Paper Gold Medal Award
Improvements in Health and Safety in the Paper and Board Industry since the 1990s

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Thirty years' ago, the paper industry was thriving, but it was a dangerous place to work. The major injury rate in the mid-1990s exceeded that of the construction industry (usually considered a high-risk industry).

In the 1990s the Graphical Paper and Media Union (GPMU), now part of Unite, had expressed general concern over poor safety standards in the paper industry. Then, in the two years to May 1996, there were 6 deaths in paper mills. As a result, the GPMU sought a meeting with the Council of the Paper Federation (now CPI) and demanded action from the industry to address this appalling accident record. The meeting took place on 20 June 1996, and the industry committed to making improvements across the board.

Actions to improve safety

Paper industry employers were called on to ensure that:

- Health and Safety was dealt with at Board level and projected to all levels of the company;
- Risk assessments were completed in line with Regulation 3 of the Management of Health and Safety at Work Regulations;
- Systems of work were reviewed and shown to be safe and operating effectively;
- All staff were trained in the safe systems;
- All managers were trained in Health & Safety;
- All managers were appraised on their Health & Safety performance;
- Safety was on the top of the agenda for every mill meeting at all levels;
- There was active involvement of Union representatives;
- Safety Reps were permitted the necessary time off to perform their legal functions within mills, and to be trained in those functions; and
- There was full disclosure of all Health & Safety information to Union representatives.

All of these points were formally endorsed by the Paper Federation.

In addition, all GPMU members in papermaking were instructed not to do anything that they considered to be dangerous, and not to follow any practices that fall outside agreed safety procedures. GPMU Circulars stated that all failings in Health & Safety procedures and systems of work must be reported in writing to the employer, and that copies of all such reports must be sent to branches.

Industry Research

The Paper Federation agreed to the GPMU's call for an independent enquiry into the paper industry, with the aim of determining why the industry's accident record was so bad, and why some companies which were doing similar work to others were able to maintain much better safety performance.

So, prompted by the GPMU, the Paper and Board Industry Advisory Committee (PABIAC) decided to sponsor research to test this hypothesis, and investigate both the high injury rate and the apparent disparity between mills. PABIAC is a tripartite health and safety

committee on which the paper employers, the paper unions and the Health and Safety Executive are represented. It still exists in 2023.

Fieldwork was carried out by the Health & Safety Laboratory at twelve paper mills to look at the standards of safety culture, safety management systems, and technological risk and to correlate them with accident statistics.

Safety culture and safety management factors proved to be important, interlinked, leading indicators. However, the study found that standards of safety culture and safety management were both variable and generally inadequate, and concluded that to improve injury rates the paper industry needed to urgently address both of these areas and make major improvements. As a result of these findings and recognition of the need to address the high incidence rates across the industry, PABIAC set itself a nominal target of reducing injury rates by 50% over 3 years by addressing 6 high level objectives:

- Improve health and safety awareness within the industry;
- Improve senior management commitment to health and safety;
- Ensure that everyone is competent to carry out their roles adequately and safely;
- Improve the levels of risk control and decrease technological risk within the paper industry;
- Monitor accidents and feedback progress on achieving the PABIAC target;
- Improve the management of contractors.

On 23 March 2000, the GPMU held a meeting in London of over 100 Senior Union Representative from paper mills, along with the relevant Branch Secretaries. This followed continuing safety problems, and in particular a further two deaths of paper workers. The meeting called for a GPMU campaign to stop the continuing unsafe practices that were common place in the industry.

Significant improvements
The last 30 years have seen significant health and safety improvements in the paper industry, and although the number of paper mills has more than halved, the corrugating industry in particular has taken up the safety baton. Arguably corrugating now has a better safety record than paper making, which indicates the continuing need for improvements. PABIAC continues to develop health and safety action plans to address key issues in the paper related industries.

The initial safety initiative in the paper industry, subsequently extended to all of the paper-related industries covered by the Confederation of Paper Industries (CPI), was successful in reducing major accident rates and improving the management of health and safety. It heralded the publication of “Making Paper Safely”, ground-breaking guidance setting out guarding standards for the industry.

If the whole operation was repeated today, it would involve many of the same elements. However, it would probably put a much greater emphasis on workforce involvement and the more recent principles of doing safety differently.

