SHU POWDERS

CORPORATE SUSTAINABILITY REPORT

2015

Contents

- **Introduction**
- **Executive Summary**
- **Health and Safety:**
  - Bio-Monitoring
  - Dust Monitoring
  - Dust fallout
  - Risk assessment
  - Lost time incidents
  - Noise
- **Environmental:**
  - Water, electricity and fuel consumption
  - Hazardous waste
  - Environmental incidents and complaints
- **Social:**
  - Employment
  - Training
  - Contribution to community
- **Raw Material Sourcing:**
  - DR Congo issues
  - Shu Powders sourcing from New Caledonia and Madagascar
- **Certifications:**
  - ISO 9001, ISO 14001, OHSAS 18001
  - NOSA three star grading
  - Atmospheric Emission License
  - Shu Powders environmental, health and safety policy,
  - Shu Powders quality policy

Introduction

Shu Powders produces various fine Cobalt powders for the global hard metals, diamond tools and battery industries. Shu Powders manufacturing site is located at Cato Ridge, near Durban, South Africa, since 2008.

This is Shu Powders' first Corporate Sustainability Report in South Africa. This report highlights our corporate sustainability performance in consecutive years - 2012, 2013, 2014 and 1st H 2015 where available. Our reporting focuses on the health and safety, environmental, and social responsibilities critical to our key stakeholders including shareholders, customers, employees, local communities, governments, partners, and suppliers.

Shu Powders adopts and implements high standards regardless of legal enforcement and will continually seek to improve its performance. Careful attention is paid to ensure that the company's actions do not damage the local or global environment - central issue is pollution prevention, and holds it to be the responsibility of every employee to ensure that there is full compliance with all nationally recognized human rights, labour, health and safety standards.

Shu Powders affirms the central importance of sustainability for communities, in the present and the future, for the integrity of human beings, culture, society, economic wellbeing, environmental responsibility and the way of life of the people. We are engaging various interventions which involve major capital projects in our pursuit to zero potential exposure to hazardous substance.

Executive Summary

This is Shu Powders' first Corporate Sustainability Report in South Africa. Our reporting focuses on the health and safety, environmental, and social responsibilities critical to our key stakeholders including shareholders, customers, employees, local communities, governments, partners, and suppliers.

Shu Powders maintains a an integrated management system for quality, health, safety and environment according to the standards ISO 9001, 14001 and OHSAS 18001 since 2009. Shu has been recertified by its auditing body SGS in 2012 and 2015. Shu Powders obtained a NOSA three star grading for occupational health, safety, and environmental management in 2015. NOSA audit early 2016 recommended an upgrade from three to fur stars.

Continuous improvements in dust reduction have brought done the dust level in the factory by a factor one hundred. However, further automation is required to reduce the operators' exposure in order to keep up with tightening regulations. The implementation of cleaner machinery will start in 2016.

Shu Powders invests in its employees through extensive training programs approaching 60 hours per employee and year. We are in a 'social contract' with the community we are part of – all our employees are drawn from a small radius around our site giving us a greater sense of belonging with shared values, norms and meanings.

Shu Powders is sourcing its raw material in compliance with OECD guidelines. The two sources are Goro, New Caledonia (owner: Vale Inco) and Ambatovy, Madagascar (owner: Sherritt, Sumitomo, Kores). Shu Powders is not sourcing raw materials from the DRC (Congo), where Artisanal Mines are known to be involved in child labor.

Highlights	Previous priorities
• ISO 9001, ISO 14001 and OHSAS 18001 certification since 2009. • NOSA three star grading since 2015. • Completing Air Emission License since 2015. • Zero environmental complains and fines since the construction of the factory in 2008. • Zero major injuries or fatalities since 2008. • Decreasing Cobalt dust levels in the factory. • Decreasing Lost Time Incidents. • Increasing training hours per person and year to 67. • Increasing number of permanent position. • Increasing sponsoring at local community events.	• Maintaining the certification of the integrated management system according ISO 9001, ISO 14001 and OHSAS 18001. • Obtaining NOSA star grading. • Obtaining Air Emission License • Zero environmental fines and complaints • Zero lost time injuries (LTI).
Lowlights	**Priorities for 2016**
• Increasing fuel consumption due to load shedding of the national South African grid in 2014 and 2015. • Although overall trend is positive, occasionally with elevated levels of Cobalt in urine of blood samples are detected. • Elevated hazardous waste, which will be reduced by pallet washing and other measures.	• Reducing Cobalt dust through automation • Increasing the period free from Lost Time Injuries (LTI) from 133 days to 313 • Reducing hazardous waste • Increasing the period free from environmental fines from 3640 days to 4005 • Increasing NOSA grading from three to four stars.

Key Performance Indicators (KPI)

Health & Safety
Environmental
Social

Description	Targets / Limits		Year 3 Actual	Year 2 Actual	Year 1 Actual	3 Year Trend
Bio monitoring (No. of Co in urine/blood non-conformances)	0		3	6	8	
Dust monitoring between work stations (mg/m^3)	<0.1*		0.015	0.08	1.11	
Dust monitoring at work stations (mg/m^3)	<10*		0.57	1.07	2.11	
Dust fall out – general ($mg/m^2/day$)	<1200*		135	97	64	
Dust fall out - Cobalt ($mg/m^2/mth$)	<2		1.34	0.83	1.08	
Lost time incidents (No.)	0		0	3	1	
Noise (dB)	<85*		81	83	83	
Water consumption (l/kg Co)	≦10		8.1	8.4	11.2	
Electricity consumption (kWh/kg Co)	≦7		7.3	7.0	7.9	
Fuel consumption (l/kg Co)	≦5		10.1	16.7	3.6	
Hazardous waste (g/kg Co)	≦30		55	52	55	
Environmental incidents & complaints (No.)	0 0		1 0	0 0	2 0	
Employment permanent (%) Employment temporary (%)	≧90 ≦10		100 0	90 10	55 45	
Training (hrs per employee)	≧60		67	57	13	
Contribution to community (% of EBITDA)	≧0.5		0.4	0.4	0	

