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## SAFEX International *Safety in explosives*



### About this Newsletter

In the previous Newsletter we alluded to the importance of the Governing Committee and mentioned who they were. Future Newsletters will help members get to know the Governors. This edition starts off by featuring Claude Modoux, our Chairman.

The theme of the Newsletter is **Incident Reporting**. We show that incident reporting is core to SAFEX and outline the types of reports we have, the key players in the process and the process itself. After elaborating on two of these players, the SAFEX Contact Person in each member

organization and the Editorial Committee, we go on to examine our reporting performance. The criteria we use are the number of incidents that are being reported and the quality of the reports submitted. The Newsletter concludes with some remarks about the incident database.

### Meet the Governors – Claude Modoux



Claude was born and bred in Vevey, Switzerland, close to where he resides today. After completing a commercial apprenticeship with Hoechst in Germany he joined the well-known engineering company Biazzi SA in Vevey. He climbed the commercial and administrative ladder in this company, which specialized in projects for the chemical industry, to become a director in 1988.

His forte was international business which encompassed the preparation of techno-commercial offers, negotiation of contracts, transfer of technology, sale of industrial equipment and introduction of new products in foreign markets. He has built up numerous foreign contacts which he has maintained to this day. He also managed several Swiss and foreign companies and continues to serve on their boards.

In 1994 he devoted himself to the family business which comprises entities such as Negotrade SA (trading in fine chemicals and equipment

for the manufacture of explosives); Poudrierie d'Aubonne (manufacture of blackpowder); and Modoux Services Sarl (commercial and strategic support services, feasibility studies, project analysis and strategy development).

As a family man Claude has three independent children and loves walking in the Swiss mountains. He is an accomplished linguist proficient in French (his home language), German, English and Italian. He also speaks some Spanish.

SAFEX International is fortunate to have someone of Claude's caliber with his international network as its Chairman.

## Incident reporting is what SAFEX is about

*"Establishing this Association is a humanitarian task, a moral and social mission and no effort undertaken for this purpose can be considered too great".*

Founders of SAFEX International, October 1953

In October 1953, Marcel Niffeler, President of Fabrique Suisse d'Explosifs de Dottikon suggested to the Austrian company Dynamit Nobel Wien and to the Italian company Dynamite d'Udine that they create an association to prevent work accidents in the explosives industry.

These companies and others readily agreed and decided to exchange among themselves information about explosives related incidents. This was how **SAFEX International** started.

There can be little doubt that the ideals of our founders are as relevant today as they were more than fifty years ago. The

question arises: Is SAFEX as true to its core mission as it should be? How good are we at exchanging information about our explosives related incidents?

This Newsletter challenges us and our commitment to this core tenet of SAFEX.

**This is what SAFEX aims to prevent through incident reporting**  
(A typical scene after an explosive incident)



## Incident reports originate from three sources

Incidents reported to SAFEX typically come from three sources:

- Media reports
- Associate members' sources
- Members own experience

Media reports which come to our attention alert members of an incident they may otherwise not know about. More importantly, it triggers a search for more or better quality information about the incident which members or associates may be able to access. We encourage members and associate members to let us have any relevant media reports on incidents or near-misses.

Associate members have their own sources and regularly bring

incidents to our attention. We are privileged to receive the initial incident reports EASSP members generate on incidents and near misses they experience. However, any follow-up information on EASSP incidents is only available to its members. The ISEE regularly advise us of any information they glean from the media. FEEM, IME, NIXT and VISFOTAK also alert us to incidents among any of their members who may not be SAFEX members.

Finally, there are the incidents (including near-misses) that members themselves have experienced. Once we are alerted of such an incident we know we can expect a fuller Incident

Report from which we can learn and apply it to our own workplaces.

In all these case we alert members through an Incident Alert. We see the Incident Alert as a prelude to more information. When it alerts you to a media report, we invite you to try and get us more information through any contacts you may have. When it alerts you to an incident a member has experienced, you can expect an Incident Report in due course where the learning points have been highlighted as best we can.

Let's discuss these different reports and their role in the next section.

## Type of incident reports



**Fig 1: Incident Alert**

In Africa, where I come from, the hippopotamus is one of the more frightening wild animals we have. While it does not enjoy the status of the “big five”, it is responsible for more human casualties than any of its better known animal compatriots. Its habitat is rivers and inland water holes where it spends  $\frac{2}{3}$  of a day submerged with just its ears, eyes and nostrils protruding above the surface. With so little visible it is difficult to imagine the actual size of the animal. An adult hippopotamus easily becomes 3.5 m long, 1.5 m tall and weighs 3,000 kg.



