Last year I was asked by the Plastics Institute in Scotland to present a paper at a one day Seminar which they were holding in Glasgow. At first I thought this was quite an honour but when I reflected on the subject I had been given, I had doubts. I had been asked to speak on Troubleshooting. Did the Committee think that I'd had more trouble than most in the Plastics Industry. A somewhat similar thought occurred to me when Dr. MacKensie asked me to speak tonight on Crisis Management. This subject could really be dealt with quite briefly by saying Avoid the Crisis. However if you are unable to avoid it, then I hope that by sharing some of our experience with you, help may be gained. But let's start by examining the background of this particular crisis.

Most of you are aware that A.C.W. came into being as a result of a merger between Aberdeen Comb Works and Daniel Montgomery of Glasgow, both very old companies.

Comb making was introduced into Aberdeen around 1788, but it was carried on in a very small way until 1830. One of the most active ~~local~~ companies was Stewart Rouall ~~and~~ they played a leading part in the amalgamation of local units to form Aberdeen Comb Works Ltd. who became a public company in 1899. The company was one of the largest in Europe in the manufacture of combs and also produced tumblers and shoe lifts from horn. Most of the work was carried out by hand, and as a result of this, required a large labour force and commodious premises. At one time the labour force was in excess of 1,000 and two factories were in use, one in Hutcheon Street and one in Berryden Road, together they covered 8 acres.

In the early 1900s cattle hides became more valuable and in an effort to protect them, cattle were dehorned. As a result of this, natural horn became difficult to obtain, and efforts were made to find a substitute. One of the earliest plastics was selected, a material called Casein which is a by-product of milk. A plant to manufacture Casein sheet was installed in Aberdeen around 1920.

Many of us tend to think of the plastics industry as being a post war industry, but in fact Aberdeen Comb Works had started the injection moulding of plastics in 1937, when as a result of severe competition from Japan, they decided to install their first injection moulding machine. This was one of the very first machines of its kind in Britain, and most assuredly the first in Scotland. In the next 10 years a battery of these machines was installed

and the range of products substantially increased. Most of these were domestic items such as egg containers, cutlery trays, sink tidies, table mats and the like. ~~It was now almost impossible to obtain good quality horn and difficulties were also experienced in finding skilled labour to work this natural product, and so the company withdrew entirely from this field~~.

Our Glasgow Associates, Daniel Montgomery, have also been trading for over 100 years. Their main interest was in cork. When they started trading, all bottles including beer bottles were closed with a driven cork. Montgomeries developed techniques for cutting, turning and boring cork. They also had financial interests in cork growing in Portugal. At about the time that Aberdeen Comb Works were diversifying into Casein, Montgomeries were setting up woodworking and metal working divisions to deal with the changing requirements of bottle closures. By the end of the last war, plastics were beginning to make inroads into the closure market, and as a result of this Montgomeries decided to set up a plastics division. Over a period of 5 years £100,000 worth of injection moulding equipment was installed and the division was producing bottle closures by the million. However, even with this equipment, Montgomeries could not cope with the demand and work was subcontracted. Most of this came to Aberdeen. As this association continued, it became obvious that it was in the interests of both companies to amalgamate; this was done in November 1963.

Some months later it was decided to make the Aberdeen Works the main centre for the Group's plastics activities. The actual move took place in July 1964 when at the height of the typhoid epidemic, Montgomeries moved their entire plastics division. This was accomplished in 7 days. Full scale production continued in Glasgow until 19th July and restarted in Aberdeen on Monday 26th July.

In view of the range of products now being produced, it was felt that Aberdeen Comb Works was no longer completely satisfactory name, and this was abbreviated to A.C.W. Ltd. As a result of the amalgamation, A.C.W. was now the largest injection moulding company in Scotland, producing some 4,500,000 mouldings per week. Whilst the production of traditional items continued, combs and bottle closures, A.C.W. also produced a wide range of products.

Here are a few examples; stoppers, shoulders and caps for vacuum flasks; boxes for the pharmaceutical industry; bobbins for the textile industry; gun butts for air pistols; small components for the electrical industry; and items of packaging. The mouldings were made on modern injection moulding machines, many of these operating fully automatically. In Hutcheon Street we had a three storey granite building of 70,000 sq. ft. Apart from the ground floor which was concrete, the other floors were wooden and so our production machinery was on the ground floor, the raw materials stored above it and fed by gravity into the machine. Our production week was of 110 hours. This was covered with a three shift system employing women during the day and men at night.

