

**TWELFTH REPORT
OF THE STEEL INDUSTRY SAFETY
AND HEALTH COMMISSION**

1980

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1. INTRODUCTION

Despite some promising results during the first few months of the year, 1980 was marked by ever growing difficulties for the iron and steel industry, including a decrease in production, a reduction in orders, financial problems and short-time working. The situation was so serious that it was decided to set up a production quota system for steel companies.

At the same time there was an increasing concern for social problems at company level, especially for the workers over whose heads hung the continued threat - which at times materialized - of enforced early retirement, unemployment and redundancy.

An atmosphere of this sort does not seem conducive to industrial safety, not only because of the fear workers feel or to which they are exposed of losing their jobs or having their working hours reduced but also because company restructuring and the reorganization of departments and activities have confronted workers as a whole and management and supervisory staff in particular with transfers to new posts and new tasks for which they may not have been sufficiently prepared.

At all events, the industrial accidents situation deteriorated in 1979 (last available data) in comparison with the previous years : there was an increase in both the number and the rates of frequency and incidence of fatal accidents, an increase in the frequency and incidence of accidents entailing a period of absence from work, and an increase in the overall time lost owing to accidents in relation to the hours actually worked. The only positive result is the decrease in the number of industrial accidents in relation to the production of crude steel, a result which the Steel Industry Safety and Health Commission cannot consider satisfactory unless it is accompanied by a reduction in the numbers and rates of accidents.

The SISCH earnestly hopes that, in spite of the present difficulties facing steel companies and professional organizations, they will continue and intensify their efforts better to combat occupational accidents and diseases, which are the scourge of industrial life. It believes that these stem from human error or physical causes and that consequently it is in man's power to prevent them.

From the beginning of the year, the institutions of the European Communities were faced with difficulties arising from the European Parliament's refusal to approve the 1980 budget. As financial resources were limited each month to one twelfth of the previous year's expenditure, all the institutions were forced to cut back on some activities. Among other restrictive measures, the Commission of the European Communities thus found itself obliged to cancel a proportion of the meetings of the various bodies which help to carry out its work, including the Steel Industry Safety and Health Commission. Consequently, two working parties were able to meet only once in 1980, although the 1978-1980 programme provided for two meetings during the year for each of them. However, all the other activities planned as part of this programme did take place.

The SISHC will decide on its three-year programme in May 1981 and, by bringing it up to date, will endeavour better to achieve its aim of promoting information and the exchange of practical experience related to safety and health problems in the iron and steel industry.

2. MEETING OF THE STEEL INDUSTRY SAFETY AND HEALTH COMMISSION

The Steel Industry Safety and Health Commission held its sixteenth meeting on 22 May 1980 in Luxembourg, during which it :

- approved its 11th report (1979);
- adopted the principle of carrying out research on safety in the iron and steel industry and prepared the procedure for determining research subjects;
- adopted the conclusions submitted by its working parties on the following subjects :
 - Cooperation of workers and their representatives in accident prevention within the enterprise (Working Party on the Organization of Accident Prevention);
 - General considerations in the training of workers' safety representatives in safety and health matters (Working Party on Safety-Training);
 - Noise in electric steelmaking plants
 - Pollutant dust and gas emissions inside electric steel works (both submitted by the Working Party on Health-Electric Furnaces);
 - Oxygen in the iron and steel industry (Working Party on Safety-Oxygen)
- accepted the principle of rapid exchanges of information on important accidents and on appropriate preventive measures, and instructed its Secretariat to work out the details of the procedure to be followed.

3. MEETINGS OF WORKING PARTIES

3.1. Working Party on the Organization of Accident Prevention

This working party met only once in 1980, as the meeting planned for 21 and 22 February had to be cancelled for the budgetary reasons mentioned in the introduction.

During its meeting on 4 and 5 September 1980, the working party continued its discussions on the subject of making safety an integral part of work and a draft conclusion was then drawn up by the Secretariat for examination by the working party at its first meeting in 1981.

3.2. Working Party on Safety Training

Two meetings of this working party were held in 1980, on 13 and 14 May and 13 and 14 November respectively.

At its May meeting, the working party continued its discussions on the training of first-line supervisory and equivalent staff and worked out guidelines for its conclusions, which appeared in a draft text drawn up by the Secretariat.

This draft was amended at the November meeting and the final version was approved. The working party then went on to consider the subject of the training of management staff and came very rapidly to the conclusion that numerous similarities existed between the training of first-line supervisors and that of management staff. It was therefore decided to combine the two subjects in a single document, a draft of which was then drawn up by the Secretariat and will be submitted for approval by the working party at its first meeting in 1981.

3.3. Working Party on Safety-Gas Lines

The meeting planned for 13 and 14 March was cancelled for the budgetary reasons mentioned in the introduction and this working party met only once during 1980. This meeting took place on 30 and 31 October. During the

meeting, the working party finalized its conclusions on explosions in gas lines and equipment, the various language versions of which will be revised at the first meeting in 1981; the working party also finalized the actual wording of its conclusions on gas compressors in the various languages and lastly drew up the outlines of its conclusions on gas holders. The Secretariat prepared a draft text which will be considered by the working party at its next meeting.

3.4. Working Party on Safety-Oxygen

This working party met on 24 and 25 January 1980 and during this meeting it put the final touches to its conclusions on the use of oxygen in the iron and steel industry. These conclusions were submitted to the Steel Industry Safety and Health Commission and approved by it at its meeting of 22 May 1980.

The working party also examined the unpublished English version of the document entitled "Design, construction, location and operation of fittings in oxygen installations", and noted that the comments submitted by an expert stemmed either from errors in translation or from the fact that this document, which was prepared about 10 years ago, does not take account of some recent developments in technology.

The differing opinions which were expressed by the working party on its future work will be passed on by the Secretariat to the SISCH when the latter deliberates on its work programme for 1981-1983, which should be during the first half of 1981.

3.5. Working Party on Health-Electric Furnaces

The Working Party on Health-Electric Furnaces met twice in 1980 and on 7 and 8 February 1980 it revised the various language versions of its conclusions on pollutant dust and gas emissions inside electric steelworks (a study which was approved by the SISHC on 22 May 1980) and engaged in a preliminary exchange of views on accidents in electric steel melting shops. In-depth discussions on this subject took place at the meeting held on 11 and 12 December 1980 and the broad lines of the conclusions were worked out.

A draft text will be prepared by one of the working party members and submitted for examination by his colleagues at the first meeting in 1981.

It should be noted that the meeting of this working party planned for 12 and 13 June 1980 was cancelled owing to the budgetary problems besetting the Community.

3.6. Working Party on Health-Rolling Mills

Work to finalize the conclusions of this working party on pollution problems in rolling mills was started during the meeting held on 6 and 7 March 1980 and completed on 2 and 3 October. Revision of the various language versions of this document has been carried out and it will be submitted for approval by the SISCH in 1981.

