“Two storm water management reports were submitted to the Client by Aurecon in 2013. The first Aurecon report (September 2013) focused on the condition assessment and capacity of the storm water network, while the second report (October 2013) investigated possible drainage solutions to deal with the storm water problems experienced on site. **It is understood that the Client plans to start to implement parts of this storm water plan in a phased approach over the next few years.**”*

*“It is understood that the clean **water diversion berm may not be implemented as the cost is too high** (Table 6, No. 4). This then means that the entire contact water system will need to be re-designed to account for the additional storm water runoff which will flow onto the site from the upper catchment area.”*

Obviously, the company has decided to not take into account all recommendations from the Aurecon report by reducing some elements of the system and spreading the implementation for “next few years” which poses the following problems:

“Problems have been experienced with silting of the storm water system and some of the infrastructure is inadequate for the generated runoff, resulting in ponding of runoff at a number of identified sites around the plant after storm events (see Figure 29).”p52

“However, Table 6 indicates the current status with regard to the Aurecon storm water management recommendations, which suggests that the phased approach

may be only partial and spread over a number of years, which will result in an increased likelihood of storm water problems in the short-term. Of serious concern is the cancelling of the clean water (non-contact) separation diversion berm and channel, as this will allow a significant volume of additional storm water to access the main plant area, which will overload the planned dirty water gravity collectors and PCD ('s) unless these are upgraded to cope with the additional runoff from the east of the plant, which was to be channeled away from the plant area by the diversion berm and clean water channel."

Substantial elements missing in the ESIA - both the operation and transport from the Kliplime quarry or Walvis Bay are not properly assessed and those should be added in the report.

Access to information

The access to information seems a seriously problematic issue both for DPM and the national authorities.

As environmental protection organizations we were striving to obtain information on the Environmental Clearance Certificates of the already implemented improvements of the smelter, the requirements set by these ECCs and any evidence that the relevant authorities monitor and control the implementation of them. From 2014, such information was required through intensive communication to DPM management staff ranging from the vice-presidents to the environmental officer in Tsumeb (including a visit to the smelter) and, until now, the result was close to zero with different, sometimes ridiculous explanations and, surprisingly, we confronted the same secrecy from the responsible national authorities at MET and especially from the Environmental Commissioner.

In the current documentation, such information is also not available. Only the ECC from 2016 regarding the approval of the Environmental Management Plan is attached as Appendix A, and hereof only the stamped and signed front page without any detailed explanation or the conditions and requirements under which the certificate was issued. Even more, the short text of the certificate states that "*...this clearance letter does not in any way hold Ministry of Environment and Tourism accountable for misleading information nor any adverse effect that may arise from this project activity*" which practically means that the competent authority issued the ECC on a documentary basis without thorough examination and verification of the approved activities.

In that way, the interested or the affected public is impeded to assess what operations and activities are allowed, what are not, and how these are implemented and what is the level of control of the competent authorities.

Since the custom of publication of such documents in electronic format on the company's and / or the competent authority's webpages is rather well known and largely adopted good practice, we asked by means of an official letter in 2015 both DPM and MET to release both the Environmental Assessment Reports and the ECC issued. Until this moment this good administrative practice was not implemented.

As it was said by company representatives during the public hearings that "*We strive to be as transparent as possible*" and "*This EIA report is available on request to DPMT (regarding the 2012 hazardous waste site EIA)*" we demand that this international company get in line with the international best practices in Namibia too. It cannot be tolerated that African countries are treated with less respect and less strict standards!

Legal issues connected to the DPMT operations

- The main concern is the dumping of arsenic dust for long term periods

According the Annex I of the Basel Convention on the control of hazardous wastes and their disposal, the content of the HWDS should be classified as category Y24 - hazardous waste containing arsenic and arsenic compounds. The disposal of hazardous waste at DPMT breaches Art. 95 (k) of the Namibian Constitution "**Promotion of the Welfare of the People**" which requires "... *the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory*". **If until now the company pretended that the HWDS is a temporary storage of the arsenic as a sellable by-product and obtained a permit on this basis, the current report reveals that the HWDS will be used for a long term disposal of the hazardous waste which cannot be further tolerated.**

The ESIA mentions better waste practice as the vitrification: "*DPMT are also currently investigating vitrification of the flue dust which would render it non-hazardous, and saleable, resulting in a reduction in the volume of hazardous waste to be disposed of.*" **The ongoing ESIA procedure should be complemented**

with the results of this investigation, as well as other possible best practices and finally such an option should be chosen.

- **Permitting and control**

The approach of the company to proceed with separate permits for each of the modernization projects is a bad practice called “salami approach”, which approves each facility without holistic assessment. We understand that the initial bad conditions and legacy of the smelter may have triggered such approach and we welcome the company’s determination to change the approach with the current procedure.