We were not unaware of the risk of fire a) because of our process and b) because of our old building. Following our merger we installed a fire alarm, set up regular fire drills, kept a close watch on the quality of electrical wiring, conducted regular reviews to keep our fire appliances in good order and in line with the level of production. As a result of the fire record within the plastics industry, we had been subjected to substantial increases in our fire insurance premiums, and to combat this we decided to install a sprinkler system. A contract for this was placed during March of ~~this year~~ LAST YEAR. As an added safeguard, we carried some of our raw material and finished goods stock in public warehouse.

Having taken what we considered to be reasonable precautions, I think it is fairly true to say that all members of the management team were then ~~fairly~~ convinced that we weren't going to have a fire. If we did it would be of a minor nature. It would start on the ground floor at a time when someone was close by to raise the alarm and start fire-fighting, and so the fire would be kept under control. We were wrong.

The fire started on the top floor of the building at 9.40 pm on Friday the 25th April, and whilst we had workers on the premises, they were on the ground floor, ~~and~~ so minutes elapsed before they were aware of the fire. By the time it was discovered it was already quite beyond fire extinguishers. The building was evacuated and the fire service notified.

was serenity to accept it. But we were now at the beginning of a new day, and there were lots of things that we could change about that day, if we had the courage to face them. This proved to be the key to positive thinking. What could now be done? Which customers were going to be immediately affected? And what could be done to help them? Normal delivery of new machinery in the plastics industry is 5 - 6 months. Could we substantially improve on this? Even if we could, most of our moulds were in the heart of the destroyed building, parts of which were still burning, all of it dangerous. The moulds may have been damaged by heat, by falling masonry, or by water. We still had a toolroom though. How quickly could we start refurbishing the moulds? But we had no power supply. How quickly could this be laid on?

Our entire raw material stock had been destroyed and some of this material was in very short supply. Some ~~of it was in~~ specially matched colours. How quickly could it be replaced?

What about subcontractors? None readily available in Scotland; the North of England and the Midlands were more likely areas. Who would be most likely to help us? A lot of telephoning would have to be done, but we didn't have a telephone or a telex; come to that, the ground floor of the office block was almost awash and half of the windows broken.

But We still had 30,000 sq. ft. of factory space, housing engineering stores, cardboard box making, comb storage and hand finishing. How could this be rearranged to take machinery? The floors weren't suitable of course. There wasn't a heavy enough power supply and to lay one on meant crossing the main entrance. Drainage was inadequate. Was there public warehouse space for the materials which we would have to move out or could we rent factory space? The Scottish Council of Development & Industry should know about free factory space in the area.

Labour - how many people could we get working on Monday? Would we have to have a redundancy? If so, we should get talks started quickly with the Unions and D.E.P.

Our insurance company didn't know yet that they had suffered the loss. Early contact with our insurance brokers was essential. We should have to advise our shareholders and what about our stockbrokers and bankers?

The next 2 hours were spent listing and grouping these points and selecting a senior executive to be responsible for each group. Delegation was essential and to be effective this must mean delegation of power as well as responsibility. LISTING-GROUPING-SELECTING. It followed that co-ordination was equally essential. This could be achieved by meeting daily and since our days were likely to be rather full, we decided to hold our meetings at 7 o'clock in the morning, 7 days per week. The Board Room was still in tact, and so this was the venue. We made the maximum use of visual presentation of information. Indeed at one stage I thought we would exhaust the local supply of blackboards and notice boards. The minutes of our meetings were issued by lunch time on the day of the meeting.

By Saturday night we had made fantastic progress. Our telephone was working, we had a temporary power and water supply. Mould recovery and refurbishing was under way. Demolition work had started. We had learned that two machines could be saved from the wreckage and arrangements were made to overhaul them. Five new machines had been ordered, three of them to be delivered in 10 days. Machinery agents in this country and in Europe had been contacted and a search for other machines was underway. Telegrams had been sent to the entire labour force advising half of them that work was available on Monday morning. The re-planning of the existing factory building was well advanced. Our first subcontractor had been selected. The following day, Sunday, we had a full Board Meeting which confirmed the steps which had already been taken, and laid the BROAD policy for our future development. Meetings were then held with our insurance brokers and loss adjusters. By Sunday night we had completed a review of the financial position, made an arrangement for an initial assessment of stock, plant and building losses, arranged for a daily analysis of current expenditure so that accurate figures could be produced quickly for insurance claims, and used in the weekly review of liquidity which had been instituted, reviewed outstanding purchasing orders and arranged for the cancellation of those which no longer applied, such as the sprinkler system.

With major structural alterations we found that we could house our new production plant on the ground floor of the remaining buildings. This would mean carrying a high proportion of raw material and finished goods stock in public warehouse, and siting service departments in temporary buildings.

Most of this work was well advanced by the time darkness fell on Sunday night.