The working party also held exchanges of experience concerning the problem of noise in rolling mills, and the Secretariat then worked out a scheme of work for this which will be implemented in discussions at the next meeting of the working party.

4. EXAMINATION OF THE 11th ANNUAL REPORT OF THE SISCH BY THE CONSULTATIVE COMMITTEE OF THE ECSC

Preparation for the examination of the 11th report of the SISCH (1979 activities) by the ECSC Consultative Committee was undertaken by its Subcommittee for Labour Problems on 4 December 1980, and at its plannary session on 5 December, the Consultative Committee decided to forward the minutes of the discussion of 4 December to the Vice-President of the CEC with responsibility for social affairs and to the Director-General for Employment and Social Affairs.

To summarize this discussion, the relevant section of the analytical record of the Consultative Committee meeting held on 5 December 1980 is given below :

Mr DUHIN summarized the comments made at the meeting of the Subcommittee for Labour Problems the previous day following the statement by Mr DUBOIS on the 11th Report of the Steel Industry Safety and Health Commission.

First of all the wish had been voiced that the trend in the number of fatal accidents should be considered against the background of the reduced number of workers in the steel industry in recent years. Secondly, a study had been called for on the potential impact of the construction of bigger blast furnaces and of continuous casting on the number of accidents. Thirdly, several speakers had called for an assessment of the cost of accidents at work. Fourthly, a request had been made for a committee to study the effects of increased productivity on the number of accidents. Fifthly, the Subcommittee had repeated its request for an increase in the number of staff of the Steel Industry Safety and Health Commission. Finally, the Subcommittee for Labour Problems had asked that the minutes of its meetings be sent to the Commission.

The President said that the latter request would not be difficult to fulfil, and asked Mr DUBOIS to reply on the remaining points.

Mr DUBOIS confirmed that the next report of the Steel Industry Safety and Health Commission would study the trend in the number of accidents in the light of the reduction in the manpower employed in the steel industry. He stated that a decision had been taken to undertake a study on continuous casting. Other studies would be carried out to try to determine the influence of new techniques on the number of accidents, but he could not say any more on this subject at present. As regards the cost of accidents at work, this was all the more difficult to calculate since there was disagreement between those who included the cost of additional work for foremen as a result of accidents and those who did not include this cost since this activity formed part of the normal duties of supervisory staff. Generally speaking, however, accidents cost three to four times more than the insurance paid to compensate for them. As regards the relationship between the number of accidents and increased productivity, the analyses started three years ago by the Steel Industry Safety and Health Commission had had to be abandoned because the Statistical Office had stopped providing data on this subject. To resume the analysis the SISCH would therefore have to wait until there was a sufficient number of annual results available. As regards the shortage of staff at the Steel Industry Safety and Health Commission, he could not contradict Mr DUHIN but it was a subject he did not wish to dwell on.

It should be noted finally that the European Parliament has not undertaken an examination of the eleventh report of the Steel Industry Safety and Health Commission.

5. STUDIES

5.1. Study on accident statistics

The Secretariat of the SISCH carried out a study in 1974-1976 on the significance of industrial accident statistics, in conjunction with 16 Community iron and steel works. This study showed that the frequency rate common used to assess an accident situation - i.e. the number of accidents leading to one day's time lost per millions hours of work- was essentially influenced by accidents entailing only a short period of absence from work and that annual variations in this frequency rate were to a large extent due to variations in those accidents entailing only a short period of absence from work (less than three weeks for the purposes of this study). The study also showed that a work could register both a good frequency rate and poor result for very serious accidents (fatal accidents or accidents causing permanent disability of more than 20%) whilst the reverse could also occur.

This study thus revealed the possibility of unsatisfactory measurement of the frequency of accidents owing to the use of the usual frequency rate alone.

Once it was informed of the conclusions of this study, the SISCH set up an ad hoc working party to examine them in depth and drawn up proposals on the possibility of continuing the investigation. The working party concluded that a pilot survey should be carried out over three years, with the cooperation of volunteer firms in order to ascertain what use of additional statistical definitions could be to steel works with a view to better understanding of "accident" situations.

This proposal was approved by the SISCH and the pilot survey was launched in conjunction with 54 different works, which agreed to supply information on their 1978 results (the specimen form they completed appears in the tenth report on 1978 activities).

At its meeting in 1980, the SISCH was given a progress report on this survey, which will be completed by the full series of results for the years 1978 to 1980, i.e. in 1981.

It is planned that in 1982 the representatives of the steel works involved will meet to exchange and compare their experience in this field and to give their opinions on the value the new statistics hold for steel works.

5.2. Study of the causes of very serious accidents

This study which deals with the causes of very serious accidents occurring in four steel works in Lorraine in 1970-1976 (see paragraph 6.2 of the eleventh report) has been completed and the SISCH was given a verbal report of the findings at its 1980 meeting.

In conjunction with ASSIMILOR, which carried out the study, the Secretariat drew up a draft report on the latter. If it considers the report useful the SISCH, to whom it will be submitted, will have the task of approving it and advising the CEC on the best way to use it.

5.3. Study of safety during replacement of blast furnace tuyeres

This study, which was undertaken at the instigation of the SISCH, was commissioned from an expert in August 1979. It was planned that he would submit his conclusions at about the same time in 1980 so that the study would be available in the various language versions towards the end of the year.

However, various circumstances beyond his control prevented the expert from abiding by the set schedule (there was a strike in the British Steel Corporation whose works he was to visit, and a delay in replying to a questionnaire he sent to various works).

The findings of the study are expected to be available at the beginning of 1981 and it is hoped that this document will be translated and revised in good time for examination by the SISCH at its 1981 meeting.

5.4. New study of the causes of serious accidents

The study on the causes of serious accidents which occurred in Lorraine (see 5.1 above) was carried out between 1976 and 1978 and dealt with accidents occurring in 1970-1976, i.e. several years previously. The potential interest of the findings of a study on the causes of very serious accidents and the fact that an almost entirely satisfactory specimen questionnaire was available and that, as a result of the experience gained, relatively easy combined processing methods had been devised with the need for updating of the information that this sort of study can provide, induced the SISCH to approve at its May 1980 meeting the draft of a similar study to that carried out in Lorraine, to be conducted on the basis not of accidents which had already occurred, but of those which were to occur from 1 October 1980 to the end of September 1981 in steel works in Wallonia (Belgium).

This study is being carried out at present and deals with the causes of accidents which are expected to lead to a period of more than three months' absence from work, to permanent disability of more than 10%, or to death.

It is hoped that all the conclusions of this new study will be available in early 1981 and that it will provide comprehensive, up-to-date and detailed information.