However, this approach until now, despite the improvements, resulted in a number of unlawful practices, operation without the necessary permits and activities which were permitted but not implemented as identified in the ESIA report. This poses environmental and social risks of deterioration in addition to the legacy issues.

The fact that these issues were identified by external experts and not through inspections of the competent authorities poses again the relevant question on the manner in which the competent authority approves the operations and the lack of proper and systematic control by the State. These practices should cease and the competent authorities should execute systematic control and not allow any further deterioration due to smelter operations.

EBRD performance requirements

The ESIA report refers to the performance requirements of the EBRD. This is a good approach as it improves the quality of the entire procedure. However, the described deficiencies above show that the company does not comply fully with these requirements. In some cases, it takes into account only part of them, in other cases proposed measures are not adopted as considered too costly, and in cases as the waste classification are not fulfilled at all.

„As requested by DPMT, the current ESIA process has taken Process Requirements (PR) of the European Bank for Reconstruction and Development (EBRD) into consideration in the compilation of this report and structuring of the public participation process. The EBRD PRs provide a solid base for a company to improve the sustainability of its business operations and to ensure that it operates in compliance with good international practices relating to sustainable development (www.ebrd.com). PR 1 relates to the Assessment and Management of Environmental and Social Impacts and Issues. This PR establishes the importance of integrated assessment in order to identify the environmental and social impacts and issues associated with projects and the client’s management of environmental and social performance through the lifecycle of the project (PR 1 - EBRD, 2014). This PR as well as the rest of the ten PR documents were considered by SLR and the relevant independent specialists in undertaking their assessments.”

As a company with international reach, it is advocated that DPMT should also give consideration to the European Bank for Reconstruction and Development's performance requirements with relevance to waste management. This includes Performance Requirement (PR) 3: Resource Efficiency and Pollution Prevention and Control which is explained as follows:

- The Performance Requirement recognises that increased economic activity and urbanisation can generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels.

Therefore, resource efficiency and pollution prevention and control are essential elements of environmental and social sustainability and projects must meet good international practice in this regard. This PR outlines a project-level approach to resource management and pollution prevention and control, building on the mitigation hierarchy, the principle that environmental

damage should as a priority be rectified at its source, and the "polluter pays" principle. The project-related impacts and issues associated with resource use, and the generation of waste and emissions need to be assessed in the context of project location and local environmental conditions

- Avoid or minimise the generation of hazardous and non-hazardous waste materials and reduce their harmfulness as far as practicable. Where waste generation cannot be avoided but has been minimised, reuse, recycle or recover waste, or use it as a source of energy; where waste cannot be recovered or reused, treat and dispose of it in an environmentally sound manner.

If the generated waste is considered hazardous, assess technically and financially feasible and cost-effective alternatives for its environmentally sound disposal considering the limitations applicable to transboundary movement and other legal requirements.

- When waste disposal is transferred offsite and/or conducted by third parties, obtain chain of custody documentation to the final destination and use contractors that are reputable and legitimate enterprises licensed by the relevant regulatory agencies. Also ascertain whether licensed disposal sites are being operated to acceptable standards. Where this is not the case, consider alternative disposal options, including the possibility of developing own recovery and disposal facilities at the project site.

The EBRD PR3 Section 18 notes that "For projects with a high water demand (greater than 5,000 m³/day), the following must be applied:

- a detailed water balance must be developed, maintained and reported annually to the EBRD".

*"From discussions with the Client it appears that a dynamic water balance is being completed by Golder, which **should be finalised in the near future**, so no detailed calculations for the water balance situation will be made here.*

It is unclear what the current daily water demand is running at, but the Golder dynamic water balance will provide an initial means to comply with this EBRD requirement."

The Aurecon report complies with EBRD PR4 Health and Safety, Section 31 (Natural hazards), which stipulates "The client will identify and assess the potential impacts and risks caused by natural hazards, such as earthquakes, landslides or floods as these relate to the project."

*"Two storm water management reports were submitted to the Client by Aurecon in 2013. The first Aurecon report (September 2013) focused on the condition assessment and capacity of the storm water network, while the second report (October 2013) investigated possible drainage solutions to deal with the storm water problems experienced on site. **It is understood that the Client plans to start to implement parts of this storm water plan in a phased approach over the next few years.**" (see Table 6).*

*"It is understood that the clean **water diversion berm may not be implemented as the cost is too high** (Table 6, No. 4). This then means that the entire contact water system will need to be re-designed to account for the additional storm water runoff which will flow onto the site from the upper catchment area. It is also understood that the Client has decided to construct two PCD's adjacent to each other (to spread the capital expenditure), as well as to line Dam 10 after the first PCD is commissioned."*

"The surface water impact assessment has therefore proceeded assuming that the new storm water infrastructure mentioned above and suitable management procedures will be in place in the medium term."