What Do We Mean By Safety?
Traditionally health and safety has been defined as the absence of injuries and illnesses. If there are very few injuries or illnesses the workplace is considered safe. When someone

asks, “How are we doing?” the recordable and lost time rates are trotted out. One of the major problems with this approach is the realisation that many catastrophic incidents have occurred at workplaces with low incident rates. For this reason and many others, more and more organisations are still referring to accident/incident rates, but abandoning them as a prime measure.

Back in the late 1990s, the GPMU called a meeting of representatives from the worst performing mills, according to accident data. What was striking was the fact that many of these so-called poor performers were doing good safety work.

However, if safety and health isn’t simply the absence of injuries and illnesses then what is it?

H&S is part of the workplace system. It is the product of the way parts of the system work together (or not!). It includes the management system, people, work methods, hazard controls, procedures, supervision, tools, equipment and other factors including culture, production pressure, resource constraints, goal conflicts, system strengths and deficiencies.

Extreme Cost and Resource Pressure
In most organisations the usual way to increase output is to continually apply pressure on production and change processes.

This has very significant implications for H&S. It affects how work is performed compared to how it is planned. Equally important is the recognition that many of the traditional H&S processes, in their current form, may no longer be appropriate in rapidly changing, dynamic and resource-constrained work environments. Many serious incidents demonstrate that weekly or monthly inspections or audits, annual risk assessments and Safe Systems of Work (SSoW) can fail to identify hazardous situations in a timely manner. Almost every serious incident is the result of a complex collection of factors.

Exposure to hazards is important but many other factors play a very important and often critical role. H&S is a property of the system.

Some people have been seduced by the false promises of behavioural safety. Often, we hear erroneous behavioural safety claims that 80-90% of all incidents are caused by unsafe acts of individuals. The implication is that worker actions are separate and independent and not affected by the work environment or system in which they take place.

The traditional approach is to think of incidents as being like a line of causes and effects. The problem is that this is not how most injuries and illnesses occur. Most incidents involve people making decisions and taking action in dynamic situations as events unfold. Investigations often fail to accurately represent such incidents because they attempt to interpret non-linear relationships in a linear fashion.

A much more accurate model of incidents and how failures occur includes looking at worker actions but also recognises the profound impacts of many other factors, again demonstrating the point that safety and health is a result or property of the whole system. It is important to recognise that many, possibly most, of the elements of an incident may not be identified during routine inspections and observations.

Work as planned versus work as performed

How work is planned and what is written in the procedure manual, or Safe System of Work (SSoW), often differs from what actually happens. When asked, workers quickly shake their heads and say “That is not the way we do it”. Why isn’t work performed according to the procedure? Workers say things like;

- We didn’t have the right equipment.
- The procedure is outdated, we haven’t done it that way for years.
- The procedure did not cover the situation we faced.
- We didn’t have time.
- We lacked sufficient manpower.
- We were trying to get the work out and thought we could skip a few steps and still be safe.

Traditional Views versus New Views

Traditionally most managers and H&S professionals have regarded strict compliance with procedures to be one of the elements most critical to the success of their program. The new view of safety is based on a different understanding of how work is performed and the role of procedures.

Deviation from procedures (usually written by managers and not involving the frontline workers) is the result of workers trying to adapt and balance a number of conflicting goals such as productivity, efficiency and safety in an ever-changing workplace frequently burdened by resource constraints. Frequently, workers find a way to do the job that is safer, faster or easier than the procedure. If workers find that their written safe systems of work do not reflect how work is actually done, then the safe systems need to be changed, but they must be safe. Are the safe systems trying to protect workers or the organisation?

Many of the list of reasons given for not following the procedure are the result of organisational weaknesses or system deficiencies. Examples could be excessive production pressure, lack of sufficient staffing, lack of equipment availability, leadership shortcomings or negative culture and lack of resources to maintain up to date procedures, to name just a few. If these and other factors are not recognised, there can be a very gradual drift that can lead to failure. The process may take years before there is a catastrophic incident. In hindsight, but all too late, investigators identify the drift. It is critical to develop processes that identify weak signals and drift before they result in failure. Employers must engage workers and establish a culture of learning, and continually question the safety of operations. Often the system whispers before it screams. We need processes that are sensitive to these whispers and weak signals.

So, we are seeing differing views of how work is performed and the role of procedures.

