



FIFTH ALUMINIUM TASK FORCE MEETING
4 DECEMBER 2008, SANYA, HAINAN PROVINCE, CHINA
MEETING RECORD

Agenda Item 1 – Welcome and Introductions

The new Chair of the Aluminium Task Force – Ms Sue Kruse – welcomed participants to the meeting and passed on best wishes from the previous Chair – Mr John Hartwell – to the Task Force. Ms Kruse congratulated the China Non-ferrous metals Industry Association (CNIA) on the 2008 China Aluminum Forum and thanked them for hosting the Task Force meeting. Ms Kruse noted that the practice of the Task Force of linking meetings to other events, such as the Forum, had proved a successful approach to reaching out to the broader aluminium sector.

The President of the CNIA – Mr Kang Yi – indicated that the CNIA were pleased that the Task Force had joined them in Sanya for the Forum and the Task Force meeting. He also advised the meeting that since the last meeting in Cape Town the CNIA had tried its best to continue efforts on the Task Force Projects. Mr Kang noted that although the current financial situation facing the world would lead to hard times for the industry, it was still important to focus on updating technology.

Meeting participants introduced themselves and a list of participants is at the end of this record.

Agenda Item 1.2 – Aluminium Task Force Meeting Report – Cape Town, 14-15 May 2008

The Task Force Secretariat reported on the Fourth Task Force meeting held in Cape Town, South Africa on 14–15 May 2008. The report highlighted project updates by proponents, the discussions held on possible new projects and that funding limitations had prevented significant progress for these new projects, and the decision for the Task Force to meet annually reflecting that all Task Force projects were now being implemented. Following circulation of a draft Meeting Record for comment and approval, it has been posted on the official APP website.

Agenda Item 1.3 – PIC Meeting Debrief – Vancouver, 29-30 October 2008

The Administrative Support Group (ASG) and Task Force Secretariat provided the Task Force with a debrief on the October 2008 Policy and Implementation Committee (PIC) meeting held in Vancouver Canada. The debrief indicated that this PIC meeting included for the first time a pre-meeting of Task Force Chairs, Co-Chairs and Secretariats to allow an exchange of ideas and approaches and to aid cross Task Force collaboration. The PIC meeting proper covered Task Force updates, presentations on financial and technical matters and consideration of a proposal for a Road Transport Task Force. The Task Force was also advised of the amended procedure for endorsing new projects and materials from the PIC meeting were made available to Task Force members.

Agenda Item 1.4 – Statement by each member country

Each member country provided a brief statement, including thanking the CNIA and Task Force Secretariat for organising the meeting. Key points from each statement are outlined below:

Canada: Mr Emile Beauchamp indicated that the Government of Canada was undertaking its activities on the Aluminium Task Force in close collaboration with the Aluminum Association of Canada and industry. He indicated that a funding request to support Canada's participation on the Management of PFC Emissions project had been lodged. Also, Mr Beauchamp outlined efforts on improving the environmental outcomes for the aluminium industry in Canada in areas, such as dealing with spent pot linings.

China: Mr Kang indicated that the CNIA had established a working group to support efforts on the Management of PFC Emissions project which all major aluminium companies have joined. In respect of the actual work on the project, measurements have been completed at 14 smelters. Mr Kang also indicated that while two Chinese aluminium companies were seeking to join the Management of Bauxite Residue project, there would be a limit on their ability to contribute. However, he indicated that there would still be considerable willingness to continue with the project.

India: Dr Jyoti Mukhopadhyay stated that India would participate in two of the Task Force projects – Management of Bauxite Residue and High Silica Bauxite Processing – and that they were very much committed to the Residue project in particular. The focus of efforts on the Residue project by the Indian Government, industry and JNARDDC would be on four activities – Development of Stabilized Blocks; Bench scale studies for Glass Ceramics; Development of Light Weight Aggregates Foam Products; and Use of Red Mud for Soil Amendments. Dr Mukhopadhyay also circulated some examples of ceramics and foam products that have already been produced.