(*) -referring to legal limits

Health and Safety

6

Bio-Monitoring

Bio-Monitoring of chemical exposure in the workplace is of critical importance in the assessment of health risk as an integral part of the company overall occupational health strategy. We consider biological monitoring as an important tool in the prevention of occupational diseases related to those exposed to chemicals on a regular basis. A complete medical programme is in place consisting of Entry, Annual, and Exit medicals for all employees – on contract and permanent. All the medicals consist of the following examinations:

- Physical examination
- Eye Test
- Audiometric Testing
- Chest X-ray
- Lung Function
- Cobalt in Urine and Blood samples

Fig 1 shows the annual non conformances since 2013. The threshold levels derived from international studies. [Ref 1] is set to concentrations of 50 µg/l creatinine and 25 µg/l blood. The presence of Co in urine is an indication of short term exposure, while the presence of Co in blood indicates long term exposure. Fig.1 shows that the number of non-conformances is decreasing year on year. This is accomplished by
a dust reduction project that included alterations at workstations to minimize dust generation and training on personal hygiene and correct utilisation of the PPE (personal protective equipment). The annual individual levels are well below the concentration threshold above.

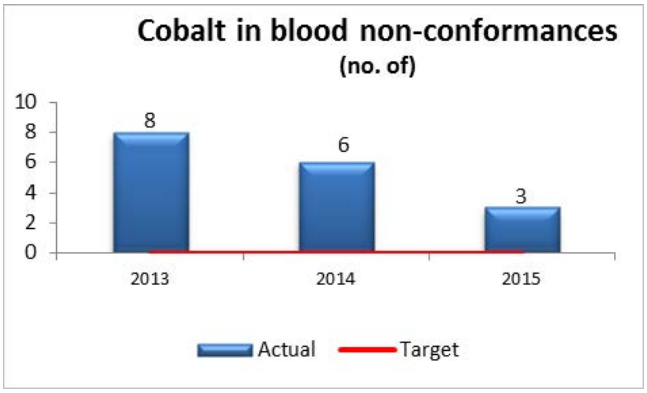


Fig 1. Cobalt in blood non-conformances: Number on non-conformance is decreasing year on year.
The target is zero non-conformances.

Health and Safety

7

Dust Monitoring

Shu Powders Africa contracts an accredited inspection authority (APEX) [Ref 2] to execute dust monitoring. The data below reflect static-sample dust results from hazardous chemical substances monitoring surveys conducted every two years by APEX. This is in fulfilment of legal requirements in South Africa. The Occupational Exposure Limit (OEL) established by the Ministry of Labor in South Africa is 0.1 mg/$m^{3.}$

Fig. 2 shows general dust levels in the plant between workstations. The levels have been brought down by factor hundred (x100) to a level of 0.015 mg/m3, which is almost a factor ten (x10) below the legal threshold. For comparison the level at the admin office entrance is as low as 0.012 mg/m3. This has been accomplished over the past four years through the following measures as an example:

Measures taken:

- Improved operating procedures.
- Training of operators. Best practice initiatives.
- Pokayoke
- Checklists and Controls
- Improved belt scraper.
- Closed trolleys only policy.
- Trolley connections to crusher
- Trolley connections to jet mill with integrated dust collection
- Trolley connections to granulator with sample control point.
- Blender surface polished to allow easy discharge
- Trolley connection to blender with integrated dust collection
- Many more initiative generated in Kaizen forums

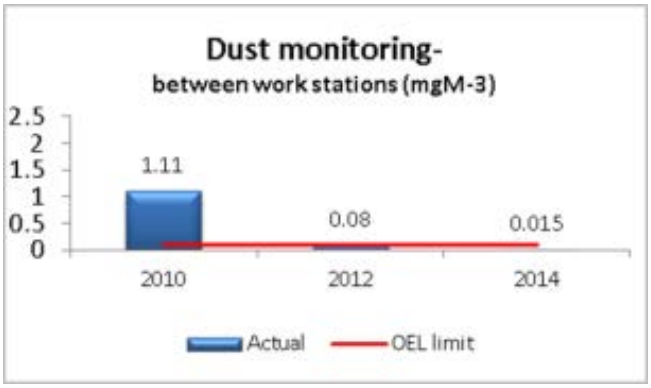


Fig 2: Dust Monitoring between Work Stations: Data from independent auditor APEX. Levels have been reduced steadily over past 4 years. Current values meeting legal requirements. For comparison, dust between work stations is as low as at the admin building. Next APEX audit in 2016.

APEX also monitors the dust levels at various work stations in the plant. See Fig. 3 . The dust levels are occasionally higher at workstations as compared to the general level in the plant. They have been reduced gradually over the past four years to 0.6 mg/m3. which is still above the legal limit of 0.1. All operators are therefore protected by a full face mask fitted with particulate filters giving protection of a factor hundred (x100). See photo. The chart in Fig 3 therefore shows the limit with mask at 10 mg/m3, factor x100 on 0.1 mg/m3. All workstations are well below this limit. APEX will repeat the tests in 2016. In addition, Shu Powders Africa has invested in a dust detection device [REF 3] to monitor dust level internally and on a regular basis.

Health and Safety

Dust Monitoring

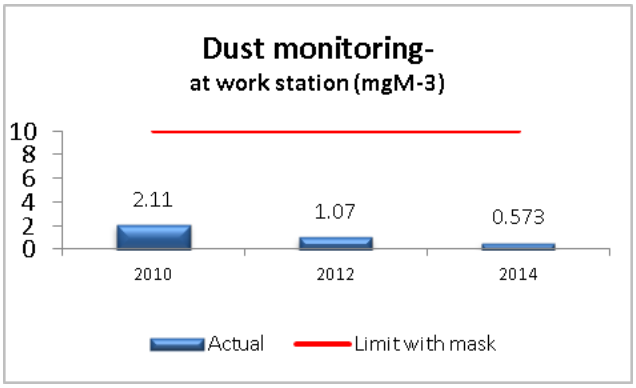


Fig 3: Dust Monitoring at Work Stations :
Dust levels have been reduced over time. However, dust at work stations is still exceeding OEL of 0.1 mg/m3. Operators are therefore protected by a full face mask fitted with particular filters.

Fig 4: 3M Full Face Mask:
Operators are protected by a full face mask fitted with particular filters of a factor x100.

