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Skills, Qualifications and Training in the Polish Steel

Industry: A Case Study

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Global Political Economy (GPE) Research Group

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The aims of the project are to:

1. Promote Lifelong Learning within the European Steel Industry
2. Support workers' adjustment to new ways of working.
3. Promote equal opportunities.
4. Support workers' adjustment to new technologies.
5. Provide workers with transferable skills.

In meeting these aims the project undertook the following:

1. Mapped existing qualifications using new and existing research to ascertain the level of need in new and transferable skills.
2. Developed transnational qualification modules comprising new and transferable skills.
3. Developed an on-line training programme.

The duration of the project was three years, from December 2000 to November 2003.

The research for the Reports was undertaken by: Peter Fairbrother, Dean Stroud, Amanda Coffey, Jan Clark, Jenifer Daley, Nikolaus Hammer and Steve Davies, with contributions from all partners.

The Reports are:

1. New Steel Industry Challenges
2. The Internationalisation of the World Steel Industry.
3. The European Steel Industry: From a National to a Regional Industry.
4. The Changing European Steel Workforce.
5. Skills, Qualifications and Training in the German Steel Industry: A Case Study
6. Skills, Qualifications and Training in the Italian Steel Industry: A Case Study
7. Skills, Qualifications and Training in the Netherlands Steel Industry: A Case Study
8. Skills, Qualifications and Training in the Polish Steel Industry: A Case Study
9. Skills, Qualifications and Training in the British Steel Industry: A Case Study
10. Future Skill Needs in the European Steel Industry
11. Training and Qualifications in the European Steel Industry.
12. The Question of pan-European Vocational Qualifications
13. Equality and Diversity in the European Steel Industry

Skills, Qualifications and Training in the Polish Steel Industry:

A Case Study

Introduction

The Polish case study focused on an integrated plant in south-east Poland. Whilst a very old plant, dating back to the nineteenth century, it had flourished in the Soviet period, and been radically restructured and reorganised following the collapse of the Soviet bloc. With the recent modernisation of the plant, staff numbers had been massively reduced. As part of these changes, the plant management had promoted work re-organisation and an up-skilling of the workforce, although in very uneven and tentative ways. At the time of the study, there was much debate about the future ownership of the plant, with speculation that a major western steel company was likely to acquire the plant in the near future.

The material and analysis presented in this case study report should be viewed in the wider context of the restructuring of the world (including European) steel industry. The European (and world) steel industry has undergone significant adjustment over the last two decades. The changes are, in part at least, due to the deregulation and privatisation of this industry, and coincided with much cross-border merger activity. One result is an increasing concentration of ownership and the refocusing of production within international markets. There have also been other catalysts for change; for example a substantial degree of technological innovation, and an increasing emphasis on downstream activities and customisation. The corollary of these developments is that there has been pressure on companies to create the conditions for further automation and mechanisation of production (not least through significant technological development), as well as to centralise production into fewer facilities. One result of these activities has been a major reduction of steelwork employment, particularly in the advanced industrial countries, but also in the former Soviet Union and Eastern Europe, too. Along-side these shifts, new recruitment strategies and skills and training needs are likely to emerge. It is against this transformative context that the skill needs of the European steel workforce is set. A more in-depth discussion of the above issues is located in Work Package 1 Reports 1, 2, 3 and 4.

The Report is organised in five sections. Section One comprises an account of the company, followed by a more detailed presentation of the plant that was studied. In Section Two an overview of the workforce is provided including a schematic presentation of the managerial and work organisation. Section Three examines the skills, qualifications and occupational profile of the plant. In Section Four the training profile is reviewed. In Section Five future skills needs are identified.

Section One: Poland Steel Co.

The plant, Huta Zawiercie, was owned by Impexmetal S.A. from 1995 until 2003, when it was acquired by the Commercial Metals Company (CMC) (a joint Swiss and United States enterprise). This company completed its purchase of the plant by acquiring a controlling share (71.1%) from Impexmetal S.A., paying about about US\$50 million and with the Polish State Treasury retaining the balance. Following on from this change in ownership, Huta Zawiercie will

change its name to CMC Zawiercie S.A. This plant is the third largest steel producer in Poland with an estimated capacity of 1 million tons. Main products include rebar and wire rod. For a long time it was the only privatised steel plant in Poland.

