

2012 Pierre Becker Memorial Award

Presented to

G. Michael "Mike" Lloyd Jr.

Paris, March 5, 2012

Honouring an industry giant

Pierre Becker, regarded even in his lifetime as one of the giants of phosphate chemistry, knew Mike Lloyd as another such giant. So it was doubly fitting that the 2012 recipient of the Pierre Becker Memorial Award should be Mike Lloyd. Mike is the Director of Research at the Florida Industrial and Phosphate Research Institute (FIPR). He has served FIPR since 1979 in a founding and leadership capacity following an equally distinguished career of thirty years in the global phosphate industry.



Mike Lloyd (C) receiving the 2012 Pierre Becker Memorial Prize from Mark Evans (R) Editor, Fertilizer International and Luc Maene (L), Director General, International Fertilizer Industry Association

The annual Becker award is jointly bestowed by the International Fertilizer Industry Association and the leading industry journal, **Fertilizer International**. Pierre Becker is best known for his 1989 seminal publication **Phosphates & Phosphoric Acid**.

Paying tribute to Mike's extraordinary career and influence at a celebration lunch which he hosted March 5 in Paris in Mike's honour, Luc Maene, Director General of the International Fertilizer Industry Association,

praised Mike's technical and ethical leadership. "This is an industry that has been for some time in the shadows, but now is rightly back in the limelight. Few have done more than Mike Lloyd to bring about this transformation; few have stamped their values more firmly and beneficially on it than Mike Lloyd". Presenting the prize certificate to Mike Lloyd, Mark Evans, the distinguished editor of Fertilizer International commented: "Few figures in the phosphate industry worldwide are better known or more admired than Mike Lloyd. He is one of a golden generation whose work after World War Two has significantly our ability to feed a hungry world".

Speaking on behalf of Dr. Brian Birky, Executive Director FIPR, Professor Julian Hilton, Chairman Aleff Group delivered Brian's tribute at the award ceremony:

Mike Lloyd's distinguished career in the business of phosphate fertilizer production has taken him through 6 decades of societal and technological change as well as the addition of billions of people to our worldwide population. Most people would mark their successes in terms of money saved in production improvements or earned in fertilizer sales, and certainly Mike has made significant contributions to the industry as a chemist, process manager and director of scientific research. However, to assume that these accomplishments are the mark of this man would truly underestimate both his motives and passion for what the fertilizer industry can do for mankind.

Mike is driven by a fervent desire to end hunger wherever it may exist. He has often said that no child, anywhere, should ever go hungry. It should be no surprise that the staff and friends of the Florida Industrial and Phosphate Research Institute consider Mike to be our moral compass, and we are grateful to IFA and Fertilizer International Magazine for their recognition of his dedication with the Pierre Becker Memorial Award.

Uranium from phosphates

In the course of his career, Mike has seen two waves of uranium extraction from phosphates come and go.

The first wave in the 1950s and early 1960s was largely military in nature. But it did explore many different technologies for uranium extraction, including precipitation, ion exchange and solvent extraction. Of these solvent extraction prevailed, and was the standard technology used in the second wave, which lasted from the 1970s to the late 1990s, focused on uranium for the nuclear fuel cycle.

With the prospect of a third wave about to start, again focused on the fuel cycle, Mike believes there is an opportunity to learn from lessons of the past two waves, but also to keep pushing the boundaries of innovation. This question of technology selection, together with a discussion on how best to quantify, and cost, the amount of uranium that may be recoverable from phosphoric acid was at the heart of a meeting Mike attended the day after the Becker award ceremony.

This meeting was held March 6 at the offices of the Nuclear Energy Agency, (NEA), an agency of the Organization for Economic Cooperation and Development (OECD) which has its headquarters in Paris. Mike, accompanied by Dr. Malika Moussaid and Professor Julian Hilton was the guest of Dr. Ron Cameron, Head of Division, Nuclear Development and Dr. Robert Vance, Senior Energy Analyst.

With global opposition growing to mining of all kinds, uranium mining, especially new projects, is faced with the challenge of engaging actively with local communities and stakeholders to ensure that matters such as safety, environmental impact and wider social return are properly addressed. Without a realistic prospect of the mining enterprise creating a sustainable legacy from its activity, communities are increasingly reluctant to grant what is sometimes called a "social licence" – a concept that implies that not just the letter of regulatory requirements is met, but also the spirit.

A “win/win” solution

Mike sees reviving the extraction of uranium from phosphoric acid as a potential “win/win”. For Mike the process has a number of advantages: the technology is mature and dependable, with extraction efficiency running at well over 95%; the environmental impact is low given that the mining and much of the processing has already been done before the process of extracting the uranium is even started. And with modern engineering techniques the waste stream that was already very limited even by wave 2 in the 80s and 90s can be reduced even further.



Mike Lloyd (CR) at the offices of the Nuclear Energy Agency with Dr. Ron Cameron, Head of Division, Nuclear Development (NDD) (L), Dr. Bob Vance, Senior Energy Analyst (NDD) (CL), and Prof. Julian Hilton (R)

“This is something FIPR can really help with”, Mike indicated. “We are talking about known and proven technology and Florida was the main centre in the world of commercial production. At FIPR we can offer technical assistance to a lot of countries now looking into this source of uranium for their nuclear power programmes see what contribution this could make to their overall needs. Then they can work out for themselves whether or not they want to do it. If they do decide to go ahead, FIPR can help them get started and longer term.”

Mike has agreed to advise the UxP group on matters such as criteria for technology selection and for monitoring technology performance. He will pass on some of this advice in future UxP Network News and via the UxP website.

A visionary leader

Commenting on the award, Dr. Malika Moussaid, CEO Aleff Group stressed Mike’s holistic vision of the phosphate industry. “Mike has always focused our attention on feeding the world; but he is also a champion of getting the best long-term return out of phosphate resources, both for food and energy. So I am delighted he is

also willing to work with us in the UxP team. No-one is better placed than Mike to guide us forward as we revisit the life-cycle not just of phosphorus, but all the other minerals we may be able to extract when we start phosphate mining”.

Mike understands very well that capacity-building begins at home with the phosphate industry itself. If the industry is to take a fresh look at what some are now calling “comprehensive extraction” approaches to mining and processing, this may mean the revival of old skills or the acquisition of new ones in the industry. It may mean new kinds of working partnership between the phosphate industry and other sectors, such as the utilities, especially when the goal is energy security.



Mike Lloyd (R) at the Nuclear Energy Agency (NEA) of the OECD, Paris,
with Dr. Malika Moussaid (R), CEO Aleff Group

As Mike commented to Malika: “capacity-building and life-long learning are part of the same process. We have to train people to do their jobs as well as they can; but to stay at that high level they have to go on learning new skills, not just repeating existing ones. Getting the balance right between continuity and innovation is key”.

Congratulations to Mike Lloyd on this well-deserved award for a lifetime of service to feeding the world.

Contributions

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