**Fig 2: Incident Report**

The first sight an observer may have of a hippo is just its ears, eyes and nostrils. While this does not tell you much about the size of the hippo, at least you know it is there. (See figure 1). When the hippo exposes its back, as in figure 2, one gets a better feel for the size of the animal. At this stage you already “learn” quite a lot about the animal. However, it is only when the hippo is totally out of the water (figure 3) that you can fully appreciate the significance of the animal.

This is an illustration of the three incident reporting levels SAFEX

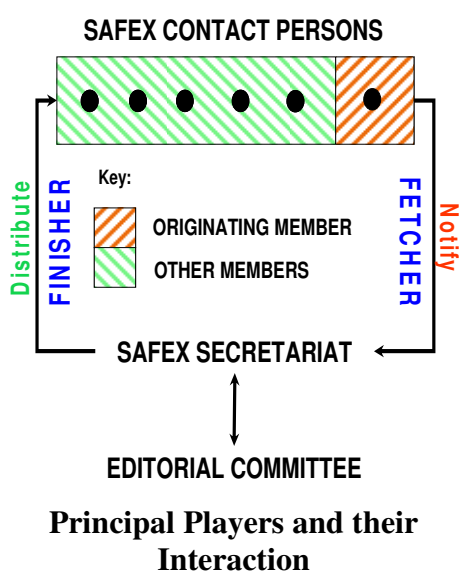


**Fig 3: Investigation Report**

adopts. The first level (the eyes, ears and nostrils) is the **Incident Alert** we circulate to members. It tells members an incident has occurred but we know little about it. The **Incident Report** is the second level report. This gives us a better appreciation of the incident and tells us enough to learn from it. In some case we are able to obtain an **Investigation Report**, the third level. This is a full analysis of the incident and gives us as much information as we can possibly get to learn from the incident.

## Incident reporting is a team effort

Whether Rugby, American Football or Soccer is your game, they all depend on one thing: a team obtains the ball and passes it to score points. Incident reporting in SAFEX differs in one respect and that is our ball is the incident. We have already seen that the “ball” can be a media report or a report from an associate or full member. The team that plays the “ball” comprises several players: the **SAFEX Contact Person** (Originator) who alerts us to the incident; the **Secretariat** who processes the incident notification; the **Editorial**



**Committee** who scrutinizes the Incident Reports SAFEX receives; and, finally, the **SAFEX Contact Persons** who disseminate within their organizations the learning from an incident. Goals are scored when members successfully interpret and apply the learning from an incident to their organizations.

SAFEX Contact Persons are key people in the game. In sporting terms, they are both “fetchers” and “finishers” of information. The diagram alongside illustrates these roles.

## How is the incident reporting “game” played?

Having met the players, we need to know how the “game” is played. The team must know “who” does “what” and “when”.

The **Fetcher** (the originating SAFEX Contact) kicks in the “ball” when he/she notifies the Secretariat of an incident (see diagram below). The Secretariat prepares and distributes (A) an Incident Alert and registers the incident in the SAFEX Database (B). SAFEX Contact Persons circulate the Incident Alert (C) and obtain more information on it where they possibly can (D)

before advising the Secretariat of the same (E). The Secretariat updates the Database accordingly (F).

If it is an incident that a member has experienced, the member conducts the initial investigation (G) and prepares the Incident Report (H) which is sent to the Secretariat as soon as possible. A member of the Editorial committee reviews the Report (I) and suggests enhancements (J) which the Secretariat conveys to the member. The member considers the suggestions (K) and revises the Report accordingly (L) before returning it to the Secretariat for distribution to other members.

