

HEALTH AND SAFETY CONDITIONS IN WITWATERSRAND FOUNDRIES

This research was undertaken by the Technical Advice Group at the request of the Metal and Allied Workers Union (Tvl) whose concern over the issue of health and safety in the metal industry goes back to 1973. The research was carried out in 1983 and was based on interviews with 30 Witwatersrand Foundry Management representatives. Ten shop stewards working in the above foundries were also interviewed. The issues dealt with were:

- 1) Management's perception of accidents
- 2) Provision of Personal Protective Equipment (PPE)
- 3) Health and Safety / Loss Control Structures
- 4) Medical Facilities.

Foundries are generally renowned for the welter of chemical and physical hazards workers are exposed to. Besides the frequent accidents, the noise and heat, toxic substances emitted during foundry production can lead to workers contracting serious diseases such as silicosis, metal fume fever, lead poisoning etc. Stringent engineering controls are required to ensure healthy and safe working places. These include the enclosure of dangerous processes, the extraction-ventilation at source of emission of hazardous substances and the replacement of hazardous substances with safer ones. Engineering controls, however, are costly and management is generally loathe to spend enough money to ensure the health and safety of workers.

Management Attitudes.....

Management contends that "susceptible" or accident prone workers are to blame for the lack of proper health and safety engineering controls:

People only are to blame for accidents with no employees in the works there will be no

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accidents. The question is what human characteristics cause accidents?... (Foundry Safety Handbook)

As a result very few would attribute accidents and disease to the production process itself.

Personal Protective Equipment.....

The supply of PPE is seen by the author as a specific response on the part of management to hazardous conditions in their plants. This follows from their perception of accidents - in that it is the individual worker who is at fault and who should be individually clothed in order to prevent him/her from becoming ill.

As an indication of management's lack of concern for the hazards generated by the production process, this study found that only 30% of the foundries monitored dust levels in their plants.

This study not only shows that PPE is useless in safeguarding workers' health & safety but that it is part and parcel of managements' control over workers. A quote from the National Occupational Safety Association confirms this:

The type of (protective) clothing worn by workers is often indicative of managements' control of the production process.*

Hardly any of the foundries supply what is required given the present conditions in foundries. It was found that 84% of workers even have to buy their own boots and overalls. It was also found that management spends on PPE an average of R39 per worker per year, while workers spend an average of R34. The reasons managements gave for workers buying their own equipment were that people don't

*National Occupational Safety Association: The Management by Objective System leading to a 5 Star Grading, 1979.

need them or people otherwise steal them.

Dust Exposure.....

It is a well known phenomenon that exposure to silica dust gives rise to silicosis. The 3 most dusty departments are those of moulding, shake-out, and fettling. The study found that 87% of the moulders, 85% of the workers in the shake out department and 59% of the fettlers are not supplied with any respiratory protection. No managements consulted workers about the PPE required.

Health and Safety / Loss Control Structures.....

One third of the foundries had these structures. The number of staff in these varied considerably, from one full time H & S officer to a sophisticated Loss Control Committee where all the production department supervisors were represented. One of their functions is to ensure the wearing of PPE. In some cases they are empowered to penalise workers for not wearing PPE, and these powers are often abused:

You are fired depending on whether he (the H & S Officer) likes you or not. Sometimes people get warnings, sometimes not. - (Foundry Shopsteward)

Management would prefer to maintain perogative over the composition of these structures: only a quarter said they would concede to worker representation on these structures:

Wouldn't be too happy (if H & S reps were elected). Not sure if the right person would be elected. - (Foundry Manager)

Medical Facilities.....

Medical facilities were present in all the foundries over 500 workers. Most of the smaller works had a first-aid box. Medical facilities can be useful in

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providing emergency treatment to injured workers, but shopstewards feel that they are often abused by management. In the first place they were geared towards increasing productivity:

We start work at 6.30. The clinic opens from 8.30 till 9.00 and then at tea time and lunch time. If we get there before time they chase us away like dogs. - (Foundry Shopsteward)

Secondly, many Shopstewards complained of workers being fired after the results of chest X-ray screenings became known. Three-quarters of the workers are screened yearly for chest problems. Since three-quarters of the black workers are migrants, managements can simply choose not to renew the contracts of workers who show signs of lung disease.

