

South African-French Industrial Maintenance Strategy Symposium - 24 April 2008 - Compte-rendu (JCF) -

1. Welcoming, logistic and organisation

- 1.1. **Ubifrance** (Etablissement Public à Caractère Industriel et Commercial - EPIC) represented by Mrs. Monique Arribet, from Marseille agency, was the principal organiser, joined with Economic Department of Embassy of France in South Africa. We appreciated the excellent relations we have had during this event as well as during its preparation.
- 1.2. **The Economical department of Embassy of France** was principally represented by M. Yves de Ricaud, Ministry Counsellor to economical affairs of Embassy of France, Christophe Bezou, sector-related attaché. I also met Mr. Jean-Pierre Cerveau, commercial counsellor, Mrs Laura Laguerce, commercial attaché / services and legal affairs.
- 1.3. **AFIM** that I was representing has been required by Ubifrance (Mrs. Monique Arribet) in order to take an active part to the organisation of this symposium. Our role was to inform AFIM's members and French maintenance professionals, by mailing and through www.afim.asso.fr website. Moreover we should participate to select those taking part in the symposium and the subjects to be developed.
Then, I was required to give 2 talks, the first one (on April, 23rd) in French, for the 8 French companies representatives and the organisers (Economical department and Ubifrance) ; the second one (on April, 24th) in English, at the plenary meeting, where some fifty South-African enterprises were represented by one or several delegates (see § 5.3).
It seems that these different tasks have come up to the Economical department, French and South African participants and Ubifrance's expectations. We will have some more precise and critical comments later on probably.
- 1.4. **SAMA** (Southern African Maintenance Association) was a privileged partner of the organisation. Its former Chairman M. Joe E. Amadi-Echendu, in other respects Professor at Pretoria University in Engineering and Technology Management, has been the moderator of the plenary session. Its professionalism (maintenance, engineering, industrial strategies...), its great ease to sum up each talk synthetically and educationally, have been a high value added to the symposium.
Mrs Shana Liebenberg, National Administrator, was also participating at the symposium. I gave her the AFIM's documents and the key to display the pages of the AFIM's website normally dedicated to the members. M. Steven BOSHOFF, member of the SAMA's board, also representing this association gave a talk on the 24th, about the "*Integration of Personnel Factors into the Design of Maintenance Systems*" (see § 0)
- 1.5. **Bureau Veritas** from Johannesburg sponsored the plenary session and spoke about the RBI (Risk Based Inspection) – see § 5.1.

2. French Enterprises participating

(See annex 2)

We classify these enterprises in 4 different classes (according to AFIM's classification):

- 2.1. (38) – *Services, organization, advices, studies* :
 - Appave Indian ocean
 - Bureau Veritas – East & Southern Africa
 - PPMS (People & Projects Management Services)
- 2.2. (22 ou 24) – *Industrial equipment or measurement devices* :
 - Hydratight
 - Petroseal
 - Imasonic
- 2.3. (30) – *Logistic Services – Packaging - Handling*
 - SDV – International logistic
- 2.4. (01) – Oil, Natural Gas (Global maintenance)
 - SAIPEM

Each of these enterprises has been invited to present its company and its knowhow (see § 5 and program of the meeting in annex 1).

3. Preliminary talks (April 23th)

The preliminary talks have been presented as following:

3.1. The advices from the economical department.

- **M. Yves de Ricaud, Minister Counsellor to the Economical affairs of the French Embassy**, gave a realistic picture of the situation in South Africa mentioning the difficulties. They are coming from the criminality (see http://www.diplomatie.gouv.fr/fr/conseils-aux-voyageurs_909/pays_12191/afrique-du-sud_12193/index.html), and the industrial and commercial resources the country undergoing profound change, with an economic growth rather high (5% on 2005 and 2006). The main problem is the difficult transfer of knowhow coming from a recent discriminating period not in favour of young impatient generations.
- **Mrs. Laura Laguerce, commercial attaché** to services and juridical affairs, underlined several points of the setting up procedures and remain at the disposal of the companies expecting more customised information.