6. THE COST OF ACCIDENTS

When it examined the 11th annual report of the SISCH in December 1980, the ECSC Consultative Committee's Subcommittee for Labour Problems expressed the hope that the SISCH would study the cost of accidents, and especially of fatal accidents, in the Community iron and steel industry.

Examination of financial information available showed that the bodies whose task it was to ensure that victims were compensated did not distinguish in their financial statistics between pensions paid to the survivors of victims of fatal accidents and those paid to permanently disabled workers,

and even those paid to compensate occupational disease, where the same body was responsible for accident and occupational disease compensation.

Furthermore, compensation schemes vary greatly from one country to the next. For example one need only consider State aid to insurance bodies in some countries, which brings about a corresponding reduction in the expenses borne by companies, or even the fact that the industrial sector as a whole forms a single unit for the purposes of compensation insurance, so that in relation to the real cost of compensation, the high-wage sectors (which include the iron and steel industry) have to meet a higher proportion of the financial burden than low-wage sectors.

There are also substantial differences in the calculation of pensions granted, in the redemption system, in compensation funds, etc.

This situation is highly complex and since the SISCH does not have the time required to consider the problem, it cannot provide information on the cost of accidents, and especially of fatal accidents, in this report. Nevertheless, it will look into the problem in 1981 and give information on the steps it has taken in its next report.

7. ACCIDENT STATISTICS

7.1. The new structure of the industrial accident statistics for the iron and steel industry

In February 1976, the Statistical Office's Working Party on Industrial Accidents in the Iron and Steel Industry decided to modify as from 1977 the structure of industrial accident statistics for the iron and steel industry compiled annually by the SISCH since 1960.

The modifications concerned :

- the inclusion of ECSC salaried staff (accidents, manpower, hours worked), whereas previously the statistics covered only ECSC wage-earners;
- the definition of a fatal accident : decease occurring within thirty days of the accident;
- a more detailed classification of technological branches.

These modifications were justified on several grounds :

- bias had been observed in the gathering of data from country to country and even sometimes from one works to another in the same country;
- the distinction between salaried staff and wage-earners based on the way they are paid no longer corresponded to the actual situation because a relatively high proportion of workers were being paid by the month and because there were greater numbers of technical staff working in production departments who were considered to be salaried staff but who ran the same risks as wage-earners;
- nearly half the workers were concentrated in a single technological department under the former classification.

The application of these modifications to statistical recording has meant that the results from 1977 on are no longer comparable with those for previous years.

It must also pointed out that the statistics on industrial accidents in the iron and steel industry published annually by the Statistical Office of the European Communities include the following figures :

- frequency rates
 - of fatal accidents,
 - of non-fatal accidents leading to at least one day's absence from work,
 - of non-fatal accidents leading to more than three days' absence from works.
- the number of hours lost out of every 1.000 hours worked (following non-fatal accidents leading to at least one day's absence from work);
- the average number of days lost per non-fatal accident, leading to at least one day's absence from work.

These data are compiled for the Community and for each country, by technological department and class of works' size.

7.2. Community trends in industrial accidents in the iron and steel industry

On account of the modifications made to the structure of the SCEC annual survey on industrial accidents in the iron and steel industry from 1977 on, the analysis relates in most cases to the results for the last three years.

However, the 1977 Community results do not include figures for Belgium, as the data supplied by Belgium for that year did not conform to the new definitions.

7.2.1. Fatal accidents (table I)

Whereas the number of fatal accidents had fallen considerably between 1960 and 1978, a higher number was recorded in 1979 than in the two preceding years with averages of 0,14 fatalities per 1.000 workers registered (against 0,11 in 1978), 0,08 per million hours worked (against 0,06 in 1978) and 0,67 per million tonnes of crude steel produced (against 0,57 in 1978).

1979 therefore saw a deterioration in the "fatal accident" situation as compared with the two previous years.

7.2.2. Non-fatal accidents leading to an absence from work (table II)

Non-fatal accidents leading to an absence from work were more frequent in 1979 than in 1978, and even more so than in 1977. The deterioration in the situation is approximately 10% over the two years. This can be seen from a comparison of frequency rates and incidence rates of the two categories of time lost considered :

- at least one day's absence from work :
 - frequency rate : 57 in 1977, 63 in 1979;
 - incidence rate : 97,2 in 1977, 108,1 in 1979.

- more than three days' absence from work :
 - frequency rate : 47 in 1977, 51 in 1979;
 - incidence rate : 80 in 1977, 89 in 1979.

Furthermore, the proportion of accidents leading to an absence of between one and three days decreased slightly, or in other words the number of accidents leading to more than three days' absence increased proportionately (approximately 4,5%).

To sum up, a gradual deterioration in the "accidents leading to absence from work" situation is evident over the 1977-1979 period, with a difference amounting to approximately 10%.

7.2.3. The seriousness of accident (table III)

While the average length of absence from work per accident was the same in 1979 as in 1978 (18.5 days) and slightly less as compared with 1977 (18,8 days), the number of hours lost on account of accidents leading to absence from work per 1.000 hours worked increased by nearly 10% over the 1977-1979 period (5,01 in 1977, 5,23 in 1978, and 5,47 in 1979).

This does not mean that accidents has more serious effects in 1979 than in 1977 since, as pointed out above, accidents were more frequent in 1979 than in 1977 and at the same time the number of accidents leading to more than three days' absence in proportion to total accidents leading to an absence from work increased slightly.

This does not alter the fact that the time lost through absence per 1.000 hours worked is on the increase.

7.2.4. Accidents leading to absence from work and production (table IV)

A comparison of accidents and production is by no means an easy task, especially since production is assessed in real units (tonnes of steel produced) whereas accidents are expressed in relative units (based on either the number of hours worked - the frequency rate - or the number of workers - the incidence rate).

It was for this reason the SISCH decided to compare the annual variations in three factors :

- the frequency rate of accidents leading to at least one day's time lost;
- the production of crude steel;
- the utilisation rate of crude steel production capacity;

calculating for each of these values the percentage variation in relation to the same value for the previous year, the latter being taken as 100% .

Table IV, thus shows that for each of the years 1978 and 1979 the gradual annual increases in production and in the rate of utilization of production capacity were accompanied by an annual increase of the same order of magnitude (about 5%) in accidents leading to absence from work.

The series of similar findings at present available is not an adequate basis for a rule on the trend in accidents, but all the figures given in Table IV support the hypothesis that the three factors are related and that a decrease in production and in the rate of utilization of production capacity would lead to a decrease in accidents leading to absence from work, and vice-versa.

This does not necessarily mean that the number of accidents per million tonnes of steel produced is a constant since, as Table IV shows, this ratio decreased over the 1977-1979 period, despite the increase already mentioned in frequency and incidence rates.

However, if the hypothesis holds good, where there is an increase in production and in the rate of utilization of capacity, one would expect to see an increase in the frequency and incidence rates and vice-versa, without there necessarily being the same proportional increase or decrease in the three factors.