In order to further reduce the dust levels at work stations, Shu Powders Africa is investing into automation. Several manual operations will be replace by machinery in order to reduce operator exposure. Below photos show an automated furnace loading station and an automated packaging machine. The ultimate goal is to reduce the dust levels so that paper masks are sufficient for protection.

Fig 5: Big bag discharge station: Raw material is fed from big bags into the reduction furnace without operator exposure.

Fig 6: Drum filling station: Finished product is filled into drums with efficient dust collection and without operator exposure.

Health and Safety

9

Dust Fallout

There are 10 dust fallout collectors located at different locations at the Shu Powders site but outside the plant. The amount of dust collected (sample) is analysed gravimetrically to determine the amount of insoluble matter (dust). See Fig 5. This is done on a monthly basis. The amount of metal in the sample is thus determined. This is done according to ASTM D1739-94. The two consecutive years whose results were obtained show results sitting well below the half mark of the recommended limit. There has been a small increase recently due to construction work at the neighbouring sites. Shu Powder Africa got four new neighbours in 2015.

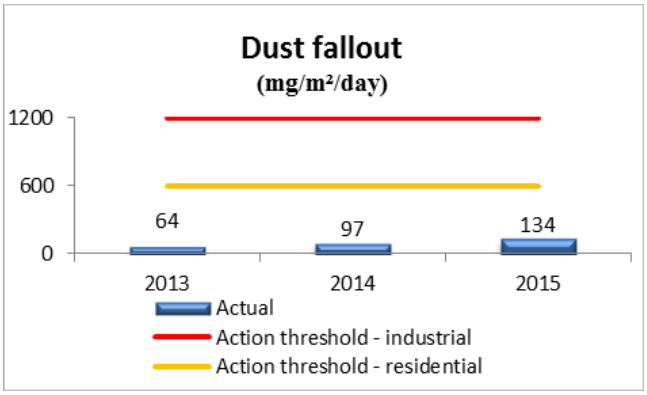


Fig 5: General Dust Fallout: Dust Fallout is well below the legal limits. There is a small increase due to contraction work at neighboring sites.

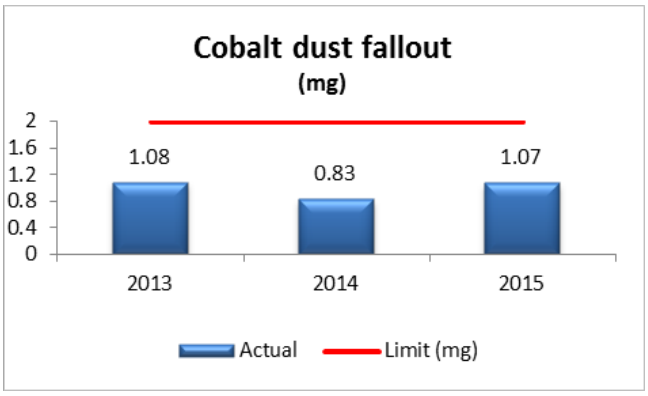


Fig 6: Cobalt in Dust Fallout: Cobalt content is fairly stable over the years and well below a self imposed limit of 2 mg per month.

The Cobalt content in the dust fall out samples is also measured. See Fig 6. The levels are stable over the years and well below a self-imposed limit of 2 mg per month. There is no regulatory limit for Cobalt as there is for general dust in residential or industrial areas.

Since Shu Powders Africa obtained an Atmospheric Emission License (AEL) from the local authorities of Ethekwini Metropolitan Municipality in 2015, the dust fallout is sampled and analysed by an external accredited company, called ROHS Environmental Engineering. This company operates according to a different standard ASTM D1739:98 (2010). This is in fulfilment of the AEL requirements. The AEL is in compliance with the NEM: Air Quality Act, 39 of 2004.

Health and Safety

Risk Assessment

The top risk in the factory are related to Ammonia, Cobalt and Hydrogen. They are split as follows:

top risks		safety	health	environment
ammonia	NH3	!	!	!
cobalt	Co	-	!	!
hydrogen	H2	!	-	-

- Ammonia is toxic to people and environment. Vessels are under pressure.
- Cobalt dust can be harmful to people and the environment
- Hydrogen gas is explosive

All risks are addressed in management programs which get audited by external companies annually.

Lost Time Incidents

Concerted efforts from all departments and from top management to the shop floor are put to prevent the occurrence of injury to personnel and damage of property at the workplace. The target for SHEQ incidence is Zero. This is in form of tool box talks, awareness posters, and formal training. Also for every incident which happens, a root cause Analysis is carried out to find a lasting solution to the incident.

Fig 7, LTI: Lost time incidents have come down to zero in 2015. LTI is now transferred into a leading indicator: The year 2016 started with 392 days without lost time injuries.

Lost Time Incidents since 2012:

- 2013 - May, an operator was moving up the furnace staircase; he accidentally missed a step injuring himself. He was taken to the local clinic to receive medical care.
- 2014 – Jan, an operator was cleaning in the upper floor of the factory; while standing on plate covering a trench, the plate slipped and he got injured. He was rushed to hospital and was booked off-sick.
- 2014 - Jan, an admin employee caught her right leg on the door in the admin offices and had a sprain to her left ankle. She was taken to hospital and also booked off.
- 2014 - Dec, a maintenance employee was injured while opening the granulator rollers. He was taken to hospital and booked for one day sick leave.

In 2016, Shu Powders will start monitoring the number of days free from lost time injuries as a leading indicator.

Health and Safety

Noise

Noise monitoring is also a legal requirement. Assessments of potential noise exposure are carried out at two-year intervals by an approved noise inspection authority, i.e. APEX. They determine if any persons may be exposed to noise which is at or above the noise-rating limit . The South African legal noise-rating limit is 85dB. See Fig 7. All levels are below the legal limit. They slightly decreased in 2014 thanks to a new granulator which is less noisy. In addition to that, a medical surveillance is in place which consists of baseline, annual and exit audiograms. The next APEX audit is in 2016.