The Company

Huta (meaning integrated plant) Zawiercie S.A. (Spółka Akcyjna) was founded in 1897 as the Sosnowiec Joint Stock Association of Pipes and Steelworks, and celebrated its centenary in 1997. Formerly state owned, in the mid-1990s it became the first and only privately owned steel mill in Poland. At the time, Impexmetal S.A., a Polish concern, took a 71.1 per cent controlling interest in the company, with State Treasury holding 26.38 per cent, Huta Zawiercie employees 2.01 per cent and 'Others' holding 0.51 per cent.

Huta Zawiercie produces steel round plain wire rod, ribbed reinforcement bars, round plain bars and flat bars. The majority of its business is devoted to the production of wire rod (47 per cent) and hot rolled domestic products (20 per cent). The wire rod is used by the building industry, the wire processing industry and for the production of nuts and bolts. The ribbed and plain reinforcement bars are used in the building industry, the round plain bars and flat bars are processed further (elsewhere) for machine building, automotive industry, nuts and bolts, steel structures and other metal processing industries. While the use of scrap steel is restricted in Poland, the company is the largest manufacturer of steel goods from scrap steel, using electric-arc processes of production. It is also the third largest manufacturer of steel from crude steel in Poland (having an 8 per cent share in domestic market in the year 2000). An 'outsourced' company rents space and material from the Huta Zawiercie to produce steel grids for the construction industry.

Many functions at the plant had been outsourced over the last ten years, in a move by the company to streamline the business and its activities. These included functions such as security, catering, cleaning, training, some manufacturing elements (for example, steel grids for the construction industry) and welfare and social functions (for example, housing). Nonetheless, the company retained a direct interest in some of these activities. In some instances, 'spin off' companies were launched, with the company retaining ownership of shares and/or assets. The training centre at the steelworks, which had been floated as a separate business concern, exemplified this feature of the company approach. However, the company retained ownership of the training centre buildings and some of its facilities, for which it received a 'peppercorn' rent. These moves should be seen in terms of an increasingly privatised and deregulated industry, and for Huta Zawiercie, within the socio-political context of East Europe and the east European steel industry.

The Plant

The steel plant is located in south eastern Poland, in the centre of Zawiercie district. This district in turn is situated in the north-eastern part of Upper Silesia (Śląskie Province). Zawiercie district is an important link in the transport network connecting Katowice, Częstochowa, Warsaw (along the Central Railway Trunk Line), Kielce, and Cracow.

The Plant Entrance: A new headquarters building was located at the entrance to the steel works, in use since September 2001. The building was modern-looking, standing four storeys high with sweeping curves of glass and purple and beige plastic fascias. It sat isolated atop a grass verge and faced out over a car park to the front. The building housed most of Huta

Zawiercie's administrative functions, including the accounts department, salaries, human resources, sales and customer relations departments and some senior management staff.

A three-metre high wire security fence separated the car park from the main plant (and headquarters building). To the right of this building were entrance and exit roads to the plant, with security barriers across them. A reception/security building was adjacent to the security barriers, located on the far side of the entrance and exit roads away from the headquarters building. Between the security barriers a small check-point was located at which security guards permitted people and vehicles to enter and exit the plant. The security guards, a mixture of young men and women, wore green military style uniforms. The site seemed to be quite heavily guarded and security was strict. The reception/security building was of a similar colour scheme to the new headquarters, although the building itself appeared slightly aged. People visited this building to gain passes to the steelworks. Stretching from this building and over the security barriers was a red sign, across it emblazoned in silver are the words Huta Zawiercie.

The Plant: A tree-lined trunk road stretched away from the main entrance to the works buildings themselves, with smaller roads branching off to other areas of the plant. There were several single floor office type buildings and larger corrugated steel buildings painted white and light blue on the main road. Some of the buildings seemed to be in good repair, while others looked much used and weathered or, in some cases, derelict and out of use. The plant was otherwise very clean, with little or no litter or debris strewn around. The roads were busy with cars, lorries and forklift trucks, parked and in transit. A few workers went about by bicycle.