The SISCH will continue its comparisons between industrial accidents and production in the future, with a view amongst other things to confirming the validity of the above hypothesis.

7.2.5 Accidents by technological department (Table V)

Production activities or activities connected with production are very different from one technological department to another and lead to a wide range of "accident" results, as shown in table V. Apart from the Administration" department, where hazards cannot be compared with those in other departments, the range of result based on the averages for the years 1977 to 1979 is as follows (the results for the "other auxiliary departments - wage-earners" are the lowest in all cases and are allocated the index 1) :

- fatal accidents : 1 to 67,
- non-fatal accidents leading to at least one day's absence : 1 to 3,
- non-fatal accidents leading to more than three days' absence : 1 to 3,
- number of hours lost per 1.000 hours worked : 1 to 3

However, according to the category of seriousness of accident effects, the department which turn out to be the most hazardous are not always the same ones.

The following table gives the classification, based on the averages of frequency rates for the three years 1977 to 1979, of technological departments in decreasing order, with the "other auxiliary departments - wage-earners" being allocated the index 1.

F \uparrow		F ≥ 1		F ≥ 3		$\frac{H}{21}$	
Blast furnaces	6.7	Melting shops	3.0	Finishing	3.0	Finishing	3.1
Coke ovens	5.7	Finishing	2.9	Melting shops	2.9	Melting shops	2.8
Melting shops	5.3	Coke ovens	2.2	Blast furnaces	2.1	Blast furnaces	2.2
Transport	5.0	Blast furnaces	2.1	Coke ovens	2.1	Rolling mills	2.0
Finishing	3.7	Rolling mills	2.1	Rolling mills	2.1	Coke ovens	2.0
Maintenance	2.3	Transport	1.9	Transport	1.8	Transport	1.8
Rolling mills	1.7	Maintenance	1.5	Maintenance	1.5	Maintenance	1.5

This means, for example, that fatal accidents in terms of number of hours worked are 6,7 times more numerous in the "blast furnaces" department than in the other auxiliary departments - wage-earners". Study of this table does not warrant the conclusion that any one department is clearly less

hazardous than the others, with the exception of the "maintenance department" which comes last or second to last in all the categories. All the other departments, including the "rolling mills" and "transport" departments, must be considered hazardous, on account of the frequency of fatal accidents or of other accidents occurring therein.

Furthermore, it is strange to observe that some departments show distinctly lower proportions of accidents leading to an absence from work of between one and three days. For example, the figures for the "finishing" and "rolling mills" departments and to a lesser extent the "blast furnaces" department are below the Community average, whereas the figures for the "coke evens", "melting shops" and especially "maintenance" departments are markedly above the Community average. This means therefore that the first three departments considered would register accidents leading to absence from work of greater seriousness than the last three, irrespective of the number of accidents since here we are concerned with the ratio between accidents leading to absence lasting one to three days and total accidents leading to absence from work occurring within the same department.

Lastly, as regards trends during the last three years, it must be noted that almost all frequency rates and incidence rates are on the increase. There are some exceptions (e.g. fatal accidents in coking plants, accidents leading to absence from work in finishing departments), but they are rare.

7.2.6. Accidents in relation to the size of the steelworks (Table VI)

Both the frequency of accidents leading to an absence from work and the number of hours lost on account of accidents per 1.000 hours worked are the lowest in works where staff numbers are highest (more than 8.000 workers). Conversely, these figures are highest (over 50%) in the smallest works (fewer than 500 workers).

Between the two extremes, the table shows an overall increase in the frequency of accidents leading to absence from work and in the number of hours lost per 1.000 hours worked in inverse proportion to the size of the

works. However, this increase is not steady, since the class of works with 4.000 to 7.999 workers shows poorer results for these variables than the class immediately below (2.000 to 3.999 workers) and even, to some extent, than the class with 1.000 to 1.999 workers. It is difficult to explain this situation without an in-depth analysis of the structures of works in this size category.

Attention should be drawn to the considerable annual variations in the figures for fatal accidents, especially in the smallest size categories. This is due to the fact that works in these classes have a relatively small staff and that a given number of fatal accidents leads to a much higher rate than in large firms. Nevertheless, taking average figures for the three years under consideration into account, it may be stated that the rates of fatal accidents do not differ greatly from the rates for large companies, with the exception of the class of works with 1.000 to 1.999 workers, whose 1977-1979 results are distinctly better than those of other classes.

7.3. Trends in industrial accidents in the various countries of the Community

The Steel Industry Safety and Health Commission has never carried out comparison of statistics between two or more Community countries since it considers that statistics on accidents leading to absence from work are affected considerably by accidents leading to relatively short absences from work, which are in turn affected by socio-economic and treatment organization factors which are totally unrelated to the seriousness of the injury but have a bearing on the criterion for ordering or refusing to order an absence from work for the accident victim. Moreover, the SISCH considers that it is up to the national organizations and interested parties to analyse their own findings. These appear in Tables VII - XV.

STATISTICAL TABLES

Important note :

A series of statistical data on industrial accidents in the iron and steel industry in the Community and the various Member States, taken from or based on "Industrial Accidents - Iron and Steel - 1977-1979", published by the Statistical Office of the European Communities, appears hereafter. There is a break in these tables owing to the modifications to the structures of these statistics from 1977 on. The results for the years 1977 to 1979 are therefore not comparable with those for previous years (see Chapter 8.1 of the report).

Furthermore, as far as 1977 is concerned, the Statistical Office could not include the results for Belgium, as the figures submitted were based on the old definitions. The Community results for 1977 therefore do not take account of these for Belgium.

LIST OF SYMBOLS

-  Registered workforce
-  Number of hours worked x 1.000
-  Number of fatal accidents
- F**  Frequency rate of fatal accidents (number of deaths per million hours worked)
- I**  Incidence rate of fatal accidents (number of deaths per 1.000 workers registered)
-  Number of fatal accidents per million tonnes of crude steel produced
- F**  Frequency rate of non-fatal accidents leading to at least one day's absence from work (number of cases per million hours worked)
- I**  Incidence rate of non-fatal accidents leading to at least one day's absence from work (number of cases per 1.000 workers registered)
-  Number of non-fatal accidents leading to at least one day's absence from work per million tonnes of crude steel produced
- F**  Frequency rate of non-fatal accidents leading to more than three days' absence from work (number of cases per million hours worked)
- I**  Incidence rate of non-fatal accidents leading to more than three days' absence from work (number of cases per 1.000 workers registered)
- %**  Percentage of non-fatal accidents leading to between one and three days' absence from work
- H**  Number of hours lost as a result of accidents leading to at least one day's absence from work per 1.000 hours worked
- M**  Average number of days lost per accident leading to at least one day's absence from work
-  Crude steel production x 1.000 tonnes
-  Percentage utilization rate of production capacity of crude steel-producing plant
-  Percentage variation in relation to previous year, the latter being taken as 100%