3.2. M. Alain Larousse – CEO Air Liquide LTD told about the experience of its French industrial company settled in South Africa. Even if the sample was not quite representative of the French delegation concerns, targeting maintenance products and services, Air Liquide has been confronted with the mysteries of a country still seeking to "*bring back to life the bureaucratic structures*" (free translation of M. Yves de Ricaud's talk). The candidates to the development of their business in SAR appreciated these advices coming from an experienced colleague. M. Larousse made known that, until now, he did not receive a global offer for maintenance services but he is ready to study those they should be presented to him.

3.3. The AFIM's intervention (JCF): The chosen subject was : "*The involvement process of the maintenance services contractors in the Life Cycle Cost (LCC)*". It was only to underline the enterprises' strong obligation to take into account the principle of the global cost in their offer whatever the period of their involvement in the dependability of the client's patrimony (Note: according to the European standards dependability includes reliability, availability, maintainability and safety) .

4. Visiting South African Plants (April 22th and 23th)

Three industrial plants has been organised:

4.1. RAND GOLD Refinery at Germiston.

SAMA had established contacts with this company and strongly recommended this visit. It is the worldwide most important gold refining and smelting site. Its reputation has been built within 80 years and 40000 tons of gold production. The visit was very interesting regarding to the exceptional and spectacular safety conditions (numerous lock chambers, individual suits, X ray visitors controls ...). Refining process (Miller Chlorination process), electrolytic refining (99,99 %), smelting, semi-manufactured products (gold solder paste, gold plates, wire, washers, bangles and ferrules...) using technology (furnaces, electrolytic baths, drawing plates, precision scales, analysers...) looking traditional but their application providing specific problems as the merest gold scrape recovery.

Specificity, culture and historical autarky are not seeming favourable to a next future opening to outsourcing.

4.2. SASOL at Secunda, is the worldwide leader of coal transformation into liquefied fuels (150000 bbl /jour). The Gas reforming process, the associated processes (Fischer – Tropsch synthesis and Isocracking), the loading and handling of liquefied crude as well as end products make it a huge petrochemical plant and an enterprise of 33000 employees. The oldest fabrication units date from 1955. Their maintenance seems to be sophisticated, even the age of the equipment and the nature of the transported products. SASOL is strongly involved in sustainable development.

4.3. The MATLA Power Plant at KRIEL is operated by **ESKOM** (6 units of 600 MW). SAR is producing 43000 MW. 88% are supplied with coal. 6 BABCOCK boilers are installed at Kriel and use coal. 6 turbo-alternators ALSTHOM / MAN groups make the plant rather traditional. It is 22 years old and its first provisional life cycle was evaluated at 30 years that is to say that the plant needs a near re-engineering program. The major overhaul scheduled every 5 years for each unit is probably a niche reachable for our maintenance services enterprises as well as constructors of equipment. The challenge is to respect (and optimise) the time to repair rotating as well as static equipment.

General comments: If these quick visits don't allow us to make a judgement, we can try to give our general feeling, without any temptation to generalise to the whole South African Industry:

- Culture and autarky, acquired from apartheid is a general characteristic implying large human resources, huge maintenance workshops, perfectly equipped (or over equipped?) particularly at SASOL plant.
- The logic consequence being the prudent vision (even strongly opposed in some cases) of the actors to a potential external intervention.
- Retirements and emigration of skilled personnel, coming from European origins, are leading to a fatal lack of competencies very soon. Relieving by the local personnel, skilled enough for intervention as well as management, is not prepared correctly.
- As soon as you arrive in the country, the frequent power cuts (2 times a week in each district of Johannesburg in average), are obviously showing that the electricity production is being affected with a huge shortage. The reliability of equipment is probably not the only cause, may be it is the minor one comparing with the power management: the very low cost of the KWh, inciting wastefulness, but a costly modernisation implying a substantial increase of fares, the economy of energy, the change towards nuclear power... are not confirmed by a popular agreement.
- The industrial equipment is well managed and maintained apparently, even if certain tasks, felt as minor (e.g.: cleaning of very pulverulent dust of the power plant, being fatal for the rotating equipment) are overlooked. Obviously, such a risk doesn't exist at the Gold Refinery where the precious dust cannot be neglected as the coal one.

We can imagine that the maintenance market should open to the French Enterprises only within the bounds of subcontracted performances including a strong technological and methodological added value, coming with a knowhow transfer, essential to make the offer attractive and credible. They have to define, in each case the nature of their offer not necessarily felt as a deliberate demand: **"the offer must pull the demand"**.