The plant basically comprised huge blue and white corrugated steel buildings, with some looking newer and in better condition than others. Large gas canisters stood to the front of these buildings, as did other constructions of metal frames, railway tracks and pipe-work. The piping was about three meters high off the ground and appeared to be very old and coated in a thick layer of rust. Workers were very visible around the plant, dressed in dark blue overalls marked with a band of fluorescent orange across the back and front. Some wore hard-hats while others did not, although they may have been doing similar jobs in the same area. Somewhat incongruously, grass and trees grew amid what was otherwise a heavily industrialised landscape.

Previously Huta Zawiercie had up to eight furnaces (four open cast and four electric arc) in operation at any one time. By 2002, however, it used just 1.5 electric arc furnaces, with one of the two furnaces on site running at half capacity. As well as the furnaces, the plant also comprised two continuous casting machines and two rolling mills (for continuous casting and hot-rolled products). In September 1999 a new Danelli built bar rolling mill was introduced at the plant, at the time the most modern rolling-mill in Europe. In 2001/02 neither furnace ran continuously and nor was the mill producing to capacity. The decision to run the furnaces in this way was deliberate. Firstly, by running the furnaces below capacity and operating them at certain times of the day, operation costs were markedly lessened, because of cheaper electricity costs. Secondly, the way the furnaces were utilised was linked to a wider business strategy of 'just-in-time' production. Production was customer-led and mainly produced to order. One result was that the focus of production in recent years was on finished and semi-finished products.

The Electric-Arc Furnace (ELEKTROSTALOWNIA): The electric arc furnace had cloakroom and refectory facilities. The latter was small and sat only twenty people, but served 1,180 workers from across the plant on a daily basis. However, the most common practice by workers

in the plant was to bring sandwiches and eat whilst they work; there were several rest rooms dotted about the works for this purpose. The furnace area was entered via two flights of stairs, and almost immediately before the furnace area workers were greeted by a large mirror over which there was a sign reading 'I AM RESPONSIBLE FOR QUALITY'. To the left of the mirror was a dark corrugated steel corridor leading to the works; some notices and graphs lined the walls and thick cables ran underfoot.

The furnace area was poorly lit and a dark grey and rust colour. The overall impression was that of a huge and dark old metal warehouse, with pipe-work and ladles of molten steel passing overhead. It was like a medieval blacksmith's, but with flashes of modern technology (such as green and red lights, dials, computer consoles). Underfoot the flooring was made of steel and was littered with bits of steel, rubber, plastic and thick dust. A train line ran below a gantry level, where the furnaces were located, and here scrap metal was loaded on to the train with a huge magnet suspended from a crane.

Overall, the area did not appear to be particularly noisy or hot. New environmental standards and recent improvements to the plant meant that little dust escaped from the works. Small teams of workers were dotted around the furnace area, at control consoles, while others were engaged in more manual operations around the furnace area itself, or crane operations. The furnaces were twenty-five years old and undergo an overhaul every second year. The control rooms were about three or four metres square and comprised dated visual display units (VDUs) and large grey metal machines/computers with tachometric dials.

The Rolling Mill: The rolling mill was adjacent to the furnace building. It was a large corrugated steel warehouse type structure painted blue and white and marked WALOCWNIA PRETOW P-52. The building was huge, about three football pitches across and 15 long. Workers cycled to and from different parts of the mill. It comprised a huge open warehouse area with rolls of steel coil, a small office block and the continuous casting line.

From the gantry level it was possible to watch steel rods being made in a long continuous process. Hot molten rods of steel snaked along the line. Hissing noises punctuated the sounds of the line, and at various points along the line steam rose high into the air. The rolling mill was a much brighter more modern place than the furnace, hotter and cleaner too. It was a very noisy place. All the machines were branded Daneli or Mobil. At the end of the line the steel rods were cast onto a vibrating platform, which shuffled them into a size order. Piles of colour coded steel rod, of different gauges, was then stored in numbered sections of the warehouse. Most of this product was produced according to specific customer order. Trucks transported the steel, including steel grids made by an 'out-sourced' company, out of the plant to the customer. They were loaded by a huge crane, which worked on tracks and moved back and forth overhead.