ACCIDENTS IN THE COMMUNITY

Table I

Fatal accidents

	\dagger	F \dagger	I \dagger	\dagger / T
1974	137	0,13	0,23	0,88
1975	110	0,12	0,19	0,88
1976	88	0,09	0,16	0,86
* 1977	75	0,07	0,11	0,60
1978	75	0,06	0,11	0,57
1979	94	0,08	0,14	0,67

* siehe Seite 20 - See page 20 - Voir page 20

Table II

Non-fatal accidents leading to absence from work

	F ≥ 1	I ≥ 1	F > 3	I > 3	% $\geq 1-3$
1974	85	154,8	72	130,5	15,3
1975	78	131,6	67	111,8	14,1
1976	80	137,8	67	115,0	16,2
*1977	57	97,2	47	80,0	17,7
1978	60	103,2	49	84,9	18,3
1979	63	108,1	51	89,0	16,9

* siehe Seite 20 - See page 20 - Voir page 20

Table III

Seriousness of accidents

	$H/\geq 1$	$M \geq 1$
1974	-	-
1975	-	-
1976	-	-
1977	5.01	18.8
1978	5.23	18.5
1979	5.47	18.5

Table IV

Accidents leading to absence from work and production

	$\frac{\boxed{\geq 1}}{T}$	F $\boxed{\geq 1}$	T	$\boxed{\%L}$	$\boxed{v\%}$		
					F $\boxed{\geq 1}$	T	$\boxed{\%L}$
1974	582	85	155.587	87			
1975	597	78	125.235	66	- 8,2	- 19,5	- 26,7
1976	563	80	134.156	68	+ 2,5	+ 7,1	+ 3,0
1977 *	561	57	126.121	63			
1978	528	60	132.587	66	+ 5,3	+ 5,1	+ 4,8
1979	500	63	140.195	69	+ 5,0	+ 5,7	+ 4,5

* siehe Seite 20 - See page 20 - Voir page 20

ACCIDENTS IN THE VARIOUS TECHNOLOGICAL DEPARTMENTS

		F \square \uparrow	I \square \uparrow	F \square ≥ 1	I \square ≥ 1	F \square > 3	I \square > 3	H \square ≥ 1	M \square ≥ 1	% \square $\geq 1-3$
- Hüttenkokerien - Coking plants - Cokeries sidérurgique	*1977	0,16	0,300	74	134.2	61	111,4	6.63	18.0	17.1
	1978	0,27	0,465	83	146.2	67	117,6	6.90	17.2	19,6
	1979	0,05	0,095	89	155.1	71	123,7	6,76	15.9	20.2
- Hochofen - Blast furnace - Hauts fourneaux	*1977	0,16	0,267	75	127.6	64	108,1	7,40	21.2	15.3
	1978	0,19	0,333	81	139.6	68	116.7	7,29	19.0	16.4
	1979	0,25	0,419	84	142.7	71	121.0	7.27	18.6	15.2
- Stahlwerke - Steelworks - Aciéries	*1977	0,16	0,255	112	182.9	89	144.9	8.99	18.0	20.7
	1978	0,11	0,178	114	191.4	91	152.6	9.62	18.3	20.3
	1979	0,23	0,389	115	193.5	92	154.7	9.59	18.1	20.0
- Walzwerke - Rolling-mills, etc. - Laminoirs, etc.	*1977	0,04	0,073	76	117.9	63	104.2	6.49	18.8	11.6
	1978	0,03	0,053	79	134.8	66	112.3	7.02	19.0	16.6
	1979	0,08	0,130	81	138.4	68	115.3	7.02	18.5	16.7
- Zurichterei und Stapelung - Finishing and Storage - Parachèvement et emmagasinage	*1977	0,08	0,135	112	183.4	96	157.2	10.36	20.7	14.3
	1978	0,13	0,218	109	185.6	94	160.0	10.54	20.7	13.8
	1979	0,13	0,216	111	191.2	96	165.2	10.64	20.3	13.6
- Instandhaltung - Maintenance - Entretien	*1977	0,07	0,126	57	98.5	47	80.8	4.94	18.3	18.0
	1978	0,08	0,139	61	105.4	50	86.2	5.07	17.6	18.2
	1979	0,06	0,110	60	105.8	49	86.2	5.22	18.0	18.6
- Transport	*1977	0,12	0,200	66	110.1	52	84.9	5.39	17.9	22.8
	1978	0,14	0,246	71	123.6	56	97.8	6.05	17.9	20.8
	1979	0,21	0,371	75	131.8	59	104.5	6.57	18.2	20.7
- Sonstige Hilfsbetriebe - Other auxiliary departments - Autres services auxiliaires	*1977	0,05	0,092	36	61.5	30	52.0	3.26	19.3	15.4
	1978	0,03	0,046	41	70.8	34	58.3	3.45	17.8	17.7
	1979	0,01	0,014	37	62.5	30	51.8	3.38	19.7	17.1
- Verwaltung - Administration	*1977	0,004	0,007	8	14.9	7	12.4	0.74	18.1	16.3
	1978	0,004	0,007	10	14.9	8	14.2	0.82	17.9	15.6
	1979	0,008	0,016	11	18.7	9	15.6	0.92	17.9	16.6

Accidents in the various technological departments

* ohne Belgien - without Belgium - sans Belgique

ACCIDENTS BY CLASS OF SIZE OF STEELWORKS

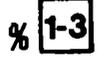
		F \uparrow	I \uparrow	F ≥ 1	I ≥ 1	F > 3	I > 3	H/ ≥ 1	M ≥ 1	% 1-3
500	1977 *	0,07	0,125	81	139.1	59	101.4	6.62	17.4	21.4
	1978	0,03	0,055	75	122.0	62	110.1	6.91	19.0	9.8
	1979	0,09	0,160	82	147.8	69	121.3	7.06	17.4	17.9
500 - 999	1977 *	0,16	0,274	81	138.3	67	115.4	6.91	18.2	16.6
	1978	0,02	0,027	76	134.2	65	114.8	7.19	19.5	14.5
	1979	0,10	0,183	65	114.0	55	96.0	6.14	19.7	15.8
1000 - 1999	1977 *	0,01	0,019	63	111.8	54	95.7	5.96	19.5	14.4
	1978	0,05	0,086	62	109.0	56	97.8	6.82	22.8	10.3
	1979	0,03	0,059	66	115.3	56	98.5	6.61	20.9	14.6
2000 - 3999	1977 *	0,07	0,124	49	85.2	42	72.2	5.18	22.3	15.3
	1978	0,06	0,108	56	97.9	45	78.5	5.34	19.9	19.8
	1979	0,10	0,182	57	99.1	47	81.8	5.65	20.8	17.5
4000 - 7999	1977 *	0,05	0,077	61	101.7	51	84.4	5.57	20.0	17.0
	1978	0,07	0,126	68	114.5	55	92.8	5.73	18.3	19.0
	1979	0,10	0,163	78	132.3	62	104.8	6.60	18.2	20.8
8000	1977 *	0,07	0,123	52	87.7	42	71.2	4.01	16.7	18.8
	1978	0,07	0,125	51	87.1	42	71.6	3.95	16.6	18.0
	1979	0,07	0,128	52	90.3	44	75.4	4.15	16.8	16.5