The groundwater monitoring network as well as groundwater modelling studies address EBRD PR3 Section 19 which states

"The client will need to consider the potential cumulative impacts of water abstraction upon third party users and local ecosystems. Where relevant, the client will assess the impacts of its activities on the water supply to third parties and will need to demonstrate that its proposed water supply will not have adverse impacts on the water resources crucial to third parties or to sensitive ecosystems. As part of the client's environmental assessment process, the client will identify and implement appropriate mitigation measures that favour the prevention or avoidance of risks and impacts over minimisation and reduction in line with the mitigation hierarchy approach and good international practise."

"The current groundwater model for DPMT is very simplistic and can be regarded as a low confidence, high level model. An improved model that accounts for the more complicated geology of the area and that relies on new boreholes (still to be drilled) to provide water level, geological, geophysical and chemical data, need to be developed for more accurate predictions on plume migration and the impact of groundwater abstraction."

Further recommendations on the ESIA report

1. The proposed increase of the smelter capacity is proved to have significant increase of the emitted pollutants. Taking into account the legacy of pollution which is still not remediated, continue to migrate in a karst underground and poses immediate risk to public health and the environment **we recommend that such increase should be approved only if implemented together with a massive remediation program of soils and underground waters.** This is a matter of citizen's interest and both the State and the company should invest in it, but the company must take even further steps making sure to find a long term solution to its ever increasing amounts of toxic waste (each year of work of the smelter equals 4-5 years of the arsenic pollution at the previous capacity prior to DPM ownership - this is monstrous ticking ecological timebomb).
2. We recommend the competent authorities **to not approve the ESIA report before the proper assessment and confirmed engagement of the company to adopt and implement technology which will convert the arsenic waste into a non-hazardous material.** The current HWDS should be used as a temporary storage of the hazardous waste, but not as a final solution for disposal - this dumpsite cannot remain there to be dealt with on the expense of the Namibians if DPM is not there in awhile.
3. A number of ongoing studies is mentioned in the ESIA report. Preliminary results of some of them are reflected in the current report, but some others not. **We recommend that the ESIA should not be approved before the finalization of these studies and integration of their results in the report.** Some of these studies as the Contaminated Land Assessment should be used as a basis for the above mentioned remediation program.
4. To increase the transparency, we recommend that all previous ECC and EIA reports to be published in electronic format on the DPMT and MET websites.
5. An extensive medical investigation regarding the state of health of the residents of Tsumeb especially the workers should be done by independent experts in order to evaluate a possible increase in cancer cases and other serious diseases probably caused by the activities of the copper smelter over many decades. This should include retrospective assessment of previous studies both on health of workers and citizens as well as pollutant monitoring data.

To put it straight - under the current situation Za Zemiata - Friends Of The Earth Bulgaria, Earthlife Namibia and CEE Bankwatch Network



consider that the very operations of this smelter at the moment do not cover properly the environmental standards and are not acceptable. Let alone plan for the expansion of the smelter of such scale!

Feedback can be sent to:

genady.kondarev@bankwatch.org

and

info@zazemiata.org

Eloise Costandius

From: Thilo Himmel <thilo@namfo.com.na>
Sent: 30 May 2017 01:51 PM
To: Eloise Costandius
Subject: submission to the smelter EIA public participation process

Good Day

As Namfo (Fresh Produce Manufacturer) we have three short but critically important comments to make on the EIA, both related to groundwater pollution and the potential for this to impact on our industry.

- 1. The groundwater modelling detail do not go far enough in tracking potential contaminated plume movement from the calcine boreholes in a northerly direction. There needs to be more information on rate of movement and directionality, including a specific risk mitigation scenario for dealing with aquifer contamination impacting on Namfo.*
- 2. There is no information on measures which must be employed at site (source) by the smelter to address existing high arsenic levels. This could be pump and treat or other measures but we believe the potential is serious enough that in the next 12-24 months there must be a physical intervention on site to contain and treat and contaminated groundwater.*
- 3. Finally, the source of both realised and potential groundwater contamination is both the historical waste (which Dundee has not removed) and the hazardous waste site. Both these sources represent far too great a threat to groundwater integrity both regionally and locally. Critically, the potential to impact on the commercial of Namfos operations is high and the smelter does not seem to have a plan to address the long term presence of the waste site and the historical waste (arsenic) sources.*

Our view as Namfo is that they all should be removed as soon as possible with a maximum of 5 year time frame.

Please respond to my email as soon as possible, once you received it so that I have conformation that you did receive the email. So that I know that our matters that are important to use will be heard.