Section Two: The Workforce

At its peak Huta Zawiercie employed in the region of 7,500, however by 2002 it employed in the region of 1,180 workers. These employees include only those employed directly by the company and who were employed in the production process. Most of the workforce was local and drawn from Zawiercie; previously workers were bussed in from a radius of 40/50km. A number of other staff worked at the plant, but they were not employed directly by the company. This included, for example, all those who provided services to the plant, such as catering, security, cleaning and so forth. There were also some production outlets that operated within

the plant (for example, steel-grid manufacture), but in terms of the plant workforce these were separate concerns.

The majority of the workforce was white, middle-aged male workers. The average of the workforce appeared to be in the age range 35 to 45 years, with very few over the age of 50 years. As the Human Resources Manager stated:

In general, these are employees in the medium age group. There is a slight shortage of young employees while there are no employees that are eligible for retirement or early retirement. This is due to the so-called metallurgical social package that has been in effect in the steel industry for already three years. This is the reason why older people have been eliminated from the labour market in the steel industry. The package gives employees between 50 and 55 years of age the possibility of taking early retirement. (2001)

The broader restructuring of the steel industry in Poland, affected this plant in sharp ways. On the one hand, older workers were encouraged to leave the industry. The magnitude of this policy is brought out by the fact that in 2001 the unemployment level for Zawierce was around 30 per cent, while for Poland as a whole it was 16 per cent. On the other hand, under the agreement the Government also restricted the number of new recruits, and therefore the potential recruitment of younger workers. Hence, the majority of the workforce was in the forty-year age band.

Women comprised a significant minority of the workforce, working on the shop-floor although more likely to be employed in administrative and service roles. The actual proportion of women in the workforce was variously estimated, with the Human Resource Manager stating that '20 to 25 per cent of the workforce were women' (2001). He went on to note:

Generally they aren't in production, but they work in the warehouses, in administration and accounting or in the human resources department. In the cases in which they are working in production departments, they have administrative responsibilities. For example, women cannot work as smelters. They hold supporting positions. (2001)

However, the union leaders in the plant were more specific. The Solidarnosc President, said:

Women make up approximately 30 per cent of the whole workforce. Women on blue-collar positions work mainly as crane operators. We also have female employees that have administrative positions. (2001)

More precisely, this same leader said in a second interview focusing on issues relating to gender:

According to the employment state report from the end of July, the number of women in blue-collar positions makes up approximately 17% of the entire workforce. The number of women in white-collar positions takes up approximately 45% of the entire workforce, these are mainly jobs in accounting and administration. (2001)

Of the blue collar workers, she stated that women worked in the following areas:

In production departments, women are working mainly as crane operators. In the past, they were working on the control bridges, but at present smelters operate the control bridges. Women are also working in the auxiliary warehouse. Generally, it's hard to determine which jobs are strictly blue-collar. (2001)

It is reasonable to conclude, that upwards of thirty percent of the workforce were women, and that while the majority worked in administrative and service jobs there were substantial numbers employed in operator positions throughout the plant.

Nonetheless, the union leader went onto compare the current position with that of the previous situation, when Poland was part of the Soviet bloc.

In the past, the situation was different. Previously, there was an attitude that women could work on tractors, in steelworks, everywhere. I was studying metallurgy and in my class, there were more women than men. I do not know how many of these are now actually employed by the Steelworks. The faculty of metallurgy is still typical for men, though. In the past, much more women worked in production, but only in assisting positions, for instance as operators of particular machinery in the production process. Now that has changed. (2001)

By 2001, women were prohibited by the Polish Labour Code from working directly in some areas of the production process; they were not allowed to work shifts and some occupations.

Figures were not available on the number of ethnic minority or disabled people working at the plant, as this type of data was not collected. The company regarded such matters as 'their own [the individual's] private business' (Interview 2001). However, on the basis of all the interview evidence it seemed that very few or no ethnic minority workers were employed at the plant.

Management hierarchy

The management hierarchy was organised in a multi-layered way, comprising many non-discreet levels. In all the management hierarchy can be presented in three different ways. This first is based on the remuneration structure, as indicated in Model 1.