The old view is based on four mistaken beliefs:

1. Planners can anticipate every situation that workers will encounter when procedures are written.

2. Work process, hazards and risk are static and seldom change.
3. Safety is achieved when workers mindlessly follow procedures.
4. Workers are the primary problem because they make mistakes and don't follow procedures.

The new view is based on four alternative beliefs:

1. It is impossible for planners to anticipate every situation that workers will encounter.
2. Work processes, hazards and risk are dynamic and frequently change.
3. Safety is always the result of workers adaptively blending knowledge, experience, procedures, support tools, physical tools and context/environment.
4. Workers are very important to success and safety because of their central role making the patchwork of processes, methods, procedures, system deficiencies and hazard controls work.

A better way to think about the organisation
Do those at the frontline and those more distanced from the work see safety in the workplace in the same way? Normally the answer is no. Those who are more distanced generally see safety embodied in incident rate charts and what is in the procedure manuals. Those at the sharp end generally see safety as how work is actually performed. Their view of safety is based on their experiences of trying to get the work done within the context that the organisation has created – the system. Those who are more distanced can make decisions that have a major effect both positive and negative on the front line. Organisational improvement depends on closing the vision of safety gap between those two groups.

What can be done to close the gap?
The two most important changes that lead to operational and organisational improvement are:

1. Transitioning from old view to new view assumptions and mental models.
2. Providing feedback to those at the blunt end from those at the sharp end. This includes how work is actually performed given the organisational factors, goal conflicts and constraints.

Recognising safety as an emergent property of the system means that those at the sharp end of the stick have critical information needed by all levels of management to improve health and safety and simultaneously enhance operational and organisational effectiveness.

The Principles of Doing Safety Differently
The new view of health and safety incorporates some key principles:

1. People make errors.
2. Error-likely situations are predictable.
3. All human actions are influenced by the context in which they occur.
4. Operational upsets can be avoided.
5. Our response to failure matters.

Human Error Myths

To successfully implement the new view it is necessary to dispense with common human error myths: All people in workplaces need to understand that:

1. Human error is not a choice.
2. No event does not mean no human error problems.
3. Training alone will not solve human error problems.
4. Punishment will not address human error problems. (A learning culture is better than a blame culture)
5. Experience does not eliminate human errors.
6. Human errors are highly unlikely to be the root cause of accidents.
7. Errors should not be labelled as violations.
8. Errors are not necessarily bad; they help us learn.

So what should we do?
We need to set aside old outdated myths and assumptions and begin to learn. One of the most valuable resources for learning and the richest source of information is the worker. Daily learning can take place when workers conduct pre-task planning and post-job debriefs with fellow workers, team leaders and supervisors.