Conclusion.....

The provision of adequate engineering controls is in many cases in direct conflict with managements' quest for increased productivity and profitability in their plants. As a result, management will prefer to maintain their prerogative over the way in which production takes place, irrespective of its hazards and their effect on workers lives. In direct contradiction to this is the fact that management depends on a constant supply of healthy workers.

The way in which management attempts to solve these contradictions is by (in most cases) blaming the individual "susceptible" worker for the accidents and disease caused by the production process. These managements see the provision of protective clothing as the solution to susceptible workers falling ill or getting hurt.

However cost minimisation results in the minimal amount of PPE being issued. Furthermore the equipment tends to be uncomfortable to wear. Consequently, the bulk of the work of the Health and Safety

Officer is to police the wearing of the equipment and discipline workers for non-compliance.

Should these measures fail to maintain a "healthy work-force" some managements resort to using the workers' medical records kept by the in-house medical centre, in order to screen out those who are "unfit" to work. It comes as no surprise then, that management wants to maintain their prerogative over the issue of health and safety in their plants.

It is apparent that only the workers, through their unions are in a position to effectively challenge management prerogatives in order to introduce meaningful health and safety measures in the work environment.

(Johannesburg correspondent, May 1984)

TRADE UNION RESPONSES TO NEW TECHNOLOGY

The comments made below are drawn largely from the experience of British trade unionists, and particularly from the work of the Joint Forum of Combine Committees which comprises combine committees of shop stewards from Lucas Aerospace, Renold, Scotch Whisky, Metal Box and Vickers. (1) Although the examples are taken from the UK, recent announcements would indicate the beginnings of a similar trend towards automation in South Africa. The use of micro-processors is set to double over the next year. (2) According to one established software firm "outside the US the South African market rates third in size after the UK and Canada. According to ratings of GNP and computer software usage, this country should only rate sixth". (3) More ominously motor assembly plants and heavy fabricators are exploring the possibility of using robots. With about 36 either working or about to

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be installed in South Africa another 15-20 are likely to be ordered this year. (4) In the retail trade bar-coding and automatic checkouts are being considered by some of the leading chains. (5)

The signs have been read by the South African Boilermakers Society which has printed a warning from the International Metalworkers Federation on the problems of new technology for trade unionists. The following demands were formulated:

- i) a cut in hours without loss of earnings
- (ii) adequate warning and information about plans to introduce new technology
- (iii) joint management-union monitoring and negotiation during the introduction of new technology
- (iv) free access for outside experts brought in by the union
- (v) unions retain the right to oppose if agreement cannot be reached with employers
- (vi) provision of training and retraining schemes
- (vii) early retirement schemes
- (viii) guaranteed wages where new technology leads to displacement, transfer or downgrading of workers. (6)

Certainly there have been previous industrial revolutions and in the past mechanisation has produced unemployment, deskilling and the destruction of job controls. But the point to grasp about the new micro-electronic technology is that it "has opened up a completely new generation of possibilities for automation - not just manual processes but also of mental functions, not just of shopfloor work but also of office and design work, not just of separate parts of the production process but of the factory system as a whole. Integrated systems of computer-aided design and computer-aided-manufacture (CAD/CAM) hold out the real possibility of 'unmanned' factories operating by the end of the century". (7)

The long-term effects of all this on employment, skills, job controls and the very nature of work are a matter for speculation. (8) In the immediate future micro-electronic technology poses a severe challenge to those areas of work which trade unions have struggled to control. Computerised manufacturing systems provide management with the necessary information to tighten its control of the production process and to monitor individual workers. The PMC (Production Monitoring and Control) sub-system "operates on a site by site, department by department basis to ensure that management knows in detail exactly how each worker spends his or her day". (9) Information on worker output and machine downtime could be linked to other data on timekeeping, machine running times and speeds to give a total picture of the work system. These developments could revolutionise work study departments giving them centralised control over the whole production process. (10)

There are also questions of personal privacy involved for individual workers. Trade unions in Norway, Sweden and Germany have negotiated agreements ensuring access to personal files and limiting the types of information to be kept on computer file.