On Monday morning we met with the entire labour force and whilst no attempt was made to minimise the seriousness of the situation, it was made clear that we were still in business, that we intended to rebuild and to rebuild in Aberdeen, that success was going to depend largely on our own attitude. If we tried hard enough we could make this a disaster, but if we approached the problem positively and confidently, it could be a great opportunity to advance, to do many of the things that we had wished we could do. We were going to get a second chance to buy machinery, to plan layout, to decide work flow and product mix. Our labour force responded magnificently, during that day and the many long days that followed. They salvaged machinery from the ruins, helped erect nissen huts, cut road ways, lay concrete floors, packed goods and manhandle them onto lorries, act as painters and long distance lorry drivers. We had no problems of demarkation.

By the end of the first week, our Production Controller had returned from safari. He had successfully located a number of moulders in England who were capable of doing work for us. To prevent hold up we had arranged for the [redacted] supply of moulds, raw material, packaging material and the like, and where possible we delivered this by our own transport. Within a few days, subcontractors were in production. Most of them coped very well, but where difficulties did develop we flew in Trouble shooters.

The overhaul of the 2 machines salvaged from the fire was completed on Day 11. They were back into production the following day. That same day we received our first 3 new machines; 5 machines in production. Not on a 40 hour week, or even 110 hour week as we were pre-fire, but on 168 hour week, on continuous operation.

We had recognised almost immediately after the fire that continuous production would be essential if we were to recover and recover quickly, an urgent review of 4 shift systems was carried out by our Production Superintendent and Work Study Officer. They consulted literature from the Industrial Society, the British Institute of Management, the British Plastics Federation and met with local employers like S.A.I. and Wiggins Teape. Two schemes were evolved which suited our process. These were written up in an explanatory

leaflet. Meetings were held with foremen, shop stewards, departmental groups and the divisional secretary of the Union. Agreement was reached and on Day 12 continuous working went into operation. It had taken precisely 8 days to arrange this.

Our engineering group worked miracles. As new machines arrived, they were off-loaded, put into position, connected to power, water and drainage and in production within 12 hours of the lorry's arrival. They achieved this by having foundations prepared with power, water and drainage points ready to be connected, and by arranging for the lorry driver to call when he was approximately 1 hour out of Aberdeen. This enabled us to have lifting equipment and men standing by, and if the lorry driver was unfamiliar with Aberdeen to arrange for him to be met on the outskirts of the city.

By the end of the third week, the damaged buildings had been totally demolished including a 100 ft. chimney which had to be taken down brick by brick; 5,000 tons of rubble had been removed from the site.

5,000 tons of rubble in 21 days, quite an achievement. Typical of the help and co-operation which we received. It started with the fire service and police and continued with demolition contractors, electricians, plumbers, builders, wholesalers and the press. I am particularly grateful for the responsible way that our fire and recovery was reported. This undoubtedly helped to minimise rumour and made the task of maintaining customer confidence that much easier.

The fact that the fire was not reported in the national press meant that few of our customers were aware of it until advised by us on the Monday morning. All major accounts were contacted at director level. We attempted to present a calm, honest appraisal of the situation. They were advised of our loss and of the steps which we had taken to obtain temporary help from subcontractors, and install new machines in Aberdeen. They were asked to provide us with exact details of their immediate requirements, so that production priorities could be established. It was also suggested that they visit us, so that they could see for themselves the progress which was being made. Similar contact was made with our stockbrokers, bankers, legal advisers, auditors, and major suppliers. This exercise was started to maintain confidence and hold our customers. It was obviously pointless to get

production restarted if we had no sales, but within a couple of days we had moved on to the ~~offensive~~ attack. At the time of the fire a number of contracts were awaiting finalisation. In some cases we had been working on these for months. We became determined to get this new business. We suggested to these potential customers that they visit us. They would certainly see part of our factory in ruins, but they would also be able to learn of the steps that we had taken to fight back. We suggested that since we were dealing with this major crisis effectively, we could cope with every day problems with our hands tied behind our back; and we were able to finalise these accounts. The first contract was placed in the week following the fire.

Four months have now elapsed. We did have to pay off a number of part time workers but our labour force is again growing. We are now running at just over 80% of our pre-fire production capacity, with the remaining machines due in 2 or 3 weeks. We didn't lose a single customer. We managed to finalise every outstanding contract. We have now completed a detailed study of our new factory. A factory designed for expansion.

In the management of our crisis, I feel that the key factors were decision, delegation, co-ordination, communication, determination and perspiration. In any new crisis which we have to face I hope we never forget to ~~ask for~~ seek the serenity to accept the things we cannot change, the courage to change the things we can and the wisdom to know the difference.