

Proc. 433 Planning, Financing and Engineering of Fertiliser Projects from Conception to Birth,

by J Hallsworth and C Fawcett

Discussion following the presentation of the paper:

Douglas Keens, *retired from Commonwealth Development Corporation, UK:*

The Commonwealth Development Corporation (CDC) would actually finance up to 40% of the project cost in my time provided the overall sum didn't exceed £20 million. Managed projects for CDC are not the majority. What they might ask for, especially if the loan is a large one, is a seat on the board and they might ask for an independent consultant to be on the project as well, especially if there is contractor equity involved. The whole subject of contractor equity is a vexed one and you didn't cover that in what was otherwise a very complete paper. Congratulations to you and Mr Fawcett for dealing with such a big subject with such clarity. The only omission that I can think of is cost control and cost control techniques. I am surprised by your statistics that 90% of projects are completed within budget. I would have thought that there was some moving of the goal posts involved. The most celebrated projects with cost overruns are not actually in the chemical industry. One thinks only of the Channel Tunnel and the British Library as examples. So what could you say about cost control, what are the golden rules?

John Hallsworth:

I think that as far as our company is concerned, being a contracting organisation, we are normally building plants that we are familiar with. If we are building a phosphoric acid plant it's something we've done numerous times before; it's obviously a lot less risky than building the Channel Tunnel which is really a one-off. In order to establish the price of the project we do a detailed estimate which lists the cost of all the materials, all the equipment, the engineering costs, the licence fees, the construction costs. All aspects of the project are costed at the proposal stage and then when the contract is successfully negotiated and the price could change a cost control is set up to identify all the expected costs for the project. These are monitored by the project engineering department throughout the project so that as purchasing commences, deviations are identified. If it's a reimbursable situation the client is kept informed of course. If it's lump sum case then it's our own internal problem to meet the price and we do attempt, if there are overruns in particular areas, to ensure that they are controlled. So to answer your question we monitor the cost closely of course. I have been working with the company over thirty years; I can of course think of a few severe examples when we've failed to keep the costs under control but normally we have a good record!

Hans van Balken, *European Fertilizer Manufacturers Association, Brussels*

A very structured presentation. Are you sure that this is generally applicable not only for stand-alone process units but also for large integrated sites? You

have mentioned some safety aspects during the whole project, but what I miss are safety studies at the start of the project, especially when considering the proper location of the process units. I'm talking about domino effects on other process units, impact on the surroundings, some studies like 'maximum credible accidents' and the process risk analysis. Is there is a reason for not including these in the list for your very nice structured approach?

John Hallsworth:

Well there is no reason and you have made a good point. Obviously the paper is covering a very wide subject and I've tried to give an overview in half an hour. But you are quite right; there are hazard situations that may need to be addressed at an early stage. One you've identified is of course very important; whether it is being built on an existing site or close to a housing community for example. I suppose I had in the back of my mind when I was writing the paper the more basic situation where for example a phosphate mine was projected in a remote place. I also had in mind that most of the fertiliser technologies are well known; they are well proven and so on. So it's probably less necessary to start looking at hazards at a very early stage in that case. But certainly you have a point and there are places where it would be vital.

David Heather, *Fertiliser Manufacturers Association, UK:*

Having listened to your presentation and your references to locations such as Thailand and Kazakstan, could I ask whether you ever envisage this process of new fertiliser investment being carried out again in Western Europe?

John Hallsworth:

As a company we really do very little fertiliser work in this country. Everybody knows that environmental pressures are so great that the trend for years has been to close down facilities. As far as I recall there are only three phosphoric acid plants now operating in Europe. The economic scenario for investment in fertilisers is usually to associate it with where the raw materials are available and these places, as far as fertilisers are concerned are often where environmental restrictions are not so great. So clearly all the environmental issues and the sheer economics are pointing away from Europe and really I see it continuing that way. It will be niche situations that justify even the continuation of operations in Europe. If we consider the phosphoric acid plants, for example the Prayon plant at Engis, which is quite a small plant by world standards; they have to import three different phosphates and blend them together so it's a complicated set-up. It could only be justified by the fact that it's not a plant that's basically producing fertiliser. It's aimed at other markets, for example food-grade phosphoric acid. So unless there is some sort of niche advantage and situation which improves the economics and justifies considerable effort in avoiding environmental problems, then it's hard to see it continuing really.

Kim Soh, IFA, Paris:

Referring to your section on financing, may I suggest you include the element of hedging? Currency fluctuation is one of the biggest factors in the globalised world, even for very stable currencies like the Yen. Six months ago it was about 140 - 145 Yen to a dollar and we went to about 103 Yen to a dollar within six months. The Euro started with \$1.17 and almost reached parity with the dollar. If you take the developing countries volatility is far greater than with stable currencies.

John Hallsworth:

Yes, thank you.

Tony McNamara, Daton Engineers, London

I was wondering in the context of developing countries whether debt forgiveness and the general lack of validity of government guarantees is changing the pattern of financing for these projects in remote locations. Are you moving towards more project financing where the proceeds from the project are put into an Escrow account abroad and the operating needs and the debt servicing are taken as first priority before any other money is used for anything else?

John Hallsworth:

Yes I certainly know of instances where, even before the investment starts, the potential customer has gone through a period of exporting goods for perhaps six months in order to build up an Escrow account to establish a firm source of finance upon which the project can then happen. So I think that is a growing trend. And as far as the question of debt forgiveness is concerned, I know that the World Bank is one organisation that is looking carefully at it's system and really considering whether it's methods of the past are fully applicable nowadays. I think this sort of review is taking place amongst similar bodies. But how far the debt forgiveness is going to go I am not sure. It seems to me from what I've read recently that even debt forgiveness comes with strings attached. Probably there would be some requirement that the debt that is forgiven is invested primarily in projects that would 'benefit the community' in the sense perhaps of healthcare or education, which would have priority over chemical plant investment.

The Chairman thanked the speaker for the paper and the discussion.