Traditionally a trade union's knowledge of the workload situation and company needs has strengthened its bargaining position. The introduction of a system like COPICS (Communications Oriented Production Information and Control System) shifts the balance of power in favour of management. "With the touch of a VDU (visual display unit) key management can call the bluff of any trade union negotiator who threatens industrial action, to see what effect such action may have on supplies to the customer". (11) The information available through COPICS can transform traditionally crude tactics of laying-off workers or engineering strikes in the face of overstocking into a precise science. Furthermore

sophisticated communications systems between manufacturing areas make it much easier for management to re-direct work from strike-bound factories or sections.

One possible contradiction facing management is the potential power of computer staffs. Despite their leading role in the civil service strike in Britain in 1980, this group still forms a white-collar elite and in some private companies there are already rumours of "loyalty bonuses".

Such developments cannot be contained at the level of the individual plant. The introduction of new technology is bound up with the long-term corporate strategies of multi-national companies with far reaching consequences for the international division of labour. Systems like COPICS allow management to concentrate information to control and optimise the use of resources even when these resources are scattered across different sites, regions, nations or continents. (12) This drastically reduces the impact of industrial action in a particular plant and reduces the effectiveness of collective bargaining within established structures.

Computer tapes with a vast amount of production information contained on them can be easily transferred: "At Rolls Royce Sunderland the management proposed to fly numerical control tapes to a Rolls Royce plant in Miami if they didn't get their way with the unions..." (13)

At a more profound level it has been argued that the new information technology offers a new strategy to capital of breaking up the cycle of production where there are large concentrations of well organised workers and de-socialising production in scattered and small units. (14)

New technologies and the implications for job design and worker organisation have radical implications

for the whole process of collective bargaining. To quote from CAITS Quarterly, the Bulletin of the Centre for Alternative Industrial and Technological Systems:

The new systems often remove vast areas of basic shopfloor bargaining rights and processes - the frontier of control is changed structurally. Completely new skill mixes, often with substantial de-skilling may be ushered in. So bargaining over new technologies, new production systems needs to be tied with the relations between corporate strategy and new technology, rather than limited to piecemeal negotiations over particular items of equipment. (March 1983)

CAITS summarises the potential implications of micro-electronic technology in the machine tool industry as follows:

1. Job loss - numerical control increases productivity by up to 5 fold; other computerised machine tools can increase it up to 20 times.
2. Deskilling
3. Less worker control over - how to machine a part; when to machine it; at what rate to machine it.
4. Increased managerial control - continuous monitoring; further new technical developments to overcome workers' attempts to retain some control.
5. Health and safety implications of increased work rate and boring work.
6. Deskilling and reduced worker control over job of shop floor workers other than machinists.
7. With CAD/CAM - elimination of jobs between design and production proper.
8. Attempts by management to change working practices under the guise of "technological necessity" whereas in reality there's no such thing.
9. Undermining of trade union power - to stop

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subcontracted work; strikes less effective. (15)
This process which is only just beginning is captured in the words of Harley Shaiken, a machinist from the USA:

Computer automation is more than an unemployment threat: the danger isn't just robots taking jobs but management attempting to control workers as if they were robots. (16)

How then have trade unions coped with these developments? Undoubtedly the best deal has been achieved in Sweden, where government legislation gives safety reps extensive legal powers in respect of the whole work environment. As well as questions of health and safety these reps can intervene before new technology is introduced during the design stage to ensure that work is reskilled, monotony minimised and that no worker is socially isolated by the work process. (17) Having established these rights over the work environment Swedish unions are far better placed to prevent the erosion of trade union organisation and to pursue the struggle over wages and jobs. However, in the end such statutory rights are only meaningful if backed up by shop-floor power.

In Britain where capital has less room for manoeuvre and where managements and the state are less "enlightened", trade unionists have had to rely on shopfloor organisation to influence the course of technological innovation. The initial response to the introduction of numerically controlled machine tools was to boycott them until agreement was reached on manning, rates of pay and retraining. (18) The present generation of integrated manufacturing systems is less tangible and requires a much more comprehensive response.