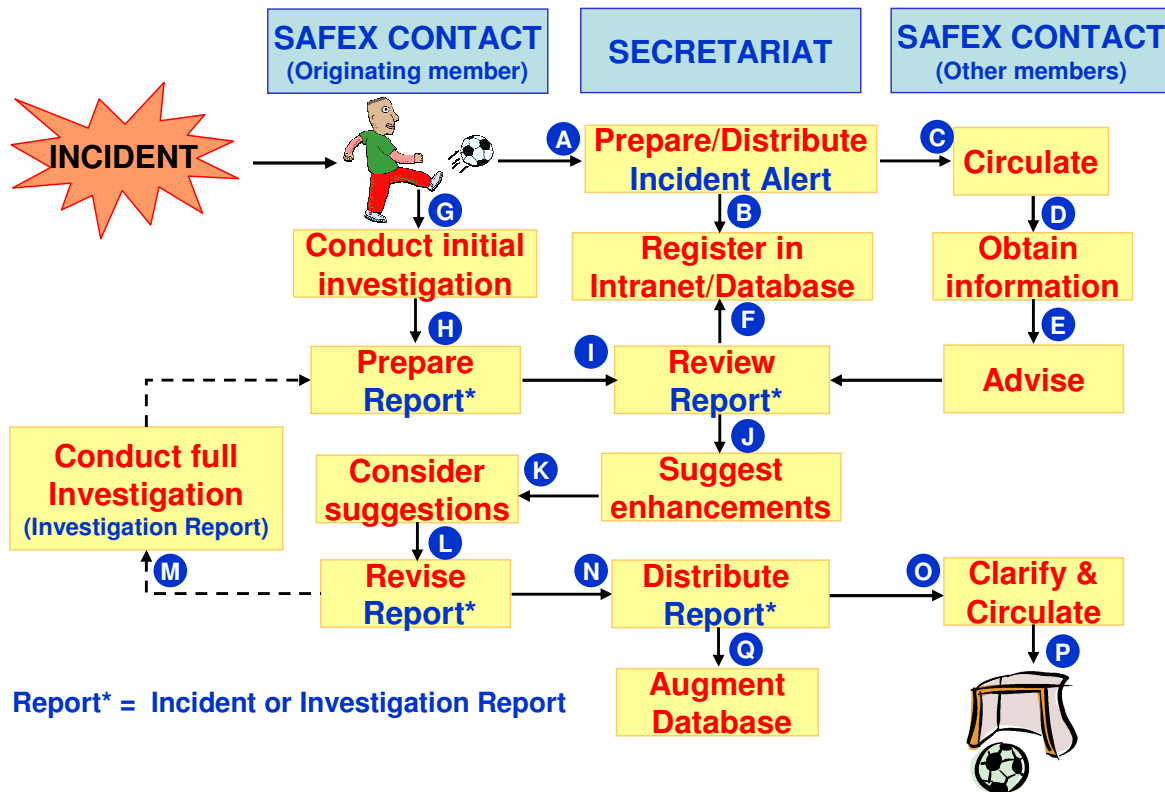
and revises the Report accordingly (L) before returning it to the Secretariat for distribution to other members.

The same process is adopted if a full investigation is required for an Investigation Report (M).

The reports are distributed (N) to the **Finishers** (SAFEX Contact in other member companies) for clarification, interpretation and circulation (O) as necessary to apply the learning – score the goals (P). All Reports are captured in the Database (Q).

### The key players and their principal “moves”

(A diagram that illustrates how the key roles in the incident reporting process interact with each other)



## SAFEX Contact Persons determine the outcome of the game

These are the people who represent member companies in any SAFEX interaction. Many members nominate their chief executives or the directors responsible for operations or safety, health and the environment (SHE). They are senior people with many demands on their time but committed to improving the SHE performance of their explosives operations.

We have seen that Incident reporting starts and ends with the SAFEX Contact Person. Other SAFEX members depend on the diligence of the Contact

Person in every member organization to:

- identify an incident for reporting
- alert SAFEX of the incident
- arrange for the Incident Report to be completed, submitted and revised when necessary.
- follow up with an Investigation Report if required.

These are the skills the team expects from the “**fetcher**”.

Success, the goals we score, depends on how well members apply the learning in their organizations. This is the job of

the “**finisher**”. He/she will be good at:

- clarifying the information, when necessary.
- interpreting the lessons from an incident for their organization
- disseminating the information to the right people
- following up on the learning in an appropriate way
- obtaining additional information on media reports when possible

SAFEX Contact Persons are “allrounders” and committed team players. The outcome of the game depends on them.



**A “finisher” preparing to shoot at goal**  
(The analogy we have used to highlight the role of the SAFEX Contact disseminating information)

## The Editorial Committee is an aid not a handicap

The three members of the Editorial Committee are well experienced investigators and reporters of incidents. Andy Begg, Piet Halliday and Tov Haugen constitute the Committee and take it in turns to scrutinize the Incident Reports we receive before they are circulated. What is their role?

Their purpose is not to make it

more cumbersome and difficult for members to submit their reports. On the contrary, through their experience, members of the Committee want to assist the originators of any reports. A fresh “pair of eyes” may be able to identify possible learning opportunities that could easily be missed when you are very close to an issue such as an incident investigation.

Their function is to assist SAFEX in improving the quality of incident reporting. We must regard and use them as such.

By improving the standard of our Incident Reports we aim to maximize the learning members can obtain from every incident that is experienced. In this way we can show some benefit for the pain incidents cause.

## What is the “score” in the incident reporting “game”?



**Golfers use the concept of “par” to measure their performance**  
(We’ve changed the sport in our analogy to accommodate the golfers!)

To score, using our analogy, members must succeed in applying the learning from an incident. We as an Association can’t assess how well our members do in that respect; that is something each one must decide for themselves.

The best we can do collectively is to determine whether we are reporting the incidents from which members can learn (“score”). The issue is: **are we reporting enough such (learning) incidents?**

We’re not all soccer players so let’s change to golf! Golf has this lovely concept of “par” against which every individual can measure his/her performance. *Par* in our case would be the number of incidents that should be reported.