- 5. The Symposium on April, 24th** (The program is shown in annex 1). Each French enterprise have done their best, according to Ubifrance's recommendations, acting in concert with AFIM, to avoid long presentations of their companies, with a lot of figures, statistics, products and references usually shown in such meetings. They composed their speeches around suggested subjects related to the basic maintenance concepts (Engineering, performances, dependability, inspection...). PPMS only did not wish to present its company, its niche (personnel providing) being not able to develop these concepts. Two motivations were generally concomitant: the approach of the industrial maintenance market and the search of local enterprises in order to cooperate and put together their means and competences.

The Symposium began with an *"official opening"* given by M. Yves de Ricaud, followed by two South African speakers:

- 5.1. M. Nimrod ZALK, from the Department of Trade & Industry (DTI)** has explained the national industrial policy and particularly the approach *"NIPF"* (*National Industrial Policy Framework*). He summoned up the national performances, the *"leading sectors"* (automotives and components, steel, aluminium, chemicals, mines, agriculture, forest, pulp and paper, furniture industries...) not at their highest development level. Several messages punctuated the list of 13 strategic development programs including: education, innovation, technology, industrial equipment improvement.... Then, we arrested the different industrial key-sectors benefiting strategic actions from DTI as mining and mineral plants, agriculture / agro-processing, creative industries, ICT (services and products), white goods...
- 5.2. M. Steven BOSHOFF, board member of SAMA,** has developed the theme of *"Integration of personnel factors into the design of maintenance systems and proposed a model of assessment"* (*PFEM- Personnel Factors Evaluation Model*) based on anthropometric, physiologic and psychological criteria. The search of a lesser effort to maintain any equipment should be a priority. This corresponds to AFIM's concerns among them a recent study about the professional diseases, industrial accidents and hardness of the maintenance career, showing the heavy tribute paid by the practitioners.

After that the following French speakers gave their talks:

- 5.3. Jean-Claude FRANCASTEL – AFIM –** I had chosen the theme of *"Maintenance outsourcing – The French knowhow and market evolutions"*, using BIPE's figures and my own qualitative valuation of enterprises added value and contractual required performances. First of all I presented AFIM shortly and took the opportunity to give some extracts from Claude Pichot's (AFIM's Chairman) talks at Euromaintenance – Brussels on April 2008: *Maintenance education and Professional diseases*.
- 5.4. Bryarlie Dear – SAIPEM – Director MMO competence Centre** has presented *"The turnkey maintenance contracts – the advantage for he client"*. His competence in the field of Maintenance Engineering, his part taken in his mother tongue, in the animation of the symposium and in the

different informal meetings, have been of the greatest importance for all attendees, South Africans as well as French.

- 5.1. **Ravy MYSORE – Chief executive – BUREAU VERITAS** has given a perfect definition of the concept of RBI (Risk based inspection): "*The methodology and process of the Risk based Inspection (RBI)*" and well valorised his offer around this topical theme.
- 5.2. **Philippe LAMOTTE – Managing Director - PETROSEAL** has developed "*The technical and economical advantages of the under pressure leak sealing process*" and shown the advantages of products, tools and engineering represented by his company.
- 5.3. **Olivier CHEYROU – HYDRATYGH** explicated "*Joint integrity and business challenges*", technology and tools proposed for preventing leaks due to bad assembly.
- 5.4. **Jérôme POGUET – Sales manager – IMASONIC** proposed sensors and signals transmitters technology designed for monitoring and non destructive controls and explained "*How recent advances in ultrasonic transducers for non destructive testing helps for predictive maintenance*". Even such products are rather dedicated to equipment manufacturers, the subject was very interesting for the end users.
- 5.5. **Jacques BAUDELLOT – Regional Commercial Manager – SDV LOGISTIQUE INTERNATIONALE** – Has shown the capability of his enterprise to respond to "*Strategic importance of the logistic of spare-parts*" including the heaviest and bulky equipment and to provide a logistic assistance to industrial maintenance contracts.
- 5.6. **Bryan GUJJALU – Manager – APAVE** developed: "*The evolution of maintenance and APAVE's response in terms of efficiency and safety*". This speech was answering the major concern of French Industry and maintenance, from an unavoidable enterprise on this market.
- 5.7. **The South African attendees:** Please see the list in annex 3.