I thank you in advance and I look forward to hear from you.

Kind regards

Thilo Himmel

From: [Wouter Niehaus](#)
To: [Candice Sadan](#)
Subject: RE: DPMT Smelter Expansion Project - 2019 Revised ESIA Report available for review
Date: 03 July 2019 12:05:45 PM
Attachments: [image004.png](#)
[image005.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

Morning Candice

Can you please advise me on the following:

- Where will the arsenic waste bags be dumped? On the same site it is dumped and compacted currently? On top of the hill south of the plant?

Greetings



From: Candice Sadan [<mailto:csadan@slrconsulting.com>]
Sent: 03 July 2019 11:21
To: Candice Sadan
Subject: DPMT Smelter Expansion Project - 2019 Revised ESIA Report available for review

Dear Stakeholder

With reference to previous correspondence, Dundee Precious Metals Tsumeb (DPMT) proposes to expand their current smelter operations in Tsumeb in order to increase the copper concentrate throughput capacity from 240 000 tons per annum (tpa) to 370 000 tpa.

DPMT appointed SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR) to undertake the required Environmental and Social Impact Assessment (ESIA) Amendment process for the proposed project.

Following the distribution of a Draft ESIA Report in 2017, additional specialist input was sought and the report further revised to address comments received. A 2019 revision of the ESIA Report has now been made available for a further review and comment period from 3 July to 16 July 2019.

For your reference, a copy of the Non-Technical Summary of the report is attached. Hard copies of the full report is available at the Tsumeb Public Library and the DPMT Information Centre in Tsumeb.

From: [Andre Neethling](#)
To: [Candice Sadan](#)
Subject: RE: DPMT Smelter Expansion Project - 2019 Revised ESIA Report available for review
Date: 15 July 2019 11:01:42 PM
Attachments: [image003.png](#)
[image004.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

Dear Candice,

I take note of a professional and highly technical report. My concern is that the ongoing “tar like” smell around my house (erf 1573) is an indication of high emissions from the smelter. I do not know the expected concentrate feed composition but are aware of high concentrations sulfur and arsenic. In the past and even now there are high emissions and the formation of chemical combinations such as sulfuric acid that damage human tissue, animals and plants (specifically young children and senior people). I have filed a complaint in the past about pollution and damage to my garden. The evidence was obvious and the claim, in terms of the Environmental Act, has been registered at the Municipality. I hope and pray that the conditions will improve as my house is in the Ondundu area. We have diluted the smelter feed in the past and I suggest you increase the smelter capacity by adding “clean” copper concentrate. The blending of the feed material will improve environmental conditions and prevent pollution. Please indicate the design smelter feed composition including the “high and low” limits.

Kind regards

Andre Neethling
Entrepreneur

From: Candice Sadan [mailto:csadan@slrconsulting.com]
Sent: Wednesday, 03 July 2019 11:21 AM
To: Candice Sadan
Subject: DPMT Smelter Expansion Project - 2019 Revised ESIA Report available for review

Dear Stakeholder

With reference to previous correspondence, Dundee Precious Metals Tsumeb (DPMT) proposes to expand their current smelter operations in Tsumeb in order to increase the copper concentrate throughput capacity from 240 000 tons per annum (tpa) to 370 000 tpa.

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July 2019.

For your reference, a copy of the Non-Technical Summary of the report is attached. Hard copies of the full report is available at the Tsumeb Public Library and the DPMT Information Centre in Tsumeb. The full report is also available on the SLR website (<http://slrconsulting.com/za/slr-documents/tsumeb-smelter>) and DPMT website (<https://www.dundeeprecious.com/English/Operating-Regions/Current-Operations/Tsumeb/Documents/default.aspx>)

For comments to be included in the Final ESIA Report to be submitted to the Namibian Ministry of Environment and Tourism, they must be submitted to Ms Candice Sadan of SLR by return mail or at the below contact details by no later than 16 July 2019.

Kind regards



Candice Sadan

Office Administrator

+27 21 461 1118

csadan@slrconsulting.com

SLR Consulting
SLR Consulting (Cape Town office)
Unit 39, Roeland Square
Cnr Roeland Street and Drury Lane, Cape Town, Western Cape, 8001



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From: [Genady Kondarev](#)
To: [Candice Sadan](#)
Cc: [Daniel Popov](#); [Bertchen Kohrs](#); [Fidanka McGrath](#); ola@bankwatch.org; [Bori Yordanova](#)
Subject: EIA comments Tsumeb smelter
Date: 16 July 2019 03:32:53 PM
Attachments: [20190716_ESIA_Tsumeb.pdf](#)

Dear Ms Sadan,

Please, find attached the comments from our team.