The question is how can we establish *par* for incident reporting? Because they are hard to hide, let us assume most of the fatalities and serious injuries that occur are being reported. By applying the ratios of the Bird Triangle we can deduce the number of other incidents that occur and should be reported. In the 1960’s Frank E Bird

investigated 2 million accidents and determined the ratios in the diagram below. They are very similar to those Heinrich suggested in the 1930’s, which gives us added confidence in their validity.

Last year SAFEX members reported 21 incidents comprising 5 fatalities and 28 injuries. 50% of those incidents (10) resulted in property damage only. To arrive at *par* for SAFEX we can apply Bird’s ratios to the 5 fatalities. On this basis about 200 incidents (*par*) should have been reported. This is almost 10x the number actually reported (21 actual versus a *par* of 200). We’re only reporting 50% of the injury producing incidents that probably occurred (28 actual versus a *par* of 50) and less than 10% of the property damage

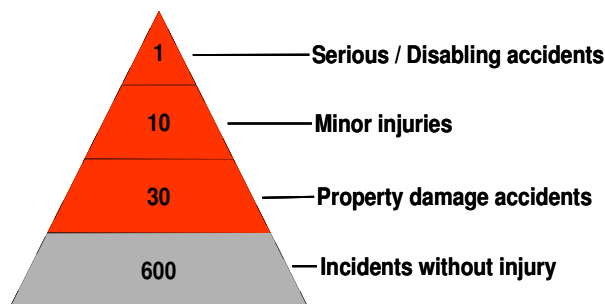
incidents (10 actual versus a *par* of 150). *Par* in this case is conservative as we have discounted serious injuries.

What does this tell us? If my logic (and mathematics!) is correct, **our score is 10% of what it should be**. No professional golfer will be happy with such a result; why should we be? After all, we’re professionals at our game too. Please note, we are not asking for more incidents to occur – we want to reduce those. **What we are asking is for explosives related incidents that do take place to be reported.**

This is the real challenge for all of us. We must become better “fetchers”.

Do you agree?

**Bird Triangle of incident ratios – basis for *par***



## Quality of reports matter

It stands to reason: we cannot extract, let alone apply, learning from poor reports that contain little information.

SAFEX has done three things to assist members in producing reports that have value for them and others in the industry:

- Provide an Incident Reporting template for reports (Please contact the Secretariat if you need a copy)
- Establish the Editorial Committee to assist members in scrutinizing their reports
- Allow members to report in a language of their choice provided SAFEX can readily access a translation

We have discussed the role of the Editorial Committee elsewhere. Perhaps we should

look briefly at the structure (template) of the Incident Report. The template is based on key questions in four areas. The four areas are like the four legs of a table. If any of the legs are too short relative to the others the table is unstable – it wobbles. (Similarly if all the legs are too short, i.e. there is too little information, the table is useless).

The areas and the key questions are:

1. **CONTEXT**
  - a. WHEN did it happen?
  - b. WHERE did it happen – both in terms of location and the process?
2. **INCIDENT**
  - a. WHAT happened?
  - b. WHAT was the effect – the consequences of the

incident?

3. **UNDERSTANDING**
  - a. WHY did it happen?
  - b. HOW can we prevent it happening again?
4. **ORIGINATOR**
  - a. WHO reported it?
  - b. HOW can he/she be contacted?

The Incident Reports we receive tend to be thin in outlining the typical process or activity that normally takes place where the incident occurred (WHERE did it happen? – 1b above). For other members to relate to the incident, the report must give them the Context.

Please consider fellow members when completing your Incident Reports.

## Incident reporting is an investment

When people invest money they expect a return. In the short term it is usually in the form of interest or a dividend and over time as a capital gain.

The incidents our members report are no different. The immediate benefit, the short term dividend or interest, is the immediate learning we can extract and apply from that incident. In the explosives industry we know that such incidents can easily happen to me. There is no room for complacency and we are keen to learn all the time.

For the longer term we have a “bank” that ensures our incident reports have future value too. This “bank” is our incident database which EIDAS (Explosives Incidents Database Advisory Service) helps to maintain through Peter Moreton. Every incident reported by members is captured in this database together with other incidents which EIDAS collects. The beauty is that while access to SAFEX incidents is restricted, our members can view those other incidents (with the odd exception) that EIDAS picks-up.

Members can now search a database with more than 15,000 entries dating back to 1652. This has proved invaluable to members who wish to do hazard studies, for example.

If incident reporting is an investment, surely it’s worth our very best shot. What you report today can save lives in the future.

Please report those incidents from which people can learn and make the reports meaningful; someone will thank you for it in the future.

*Boet Coetzee*

Boet Coetzee

**Secretary General: SAFEX International**