



COMMISSION OF THE  
EUROPEAN COMMUNITIES

DIRECTORATE-GENERAL  
SOCIAL AFFAIRS



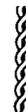
SIXTH REPORT OF THE  
STEEL INDUSTRY SAFETY AND  
HEALTH COMMISSION

(1974)



Luxembourg, March 1975





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week in the United Kingdom at the beginning of 1974.

In the six original ECSC countries, crude steel production increased from 122.855 millions to 132.631 million tonnes, or by nearly 8%, which corresponds to the increase in production for 1973 over 1972.

As in previous years, the statistics on industrial accidents in the iron and steel industry, drawn up by the Statistical Office of the European Communities from information supplied by employers' organizations, were not available in time for this report. The Steel Industry Commission regrets this as much as the European Parliament but is not to blame for the situation.

Nevertheless, an accurate assessment of the accident situation is one of the main concerns of the Steel Industry Commission. It is hoped that the intensive study of accidents statistics which the secretariat is to carry out will soon make it possible to organize better-planned statistical surveys providing more complete information. The Steel Industry Commission would nevertheless like to draw attention to the fact that iron and steel is only industrial sector for which annual accident statistics are drawn up on a Community basis by the Statistical Office of the European Communities and that this is on the initiative of both sides of industry.

2. MEETINGS OF THE STEEL INDUSTRY SAFETY AND HEALTH COMMISSION

The Steel Industry Commission held two meetings in 1974.

On 6 March 1974, it:

- discussed and adopted the programme of work for 1974 to 1976.

This programme includes:

- preparing to disband the Working Parties on Safety-Tapping the Blast Furnace, the Use of Explosives in the Blast Furnace, Safety - Gas lines
  - setting up two new Working Parties on Electric Furnaces ( to study the problems of fume collection and noise abatement in electric furnaces ) and Rolling Mills ( to study safety and health problems in connection with noise, atmosphere, floors, risk of cuts, etc. )
  - deciding on the organisation of a study and experts seminar on hydrogen plant safety.
- decided to ask the secretariat to draw up a draft programme for the direct exchange of information between enterprises.
- The task involves producing a catalogue of factories prepared to provide their colleagues with information on protection methods suitable for individual plants or specific hazards.
- adopted the conclusions of the working Party on the Organization of Accident Prevention with a view to the distribution of a standard questionnaire on the organization of accident prevention.
- The questionnaire adopted would make it possible for every enterprise to look its own organisation and carry out a self-examination.
- The various possible answer to the questions in the questionnaire are

put in an order of priority based on the best way of applying the principles of accident prevention.

The questionnaire will be distributed in 1975.

- watched the first showing of the film on the principles of accident prevention and discussed its distribution. The secretariat was asked to draw up a draft distribution programme.

At the second meeting of 1974, on 12 July, the Steel Industry Commission:

- examined the European Parliament's Resolution on its 4th report (1972 activities )

- adopted the draft version of its 5th report ( 1973 activities ) for presentation to the European Parliament by the Commission of the European Communities;

- heard the secretariat's report on the study being made of the validity of accident statistics. Following the discussion, the secretariat was asked to draw up a note on accident statistics and possible improvements.

- adopted the draft pilot programme to encourage enterprises to exchange information. This pilot programme will be experimental and, in the initial stages, will cover only the technical problems of steel works. It will come into effect in 1975;

- decided to bring in experts from workers' professional bodies to complete the Working Parties on the Organisation of Accident Prevention and on Safety-Training.

- decided on the distribution programme for the Steel Industry Commission's film on the principles of accident prevention. The programme provides for the use of industrial and safety film libraries in the individual countries; the idea is to make several copies available in each of these from 1975 onwards.

### 3. ACTIVITIES OF WORKING PARTIES

These will be examined in the following order:

- General Studies:

- . Working Party on the Organization of Accident Prevention
- . Working Party on Safety-Training
- . Working Party on First Aid and Rescue

- Technical Studies:

- . Working Party on Safety - Tapping the Blast Furnace
- . Working Party on Safety - Overhead Travelling Cranes
- . Working Party on Safety - Gas Lines
- . Working Party on Safety - Oxygen Lines
- . Working Party on the Use of Explosives in the Blast Furnace.