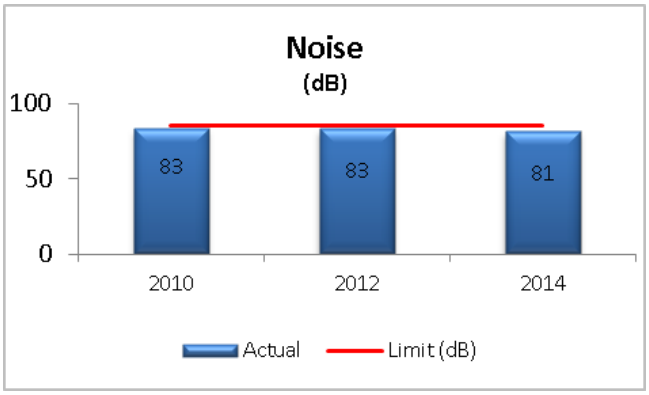


Fig 8, Noise: The figures obtained from a specific point in the factory show that noise levels are below the legal limit. The noise levels slightly decreased in 2014.

Environmental

Water consumption

The water consumption dropped in 2014 to 8.4 ltr per kg Cobalt produced. This was due to cooling water being used more effectively and the cooling tours being overhauled in 2013. The company also uses so called Jojo tanks which recover rainwater from the warehouse roofs. This rainwater is feed into the cooling circuit. There is a project on 2016 to further reduce the water consumption per kg Cobalt.

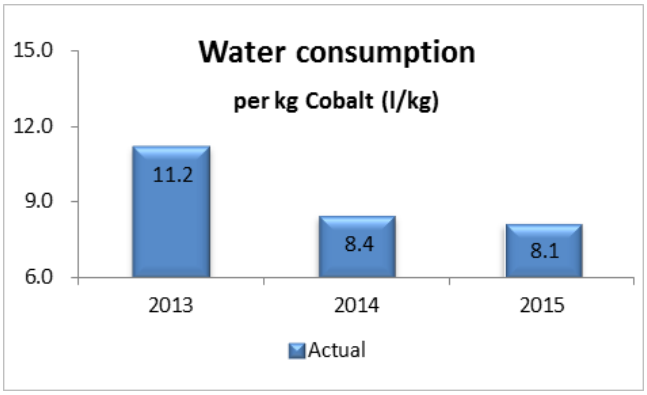


Fig 9, Water consumption: The water consumption has reduced thanks to more efficient use of both cooling water and rain water.

Note: There was an annual shutdown in the months of June, July and August in 2013. During the shut down water is still being used but for non- process activities such as cleaning, laundry and ablutions. There was no annual shutdown in 2014 and 2015.

Note: The water consumption per kg Co in Shu Powders China was a factor five higher.

Electricity consumption

The electricity consumption dropped in 2014 to 7 kWh per kg Cobalt produced. There was a significant decline in electricity consumption in the last quarter of 2014. This was thanks to the LEAN project which promotes the efficient utilization of resources. In 2015, the lighting in plant and warehouses has been replaced by more energy efficient LEDs. Electricity is among the top three cost factors in producing fine Cobalt powder.

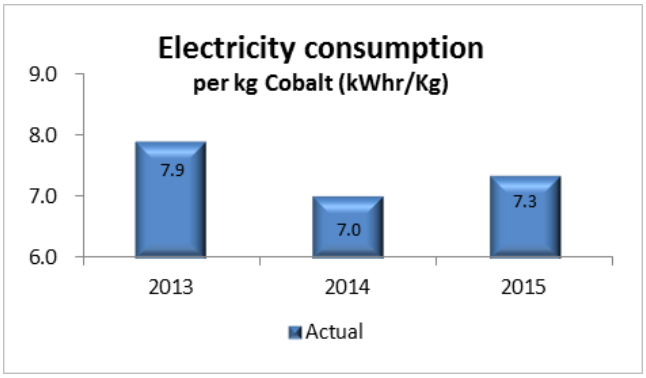


Fig 10, Electricity consumption: The electricity consumption has reduced in 2014 and 2015 due to efficiency measures taking in LEAN projects.

Note: There was an annual shutdown in the months of June, July and August in 2013. During the shut down electricity is still being used but for non- process activities such as maintenance, lab, admin, cleaning, etc.. There was no annual shutdown in 2014 and 2015.

Note: The electricity consumption per kg Co in Shu Powders China was 8.4 kWhr.

Environmental

Fuel consumption

Diesel fuel is used as an alternative energy source to power a stand-by generator due to persistent load shading on the national electricity grid. Planned and routine load shading commenced in 2014 and this explains the significant rise experienced in 2014 and 2015.

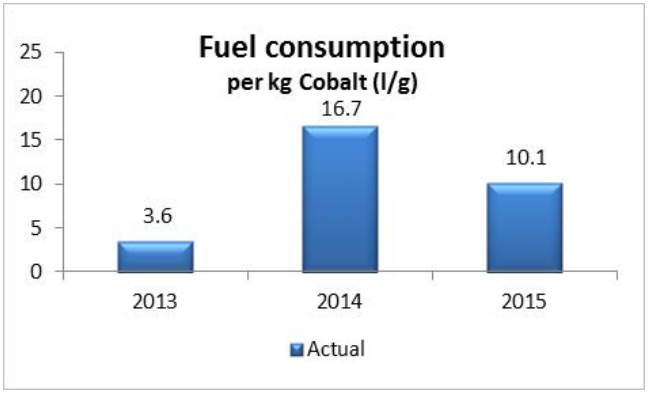


Fig 11, Fuel consumption: The fuel consumption increased due to persistent load shading on the national grid.

Note: The South African government is investing in more power stations (conventional, nuclear and renewable energy) in order meet the energy requirements of the future.

Hazardous Waste

Hazardous waste is all Cobalt-exposed dry waste - this includes used PPE, pallets which come with raw materials, raw material empty bags, and others. The year 2013 saw an increase in hazardous waste relative to the previous year. This is attributed to the packaging wooden pallets which come with raw materials. The SHEQ department, through Lean projects, is exploring ways of recycling these wooden pallets to reduce our contribution to the landfill. In 2016, wooden pallets will get cleaned from Cobalt and then recycled for reuse.

Fig 12, Hazardous waste: The hazardous waste increased with the waste disposal for pallets into landfill. In future, pallets will be washed and reused.