Accidents by class of size of steelworks

* ohne Belgien - without Belgium - sans Belgique

ACCIDENTS IN THE IRON AND STEEL INDUSTRY
IN THE VARIOUS COMMUNITY COUNTRIES

DEUTSCHLAND

			F 	F 	F 	I 	I 	I 	% 	H 	M 
1960	214.671	427.479	0,18	108	95	0,359	215.1	189.2	13.6	10,61	18.1
1965	196.246	376.518	0,19	98	87	0,367	169.9	166.9	11.2	10.03	19.4
1970	181.686	345.182	0,15	105	94	0,286	199.5	178.6	10.5	9.85	18.1
1975	167.823	267.988	0,13	92	79	0,209	146.9	126.5	14.1	7.09	17.6
1976	162.315	269.589	0,14	94	80	0,234	156.1	132.8	14.9	7.28	17.1
* 1977	201.279	321.444	0,08	64	54	0,129	102.2	86.2	15.6	4.69	16.9
1978	204.963	340.402	0,06	63	54	0,098	104.6	89.7	14.3	5.12	17.8
1979	189.446	316.635	0,12	67	56	0,201	112.0	93.6	16.4	5.37	17.5

DEUTSCHLAND

* siehe Seite 20 - See page 20 - Voir page 20

FRANCE

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960	148.362	343.471	0,22	74	71	0,512	171.3	164.4	4.0	7.76	16.6
1965	126.839	270.871	0,17	67	65	0,362	143.1	138.8	3.0	7.11	18.2
1970	109.274	218.742	0,17	64	62	0,348	128.1	124.1	3.1	6.57	18.7
1975	107.529	179.836	0,13	83	80	0,214	138.8	133.8	3.7	10.23	26.9
1976	104.140	174.979	0,10	79	76	0,163	132.7	127.7	3.8	9.11	25.2
* 1977	147.927	242.323	0,07	51	49	0,115	83.5	80.3	3.9	6.28	27.2
1978	133.222	225.150	0,06	53	51	0,105	89.5	86.2	3.8	6.59	27.1
1979	121.973	209.845	0,05	52	50	0,086	89.5	86.0	3.8	6.81	27.9

FRANCE

* siehe Seite 20 - See page 20 - Voir page 20

ITALIA

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960	51.177	111.132	0,15	104	78	0,332	225.8	169.3	25.0	9.97	16.1
1965	55.164	112.587	0,19	102	77	0,380	208.2	157.1	24.5	9.75	17.3
1970	59.287	108.790	0,17	117	91	0,304	214.7	167.0	22.2	10.85	18.4
1975	74.373	118.260	0,06	144	107	0,094	229.0	170.1	25.7	9.72	15.4
1976	75.373	123.856	0,06	146	104	0,093	243.2	170.9	29.8	9.47	14.3
* 1977	88.090	150.408	0,08	140	97	0,136	239.0	165.6	30.7	8.49	12.9
1978	81.462	140.487	0,09	139	96	0,160	239.7	165.6	30.9	8.68	13.2
1979	89.132	147.407	0,06	137	97	0,101	226.6	160.4	29.2	8.23	13.2

ITALIA

* siehe Seite 20 - See page 20 - Voir page 20

NEDERLAND

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960	9.457	18.201	0,05	63	54	0,106	121.3	103.9	14.3	4.87	14.7
1965	11.834	22.372	0,04	69	59	0,085	130.5	111.5	14.5	5.69	15.9
1970	13.666	24.427	0,12	42	38	0,219	75.1	67.9	9.5	5.06	24.6
1975	16.152	26.601	0,04	37	34	0,062	60.9	56.0	8.1	4.24	25.7
1976	15.586	25.409	0,12	34	32	0,192	55.4	52.2	5.9	3.76	24.6
* 1977	23.467	39.404	0	23	21	0	38,6	35.2	8.7	2.32	22.1
1978	21.353	34.737	0,03	27	25	0,050	43.9	40.7	7.4	2.98	24.7
1979	20.532	33.013	0,09	33	29	0,150	53.1	46.6	12.1	3.45	23.8

NEDERLAND

* siehe Seite 20 - See page 20 - Voir page 20

BELGIQUE - BELGIE

			F \uparrow	F ≥ 1	F > 3	I \uparrow	I ≥ 1	I > 3	% 1-3	H ≥ 1	M ≥ 1
1960	53.361	108.542	0,20	128	100	0,412	260.4	203.0	21.9	9.15	12.9
1965	50.459	102.767	0,18	107	80	0,365	217.9	162.9	25.2	7.19	12.1
1970	50.018	98.347	0,16	93	72	0,320	182.8	141.5	22.6	7.51	15.0
1975	50.857	77.666	0,15	97	74	0,236	148.1	113.0	23.7	5.76	14.2
1976	48.102	76.941	0,10	105	81	0,166	167.9	129.6	22.8	6.68	14.5
* 1977	-	-	-	-	-	-	-	-	-	-	-
1978	48.650	81.163	0,11	95	75	0.185	158.5	125.1	21.1	6.17	14.2
1979	47.403	75.502	0,16	112	90	0.253	178.9	143.0	20.0	7.06	14.4

BELGIQUE - BELGIE

* siehe Seite 20 - See page 20 - Voir page 20

GRAND DUCHE DE LUXEMBOURG

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960	19.705	47.619	0,05	121	115	0,101	292.3	278.0	5.0	14.42	20.6
1965	19.572	38.717	0,21	115	106	0,409	227.5	207.7	7.8	12.64	20.4
1970	19.576	36.734	0,14	102	94	0,255	191.4	176.4	7.8	10.67	20.5
1975	18.198	30.394	0,20	75	68	0,330	125.2	113.6	9.3	7.85	22.8
1976	17.012	28.768	0,17	82	73	0,294	138.7	123.4	11.0	8.43	22.2
* 1977	19.092	33.318	0,06	60	51	0,105	104.7	90.0	15.0	6.33	22.1
1978	16.708	28.756	0,17	62	54	0,299	106.7	92.9	12.9	6.35	21.8
1979	16.032	27.146	0,29	69	60	0,499	116.8	101.6	13.0	7.97	24.9