Work done by various working parties in the past has been discussed in earlier reports.

#### 3.1. Working Party on the Organization of Accident Prevention

As the meeting on 18 - 19 November 1974 had to be cancelled at the last minute, this Working Party was not able to meet in 1974.

The following studies are in progress:

- damage control: this is a new aspect of accident prevention and covers accidents involving material damage or production loss.

The principle is quite simple, although its implantation presupposes an organisation in keeping with the aim in view; it involves assessing the loss and the repair and improvement costs for every accident.

This method, which was tried out for the first time by the Lukens Steel Corporation in the United-States in the early 1960, has been introduced experimentally in Europe by several companies, including the British Steel Corporation and the Peine-Salzgitter company.

One of the Working Party experts, Mr Cavé, director of the ' Safety and Working Conditions : Department of the Union des Industries Métallurgiques et Minières in Paris, has been studying the working methods, their requirements and the advantages gained by applying them.

The Working Party will examine the results of this study and present a recommendation to the Steel Industry Commission.

- accident prevention in the enterprise: this programme is concerned with the Steel Industry Commission's 6th, 7th, 8th and 9th accident prevention principles, the text of which was given in the Steel Industry Commission's First Report. However, although these principles make it clear that all accident prevention activities should come within this programme, the activities are not listed or defined. The Working Party must now proceed to do this, so that details of the programme and its implementation are available in all appropriate quarters.

As soon as these studies have been completed, the Working Party, as provided for in the Steel Industry Commission programme, will study the various ways in which workers and their representatives can make a constructive contribution to accident prevention activities.

The Steel Industry Commission has appointed new members belonging to workers' organizations.

### 3.2. Working Party on Safety-Training

This Working Party held a meeting on 5-6 September 1974 when the training of heads of works safety and health department has discussed. It emerged from discussion that, at last initially, the training of members of these departments was similar to that of the safety officers; the difference lay in industrial experience and depth of knowledge. In view of this, it was decided to deal with the training of safety officers and members of the safety departments in one document. The secretariat was asked to draw up draft conclusions which would be examined by the Working Party at the next meeting in January 1975.

### 3.3. Working Party on First Aid and Rescue

At its meeting on 15 January 1973, the Steel Industry Commission had approved conclusions this Working Party had drawn up from the work it had done and the document had been distributed at the end of 1973. The Working Party had also been asked to revise and update these conclusions every two years.

To this end, the Working Party had organized a meeting on 16-18 December 1974 during which it was decided completely to rewrite the chapter on the training of workers exposed to serious hazards ( gas poisoning, burns from splashing metal or molten slag, electrocution, drowning or burying ) to put them in a position to take simple action in the event of an accident and thus save the victim from serious incapacitation.

The training of these workers would be in addition to that of first aid and fivemen rescue workers for which provision was already made in iron and steel works.

The meeting also decided to make a few minor improvements to the document and to include an appendix giving recommendations for particularly delicate first aid and rescue operations: the rescue of workers buried in silos, person injured on the girder rails of overhead travelling cranes, treatment for burns caused by splashing molten material, the type of first-aid to be administered for poisoning by one of the many toxic substances used in cleaning, scaling, degreasing, etc. products.

The Working Party asked some of its members to draw up draft texts on these items to be examined at the next meeting in March 1975.

#### 3.4. Working Party on Safety - Tapping the Blast Furnace

This Working Party met three times in 1974.

The first meeting, on 5 February 1974, was held jointly with the Working Party on Safety - Oxygen. The aim was to finalize the section of the conclusions of the Working Party on Safety - Tapping the Blast Furnace dealing with ' the use of oxygen in the taphouse'. Oxygen is used for cutting out sows in the runners, injection for metallurgical purposes, various repair jobs and for de-plugging when the d-plugging device breaks down.