6. The informal meetings.

Every French participant has been receiving the list of South African enterprises interested in a contact with them. The conference course and its undeniable interest have privileged the encounters at the time of coffee-breaks, lunch, and after 4 PM. A meeting room was at the disposal of attendees to make their interviews easier. However the meetings have been informal in the hallway to everyone more or less satisfaction. One should prefer more formal appointments. Some of them have organised their own contacts with South African Enterprises (partners and potential customers) separately, in any case not intended by the French Economical Department.

We know that several French enterprises have been satisfied by hopeful contacts they had until their departure.

We promised ourselves we will collect the feed-back from every participant and evaluate the repercussion of the Symposium, within a few weeks.

7. Conclusion : the feeling of the maintenance market in SAR

From this event, the information given by the Economical Department the informal contacts with the attendees, the spontaneous exchanges with the former SAMA's Chairman... we have a partial seeing of the SAR's market, and a rather small sample of the French enterprises able to present their services, of course. But we can try to give our provisional feeling, very prudently. The very conservative industrial SA culture should let us an unfavourable belief regarding to the chance the French Enterprises would have to succeed in this market. Taking into account the gradual obvious lack of competence to maintain in the long term the industrial production equipment, the key seems to specify the transfer of knowhow in any proposal of maintenance services, imperatively. Two forms seem realistic: by

managing the change of the local partners having to face their own market, with more and more qualitative duties (technology, methods, safety...), and by direct training programs dedicated to different levels of practitioners, necessarily supervised by French managers, in order to carry out their contractual scope of work. Furthermore, in addition to the specific technology training, referred to the equipment to be maintained, maintenance engineering and methods must be taught.

The research of participation to national education programs by SAMA and its interesting ideas about the human factors valuation should conduce to productive collaboration with AFIM as well as potential contractors.

We'll try to manage soon an opinion poll with our French colleagues present at this Symposium, in order to appraise its actual repercussion at mid and long term.

Jean-Claude Francastel 

8. Annexes

- 8.1. Annex 1 : Program of the day April 24th**
- 8.2. Annex 2 : Presentation of the French participants to the symposium (22-24/4)**
- 8.3. Annex 3 : South African participants to the symposium (24/4)**
- 8.4. Annex 4 : Addresses and useful links**

Annex 1: Program of the day, April 24th

VENUE: BRYANSTON/JOHANNESBURG 2021 -The Forum/The Campus Wanderers building - 57 Sloane Street

This conference is endorsed by SAMA and has one ECSA CPD credit - Ref: SAMA00048

PLENARY SESSION

Conférence Chairman: **Joe Amadi-Echendu** - Past Président (**SAMA**)

8h00 - Registration of participants

8h30 - Official opening by

- **Yves DE RICAUD**, Minister Counsellor for Economic Affairs,
Embassy of France in South Africa
- **Nimrod ZALK**, Chief Director of Industrial Policy - Enterprise and
Industry Development Division (**Department of Trade and Industry - DTI**).

9h00 - "SAMA & Integration of Personnel Factors into the Design of
Maintenance Systems" - **Steven BOSHOF**- **SAMA** Council Member

9h45 - "Maintenance outsourcing: The French know-how and market evolutions:
Maintenance Education - Professional diseases and accidents in maintenance" - **Jean-
Claude FRANCASTEL**, Afim's delegate to international relations **AFIM**

10h30-COFFEE BREAK

11 h00 - "The "turnkey" maintenance contracts – "the advantage for the
client" **Bryarlie DEAR**, Director MMO Competence Center - **SAIPEM**

11 h30 - "The methodology and process of the Risks based Inspection"
(RBI) **Ravi MYSORE**, Chief Executive - **BUREAU VERITAS**

12h00- LUNCH

13h30 - "The technical and economical advantages of the under pressure leak
sealing process" **Philippe LAMOTTE**, Managing Director - **PETROSEAL**

14h00 - "Joint integrity: security and business challenges" **Olivier CHEYROU** -
HYDRATIGHT

14h30 - "How recent advances in ultrasonic transducers for non destructive testing
helps for predictive maintenance" **Jérôme POGUET**, Sales Manager - **IMASONIC**

15h00 - "Strategic importance of the logistic of spare parts" - **Jacques BAUDELLOT**,
Régional commercial manager - **SDV Logistique Internationale**

15h30 - "The evolution of maintenance and APAVE's response in terms of efficiency
and safety" **Bryan GUJJALU**, Manager - **APAVE**

16h00 - CLOSURE OF THE SYMPOSIUM

Annex 2

Presentation of the French participants to the April 22nd, 23rd and 24th 2008

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AFIM is a non for profit society entirely dedicated to the maintenance profession with the aim of promoting and helping the maintenance improvement in industry as well as real estate assets.