Japan: Mr Toshimi Takigawa advised the meeting that Japan had commenced a voluntary emissions management scheme in October 2008 and was inviting Japanese companies to participate. He indicated that a number of respected companies had already set targets and were seeking to reach their goals. Mr Takigawa also informed the Task Force that the current financial situation was affecting all and that the Japanese Government was looking to avoid any collapse in the economy, including in the aluminium recycling market.

USA: Mr Boots Poliquin informed the Task Force that President-Elect Obama was anticipated to provide improved support for the climate change initiatives including the APP. Mr Poliquin advised that the new administration would be inaugurated on 20 January 2009 and after that time more detail would be available. Mr Poliquin also outlined the US Government support for the APP which included targeted requests for project proposals aimed at India in 2007 and China in 2008. He advised the Task Force that the Aluminium sector had lodged the fewest number of proposals and encouraged the Task Force to consider whether there were other projects that should be put forward in future funding rounds in the US and elsewhere.

Australia: Ms Kruse informed the Task Force that the government of Prime Minister Kevin Rudd had now been in place for 12 months and has firmly cemented its commitment to address climate change including participation in the APP. She acknowledged that the meeting was being held at a time of difficulty relating to the current financial situation but indicated that there were also risks in delaying action on climate change initiatives such as the APP. Ms Kruse advised the Task Force that the Australian Government would soon release details of the key design elements of its Carbon Pollution Reduction Scheme which was scheduled to be introduced in 2010.

International Aluminium Institute: Mr Ron Knapp, the incoming Secretary General of the International Aluminium Institute (IAI) and formerly Australian Aluminium Council Executive Director, noted that while the IAI was not a country he would like to take the opportunity to add his welcome to Ms Kruse as Chair of the Task Force. Mr Knapp advised the Task Force that the IAI intended to continue its close and beneficial collaboration with the Aluminium Task Force.

Agenda Item 2.1 –Aluminium Recycling (ATF-06-6)

The Task Force Secretariat reported that the action agreed at the last meeting to undertake desk top research outlining the current status of recycling across the APP had been found not to be feasible. The Task Force was advised that variation between and within countries would require substantial technical knowledge, beyond that of the Secretariat, to determine best practice approaches and that there were also significant language barriers to completing research for all partner countries.

The Task Force discussed the project's objectives now given that the data component had been rolled into the Measuring and Benchmarking project. It was noted that issues related to collection were local issues and beyond the scope of Task Force efforts to achieve improved outcomes.

The Task Force agreed that:

- the data component of the project would no longer be included as part of this project as it has been incorporated into the Measuring and Benchmarking project; and
- Report sharing experiences on recycling would be included on Task Force meeting agendas as appropriate.

Agenda Item 2.2 – Linkages to Technology Providers (ATF-06-7)

The Task Force Secretariat advised that the Technology Providers Directory website had been operating since August 2007 and 79 companies had registered since then. In addition, the reporting functionality requested by the Task Force had been added to the website in May 2008. In the period May to October 2008, the website had been accessed on 4,830 occasions and had been searched 557 times. However, since the additional activity being undertaken by Secat had reduced there had been a considerable drop in website registrations, access and searches.

The US, which funds Secat's activities in support of the website, raised concerns about whether the contribution being made by Secat's work was useful for the directory and a good use of funding. It was noted that the company registrations tended to be from within the industry more so than providers of technology to the industry. The Task Force also noted that some companies, particularly from China, had language difficulties with the website.

The Task Force:

- noted the project report and decline in directory activity; and
- agreed that the Secretariat and US members would discuss the way forward.

Agenda Item 3.1 – Future Directions

Ms Kruse reiterated that the recent PIC meeting had encouraged Task Forces to update Action Plans and that as part of this process it may be timely to assess possible future activities for the Task Force. As part of this discussion it may also be useful to consider cross Task Force activities which again was encouraged by the recent PIC meeting. Task Force members were invited to comment.

Mr Christian Van Houtte raised the potential to look at other issues that the aluminium industry currently faced, such as dealing with non-greenhouse gas pollutants, such as fluorides. He suggested that the Task Force may want to consider developing a comprehensive best practice guideline on the reduction and/or capture of gaseous emissions.