In order to find suitable solutions it was necessary for the two groups of experts to give a joint opinion. The conclusions adopted would also serve as a basis for wider application in connection with oxygen outlet points, currently under study by the Working Party on Safety - Oxygen.

On 21-22 March 1974, the Working Party on Safety - Tapping the Blast Furnace examined and drew up conclusions on the chapter on collective protection in the taphouse, covering all precautions to be taken before, during and after tapping.

Finylly, on 9-10 December 1974, previous conclusions were re-examined, updated and sorted out. The Working Party thus completed its assignment. Its final conclusions will be submitted to the Steel Industry Commission in 1975 and will comprise the following chapters:

- requirements for taphouse construction
- use of oxygen
- plugging and de-plugging devices
- plugging material
- preparation for tapping
- tapping operation
- desulphurization of the cast in the taphouse
- solidification processes
- personal protection for foundrymen
- collective protection.

Assuming that the Steel Industry Commission gives a favourable opinion, this study should be distributed towards the end of 1975 or the beginning of 1976.

### 3.5. Working Party on Safety - Overhead Travelling Cranes

This Working Party did not meet in 1974.

The working programm for 1974/1976, adopted by the Steel Industry Commission at its meeting on 6 March 1974, provides for this Working Party's activities to start again in 1976.

3.6. Working Party on Safety - Gas Lines

This Working Party did not meet in 1974 but the new programme provides for it to start work again; a meeting is planned for January 1975 and will be written up in the next report.

3.7. Working Party on Safety - Oxygen

Two meetings were organized in 1974.

On 5 February 1974 the subject ' the use of oxygen in the taphouse ' was examined with the experts from the Working Party on Safety - Tapping the Blast Furnace. A report on this is to be found under paragraph 3.4.

On 6-7 February 1974, the Working Party continued its discussion about oxygen outlet points in the iron and steel industry and decided to divide the study into five chapters:

- manually operated points for various purposes
- oxygen lances
- air enrichment
- injection of pure oxygen in the steel works
- oxygen cutting and scarfing devices, burners using pure oxygen.

At this meeting, the Working Party drew up its conclusions on the chapter 'air enrichment '.

At the request of the Steel Industry Commission, a discussion was held at the meeting on 21-23 October 1974 on the causes of a succession of accidents involving oxygen, on the basis of information supplied by experts; the conclusions are to be submitted to the Steel Industry Commission.

3.8. Ad hoc Working Party on the Use of Explosives in the Blast Furnace

In the pursuit of research, this Working Party decided in 1973 to carry out tests with a special technical using an explosive recommended by the Belgian Explosives Authorities. It is necessary for this test to be carried out in Belgium, where the use of this type of explosive was authorized; however it could not take place in 1974, because the Belgian company, where a member of the Working Party works as an engineer, did not have a blast furnace where scaffolds had formed. The Working Party did not therefore meet.

4. OTHER ACTIVITIES

4.1. Film on accident prevention

All the versions of this film are now available ( German, English, French, Italian and Dutch ) and will be distributed in 1975 to industrial and safety film libraries in the Community Countries, as agreed by the Steel Industry Commission at its meeting on 12 July 1974. It was not possible to do this during the last quarter of 1974 because of delays in producing the versions in languages other than French.

4.2. Collaboration with CIS

Collaboration with CIS continued satisfactorily as in the past.

4.3. Distribution of documents

The following documents were printed and distributed in 1974:

Oxygen : - Filters  
- Measuring devices  
- Tanks  
- Lubrication of fittings  
- Degreasing pipelines and fittings

Tapping the Blast Furnace:

- Requirements for taphouse construction  
- Plugging and de-plugging devices  
- Plugging material  
- Preparation for tapping  
- Pig iron solidification process.

- The Steel Industry Commission's fourth report.
  
- Oxygen: - flexible piping

The following documents will be distributed at the beginning of 1975:

- Standard questionnaire on the organization of accident prevention.