Regards,

Genady Kondarev

--

Genady Kondarev
Campaigner "Public Funds For Sustainable Development"
Member of CEE Bankwatch Network
Za Zemiata - Friends Of the Earth, Bulgaria
genady.kondarev@bankwatch.org
www.zazemiata.org
www.bankwatch.org



Za Zemiata
Friends of the Earth Bulgaria

CEE

bankwatch
network



To:

Dundee Precious Metals

SLR Consulting

Ministry of Environment and Tourism of Namibia

Tsumeb Municipality

EBRD

Re: Final Environmental and Social Impact Assessment Report

ESIA amendment process for the proposed Tsumeb expansion project

We welcome the results and amendments presented in the Final ESIA report. Our opinion is that the ESIA procedure has fulfilled to large extend its meaningful purpose.

We will underline the following most important achievements:

- The initial reports and studies were well elaborated and gave much better description and explanation not only for the general public, but also to the responsible Namibian authorities, European Bank for Reconstruction and Development and the Company itself;
- Interested and affected parties were registered, informed and consulted according to clear and transparent process;
- As result of proper identification of the issues connected to the current and previous operation of the Tsumeb smelter and the initial round of comments there were conducted additional assessments and amendments in the documents, but also number of industrial and behavioral measures were undertaken by the Company as the Health and Hygiene Plan, Arsenic Exposure Reduction Plan or the closure of the Arsenic Plant and the introduction of a pilot Arsenic Vitrification Facility.

However, despite the positive development, many of the issues from our statement in 2016 are still valid. We will not repeat all of them here, but will focus on the crucial issues related to the work which should be done after the submission of the Report for a decision by the responsible EIA department of the Ministry of Environment and Tourism. Therefore, our comments from 2016 should be considered as integral part of our statement in the EIA procedure.

1. Although the Company is improving the emitters of harmful substances, the studies shows that the emissions after the upgrade will increase significantly, for example



Za Zemiata
Friends of the Earth Bulgaria



“Simulations showed that ground level ambient arsenic levels could potentially increase by approximately 54% due to the proposed increased throughput capacity of the smelter.” Or “Simulated arsenic levels at the smelter boundary and at sensitive air quality receptors at Ondundu and Endombo are predicted to be above the EU annual exposure criteria for the expansion scenario.”

Other subject of concern is the existing level of hazardous contamination within and out of the smelter borders: *“Preliminary results of a follow-up soil sampling programme confirmed that there are numerous historic mine dump sites, exposed reefs and ongoing small scale mining sites surrounding Ondundu which showed elevated soil arsenic levels, further indicating soil as an arsenic exposure pathway.”*

“There are currently significant contamination levels at the smelter property and surrounds mainly due to historic mining and smelter operations and legacy waste stockpiles.”

“Although it is acknowledged that the current DPMT operations, since DPMT purchased the facility in 2010, has contributed to and continue to contribute to the overall contamination load, the majority of the measured contamination levels and related impacts (i.e. groundwater and community health) are attributable to historic operation prior DPMT taking control of operations.”

“The Contaminants of Concern (CoC) identified on and off site, with surface concentrations of orders of magnitude greater than local geochemical backgrounds (i.e. primarily from mined ores and smelting) include: sulphur (S), arsenic (As), copper (Cu), chromium (Cr), cadmium (Cd), lead (Pb), antimony (Sb), vanadium (V) and zinc (Zn). Additional contaminants, of lesser or low concern, are cobalt (Co), iron (Fe), manganese (Mn), molybdenum (Mo), nickel (Ni), selenium (Se) and tin (Sn).”

“Significant contamination of Tsumeb is localised to the northern section and appears to have emanated from the historical smelter and mining operations, overlain by the modern smelter impact. The main dispersion area of significant contamination from the DPMT property is off-site to the west, northwest and southwest, and appears to extend off-site at medium to severe levels (depending upon CoC).”

Our position is that these harmful conditions in Tsumeb existed for too long period and should not be tolerated anymore. It is not acceptable from social and environmental point of view to allow further, even slight, contamination without undertaking serious measures for improvement of the contaminated soil, dust coming from it and the contaminant pathway to agricultural products and human body.

If the increase of the smelter capacity is approved, **one of the conditions should be the prompt implementation of soil rehabilitation project which will allow the establishment of acceptable basic environmental conditions for the affected population.** Any restriction of the land use contradicts to the EBRD PR 5 and can be only a temporarily measure for year or two, but not a solution.



Za Zemiata
Friends of the Earth Bulgaria



The results of the studies shows limited area and shallow soil layer of the contamination which means that both technically and financially the implementation of such rehabilitation project is viable and achievable.