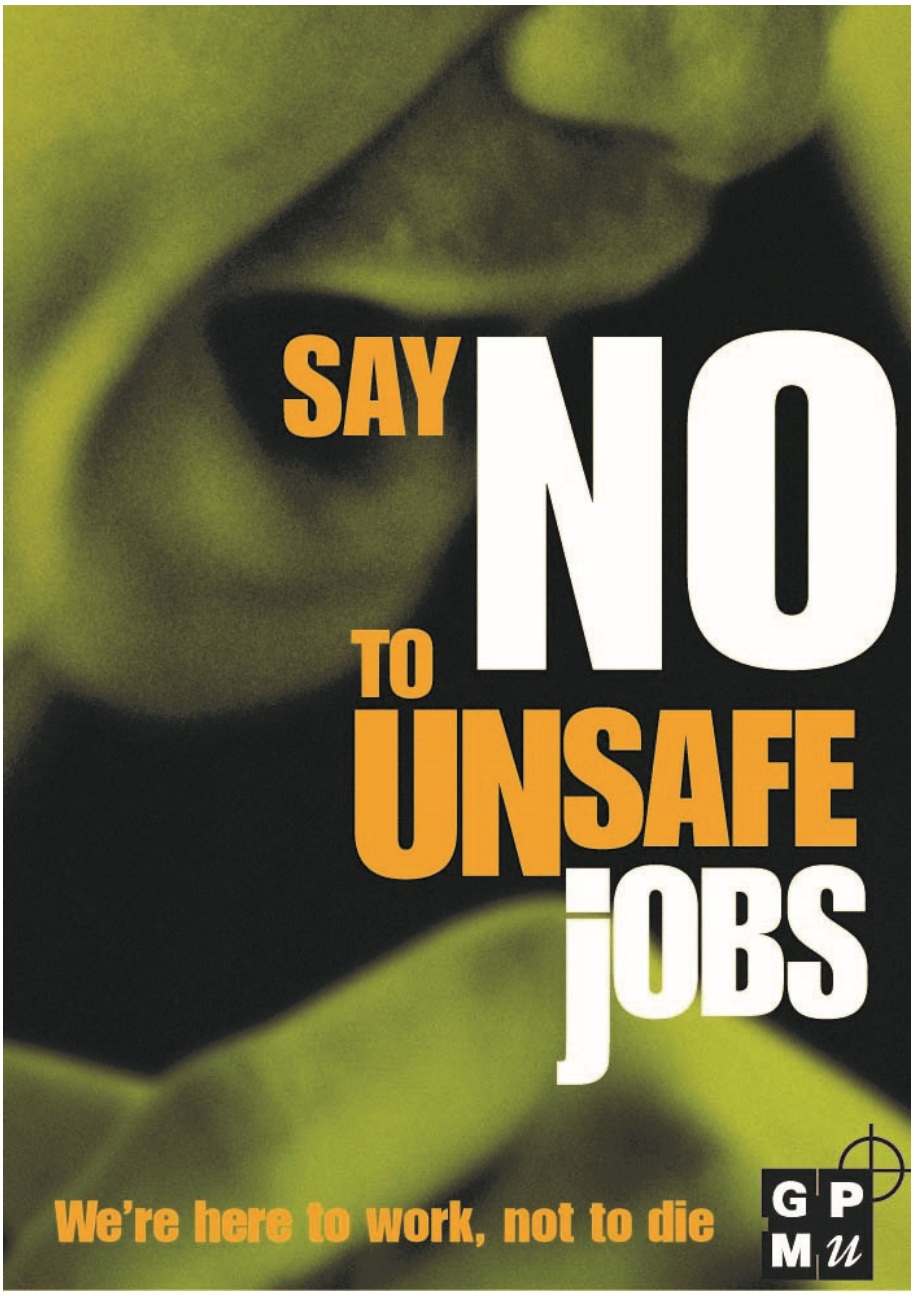
Learning teams can be formed that include workers familiar with the job or issue, a supervisor, and support personnel such as an engineer. They often work best with the involvement of an external mediator. Teams can meet to work on a wide variety of issues such as incidents, near misses, areas of concern, operational problems, high-risk jobs and design issues. The distinction often made between health and safety, operations, quality, etc. is artificial and represents old view anti-systemic thinking. Operational issues lead to health and safety issues. Health and safety issues can lead to quality issues. Taking a holistic view of the system builds collaboration, draws on collective knowledge and broadens integration of health and safety with other areas.

Workers are the solution, not the problem
To bring about improvements in health and safety performance everyone needs to work together towards a set of common goals. We need a genuine management/workforce partnership based on trust, respect, co-operation and joint problem solving. Involvement in health and safety should be a two-way process where employers and employee representatives:

- Talk to one another
- Listen to one another’s concerns
- Raise concerns and solve problems together
- Seek and share views and information
- Discuss issues in good time
- Consider what everyone has to say
- Make decisions together

No matter what the size and scope of the organisation, working together does not have to be complicated. The paper related industries, working with the paper unions, have made huge strides forward on health and safety. Now is the time to build on that action, using the principles of doing safety differently, involving the workforce as key players, and making work in the paper industries healthy and safe.

Old View	New View
What is safety?	**What is safety?**
The absence of injuries and illnesses.	Safety is an emergent system property, which is improved by improving the system.
Safety would be improved if management and workers were just more committed.	Management and workers are both affected by the intense economic pressure, which constrains resources and leads to continual process changes that can often impact safety in subtle ways.
Our perspective of workers	**Our perspective of workers**
We need to help workers be safe.	Workers need to help us understand how work is done and how the system affects it.



Old View	New View
Accident investigation	**Workplace learning**
Who did it?	How did this happen?
Find an unsafe act of a person. Find the root cause.	Discover the context.
	Use a systems approach to find the multiple contributing safety and operational factors.
	Analyse and solve
What we look for	**What we look for**
Looking for hazards is all we need to do.	Looking for hazards is important but not enough. Understanding how work is actually performed provides critical insight to organisational weaknesses and deficiencies that undermine safety and operational performance.