Environmental

14

Incidents and Complains

Shu Powders has a track record of zero environmental fines or complaints from authorities, neighbours or the local community. Nevertheless, there are minor environmental incidents to report. The overall trend is positive.
Shu Powders has also obtained an AEL license (Atmospheric Emission License) for its reduction furnaces. The site is also licensed as a major hazardous installation due to its ammonia cracking plant. Both are under strict control of the local authorities (Ethekwini Municipality).

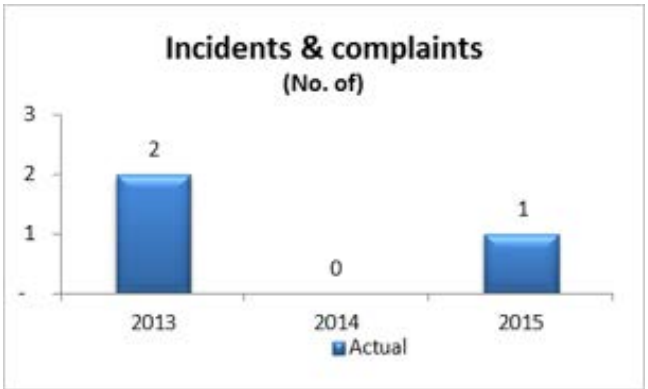


Fig 13, Incidents and complaints: The overall trend is positive as there was only one incident in the past 2 years

Incidents:

- 2015 - Jun, a valve on the ammonia surge tank was mistakenly open leading to the release of some ammonia vapour.
- 2014: no environmental incidents.
- 2013 – Dec, the lab conservancy tank was full and as a result the drains were filling up. 5000 Litres of the contents were pumped into a bulk plastic tank. The liquid effluent was eventually collected by an accredited waste removal company.
- 2013 – Feb, a maintenance operator was decanting used oil into a 210 Litre drum and spilled a small amount of oil which ran along the storm water drain. The oil was later cleaned and Corrective and Preventive Action plan was implemented.

Corrective and Preventative Action Reports were raised for each incident.

Social

Employment

Total workforce indicates the sum of staff on permanent and contract employment; contract employment denotes temporary outsourced labour. Our strife in keeping a consistently stable and vibrant workforce has enhanced the organization's ability to meet employees, customers, and all other stakeholders' expectations. Although the overall employed decreased, the share of permanent positions has increased to 100%.

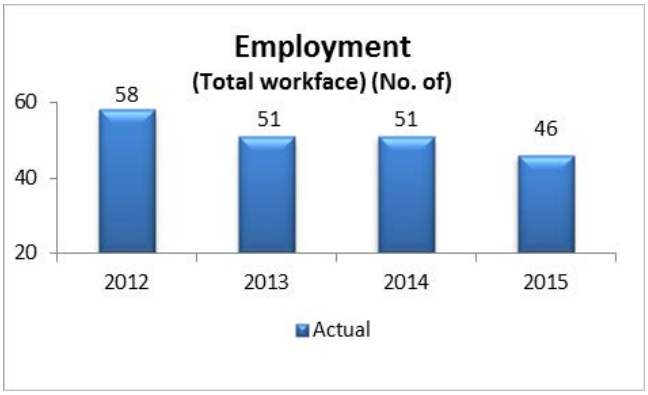


Fig 14, Total workforce: The total workforce has decreased thanks to efficiency programs assuring the viability of the overall business.

Shu Powders has progressively moved towards achieving 100% permanent employment to its members of staff. This is to give our employees a measure of job security, long term prospects and stability. This already has brought a significant sense of belongingness and alignment to the organization's goals and values among all stakeholders.

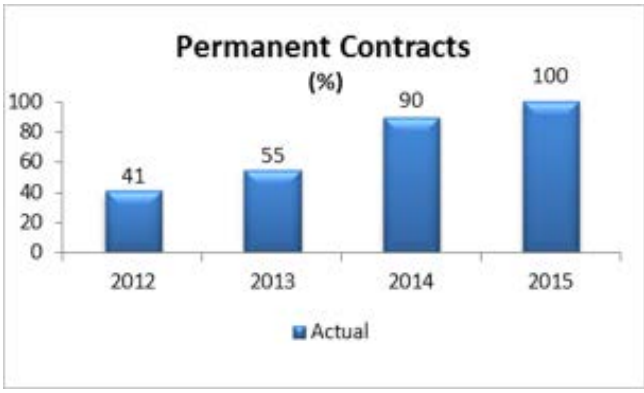


Fig 15, Employment full time: The share of permanent positions has been increased step by step to 100% in 2015

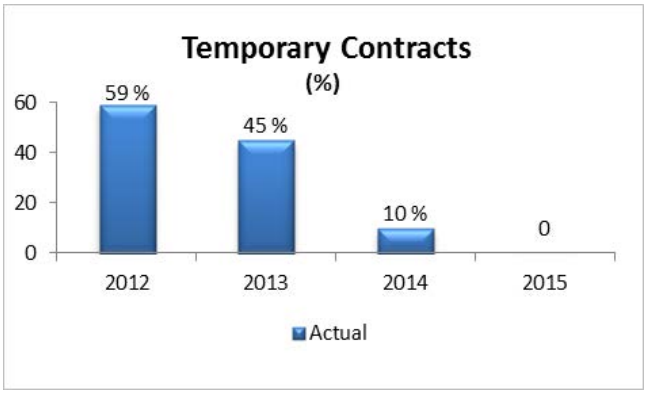


Fig 16, Employment contract: The share of temporary positions has been decreased step by step and vanished in 2015.

Social

Training

Training of staff and management plays a vital role in the continuous improvement process of a learning organisation. A total amount of 67 hours per employee per year was committed to training in 2015. The training comprises health and safety, skills related to the respective job function, interpersonal skills and lean. The training requirements are derived from an individual skill gap analysis.

At the beginning of 2014 Shu Powders saw the introduction of the Lean Culture. This contained training on the "8 wastes", "5S", "Kaizen", etc. Half of the company's management follows external high education. Four chemical engineers concluded their bachelor or masters degree in 2014.

Fig 17, Training: Training is increasing over the past years. Meanwhile, every employee enjoys on average 67 hours of training per year.