Of course, the whole financial burden for such rehabilitation should not be responsibility of DPMT. The Company is helping already with some measures, expertise, eventually with the increase of the environmental allocation of the Tsumeb Community Trust which now is 7,5%. But the initiative should come from the Namibian Government, respectively the responsible Ministry of Environment and Tourism.

We see the additional benefits of employment and experience which will be extremely useful further as Republic of Namibia has large number of old and operating mining sites which requires certain level of land rehabilitation.

Namibian Government and DPMT have to develop an integrated project to deal with this heritage and this should not be further postponed in time.

2. Arsenic hazardous waste disposal site

As mentioned above, some important measures have been undertaken already and other solutions are recommended by the ESIA, **but to become a real engagement these measures**, namely the vitrification of the arsenic waste, disposal on a potential regional hazardous waste site, the transport to sites in South Africa or combination of these **should be set as obligatory conditions at the EIA decision and the Environmental Clearance Certificate.**

Our position is to consider the vitrification solution to be the first option as important steps for his introduction are implemented already, but also the storage of the vitrified residues will be much more harmless. The other options are insecure as the regional site is just an idea and the transport of hazardous materials to hundreds of kilometers is always subject of serious concern. Further relocation of arsenic by-products should not be allowed unless it is aiming long term safe disposal. Just moving the problem from one place to another is no solution.

3. EBRD Performance requirements

The assessment of the ESIA report towards the EBRD PR's is useful exercise bringing the document to the highest standards. But from theoretical recommendations and options, **these high standards will become real goals only if they are set as conditions at the EIA decision and the Environmental Clearance Certificate.**

These obligatory conditions should refer at least to the following:



Za Zemiata
Friends of the Earth Bulgaria



- Vitrification of the arsenic waste **as most advanced safe disposal method to date**;
- No further transportation and relocation of arsenic and its byproducts for further disposal or for use in agriculture (like use of arsenic trioxide as pesticide or for wood treatment which is a harmful practice and is being phased out globally) unless they are being sent there for vitrification and long term safe disposal.
- Rehabilitation of the contaminated land and enabling of healthy basic conditions for the workers and the citizens in the region (as a broader area)
- Water balance and water abstraction from public sources which may lead to water scarcity if not planned accordingly;
- Transport of the concentrate only by railway;
- Strict implementation, monitoring and regular reporting of all DPMT plans and programmes.

We will add here a request for a deployment of a renewable energy park which will reduce the financial burden of the Company and the national energy system which imports nearly 60% of the electricity, but also will coincide with the EBRD requirements for resource efficiency and the UN Sustainable Development Goals, basis of the EBRD Mining Strategy.

4. Occupational, health and safety of workers and community health issues

Managing health, safety and security risks to workers as well as to project-affected communities – as underlined in EBRD Environmental and Social Policy, PR2,3 and 4 – in this particular case should consist of preventing the exposure to the hazardous substances and introducing the engineering control to protect the workers and communities collectively. DPMT has the primary responsibility to provide safe and healthy conditions for their workers (also these employed indirectly) and informing, instructing, training, supervising and consulting workers on health and safety. There are about 700 people employed in the Tsumeb smelter by DPM, but 900 more in contractor firms. Contract workers often have to do the dirtiest work with the worst health impacts. In line with PR2, p.22 of EBRD ESP, non—employee workers should be treated equivalently as employee workers when it comes to contracts, non-discrimination, access to worker’s organisations, OHS measures including Personal Protective Equipment (PPE), monitoring the health and wellbeing and preventing the situations of imminent danger (PR4, p.11-15). They should also have access to the effective grievance mechanism for workers (PR2, p.21).

According to the Workers Union representative interviewed by Za Zemiata, Bankwatch and Earthlife Namibia during the FFM in 2019: “The Company Policy allows for the medical scheme/insurance to be valid only 3 months after the worker is dismissed or retired. After that the ex-workers do not have medical insurance and cover of medical expenses.”. His testimony also indicated that workers are not aware of the symptoms of As exposure. According to him, if the arsenic level in urine of a worker exceeds 100µg, the worker is transferred to another less exposed position till the urine level is down (normally after 3–4 weeks). If a worker’s urine level is very high, e.g. 600µg, he might be fired. It is also not clear, if workers have access to their medical records. Mineworkers Union of Namibia (MUN) representatives interviewed by Za Zemiata and CEE Bankwatch Network and EarthLife Namibia in 2019, complained that “Often 3-4 years after retirement workers pass away. There is no investigation on this.”

According to the Health and Hygiene Plan (2017-2021) a number of measures are undertaken to protect the workers, but the testimonies collected indicate that workers with high arsenic



Za Zemiata
Friends of the Earth Bulgaria



content in urine during the regular medical checks are either forced to take a rest for some weeks, or are moved to another, not so exposed, work. These kind of measures don't solve the arsenic exposure issue.