These documents were distributed to the bodies listed in the fifth report.

The number of documents sent out on special request increased to 1218.

#### 4.4. Special studies

Mr Cavé's study of damage control was completed in 1974. It contains some particularly useful information on the comprehensive re-cording of accidents which might give new impetus to accident prevention activities.

As the meeting in November 1974 had to be cancelled, the Working Party on the Organization of Accident Prevention was not able to discuss this and intends to hold the discussion in March 1975.

Mr Arragon's study dealing with pressurized oxygen flow rates is complete and will be submitted to the Working Party on Safety - Oxygen in 1975. This study, based on a written survey, has not produced all the results anticipated because many of the replies were inadequate. Methods with scope for more detailed conclusions are planned.

5. INDUSTRIAL ACCIDENTS IN THE IRON AND STEEL INDUSTRY

Every year the Steel Industry Commission report contains tables and commentaries on statistics for industrial accidents throughout the Community Steel Industry.

This year the Steel Industry Commission has decided to include only the statistical tables and to drop most of the commentaries.

The reason for this is that accident statistics based only on accidents causing absence from work ( which amount to a tenth at most of all those involving bodily injuries ) provide an inadequate picture of the actual degree of safety in enterprises and give the impression that no progress is being made in accident prevention.

The Steel Industry Commission is convinced that new indicators, better adapted to the requirements and progress of industry, must and will be found in the near future. The Secretariat has been asked to carry out as detailed an examination as possible of the figures provided by a Belgian Iron and Steel enterprise ( SA. Cockerill ) as a first approach to the problem. The results of this examination are promising so far. As the study should be completed by the end of 1975 or the beginning of 1976, the present report is restricted to completing the statistical tables given in the fifth report ( 1973 activities ).

However, because of the difficulty experienced by iron and steel enterprises in three new Member States ( Denmark, Ireland, United Kingdom ) in obtaining statistical data, the industrial accident statistics for iron and steel industry in 1973 relate to the six original Community Countries only.

In table X, which sets side by side the frequency rate for accidents causing absence from work, crude-steel production, the load factor, the number of workers at the end of the year, foreign workers and the annual intake of Community workers, the conclusions reached in the fifth report appear to be confirmed. They involve a new approach justifying a more detailed study which can, however, be carried out only after the more general study mentioned above, and in so far as the results of coming years, which seem likely as to show a decline, support them.

6. OBJECTIVES

As in the past, the Steel Industry Commission believes that priority should be given to continuing the work it has begun and launching new activities - made necessary by the development of new techniques and justified by the use of new materials.

The fact that the Working Parties on Safety - Tapping the blast furnace and on First Aid and Rescue have completed their work and that it has been possible to plan the activities of two new Working Parties, is felt to be encouraging.

It is hoped that the two Working Parties just set up will help to improve the standard of safety and health in rolling mills and electric furnaces ( new fields ).

The film on the principles of accident prevention is regarded as a particularly important step and it is to be hoped that the Commission of the European Communities will make enough money available to distribute it widely during the next two years. The Steel Industry Commission would be pleased if other industrial sectors could benefit from it.

The Steel Industry Commission continues to attach great importance to the practical results of the research carried out with the financial aid of the ECSC into all the aspects of industrial safety, health and medicine likely to improve working conditions in the iron and steel industry; the progress of the programmes dealing with pollution control in the iron and steel industry and ergonomics will be followed with particular interest.

Action taken by the Commission of the European Communities as part of the new social programme is also of great concern to the Steel Industry Commission, which hopes to be able to work hand in hand with the newly - created organizations whenever the subjects with which they are dealing are of mutual interest.