GRAND DUCHE DE LUXEMBOURG

* siehe Seite 20 - See page 20 - Voir page 20

UNITED KINGDOM

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960											
1965											
1970											
1975	130.779	248.694	0,10	28	25	0,191	53.2	47.5	10.7	-	-
1976	123.381	240.413	0,04	27	25	0,081	52.6	48.7	7.4	-	-
* 1977	179.594	336.835	0,05	22	19	0,09	41.3	35.6	13.6	2.84	25.3
1978	169.833	314.209	0,04	20	18	0,08	40.0	33.3	10.0	2.54	24.7
1979	161.452	302.840	0,05	20	19	0,09	37.5	35.6	5.0	2.60	25.5

UNITED KINGDOM

* siehe Seite 20 - See page 20 - Voir page 20

IRELAND

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960											
1965											
1970											
1975	644	-	(a)	76	39	-	-	-	48.7	8.68	19.2
1976	544	-	0	58	59	-	-	-	32.8	11.44	30.8
* 1977	703	889	0	33	27	0	41.2	34.1	18.1	4.78	42.3
1978	593	1.303	0	41	29	0	89.1	63.9	29.3	6.32	25.9
1979	600	1.278	0	43	38	0	91.6	80.0	11.6	9.15	36.4

(a) 1 tödliche Unfall
1 fatal accident

1 accident mortel
1 infortunio mortale

1 dodelijk ongeval

* siehe Seite 20 - See page 20 - Voir page 20

IRELAND

DANMARK

			F 	F 	F 	I 	I 	I 	% 	H/ 	M 
1960											
1965											
1970											
1975	1841	3.222	0,24	88	65	0,543	154.3	113.5	26.1	6.18	14.6
1976	1993	3.421	0	75	59	0	133.5	101.4	21.3	5.84	16.7
* 1977	2410	4.122	0	53	44	0	90.6	181	17.0	4.82	19.4
1978	2.532	4.401	0	66	51	0	114.7	224	21.2	5.23	16.6
1979	2.618	4.459	0	70	54	0	119.2	229	22.9	4.50	13.8

DANMARK

* siehe Seite 20 - See page 20 - Voir page 20

8. PUBLICATIONS

Apart from the 11th report of the Steel Industry Safety and Health Commission (1979 activities), which appeared in September 1980, none of the conclusions which the SISCH adopted at its meeting on 22 May 1980 was published in 1980 on account of the budgetary difficulties mentioned above.

However, the publication of the following documents is expected during the first half of 1981 :

- Cooperation of workers and their representatives in accident prevention within the enterprise;
- General considerations on the training of workers' safety representatives in safety and health matters;
- Noise in electric steel shops;
- Pollutant dust and gas emissions within electric steel works;
- Oxygen in the iron and steel industry.

LIST OF DOCUMENTS OF THE
STEEL INDUSTRY SAFETY AND HEALTH COMMISSION

Those documents in the list marked (*) can be obtained from :

Commission of the European Communities
DG IX - Service diffusion des documents
Bâtiment Jean Monnet
Plateau du Kirchberg
LUXEMBOURG

and those marked (**) can be obtained from :

Commission of the European Communities
DG XIII- Directorate A
Bâtiment Jean Monnet
Plateau du Kirchberg
LUXEMBOURG

PREVENTION

- Memorandum on the prevention of accidents in the Swedish iron and steel industry - 1966
(DE. FR. IT. NL.) out of print
- Report of the information seminar held on 29 and 30 November 1966 - 1967
(DE. FR. IT. NL.) (*)
- Application of the principles of accidents prevention in the United Kingdom - 1968
(DE. FR. IT. NL.) (*)
- Adoption and regular use of individual means of protection - 1971
(DE. EN. FR. IT. NL.) (*)
- Principles of accident prevention - 1973
(DE. EN. FR. IT. NL.) (*)
- The accident prevention policy on the British Steel Corporation - 1973
(DE. FR. IT. NL.) out of print
- Check questionnaire of the accident prevention organisation within the enterprise - 1974
(DE. EN. FR. IT. NL.) (*)
- Accident prevention programme - 1977
(EUR 5922 - DE. EN. FR. IT. NL.) (**)
- Trends in industrial safety at "Cockerill-Liège" 1956 - 1974 - Analysis and conclusions - 1977
(EUR 5927 - DE. EN. FR. IT. NL.) (**)
- Cooperation of workers and their representatives in accident prevention within the enterprise

TRAINING

Principles of training in industrial safety - 1969
(DE. FR. IT. NL.) out of print

Training of industrial safety advisers
(EUR 6091 - DE. EN. FR. IT. NL.) (**)

Integration into an industrial environment
of unskilled production workers. The experience
of the Forges de Basse-Indre (**)
(EUR 6205 - DE. EN. FR. IT. NL.)

General considerations in the training of worker's safety
representatives in safety and health matters

OVERHEAD TRAVELLING CRANES

Access to the cabin of an overhead travelling crane
1968 out of print
(DE. FR. IT. NL.)

Selection and training of crane-drivers - 1970 out of print
(DE. FR. IT. NL.)

TAPPING THE BLAST

Blast furnace tapping - 1977 (**)
(EUR 5896 - DE. EN. FR. IT. NL.)

MAINTENANCE AND REPAIR WORK ON GAS LINES AND
APPARATUS

Construction requirements - 1968 (*)
(DE. FR. IT. NL.)

- Personal protection; monitoring and detection of gases
1970 (*)
(DE. FR. IT. NL.)
- Insulating and degassing lines - 1973 (*)
(DE. FR. IT. NL.)
- Water seals and drain seal pots - 1978 (**)
(EUR 6048 - DE. EN. FR. IT. NL.)

OXYGEN

- Oxygen pipe connections - 1969 (**)
(DE. FR. IT. NL.)
- Shut-off and control devices - 1970 out of print
(DE. FR. IT. NL.)
- The design, construction, location and operation
of fittings in oxygen installations - 1971 (*)
(DE. FR. IT. NL.)
- Filters, intermediate storage vessels, measurement
equipment of importance for safety, lubrication,
degreasing of oxygen lines and equipment - 1973 (*)
(DE. FR. IT. NL.)
- Flexible pipes - 1974 (*)
(DE. EN. FR. IT. NL.)
- Precautions to be taken in the preparation of plant
and equipment - 1977 (**)
(EUR 5923 - DE. EN. FR. IT. NL.)
- Oxygen enriched atmospheres - 1978 (**)
(EUR 6047 - DE. EN. FR. IT. NL.)

Oxygen in the iron and steel industry

STEELMAKING PLANTS

Noise in electric steelmaking plants

Pollutant dust and gas emissions inside electric steel works

MISCELLANEOUS

Symposium on accident prevention - Luxembourg
21, 22 and 23 October 1970 - 1972 (*)
(DE. EN. FR. IT. NL.)

Information seminar in Dortmund, on 20 and 21
October 1973 (*)
(DE.)

Comprehensive accident control for preventing
accidents causing injury - 1977 (**)
(EUR 5926 - DE. EN. FR. IT. NL.)