International Agency for Research on Cancer (IARC), a part of the World Health Organization (WHO), whose of a major goals is to identify causes of cancer, classifies arsenic and inorganic arsenic compounds as "carcinogenic to humans." There is sufficient evidence in humans for the carcinogenicity of mixed exposure to inorganic arsenic compounds, including arsenic trioxide. They cause cancer of the lung, urinary bladder, and skin. Also, a positive association has been observed between exposure to arsenic and inorganic arsenic compounds and cancer of the kidney, liver, and prostate.

1 In line with EBRD ESP, PR 2, p.8-10, DPMT should provide workers and project affected communities with relevant information, instruction and training relating to health and safety hazards, risks, protective and preventive measures and emergency arrangements that are necessary for their health and safety. Where any accidents, injury and ill-health occurs in the course of works associated with the project, DPMT should ensure appropriate financial compensation for any persons suffering injury or ill-health that is caused by project activities. DPMT should create the working conditions, which will allow the full control over the workers health and safety. It should also make sure, they as well as the communities living in the vicinity are fully aware of the measures, they have to take in order to avoid the negative impact on their health and wellbeing and they know the potential impact of the arsenic on their health. They workers should be monitored, undergone relevant medical checks, be effectively and appropriately informed about their health conditions. They should also receive the medical help in case of any ill-health occur.

Additionally, we hope that the Arsenic exposure reduction plan and Health and hygiene plan will improve the situation to certain level and we will propose some measures for even better controlpropose additional elements of it:

- Elaboration of an understandable materials describing the arsenic toxicity, possible paths for contamination and health reactions due to arsenic contamination. The brochure should be widely disseminated among workers and Tsumeb residents, particularly the most affected communities like the one in Ondundu;
- Training of the doctors in Tsumeb on arsenic toxicity, possible paths for contamination, symptoms and health reactions due to arsenic contamination. The necessary medicaments should be available;
- Once or twice per year doctors from other parts of the country should come for examinations and alternative opinion;
- DPMT Grievance mechanism should contain a very clear description of who and what is eligible for grievance. From the text in the SEP we have the impression that the mechanism is referred only to DPMT personnel. If so, it should be extended and adjusted to any potentially affected party, with the special attention put to the most polluted areas of Tsumeb, Ondundu, Kuvukiland and Endomdo..



Za Zemiata
Friends of the Earth Bulgaria



5. Access to information on the Environmental Clearance Certificates

Despite the list of ECC and the approved project components available in the final ESIA report and his Appendixes, these still do not provide essential information on the conditions attached to the ECC, how they are monitored and how the Company is conform to these conditions. We will give this simple example – the last ECC is from 2016, but the decommissioning of the Arsenic plant was implemented in 2017 and we, as interested party, cannot identify what will be the benefits, but also the challenges of this action, or if it is permitted at all!

The lack of this information seems a systematic issue for the responsible Ministry of Environment and Tourism and **do not allow any affected or interested party to have evidence about the permitted industrial facilities, the conditions and mitigation measures under which these facilities are permitted, what type of control is held by the responsible authorities and what are the results of the control.**

With particular letter from 2015 addressed to the Minister of MET and the Environmental Commissioner and under this procedure again **we recommend to the responsible authorities to overcome this problematic issue through the simple and well know good administrative practice to publish such information to the website of the Ministry or other appropriate web based platform.** The easy for the public approach will be to publish the ECC, but also the implemented control and the results of the monitoring by an annual reports.

Ivaylo Popov

Member of Executive Board of Za Zemiata, member of CEE Bankwatch Network

Genady Kondarev

Campaigner “Public Funds For Sustainability” at Za Zemiata, member of CEE Bankwatch Network

Daniel Popov

Campaigner “Extractive Industry Accountability” at Za Zemiata, member of CEE Bankwatch Network

Bertchen Kohrs

EarthLife, Namibia

Address: 24 Krastyo Sarafov str.,
ground floor, 1164 Sofia, Bulgaria

info@zazemiata.org | www.zazemiata.org

From: himmelmarko@gmail.com
To: [Candice Sadan](mailto:Candice.Sadan)
Cc: thilo@namfo.com.na
Subject: Comments on Dundee Precious Metal Expansion ESIA
Date: 16 July 2019 04:07:13 PM
Attachments: [Namfo Letter - Dundee Expansion \(160719\).pdf](#)

Dear Ms. Sadan,

Please find attached a letter for your attention. Should you have any question please feel free to contact either Thilo (copied herein) or myself.