Dr Mukhopadhyay indicated that there is still a need to concentrate on the existing six project areas to ensure the best outcomes. Ms Sally Rand advised the Task Force that many of the current projects had 12 to 24 months to completion and as such were essentially mid implementation and that other opportunities should be looked at in the longer term. Mr Pan Wenju indicated that while it was important to plan for the future, it was also important to ensure the success of the existing projects. A concern raised about starting new projects was the possible effect on funding availability to complete the existing projects. Dr Raj Rajakumar suggested that it may be useful to revisit the issue in 12 months time at the next Task Force meeting.

The Task Force agreed that a future work program should be considered at the next Task Force meeting in 12 months.

Agenda Item 3.2 – Other Business

Ms Rand sought Task Force endorsement for the project titled "Development of Generic Computer Software for Automated Anode Effect Control" which the US and China would be the participating partners. The Project would be undertaken by Institute for Governance and Sustainable Development (IGSD) and aimed to provide automated anode effect kill sequencing at 30 facilities in China. This project would complement the existing Management of PFC Emissions project.

Automated anode effect kill sequencing has been achieved at one smelter in China using a software specification and support from the Light Metals Research Centre (LMRC) at University of Auckland. Contact between the USA delegation and LMRC was made and continued after the meeting with a view to accelerating the project implementation.

The ASG outlined the new procedure for adding a new project to the Task Force project roster, in particular the requirement for positive endorsement by participating partners. The Task Force also discussed whether this was additional or an extension of the Management of PFC Emissions project.

The Task Force:

- agreed that the Development of Generic Computer Software for Automated Anode Effect Control project was a significant addition to the Management of PFC Emissions project and should be considered a new project; and
- endorsed the Development of Generic Computer Software for Automated Anode Effect Control project and following minor revisions by the proponents to the Registration Form requested that the Task Force Secretariat send the proposal to the ASG to seek PIC approval.

Agenda Item 3.3 – Next Meeting

The Task Force noted that there was a Ministerial Meeting proposed for the latter part of 2009. The timing of this meeting was intended to be settled at the next PIC meeting scheduled to be held in Canberra, Australia in May 2009. Dr Mukhopadhyay offered on behalf of India to host the next Task Force meeting in India at a suitable time between September 2009 and February 2010.

The Task Force:

- acknowledged India's offer to host the next Task Force meeting in India in 2009; and
- agreed to revisit the timing and location of the next meeting once the Ministerial meeting had been scheduled which should be linked to other events as per Task Force practice.

Agenda Item 5.0 – Aluminium Measuring and Benchmarking (ATF-06-1)

Mr Chris Bayliss, from the IAI, provided a presentation on this project which outlined the 8 agreed APP Indices (listed below) covered by the data collection process, the data to be collected and the mode of collection. The presentation also indicated the outputs that would be developed for the Task Force following data collation and analysis. Mr Bayliss stressed the importance of broad participation and the high level of confidentiality with which data is treated by the Institute to prevent the identification of company or facility data points by competitors and third parties.

Agreed Indices: *1. Perfluorocarbon (PFC) greenhouse gas emissions per tonne of aluminium produced; 2. Fluoride emissions per tonne of aluminium produced; 3. Average smelting energy usage per tonne of aluminium produced; 4. Average alumina refining energy usage per tonne of alumina produced; 5. Annual aluminium shipments used in transport (to track aluminium's contribution through light-weighting to reduce greenhouse gas emissions from road, rail and sea transport); 6. Spent Pot Linings (SPL) disposal; 7. Recycling rates; and 8. Bauxite residue storage volume, area and rehabilitation*

The presentation will be lodged on the official APP website by the Task Force Secretariat.

The Task Force agreed that it was important for the credibility and usefulness of the dataset that there be comprehensive participation by facilities in APP member countries and encouraged members to promote the positive nature of the project both for external communication and for driving improvement within the aluminium sector.

Agenda Item 6.0 – Management of PFC Emissions (ATF-06-2)

Four presentations from participating parties in this project were given to the Task Force covering the main components of the project – Demonstration Activities, Study Tours; and PFC Data measurements for National and IAI inventories.

