Lecture PR3

Workshop 3 – Feedback to Plenary "Explosive Waste Management"

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The subject was followed by about 40 attendants in the subsequent "Workshop" in the "Diem Room". This fact shows us the interest that this theme implies, and the preoccupation that the Members have on the matter.

The session was divided in two main themes:

- Disposal and reuse of military products. That is nowadays called "desmilitarization".

  -Disposal of industrial explosives

Mr. R. Fluckiger (Oerlikon-Contraves) with a large experience in the matter, presented a lecture on medium calibre ammunition disposal, a theme that he has already tackled in 93. Mr. Fluckiger has shown that up to the 95% of this ammunition, including packages and TNT, RDX, HMX loads, could be recycled into different products. Those elements such as tracers and initiators, that is not possible to reuse must be destroyed. Oerlikon-Contraves send them to Germany for the efficient incineration.

Mr. O. Machacek (UteC) has made a great effort along the time to develop methods to reuse different kind of powders in watergels. Studies all over the world had been carried out by Universal Tech Corporation. Mr. Machacek has shown how propellants, including those based on perclorate, can be completely reused in watergels. The incineration of many tones of military propellants is avoided in this way.

Mr. P. Bordería (FAEX-part of UEE Group) with a experience of more than 40 years in military products, focused on the "safety and environmental friendly way" of military products disposal. Mr. Bordería has shown in a video the entire process, step by step, in which the disposal is conducted. The products that can be reused are recovered. The products that can not be reused are destroyed in an incineration plant with fumes scrubbing according to the European Environmental Regulations.

As a conclusion of this first part it can be underlined how the situation has improve notably. Large quantities of products that were normally burned in great amounts or were sunk in the sea, with the consequent safety and environmental problem, are nowadays treated in a better way. When it is possible, we tend to reuse them in other products. We expect in the future an improvement in cost effective methods.

In the second part, Mr. M. Montoya (EXSA) briefly described the different methods to carry out the emulsion disposal and the reuse. Mr. Montoya shows how EXSA is trying to minimize as much as possible the emulsion waste. Breaking down the emulsion thanks to a gas oil solution they have the possibility of reusing a large percentage in a "Nauta" mixer. A minor percentage that is not possible to separate from the plastic bags is burnt.

An ideal solution of disposal would be to use the emulsion in blasting holes in quarry blasting.

Mr. J. Taylor (AEL) described an incident when disposing emulsions. Up to 3000 Kilos were normally destroyed in 250 kilos piles with a 10m distance from one pile to the others. In October 2000 three thousand kilos exploded simultaneously when presumably

the separation distance in the piles was not followed. The procedure was modified but another incident took place, this time only one of the piles exploded. Although the procedure has been modified again the operation is still considered to have an important risk.

Mr. C. Conradie (AEL) described an accident when incinerating about 50kg of PENT waste. The operator surpassed the quantity that is normally of 1 Kilo, and without following the procedure started the operation without any permission.

Mr. M. Montoya (EXSA) described the situation of the Ammonium Nitrate in Peru, where the special situation about terrorism recommend a method to desensitise the waste of this product before using it as fertilizer. Mr. Montoya showed that in certain countries the Regulations and test methods are no suitable and Ammonium Nitrate considered as no-explosive according to some test methods might be used to produce ANFO. Their effort to look for a desensitising method has failure in get a cost effective method.

In conclusion is observed that it exists a high difficulty for the disposal of explosive wastes. Suitable procedures are efficient when they are strictly observed by the workers, so an special effort must be taken in this direction.

It was discussed about which was the best decision when deciding the responsibility of the explosive waste disposal operation. The different opinions were divided between the convenience of making responsible for this operation to the manufacturing responsible of each department and on the other hand the convenience of designate a “destruction team” as an independent department with its own responsible. Both of the solutions were accepted, but it seems to be better the first method when dealing with plants manufacturing a low number of different products and the second method when the plant has a wide variety of departments and products.