First aid and rescue - 1978 (**)
(EUR 5928 - DE. EN. FR. IT. NL.)

Hydrogen in the iron and steel industry' -
safety aspects (**)

BIBLIOGRAPHES

- Problems of lifting, the use of explosives
in the blast furnace - 1967 out of print
(DE. FR. IT. NL.)

- ECSC Publications, problems of the iron and
steel industry, anti-collision devices for
overhead travelling cranes, handling cost
of accidents - 1968 out of print
(DE. FR. IT. NL.)

- Noise out of print
(DE. FR. IT.)

- Transport and handling out of print
(DE. FR. IT.)

REPORTS

- First report of the Steel Industry Safety and Health Commission - 1969
(DE. FR. IT. NL.) out of print
- Second report of the Steel Industry Safety and Health Commission - 1970 out of print
- Third report of the Steel Industry Safety and Health Commission - 1971
(DE. FR. IT. NL.) out of print
- Fourth report of the Steel Industry Safety and Health Commission 1972
(DE. EN. FR. IT. NL.) out of print
- Fifth report of the Steel Industry Safety and Health Commission - 1973
(DE. EN. FR. IT. NL.) out of print
- Sixth report of the Steel Industry Safety and Health Commission - 1974
(DE. EN. FR. IT. NL.) out of print
- Seventh report of the Steel Industry Safety and Health Commission - 1975
(DE. EN. FR. IT. NL.) (*)
- Eighth report of the Steel Industry Safety and Health Commission - 1976
(DE. EN. FR. IT. NL.) (*)
- Ninth report of the Steel Industry Safety and Health Commission - 1977
(DA. DE. EN. FR. IT. NL.) (*)
- Tenth report of the Steel Industry Safety and Health Commission - 1978
(DA. DE. EN. FR. IT. NL.) (*)
- Eleventh report of the Steel Industry Safety and Health Commission - 1979
(DA. DE. EN. FR. IT. NL.)

LISTE DES MEMBRES DE LA COMMISSION GENERALE

LISTE DER MITGLIEDER DES ALLGEMEINEN AUSSCHUSSES

ELENCO DEI MEMBRI DELLA COMMISSIONE GENERALE

NAMEN VAN DE LEDEN VAN DE ALGEMENE COMMISSIE

LIST OF THE MEMBERS OF THE STEEL INDUSTRY SAFETY
AND HEALTH COMMISSION

1 9 8 0

COMMISSION GENERALE DE LA SECURITE ET DE LA SALUBRITE DANS LA SIDERURGIE
ALLGEMEINER AUSSCHUSS FUER DIE ARBEITSSICHERHEIT UND DEN GESUNDHEITSSCHUTZ IN DER EISEN- UND STAHLINDUSTRIE
COMMISSIONE GENERALE PER LA SICUREZZA E LA SALUBRITA' NELL'INDUSTRIA SIDERURGICA
ALGEMENE COMMISSIE VOOR DE ARBEITDSVEILICHEID IN DE IJZER-EN STAALINDUSTRIE
STEEL INDUSTRY SAFETY AND HEALTH COMMISSION

DEUTSCHLAND

H. KARL - Leiter der Abteilung Arbeitswissenschaft Hoesch A.G. - 4600 Dortmund
K.H. MARESCH - Wirtschaftsvereinigung Eisen- und Stahlindustrie - 4000 Düsseldorf 1
H.G. WEYMANN - Stellver. Betriebsratsvorsitzender der August Thyssen-Hütte AG - 4100 Duisburg
D. WIESHOFF - Sachbearbeiter beim Vorst. I.G. Metall - 4000 Düsseldorf 1

BELGIQUE

R. BROCTEUR - Responsable de la politique "Sécurité" du groupe Cockerill - S.A. Cockerill - 4200 Ougrée
J. DOYEN - Secrétaire général de la Centrale chrétienne des Métallurgistes de Belgique - 1120 Bruxelles
GAUDER - Directeur du Dpt. social. Groupement des hauts fourneaux et aciéries belges - 1040 Bruxelles
R. DESSENIUS - Conseiller - Centrale des Métallurgistes de Belgique - 1050 Bruxelles

FRANCE

J.M. CAVE - Conseiller auprès de la Présidence. Union des Industries Métallurgistes et Minières - 75017 Paris
BECE - Directeur de l'usine SACILOR GANDRANGE - 57360 Amnéville
B. MOURGUES - Secrétaire général Fédération confédérée Force ouvrière de la métallurgie - 75640 Paris
R. STAWIARSKI - Fédération Générale de la Métallurgie (C.F.D.T.) - 75009 PARIS

ITALIA

G. BRUNORI - Dirigente - Servizio Sicurezza Soc. Italsider - 16128 Genova
G. DABALA - Dirigente Centro Ecologia e Prevenzione Acciaierie e Ferriere Lombarde Falck - 20099 Sesto S. Giovanni
A. GUTTADAURO - Segretario Nazionale Unione Italiana Lavoratori Metalmeccanici - 10137 Torino
R. VALBONESI - Segretario Nazionale Federazione Italiana Metalmeccanici - 16126 Genova

LUXEMBOURG

M. CASTEGNARO - Secrétaire central Letzeburger Arbechterverband - Esch-sur-Alzette
A. ROBERT - Directeur du Groupement des industries sidérurgiques luxembourgeoises - Luxembourg
J.M. WAGENER - Directeur de l'ARBED - Luxembourg
M. ZWICK - Sekretär der Metall- und Bergarbeiter L.C.C.B. - Luxembourg

NEDERLAND

L.H. HAM - Hoofd Dienst - Bedrijfsteveiliging - Hoogovensijmuiden BV - Ijmuiden
H.H. KRUL - Distriktbestuurder Industriebond NVV - Velsen
R.W. NEESEN - Distriktbestuurder Industrie Bond - FNV - 1951 EC Velsen
J.W. VAN HAMBURG - Chef Veiligheids-en-Milieudienst. Nedstaal B.V. - Alblasserdam

UNITED KINGDOM

J.A. CATTON - Manager Safety, Health and Welfare British Steel Corporation - London SW1X 7JG
COOKE - The National Union of Sheetmetal Workers Coppermiths, Heating & Domestic Engineers - London NW3
R.L. EVANS - Assistant General Secretary I.S.T.C. - London LX 8DD
D.M. REA - Manpower Affairs Adviser, The British Independent Steel Producers Ass. - London SW7 2HX

IRELAND

A.B. KELLY - Secretary Irish Transport and General Workers Union - Dublin
H.T. KERR - Assistant General Manager Irish Steel Holding Ltd. - Haulbowline
A.F. RICE - Membership Liaison Execut. Federation Union of Employers F.U.E. Dublin
T. WALSH - Irish Transport and General Workers Union - Dublin

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