<p>APAVE SUDEUROPE ZI Gay Lussac 33370 ARTIGUES PRES BORDEAUX TEL + 33 (0)5 56 77 27 42 Contact : Jean-Claude HERAUD, Directeur Afrique</p>	<p>Bryan GUJJALU Manager (Apave Indian Océan Ltd) apaveio@intnet.mu</p>
<p>APAVE INDIAN OCEAN LTD Avenue Soobiah REDUIT Ile Maurice TEL+ 230 465 18 10 www.apave.com www.apave-maurice.com</p>	<p>Bryan GUJJALU Manager (Apave Indian Océan Ltd) apaveio@intnet.mu</p>

APAVE is highly specialised in training firms in the field of safety: electrical safety for electricians and non electricians, machines and material handling safety, health and safety management, risk management, environmental risks, fire safety chemical risks, first aid, etc. APAVE offers also a wide range of technical services, like audits, inspections and consulting, in the field of safety.

<p>BUREAU VERITAS 17bis, Place des reflets La Défense 2 97077 PARIS LA DEFENSE TEL+33 (0)1 42 9169 43 Contact: Vincent GUILBERT, Directeur Afrique www.bureauveritas.com</p>	<p>Ravi MYSORE Regional Chief executive, East & Southern Africa – 1st floor, Morningside 495 Summit Road – Summit Office Park PO Box 652097 – Benmore, 2010 mvsore.ravi@bureauveritas.com Tél +27 (0) 11 666 0500 Cell + 27 (0) 79 510 6124</p>
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<p>HYDRATIGHT SAS 49-53, Rue Salvador Allende 95870 BEZONS Tel:+33 (0)1 34 10 57 17 Site Internet: www.hydratight.com</p>	<p>Olivier CHEYROU Business leader France – Afrique olivier.cheyrou@hydratight.com</p>
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HYDRATIGHT is the international leader in providing joint integrity solutions, technologies and services globally through local infrastructure. Hydratight offers a comprehensive range of quality products and services worldwide, supported by strong experienced engineering teams. Totally committed to safety and quality, with an emphasis on safe, accurate and durable tools, all of our products and services are designed, manufactured and carried out within a quality management System in accordance with ISO 9001:2000 (Quality Management) ISO 14001:2004 (Environmental Management) and OHSAS 18001: 1999 (Occupational Health and Safety).

IMASONIC S.A. Z.A. – Rue des Savourots 70190 VORAY-SUR-L'OGNON TEL:+ 33 (0)3 8140 3164 www.imasonic.com	Jérôme POGUET Directeur commercial jerome.poguet@imasonic.com
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IMASONIC SA designs and manufactures a wide range of ultrasonic transducers and solutions for industrial applications, Non Destructive Measurement (NDM), diagnosis, monitoring.

PETROSEAL Parc activités Aérodrôme 76430 SAINT ROMAIN DE COLBOSC TEL: + 33 (0)2 35 55 04 70 www.leaksealing.com	Philippe LAMOTTE plamotte@petroseal.fr
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PETROSEAL is specialised in ail activities related to under pressure leak sealing, products and services (manufacturing and supply of sealing compounds, sealing box/clamps...), training in use of these materials and in technical procedures.

SAIPEM SA SAIPEM - MMO Overseas Energies 1/7 avenue San Fernando 78884 Saint Quentin en Yvelines cedex TEL: 00 33 (0)1 61 37 88 18 www.saipem.com	Bry DEAR Directeur MMO Compétence Center Adresse électronique : bryarlie.dear@saipem-sa.com
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SAIPEM Group is the largest turnkey contractor in the oil and gas industry both onshore and offshore. The international organisation is providing many different kinds of services - including specialised services and maintenance, modification and operations with strong local presence in strategy and emerging areas.