STATISTICS

TABLE I

Fatal accidents in the Community of Six

Year	Number of fatalities	Frequency rate (1)	Accident: production ratio ( 2 )
1960	198	0,19	2,71
1961	168	0,16	2,28
1962	192	0,20	2,62
1963	148	0,16	2,02
1964	151	0,16	1,82
1965	167	0,18	1,94
1966	115	0,13	1,35
1967	107	0,13	1,19
1968	136	0,17	1,37
1969	136	0,16	1,27
1970	133	0,16	1,22
1971	115	0,15	1,11
1972	93	0,12	0,82
1973	117	0,12	0,95

(1) Number of fatal accidents per million hours worked

(2) Number of fatal accidents per 1.000 000 tonnes of crude steel

TABLE II

Accidents causing absence from work in the Community of Six

Year	No. of workers	Accidents resulting in 1 day's absence			Accidents resulting in 3 day's absence		Percentage of accidents resulting in between 1 and 3 day's absence
		Number	f.r.(1)	acc:prod (2)	Number	f.r. (1)	
1960	494,264	102,686	98	1.405	89,569	86	12,2
1961	501,332	100,656	96	1.369	88,685	84	12,5
1962	469,941	88,142	92	1.207	76,422	80	13,0
1963	464,702	84,496	89	1.154	73,747	78	12,4
1964	468,836	88,395	93	1.067	76,994	81	12,9
1965	460,564	83,479	90	971	72,378	78	13,3
1966	442,123	73,687	85	865	64,000	74	12,9
1967	426,329	66,628	80	741	56,804	68	15,0
1968	418,916	66,962	82	679	57,167	70	14,6
1969	424,273	71,686	87	669	62,201	75	13,8
1970	433,507	76,943	92	705	67,382	81	12,0
1971	428,562	73,882	94	714	63,241	81	13,8
1972	421,098	74,391	97	657	62,777	82	15,5
1973	430,540	80,494	103	656	67,480	87	15,5

(1) frequency rate

(2) number of accidents causing absence from work per million tonnes crude steel

TABLE III

Seriousness of accidents in the Community of Six

Year	Number of calendar days lost	Number of hours lost per 1,000 hours worked	Number of days lost per worker	Number of days lost per accident
1960	1,735,370	9.59	3.8	16.9
1961	1,747,758	9.55	3.8	17.4
1962	1,576,954	9.21	3.7	17.9
1963	1,527,193	8.98	3.7	18.1
1964	1,580,937	9.21	3.7	17.9
1965	1,492,686	8.88	3.6	17.9
1966	1,355,529	8.40	3.4	18.4
1967	1,206,785	7.76	3.1	18.1
1968	1,202,514	7.91	3.2	18.1
1969	1,323,955	8.55	3.4	18.5
1970	1,387,454	8.78	3.5	18.1
1971	1,431,769	9.15	3.7	19.4
1972	1,401,376	9.09	3.6	18.8
1973	1,462,756	9.31	3.7	18.2

TABLE IV

GERMANY

Year	No. of workers	No. of hours worked x 1,000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 day's absence	Percentage of accidents with 1 - 3 days' absence
			f.r. +	f.r. +	f.r. +	
1960	214.671	427.479	0.18	108	95	13.6
1961	214.845	426.250	0.12	102	92	9.8
1962	203.976	386.124	0.20	95	85	10.5
1963	198.184	376.060	0.16	89	79	11.2
1964	200.656	389.527	0.15	97	85	12.3
1965	196.246	376.518	0.19	98	87	11.2
1966	186.913	351.223	0.13	98	80	13.0
1967	179.935	392.045	0.14	86	72	16.2
1968	177.372	336.016	0.18	94	80	14.9
1969	179.616	346.463	0.15	100	87	13.0
1970	181.686	345.182	0.15	105	94	10.5
1971	175.187	310.063	0.15	106	92	13.2
1972	165.488	298.213	0.11	105	90	14.3
1973	169.409	312.292	0.18	113	96	15.0