Social

Contribution to the local community

We are in a 'social contract' with the community we are part of – all our employees are drawn from a small radius around our site giving us a greater sense of belonging with shared values, norms and meanings.

Due to financial constrains in 2013, Shu powders was not in the position to support social events outside of the company. But our strong sense of commitment saw us contribute 0.4% of our EBITDA in 2014 and 2015. This was in support of the strong Zulu cultural heritage. We donated traditional beaded clothing to Reed dancers of Thweba and the male Zulu traditional dancers of the community. In 2015, we donated presents, toys and stationary to the children of Sbahle Pre-school, which is a kindergarten in the neighbouring rural area.

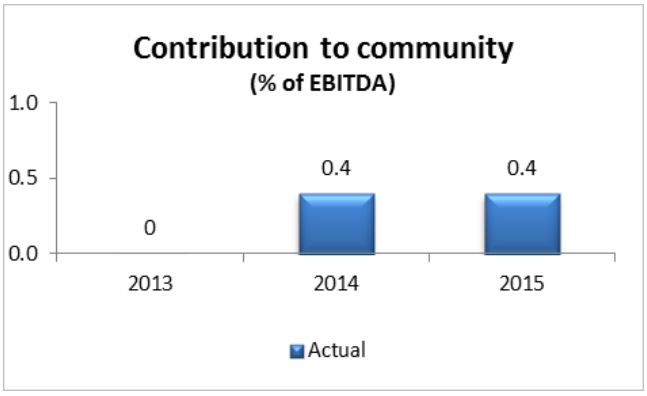


Fig 18, Contribution to the community : Shu's contribution to the community is increasing year on year.

Fig 19, Community Day 2014: Traditional beaded clothing to Reed dancers of Thweba and the male Zulu traditional dancers of the community.

Fig 20, Community Day 2015: Shu Powders donated presents, toys and stationary to the children of Sbahle Pre-school in the neighboring rural area. Shu's personnel enjoyed the time playing with the kids

Raw Material Sourcing

DR Congo issues

On January 19, 2016, Amnesty International published a report titled "This is What We Die For", outlining allegations against companies directly involved in the trade of cobalt sourced from artisanal mining as well as against some of the world's largest technology firms down the supply chain. [Ref 3] In the report Amnesty documents human rights abuses in DRC's artisanal cobalt mining sector such as child labour and hazardous and unhealthy working conditions (Fig 21). In the report Amnesty calls upon the DRC government to regularize unauthorized mining areas and provide safety equipment to artisanal miners. At the same time calls upon states to legally require companies to conduct human rights due diligence on their mineral supply chains and to report these publicly. The ramifications of this report are expected to be far reaching, Impacting the entire cobalt supply chain and resulting in greater supply line scrutiny on traceability, possibly the introduction of regulations for the artisanal mining sector in the DRC and the down stream use of its products.

Fig 21, Amnesty International Report: A video clip is available under http://youtu.be/7x4ASxHIrE

Note:

- On March 29, 2016, the London Metal Bulletin published articles stating that China's refineries imported almost a quarter of million tonnes of cobalt concentrate from the DRC in 2015, according to China import statistics. [Ref 4]
- These concentrates were likely to have been produced in dangerous conditions or by children in artisanal mines in the DRC.
- Six companies from China have been identified to import over 10 000 tonnes of cobalt concentrate last year, respectively.
- Among these six companies is the cobalt powder producer Nanjing Hanrui.

Shu Powders is not consuming any cobalt units from the DRC. All raw material is coming from two sources outside DRC as outlined in the following paragraph.

Raw Material Sourcing

Shu Powders' Raw Material Sources

Shu Powders is sourcing all its raw material through Specialty Metals Resources (SMR) www.smr.hk SMR has annual contracts and multiyear off-take agreements with the Cobalt miner and refiner below.

1. Goro in New Caledonia (Fig 22) is owned and operated by Vale INCO http://www.vale.nc/?lang=en. Vale INCO produces a Cobalt Carbonate.
2. Ambatovy in Madagascar (Fig 23) is owned and operated by a consortium of Sherritt, Sumitomo and Kores http://www.ambatovy.com/docs/. Ambatovy produces Cobalt briquettes.

Both mines are Nickel mines where Cobalt is produced as a by-product in the range of several thousand tonnes per annum. Both companies are stock listed and compliant with OECD guidelines. There are detailed sustainability reports issued by both companies. (Fig 24,25)

Fig 22, Goro: The facilities in New Caledonia are owned and operated by Vale INCO.

Fig 23, Ambatovy: The facilities in Madagascar are owned by Sherritt, Sumitomo, Kores.

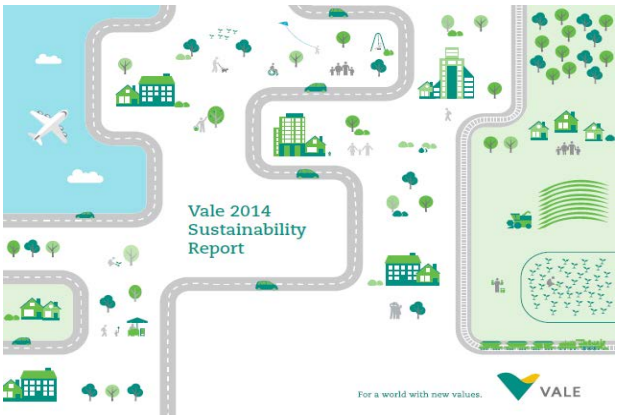


Fig 24, Goro: Vale INCO issues a sustainability report every year, which is available on their website.

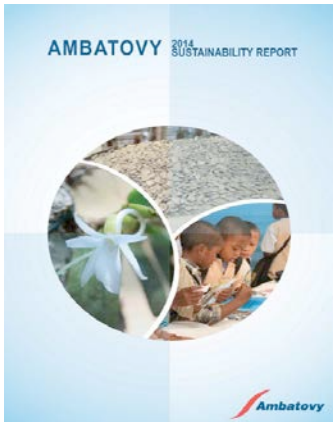


Fig 25, Ambatovy: A sustainability report is issued every year and readily available on their website.