The first presentation prepared by Professor and Dr Wangxing Li and Dr Jianhong Yang outlined the Efforts for PFC Reduction and Monitoring in Chalco. The presentation highlighted work undertaken by the Zhengzhou Research Institute of Chalco including developing zero anode effect frequency methods and techniques for fast anode effect quenching.

The next presentation prepared by Hu Changping provided a report of the CNIA efforts on this project. It highlighted that some 14 production lines have finished undertaking PFC measurement with the data being translated and importantly a Task Force with members from 30 primary aluminium enterprises had been established to support ongoing efforts on the project.

Ms Sally Rand who is the project leader of the demonstration project provided the Task Force with presentation on the project as a whole. She outlined the project including its goals, the cause of anode effects, the reason that the resulting PFC emissions need to be addressed, the forward work plan. Ms Rand also acknowledged the technical experts contributing on the project and the efforts of the

CNIA and the Aluminum Corporation of China in leading the Chinese participation in the project.

Finally, Mr Michael Ison informed the Task Force about the specific activities undertaken on the project Study Tour. He advised that the first study tour which was conducted in February 2008 was very successful due to the efforts of the host company Rio Tinto Alcan. Mr Ison also indicated that the next study tour would again be held at Rio Tinto Alcan's Bell Bay smelter in February 2009.

The Task Force discussed the need to define the time elapsed for an event to be considered an anode effect. It was noted that length of time for measuring anode effects varied from an event longer than a second to one which lasted 2–3 minutes. However the Task Force noted that lower end of this range was most commonly used for anode effect detection and should be aimed for as the standard definition for this project.

All of these presentations will be lodged on the official APP website by the Task Force Secretariat.

The Task Force noted the substantial progress being made on this project and agreed that broad participation and the positive nature of the project should be encouraged.

Agenda Item 7.0 – Management of Bauxite Residue (Red Mud) (ATF-06-3)

Dr Raj Rajakumar outlined the progress that had been made on this project including the additional elements that the CSIRO Light Metals Flagship had funded. Dr Rajakumar advised that the literature review had been extended to create a Bauxite Residue and Disposal Database (BRaDD) which effectively turned this element of the project from a snapshot to an ongoing resource for the industry. He also informed the Task Force of the intended promotional activities through presenting on BRaDD at an industry conference in San Francisco, US in February 2009.

Dr Mukhopadhyay also presented to the Task Force on India's efforts on this project which the Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC) was leading in collaboration with Nalco. The JNARDDC will focus on 1) development of stabilised blocks; 2) bench scale studies for development of glass ceramics; 3) development of lightweight aggregates-foam products; and 4) use of red mud as soil amendments.

Both of these presentations will be lodged on the official APP website by the Task Force Secretariat.

The Task Force:

- noted the significant progress being made in implementing this project;
- agreed that the CNIA (Mr Bian Gang) would liaise with Dr Rajakumar in relation to participation in the project; and
- agreed that the JNARDDC and CSIRO should continue to coordinate their efforts and collaborate where appropriate.

Agenda Item 8.0 – High Silica Bauxite Processing (ATF-06-4)

Dr Chris Vernon provided an outline of the progress achieved on this project including defining the problem being addressed, the strategies that can be utilised, summarising the possible technologies to improve processing and the way forward. Dr Vernon advised the Task Force that similar to the Bauxite Residue project a data base was being developed to improve the outcomes from the literature review being conducted.

The Task Force:

- noted the presentation indicated that the project was progressing well; and
- agreed that the Chinese and India partners should discuss with the proponent how they can be involved further in work on this project.

Agenda Item 9.0 – Fluoride Emissions Management (ATF-06-5)

Mr Ison's presentation informed the Task Force that Professor Mark Taylor from the University of Auckland had been engaged to work on the project.

The key task to be completed on this project would be the development of an APP Fluoride Emissions Management Guide which would be designed to underpin dissemination of best practice and technology options to reduce smelter fluoride emissions within the Chinese smelter sector.