(+) f.r. = frequency rate

TABLE V

BELGIUM

Year	No. of workers	No. of hours worked x 1,000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 days' absence	Percentage of accidents with 1 - 3 days' absence
			f.r. +	f.r. +	f.r. +	
1960	53.361	108.542	0.20	128	100	28.0
1961	52.878	106.915	0.19	122	95	22.1
1962	51.021	107.981	0.19	110	84	23.6
1963	50.662	107.150	0.23	107	82	23.4
1964	52.193	108.605	0.17	114	87	23.7
1965	50.459	108.767	0.18	107	80	25.2
1966	48.164	97.564	0.14	95	70	26.3
1967	47.581	94.790	0.13	90	67	25.6
1968	48.031	95.516	0.18	87	65	25.3
1969	49.043	97.668	0.17	87	66	24.1
1970	50.018	98.347	0.16	93	72	22.6
1971	50.049	94.843	0.17	96	73	24.0
1972	50.017	95.069	0.15	105	82	22.1
1973	51.249	93.505	0.30	112	85	24.1

(+) f.r. = frequency rate

TABLE VI

FRANCE

Year	No. of workers	No. of hours worked x 1.000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 days' absence	Percentage of accidents with 1 - 3 days' absence
			f.r. +	f.r. +	f.r. +	
1960	148.362	343.471	0.22	74	71	4.0
1961	150.312	341.506	0.20	73	71	2.7
1962	128.977	287.720	0.20	73	70	4.3
1963	129.410	282.906	0.14	72	70	2.8
1964	130.129	284.695	0.15	71	69	2.8
1965	126.839	270.871	0.17	67	65	3.0
1966	119.944	251.737	0.12	65	63	3.1
1967	113.013	234.055	0.10	59	58	1.7
1968	107.809	219.408	0.13	57	56	1.7
1969	107.634	218.766	0.20	62	60	3.2
1970	109.274	218.742	0.17	64	62	3.1
1971	107.863	209.250	0.15	68	66	2.9
1972	105.823	199.664	0.13	70	68	2.9
1973	105.785	197.588	0.09	73	71	2.7

(+) f.r. = frequency rate

TABLE VII

ITALY

Year	No. of workers	No. of hours worked x 1,000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 days' absence	Percentage of accidents with 1 - 3 days' absence
			f.r. +	f.r. +	f.r. +	
1960	51.177	111.132	0.15	104	78	25.0
1961	54.532	118.503	0.15	112	82	26.8
1962	57.081	118.145	0.20	110	80	27.3
1963	57.609	122.318	0.15	112	88	21.4
1964	55.665	111.331	0.10	107	84	21.5
1965	55.614	112.587	0.19	102	77	24.5
1966	55.506	108.360	0.16	95	75	21.0
1967	54.640	110.263	0.12	96	75	21.9
1968	54.611	108.322	0.18	91	69	24.2
1969	56.026	102.701	0.14	98	76	22.5
1970	59.287	108.790	0.17	117	91	22.2
1971	62.370	109.731	0.12	121	91	24.8
1972	66.518	114.022	0.12	132	95	28.0
1973	69.946	116.084	0.08	141	102	27.7

(+) f.r. = frequency rate

TABLE VIII  
GRAND DUCHY OF LUXEMBOURG

Year	No. of workers	No. of hours worked x 1,000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 days' absence	Percentage of accidents with 1 - 3 days' absence
			f.r. +	f.r. +	f.r. +	
1960	19.705	47.619	0.05	121	115	5.0
1961	19.308	40.646	0.17	117	110	6.0
1962	19.082	39.108	0.23	107	100	7.0
1963	19.902	38.581	0.10	111	103	7.2
1964	19.403	39.279	0.46	112	102	8.9
1965	19.572	38.717	0.21	115	106	7.8
1966	19.552	38.071	0.26	108	100	8.0
1967	19.299	37.121	0.27	104	98	5.8
1968	18.968	36.347	0.22	94	88	6.4
1969	19.045	36.780	0.16	105	97	7.6
1970	19.576	36.734	0.14	102	94	7.8
1971	19.294	35.635	0.17	94	87	7.4
1972	19.041	34.501	0.09	85	74	12.9
1973	19.351	34.693	0.14	82	76	7.3