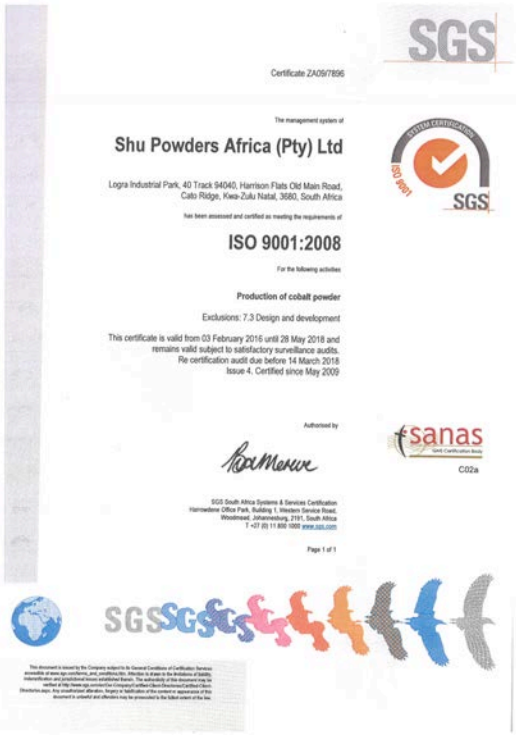
Certifications

20

Shu Powders holds ISO 9001:2008, ISO 14001:2004, and OHSAS 18001:2007 international standards. On top of these we also hold a Three Star on the NOSA Integrated Five Star System, CMB253N Standard.

These Integrated Management Systems give guarantee and confidence to our customers, employees, suppliers, the community and all other stakeholders on the quality of the product, the preservation of their health and safety, care for the environment and sustainable business.

Certifications



Certificate ZA09/7896

The management system of

Shu Powders Africa (Pty) Ltd

Logra Industrial Park, 40 Track 94040, Harrison Flats, Old Main Road, Cato Ridge, Kwa-Zulu Natal, 3680, South Africa

has been assessed and certified as meeting the requirements of

ISO 9001:2008

For the following activities

Production of cobalt powder

Exclusions: 7.3 Design and development

This certificate is valid from 03 February 2016 until 28 May 2018 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 14 March 2018
Issue 4. Certified since May 2009

Authorised by

C02a

Certificate ZA09/7895

The management system of

Shu Powders Africa (Pty) Ltd

Logra Industrial Park, 40 Track 94040, Harrison Flats, Old Main Road, Cato Ridge, Kwa-Zulu Natal, 3680, South Africa

has been assessed and certified as meeting the requirements of

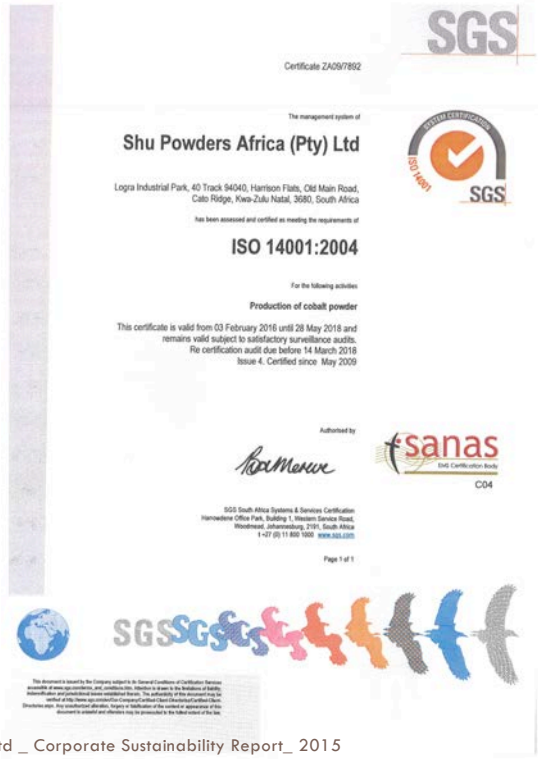
OHSAS 18001:2007

For the following activities

Production of cobalt powder

This certificate is valid from 03 February 2016 until 28 May 2018 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 14 March 2018
Issue 4. Certified since May 2009

Authorised by



Certificate ZA09/7892

The management system of

Shu Powders Africa (Pty) Ltd

Logra Industrial Park, 40 Track 94040, Harrison Flats, Old Main Road, Cato Ridge, Kwa-Zulu Natal, 3680, South Africa

has been assessed and certified as meeting the requirements of

ISO 14001:2004

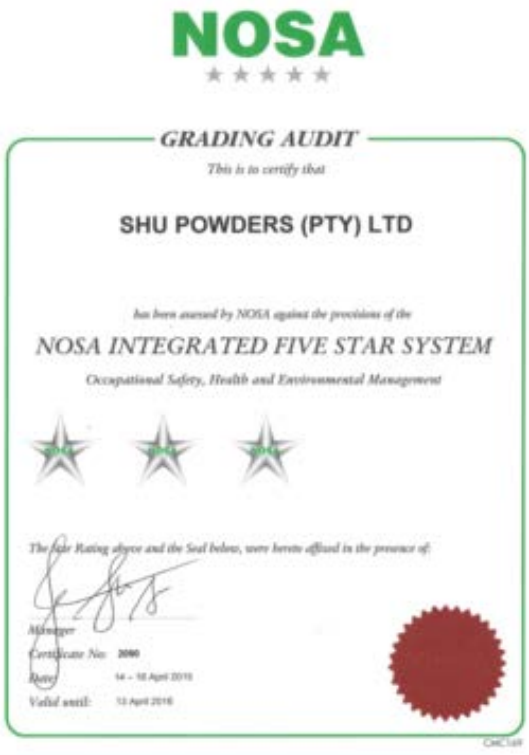
For the following activities

Production of cobalt powder

This certificate is valid from 03 February 2016 until 28 May 2018 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 14 March 2018
Issue 4. Certified since May 2009

Authorised by

C04



NOSA

★ ★ ★ ★ ★

GRADING AUDIT

This is to certify that

SHU POWDERS (PTY) LTD

has been assessed by NOSA against the provisions of the

NOSA INTEGRATED FIVE STAR SYSTEM

Occupational Safety, Health and Environmental Management

The Star Rating above and the Seal below, were hereto affixed in the presence of:

Manager

Certificate No: 3090

Valid until: 13 April 2016

Certifications

ETHEKWINI MUNICIPALITY

ETHEKWINI METROPOLITAN MUNICIPALITY

THE ATMOSPHERIC EMISSION LICENCE IN TERMS OF SECTION 40(1)(a) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT (ACT NO. 39 OF 2004), AS AMENDED

ATMOSPHERIC EMISSION LICENCE

SHUPOWDERS LIMITED

Is hereby authorized to conduct the following Section 21 Listed Activity as detailed in AEL092/W2 at, Logra Industrial Park, 40 Track 94040, Harrison Flats, Old Main Road, Cato Ridge, Durban

Listed Activity Authorised to be conducted:
Category 7, sub-Category:7.1 & 7.4

Validity Period: 1 November 2015 – 31 October 2016

Bruce Dale: BDale **Date:** 21/10/2015.
EThekwini Municipality
Air Quality Officer
9 Archie Gumede Place, Durban 4001
Licence Number: AEL092/W2

Certifications

Health, Safety and Environmental Policy

SHU POWDERS T: +27 31 782 1061 F: +27 31 782 1160 W: www.shupowders.com

Shu Powders Africa PTY. LTD
Logra Industrial Park, No.40 Track 94040, Harrison Flats
Old Main Road, Cato Ridge, KwaZulu Natal 3680 South Africa
Postnet Suite 10015, Private Bag X7005, Hillcrest, 3650

Vat No: 4150236521 CK No: 2007/000865/07

SAFETY, HEALTH AND ENVIRONMENTAL POLICY

Shu Powders Africa is a reputable manufacturer of cobalt, and is committed to continual improvement in safety, health and environmental performance. This is non-negotiable in our drive towards Zero Harm.

- We believe that all injuries and environmental incidents are preventable;
- The safety of our employees, visitors and contractors and the prevention and minimization of any impact on the environment is a non-negotiable value;
- Leaders at all levels in the organization are role models in the management of safety and environmental matters;
- At-risk behaviours are not acceptable and are addressed when observed; and
- Excellent safety, health and environmental performance are recognized as good business practices.

To achieve our goal we are committed to:

- Meeting the requirements of applicable legislation;
- Operate in accordance with industry and customer codes of practice, and voluntary requirements to which we subscribe including group policies, agreements with regulators and communities; REACH; CDI (The Cobalt Development Institute); SABS1929: 2011; and NOSA CMB253N.
- Ensure controls are effective to prevent pollution;
- Educate and train, motivate and support our staff and suppliers in the application of this policy and associated procedures;
- Reduce consumption and wastage of materials through recovery, rework and recycling where possible;
- Continually improve our safety, health and environmental system and performance through monitoring, preventive action, education and training;
- Develop new business opportunities that provide a sustainable future
- Create a framework for setting and reviewing objectives and targets as stated in this policy

We therefore commit to being a socially responsible employer in the interests of the community, future generations, and all our other stakeholders.

Signature: _____ Date: Oct. 13, 2015

Managing Director

Rev. 6

Managing Director: Dr. Michael Oehlers

Certifications

Quality Policy

SHU POWDERS T: +27 31 782 1061 F: +27 31 782 1160 W: www.shupowders.com

Shu Powders Africa PTY. LTD
Logra Industrial Park, No.40 Track 94040, Harrison Flats
Old Main Road, Cato Ridge, KwaZulu Natal 3680 South Africa
Postnet Suite 10015, Private Bag X7005, Hillcrest, 3650

Vat No: 4150236521 CK No: 2007/000865/07

QUALITY POLICY

Shu Powders Africa is committed to establishing and maintaining ourselves as a quality manufacturer of cobalt. To achieve this goal we will totally satisfy our customers' requirements and expectations in the quality of product and service.

We are committed to establish, maintain and continually improve on a Quality Management System (QMS) that conforms to the ISO 9001:2008 requirements.

As Managing Director I undertake to ensure that our Quality Management System is thus directed towards achieving the following objectives:

- Only accepting orders and contracts within our managing capacity
- Planning all business activities and improving on the planned time allocations
- Employing and developing people who have the necessary skills and experience to improve our product and service
- Supporting and developing suppliers who are committed to Quality Improvement
- Reacting to problems quickly and systematically and fostering a team approach to problem solving
- Aiming to deliver on time; recognising that deadlines are a crucial part of our business
- Ensuring we comply with all applicable legal and statutory requirements that pertain to our product
- Create a framework for setting and reviewing objectives and targets as stated in this policy

The SHEQ Officer has been appointed as the Management Representative regarding all aspects of the ISO 9001:2008 Quality Management System

Signature: _____ Date: Oct. 13, 2015

Managing Director

Rev.7

Managing Director: Dr. Michael Oehlers

Glossary

- **Biological monitoring:**

Is the measurement and assessment of workplace agents or their metabolites either in tissues, secreta, excreta, expired air or any combination of these to evaluate exposure and health risk compared to an appropriate reference. All the medicals consist of the following examinations:

- Audiometric Testing
- Eye Test
- Chest X-ray
- Lung Function
- Physical exam
- Cobalt vs Creatinine (urine testing)
- Cobalt in Blood

- **ASTM D1739-94:**

The standard test method for collection and measurement of dustfall (settleable particulate matter).

- **Lost time incident:**

Lost time injury is when an employee gets injured in the course of his employment and is unable for perform the regular duties for a complete shift. This is not just limited to one regular shift only, but it can extend up to all the shifts in which the employee is unable to perform the regular duties. So from the time of the initial injury until the time the employee is able to return to regular work duties. None of the LTI's caused interruption of production or business.

- **Risk Assessment:**

The evaluation of the risks of existing substances or conditions to man, including workers, and to the environment, in order to ensure better management of those risks.

Reference List

- [Ref 1] Study setting thresholds on blood and urine samples. Communication with Dr. Do Vale of CATOMED Clinique, in Cato Ridge, KZN, South Africa.
- [Ref 2] APEX study 2010,2012,2014
- [Ref 3] Amnesty International Report, January 19,2016

  www.amnesty.org/en/documents/afr62/3183/2016/en/
- [Ref 4] London Metal Bulletin Articles, March 29, 2016.