Professor Taylor then gave a presentation on developing the Fluoride Emissions Management Guide which indicated that it would have a strong technical foundation with a practical and visual approach incorporated to ensure it would be user friendly. He also provided informative examples of how poor smelter operation practices affect fluoride emissions.

Professor Taylor advised that the Guide would consist of five parts – theory, pot room, gas treatment centre, overall management systems and smelter systems. Work on the Guide is intended to take place over the next 12 months and it is anticipated that the Fluoride Emissions Management Guide will be launched in November 2009.

The Task Force:

- noted both presentations and the schedule for developing the Guide; and
- agreed that Professor Taylor would form a working group and liaise with CNIA to have 3 representatives of CNIA participate on the working group.

Close of Meeting

Notes:1) Items are reported as per the agenda but may have been discussed in a different order 2) Action items are boxed

PARTICIPANT LIST

APP COUNTRY	ORGANISATION	NAME
Chair	Department of Resources, Energy and Tourism – Australia (RET)	Ms Sue Kruse
Secretariat	RET	Mr Stephen Woolcott
Australia	Australian Aluminium Council	Mr Michael Ison
	CSIRO (Light Metals Flagship)	Dr Raj Rajakumar
	CSIRO	Dr Chris Vernon
Canada	Industry Canada	Mr Emile Beauchamp
	Aluminum Association of Canada	Mr Christian Van Houtte
	Environment Canada	Mr Franck Portalupi
		Mr Marc Parisien
China	China Nonferrous Metals Industry Association (CNIA)	Mr Kang Yi
	CNIA	Mr Wen Xianjun
	CNIA	Mr Pan Wenju
	CNIA	Mr Bian Gang
	CNIA	Mr Hu Changping
	CNIA	Mr Li Defeng
	CNIA	Madam Liu Rui
	Chalco	Mr Leng Zhengxu
	Chalco	Madam Wan Hongyan
	Unnan Aluminum Co Ltd	Mr Ding Jilin
	Shaanxi Tongchuan Xinguang Aluminum Co Ltd	Mr Wang Jianchao
	Shandong Xinfu Huaxin Aluminum Co Ltd	Mr Liu Jishen
	Shandong Nanshan Aluminum Co Ltd	Mr Liu Haishi
	Yichuan Power Group	Mr Ren Bijun
	South Central University	Mr Li Jie
	Zhengzhou Research Institute	Mr Li Wangxing
	North China University of Technology	Mr Li Jinhong
	Qingtongxia Aluminum Group Co Ltd	Mr Wu Laincheng
	Hunan Chuangyuan Aluminum Co Ltd	Madam Wu Kelie
	Inner Mongolia Huomei Hongjun Al Co Ltd	Mr Chen Dongming
	Danjiangkou Aluminum Co Ltd	Mr Lu Yilong
	Qinghai Qiaotou Aluminum Co Ltd	Mr Yan Mingyuan
	Aostar Aluminum Co Ltd	Mr Tao Fuming
Northeast University	Mr Tu Ganfeng	
Henan Shenhua Aluminum Co Ltd	Mr Huang Qi	
Henan Zhongfu Aluminum Co Ltd	Mr Liang Xuemin	
India	Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC)	Dr J Mukhopadhyay
	National Aluminium Co Ltd	Mr Prafulla Kumar Patra
Japan	Japan Aluminium Association	Mr Kunio Ishikawa
	Ministry of Economy, Trade & Industry (METI)	Mr Toshimi Takigawa
USA	US Environmental Protection Agency	Ms Sally Rand
	US Department of State (DoS)	Mr Boots Poliquin
	US DoS (Administrative Support Group (ASG))	Ms Kayanna Warren
	J Marks & Associates	Dr Jerry Marks
	Institute for Governance & Sustainable Development (IGSD)	Ms Melinda Soffer
	The Aluminum Association	Mr Jinlong Wang
	IGSD	Ms Xiapu Sun
IGSD	Dr Alton Tabereaux Jr	
OTHER	International Aluminium Institute (IAI)	Mr Ron Knapp
	IAI	Mr Chris Bayliss
	University of Auckland (Light Metals Research Centre)	Prof Mark Taylor