(x) f.r. = frequency rate

TABLE IX  
NETHERLANDS

Year	No. of workers	No. of hours worked x 1,000	Fatal accidents	Accidents causing 1 day's absence	Accidents causing 3 days' absence	Percentage of accidents with 1 - 3 days' absence
1960	---	---	---	---	---	---
1961	9.457	18.201	0.05	63	54	14.3
1962	9.804	18.597	0.32	69	57	17.4
1963	9.935	18.946	0.11	61	53	13.1
1964	10.790	20.634	0.05	70	61	12.9
1965	11.834	22.372	0.04	69	59	14.5
1966	12.044	22.404	0.04	66	57	13.6
1967	11.863	22.047	0.05	54	48	11.1
1968	12.125	22.292	0.09	55	49	10.9
1969	12.909	23.620	0.08	44	40	9.1
1970	13.666	24.427	0.12	42	38	9.5
1971	13.799	23.953	0.17	47	43	8.5
1972	14.211	24.192	0.17	45	40	11.1
1973	14.800	24.137	0.08	48	42	12.5

(+) f.r. = frequency rate

TABLE X  
ACCIDENTS, PRODUCTION AND THE WORKFORCE

COMMUNITY OF SIX

Year	f.r. <sup>+</sup>	Crude steel production 1,000 t	Variation in % (++)	Load factor	Variation in % (++)	Number of workers at end of year	Variation in % (++)	Foreign workers	Variation in % (++)	Percentage of total workers	Intake (2)	Percentage of total workers
1960	98	73,076		95.5		482,453		(1)			81,765	16.9
1961	96	73,511	+ 0.05	91.7	- 3.8	483,351	+ 0.2	(1)			72,320	15.0
1962	92	73,011	- 0.07	87.5	- 4.2	479,466	- 0.8	56,050		11.7	73,522	15.3
1963	89	73,218	+ 0.03	83.3	- 4.2	469,326	- 2.1	55,399	- 1.16	11.8	67,644	14.4
1964	93	82,856	+13.2	90.0	+ 6.7	477,513	+ 1.7	65,293	+17.8	13.7	84,144	17.6
1965	90	85,991	+ 3.8	84.2	- 5.8	464,707	- 2.7	64,052	- 1.9	13.8	63,424	13.6
1966	85	85,105	- 1.0	78.6	- 5.6	439,949	- 5.3	58,486	- 8.7	13.3	52,109	11.9
1967	80	89,885	+ 5.6	80.1	+ 1.5	423,984	- 3.6	53,809	- 8.0	12.7	43,715	10.3
1968	82	98,634	+ 9.6	85.7	+ 5.6	421,658	- 0.5	56,039	+ 4.1	13.3	57,640	13.7
1969	87	107,318	+ 8.8	89.0	+ 3.3	432,122	+ 2.5	64,570	+ 15.2	14.9	80,155	18.6
1970	92	109,203	+ 1.8	86.2	- 2.8	437,181	+ 1.2	69,115	+ 7.0	15.8	79,894	18.3
1971	94	103,376	- 5.3	76.1	-10.1	426,639	- 2.4	67,665	- 2.1	15.9	60,421	14.2
1972	97	113,147	+ 9.5	81.5	+ 5.4	426,172	- 0.1	72,058	+ 6.5	16.9	67,084	15.7
1973	103	122,874	+ 8.6	85.1	+ 3.6	439,511	+ 3.1	81,260	+12.8	18.5	86,297	19.6

(+) f.r.= frequency rate of accidents causing absence from work per million hours worked

(++) Each column marked " variation in % " shows the variation of the figure in the preceding column as against the previous year.

(1) figure calculated on different basis prior to 1962, as Algerian workers in France were not classed as foreign workers.