At Massey Ferguson in Coventry the Joint Shop Stewards Committee established a 4-person new technology sub-committee and provided expenses to enable

them to attend conferences and generally monitor new developments. The first major problem experienced by shop stewards both at Massey Ferguson and Lucas Aerospace was simply to obtain basic information. The following items were carefully monitored:

1. First signs of new technology plans
 - * VDUs in the clerical areas
 - * attempts by the company to change a reasonably good liaison and disciplinary code
 - * attempts to change working practices
 - * moves to set up quality circles
2. Analysis of the company
 - * analysis of what the company produces
 - * comparing the company to other firms producing similar goods, to see what new type of installation was being brought in
 - * finding out about the corporate plan
3. And finding out more about the new technologies
 - * reading the technical press for the computing trade and the technical press for the business your company is in
 - * finding out what machine tool companies are developing and what university research departments are doing
 - * attending conferences and exhibitions
 - * attending trade union courses
 - * keeping in touch with local trade union resource centres. (19)

Having obtained basic information and faced with management proposals to introduce new technology and reorganise the work process trade unionists have had to greatly widen the traditional scope of collective bargaining. The Joint Forum of Combine Committees proposed the following demands and areas of bargaining:

1. Right to disclosure of information and adequate warning period.
2. New equipment and methods to be introduced only after mutual agreement. Failing this the status quo to apply.
3. New technology agreements to fit in with

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- existing agreements and bargaining structures as far as possible.
4. At local level the right to time off to attend courses or exhibitions on new technology, and the right to co-opt "experts" in negotiations with management.
 5. As a priority establish manning levels before negotiating any other changes.
 6. A reduction in hours.
 7. *Monitoring of health and safety implications.* Oppose attempts to change or increase shift work.
 8. Guaranteed training and retraining.
 9. Oppose attempts to impose new wage structures or payment systems.
 10. Don't sell long-term needs on the basis of short-term benefits.
 11. Job control, work methods and work organisation must be highlighted in negotiation.
 12. Thought should be given to fundamental questions about design of systems, and long-term issues about investment and socially useful production. (20)

The last point especially may appear impractical given the constraints imposed by a system of private ownership of the means of production. Nonetheless the implications of micro-electronic technology in terms of vastly increased productivity, the effects on employment and on the very nature of work make it imperative that a new set of questions and demands are formulated. If these demands appear utopian it is only because they are made within the context of a society constrained by capitalist production relations. It is precisely in order to challenge conventional wisdom over the pursuit of productivity and competitive efficiency that radical alternatives need to be posed.

Footnotes

1. See: Joint Forum of Combine Committees, The

- Control of New Technology - Trade Union Strategies in the Workplace, (UK 1982).
2. Star, 29.2.84.
 3. Star, 14.3.84.
 4. RDM Business Day, 7.3.84.
 5. RDM Business Day, March 1984.
 6. Crucible, November 1983.
 7. Transnationals Information Exchange, Dec-Feb 1980, pl.
 8. Eg A. Gorz, Farewell to the working class. An essay on post-industrial socialism, (London 1982).
 9. "Lucas Industries Alternate Company Report, 1982" - produced by the Lucas Aerospace Combine Committee and the Centre for Alternate Industrial and Technological Systems.
 10. TUC, New technology and collective bargaining. A workbook for union reps., (London 1981), pp 62-4.
 11. Lucas Alternative Report, pl1.
 12. Lucas Alternative Report, p9.
 13. JFCC, The Control of New Technology.
 14. F. Murray, "The decentralisation of production - the decline of the mass-collective worker?", Capital and Class, No. 19, Spring 1983, pp75-79.
 15. CAITS, New Technology Pack. (London 1981), pl2.
 16. Ibid. pl.
 17. CSE Microelectronics Group, Microelectronics, Capitalist technology and the working class. (London 1980), pp 144-5.
 18. For example: West Midlands Regional TUC Technology Group, "Trade Unions and new technology. Report of a trade union conference on the use and impact of micro-electronics", Coventry, 1979, pp 11-12.
 19. JFCC, The Control of New Technology, p37.
 20. Ibid. pp43-9. For further information on new technology agreements and a useful "checklist for negotiators" see J. Maree, "Trade Unions, Redundancies and New Technology Agreements", Carnegie Conference Paper No. 122, (SALDRU, UCT 1984.)