SDV Logistique Internationale Tour Bolloré 31-32, Quai de Dion-Bouton 92811 PUTEAUX CEDEX	Jacques BAUDELLOT Directeur commercial j.baudelot@sdv.co.za SDV International logistics - South Africa 24 Corova Street - Jet Park – Johannesburg SA ZA -1469 PO Box 1018 ISANDO ZA 1600 – Johannesburg SA TEL:+ 27 (0) 83362 794811398 50 42 www.sdv.co.za
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SDV Group is operating in Africa and worldwide all along the logistics chain from plant, firms, origins up to delivered on sites. This does include also, a strong presence in : mining, oil filed, irrigation, civil works and energy projects. Over and above those activities, SDV offers storage facilities under free or bonded status, following clients demand, and a large coverage of inland transport ail over Africa, including the lockland countries. First and largest logistics network in Africa, SDV is represented in 40 African countries, allowing direct deliveries under one document, one and unique logistics partnership fully responsible on door to door basis.

PPMS (People to Projects Management Services) 10 Rue du Colisée - 75008 PARIS TEL+ 33 (0)1 5659 1057 www.ppms-paris.com	François PIALAT Coordinateur des ventes francois.pialat@ppms-paris.com
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PPMS (People to Projects Management services) based in Paris, specialized in the technical assistance, on and offshore Petrochemical and Chemical industries, is dedicated to sourcing the most qualified and knowledgeable personnel for developing projects on the African and Middle East markets.

Annex 3 : South African Participants at the symposium (24/4)

Prénom	Nom	Société
Dion	AGOSTINHO	Eskom
Sheene	BALVANTHA	Bureau Ventas
Gerrit	BEZUIDENHOUT	Carl Zeiss Optronics
Francois	BEZUIDENHOUT	Arcelor Mittal SA
Stan	BRODZIAK	SASOL Solvents
Mdu	BULUNGA	APCO Worldwide
Andrew	CARR	Sebenza Consulting
Todo	CHAKARA	Ilima Energy
Bazil	CHETTY	SULZER
Absolom	CHISWO	Spectra Inspection Services
Frederic	DIORE	EDF
Linden	EMMERSON	SASOL
Fred	EVEANS	Polyflex Seals
Grant	FREYER	SASOL
Hendrik	GROBBELAAR	PBMR
Peter	HAYER	Automatic Mass Production
Gerhard	HENNOP	Arcelor Mittal SA
Prof Stephan	HEYNS	University of Pretoria
Henk	JOUBERT	Arcelor Mittal SA
Shana	LIEBENBERG	SAMA
Dr Patrick	MAKAWA	Bureau Veritas
Abel	MALINGA	IDC
Richard	MALOPE	Tranet Freight Rail
Ephraim	MAROBELA	Marotech
Mudzunga	MASHAMBA	Productivity SA
Mpho	MATJEKE	Productivity SA
Tebogo	MATOBAKO	ESKOM
Iain	MENZIES	AngloGoldAshanti
Suzan	MKHABELA	Productivity SA
Devan	MOODLEY	Ilima Energy
Amelia	NAIDOO	Productivity SA
Prof Ravi	NAYAGAR	ECSA
Pilani	NDLOVU	Rotek Engineering
Tracey	NORMAN	ECSA
Gavin	PUCKLE	Rand refinery
Jean-Michel	PUYBOUFFAT	Rotek Engineering
Grant	QUECK	Pfizer Laboratories
Isabelle	RAUBACH	Bureau Ventas
Floyd	REZANT	Spectra Inspection Services
Neil	ROSENBERG	Arcelormittal SA
John	ROWLAND	SAPPI
Charl	SMAL	CSIR
Glynnis	SOLOMONS VAN WYK	Bureau Ventas
Elmo	VAN DER LINDE	SASOL
Wally	VAN SCHALKWYK	Arcelormittal SA
Jean	VAN STADEN	PETRO SA
Jaco	VISSER	Arcelor Mittal SA
Nimrod	ZALK	DTI

Annex 4: Addresses and useful links

THE FRENCH EMBASSY IN SOUTH AFRICA

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UBIFRANCE

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SAMA

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ENGINEERING NEWS

http://www.engineeringnews.co.za/article.php?a_id=132108