Regards,

Marko Himmel
+264 81 237 6352
11 General Murtala Muhammed Road
Windhoek



Virus-free. www.avg.com



(Pty) Ltd

Registration No. CY/1982/0087

Tel.: (+264 67) 222 932 Fax: (+264 67) 221 075

P.O.Box 997 Tsumeb, Namibia – e-mail: thilo@namfo.com.na

16 July 2019

Our Ref: Dundee Exapnsion

Your Ref:

SLR CONSULTING

Unit 39, Roeland Square
Cnr Roeland Street and Drury Lane
Cape Town
South Africa

By email: csadan@slrconsulting.com

Dear Sir/Madam

**RE: COMMENTS ON THE ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA)
ON THE PLANNED EXPANSION OF DUNDEE PRECIOUS METALS TSUMEB (DPMT).**

1. Your email dated 3 July 2019, the revised EISA and the Non-Technical Summary provided bears reference.
2. We are a commercial farm, producing fresh produces and are situated about 8 km north of Tsumeb. Namfo has existed and has been farming for 27 years. We produce about 30% of local fresh produce in the Namibian market. We mainly use irrigation systems whereby underground water is used to irrigate the crops. We employ in excess of 300 people directly at Namfo and the farming operation of Namfo and associated companies was created by investment in excess of N\$150 million.
3. As we are situated in very close proximity to DPMT smelter site, the pollution created and the environmental impact of the current operations and the proposed expansion is of a great concern to our business and the remaining farmers within the same area. It is for this reason that we need to provide our Feedback
4. We have unfortunately only become aware of this matter on the 3 July 2019 by virtue of your email, which has left us with limited time to prepare a detailed and complete response to the concerns arising from this matter. We shall address the concerns in full as soon as possible, but due to the time constrains these concerns cannot be addressed at this time and we need your

indulgence for us to consult with experts who need to research this complex matter and thereafter deliver our reply and objections.

5. Our preliminary issue deals with how the additional pollution in the various areas, such as the underground water pollution, air pollution and soil pollution will effect our farm, the agricultural sector in the area and the town as a whole. The effect of the various forms of pollution on our plants and animals which are sold for human consumption is of major concern.
6. Upon perusal of the Non-Technical Summary of your ESIA dated June 2019 it reveals that:
 - 6.1 significant potential environmental impacts are associated with the general operations of a smelter of this nature;
 - 6.2 the smelter site and historic mining operations have already impacted significantly on groundwater quality on site;
 - 6.3 the main emissions from the smelter site include sulphur dioxide, sulphuric acid and arsenic particulate matter, all of which are harmful to humans and especially if vegetables and fruit produced for human consumption would be contaminated therewith;
 - 6.4 there are exceedances of SO₂ emissions of the South African and EU standards for such emissions in close proximity to the smelter site during upset conditions at the sulphuric acid plant and it is expected that SO₂ emissions will increase in line with the proposed increased material throughput and production rates;
 - 6.5 the proposed increased throughput capacity is expected to increase both long and short term ambient PM₁₀ and PM_{2.5} concentrations;
 - 6.6 arsenic levels in the PM₁₀ fraction exceed the EU ambient air quality reference concentration outside of the smelter footprint and simulations showed that ground level ambient arsenic levels could potentially increase by approximately 54% due to the proposed increased throughput capacity of the smelter.
7. The non-technical summary addressed various risks in various areas, however the effect of the current and proposed additional pollution on plants and animals seems not to be addressed or at the very least is not addressed fully. Further investigation needs to be made of the full ESIA report in order to clarify our concerns.

8. It is known that the Tsumeb area has very good conditions for the growing of vegetables and fruit and thereby is a perfect platform to stimulate the growth of the agricultural sector of Namibia. However, should pollution contaminate this platform, such pollution will curb the growth, and viability of the agricultural sector and in large the Namibian Economy. Tsumeb has been called the fruit basket of the north of Namibia and of Namibia itself, and should thus be utilized in that sense.
9. What is apparent at this stage, is that the implications of such an expansion will have a substantial impact on the Tsumeb area and the farms surrounding it and in turn will have negative implications on the agricultural sector of Namibia as regards vegetables and fruits produced locally.
10. We strongly object to any further expansion of the current operation of DPMT given the impact this has on and will have on food production and agricultural sector in the Tsumeb area unless our fear of increased pollution can be addressed.
11. It is for this reason that we require an engagement with yourselves in order to clarify the issues and provide a detailed and complete summary of the concerns before the ESIA is submitted to the Ministry for the granting of the Environmental Clearance Certificate.
12. We shall **also** engage the Ministry of Land Reform, the Ministry of Environment and Tourism, the Ministry of Agriculture, Ministry of Urban and Rural Development and the Ministry of Agriculture to raise our concerns with these relevant Ministries as well. We strongly recommend that the Ministries' input and approval also be obtained before any further expansion is undertaken or made.

Yours faithfully

KR HIMMEL
Director
Namfo (Pty) Ltd