(2) including movements from one work to another



LIST OF DOCUMENTS

of the Steel Industry Safety and Health Commission

Memorandum on the prevention of accidents in the Swedish iron and steel industry - 1966 (d.f.i.n.)	out of print
Report on the information seminar held on 29 and 30 November 1966 - 1967 - (d.f.i.n.)	free
Application of the principles of accident prevention in the United Kingdom - 1968 (d.f.i.n.)	free
Principles of training in industrial safety - 1969 (d.f.i.n.)	free
Adoption and regular use of individual means of protection - 1971 - (d.f.e.i.n.)	free
Symposium on accident prevention - Luxembourg, 21, 22 and 23 october 1970 - 1972 - (d.e.f.i.n.)	Bfrs 300
Information seminar in Dortmund, on 20 and 21 October 1971 - January 1973 - (d)	free
Principles of accident prevention - 1973 (d.e.f.i.n.)	free
The accident prevention policy of the British Steel Corporation - 1973 (d.f.i.n.)	free
First Aid and Rescue - 1973 (d.f.i.n.)	free

Check questionnaire of the accident prevention organisation within the enterprise - 1974 (d.e.f.i.n.) free

Overhead travelling cranes:

- Access to the cabin of an overhead travelling crane - 1968 - (d.f.i.n.) free

- Selection and training of crane-drivers - 1970 (d.f.i.n.) free

Tapping the blast furnace:

- Personal protection for furnacemen - 1969 - (d.f.i.n.) free

- Oxygen outlets and oxygen lances - 1970 (d.f.i.n.) out of print (being revised)

- Construction and design of the cast house, plugging and unplugging taphole guns and drills, taphole clay, preparation for tapping solidification processes - 1974 (d.f.i.n.) free

Maintenance and repair work on gas lines and apparatus:

- Construction requirements - 1968 (d.f.i.n.) free

- Personal protection; monitoring and detection of gases - 1970 (d.f.i.n.) free

- Insulating and degassing lines - 1973 free

Oxygen:

- oxygenpipe connections - 1969 (d.f.i.n.) free

- Shut-off and control devices - 1970 (d.f.i.n.) free

- The design, construction, location and operation of fittings in oxygen installations - 1971 (d.f.i.n.) free
- Filters, intermediate storage vessels, measurement equipment of importance for safety, lubrication, degreasing of oxygen lines and equipment - 1973 (d.f.i.n.) free
- Flexible pipes - 1974 (d.e.f.i.n.) free

Bibliographies:

- Problems of lifting, the use of explosives in the blast furnace - 1967 (d.f.i.n.) free
- ECSC publications, problems of the iron and steel industry, anti-collision devices for overhead travelling cranes, handling, cost of accidents - 1968 (d.f.i.n.) out of print
- Noise (d.f.i.) free
- Transport and handling (d.f.i.) free
- First report of the Steel Industry Safety and Health Commission - 1970 (d.f.i.n.) free
- Second report of the Steel Industry Safety and Health Commission - 1971 (d.f.i.n.) free
- Third report of the Steel Industry Safety and Health Commission - 1972 (d.f.i.n.) free
- Fourth report of the Steel Industry Safety and Health Commission - 1973 (d.e.f.i.n.) free
- Fifth report of the Steel Industry Safety and Health Commission - 1974 (d.e.f.i.n.) free



LISTE DES MEMBRES DE LA COMMISSION GENERALE  
ET DE SES GROUPES DE TRAVAIL

LISTE DER MITGLIEDER DES ALLGEMEINEN AUSSCHUSSES  
UND SEINER ARBEITSGRUPPEN

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E DEI SUOI GRUPPI DI LAVORO

NAMEN VAN DE LEDEN VAN DE ALGEMENE COMMISSIE  
EN VAN HAAR WERKGROUPEN

LIST OF THE MEMBERS OF THE STEEL INDUSTRY SAFETY  
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AND ITS WORKING GROUPS

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Commission générale de la sécurité et de la salubrité dans la sidérurgie

Allgemeiner Ausschuss für die Arbeitssicherheit und den Gesundheitsschutz in  
der Eisen- und Stahlindustrie

Commissione generale per la sicurezza e la salubrità nell'industria siderurgica

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