Model 1: Employment Remuneration Ranking - Management Hierarchy

Job Title	Employment Remuneration Ranking ¹
<i>White Collar</i>	
Director	VII-IX
Assistant Director – Head of Unit	VI-VII
Chief Specialist	V-VI
Branch (Shift) Manager	IV-VI
Office Manager	V-VI
Department Manager	IV-V
Line Specialist	IV-V
Specialist	II-IV
Foreman	III-V
Dispatcher	II-III
Lower rank official in the administration	I-III
<i>Blue Collar</i>	
Grade 1	I
Grade 2	II
Grade 3	III

Source: Company records

In Model 2, This multi-layered remuneration ranking can be collapsed into five major levels, reflecting the managerial structure and relations at the company, as presented in Model 2.

Model 2: Management Command Hierarchy

Occupation	Level
Director	1
Senior Managers	2
Middle Management	3
Team Leaders	4
Team Members	5

Source: Interview data

Within sections of the plant the hierarchy can again be broadened out to include six levels: Head of department, shift manager, shift foreman, team leader and team workers, presented in Model 3.

¹ According to the Polish Law the whole employment structure is divided into certain categories of employees. For each category a maximum salary is defined. An employee ranked in a certain category shall never get a salary, which is above the threshold set for this category.

Model 3: Huta Zawiercie Plant Department Hierarchy

Occupation	Level
Head of Department	1
Section Manager	2
Shift Manager	3
Shift Foreman	4
Team Leaders	5
Team Members	6

Source: Interview data

The last two levels are regarded as blue collar, whilst the others are designated white collar (Interview 2001). This form of department organisation was described one department manager in the following terms:

There is a standard structure that consists of managers of the departments, managers of the shifts, foremen of the shifts, and supervisors. They are all responsible for managing different groups. Two foremen are assigned to one supervisor. There is distinction between white-collar and blue-collar positions. For example, I am considered to be a white-collar worker (2001).

While formally there are team leaders, in practice there was a blurring between the roles and designation of 'foremen' as first line supervision and team leaders, who were often the same person.

In short, in whatever way viewed, the hierarchy of the Huta Zawiercie plant is multi-level and can be viewed in a number of different ways. Although team working is a feature of the management hierarchy, the control structure and the remuneration levels are quite attenuated. These arrangements remain despite further grades of supervision having been removed over the previous few years.

Work organisation

The work organisation at the plant is complex. At the broadest level, a distinction should be drawn between direct and indirect work, reflected in large part by the employment contracts. Direct workers were employed by the company, and comprised the majority, while indirect workers were out-sourced. This pattern of employment had developed over the previous few years, as indicated by one senior manager:

The system [work organisation] is based on the technological level that has been determined by the steelworks. In practice, we do not really need any people just for

digging ditches or carrying heavy loads. We are hiring external service providers for activities such as security or cleaning. (2001)

The management view was that the workforce is a skilled one, reflected in the work done and organisation of work. As stated:

All workers are skilled workers, because they have the skills that are required for their respective jobs. We do not have jobs that could be considered to be for unskilled workers. (2001)

The labour process for the steelworks was based on an evolving form of work organisation, structured around team forms of organisation. At a production level, the workforce was organised into teams, which in turn were under the control of a number of management levels (see Model 3). The teams comprised in the region of ten to fifteen workers, with a management appointed team leader. These team leaders were appointed on the basis of performance, technical skills and experience, and tended to be regarded by many respondents as multi-skilled (Interviews 2001). Within each team one type of 'profession' tended to predominate, such as electrical maintenance workers or crane drivers, and therefore the team was largely defined by their occupational role within the works. As a result, it was the case that the team form of organisation was not based on a complex of skills, but in terms of 'professional' qualification and experience. There was little evidence of multi-skilled teams, either in relation to multi-tasked workers or that teams comprised a range of skills. Even so, there were claims by some management respondents that teams did comprise multi-skilled individuals; a view contradicted by evidence from all panels of workers. Where there were multi-skilled teams then it would seem to have been the result of accident rather than design.

More specifically, multi-skilling was dismissed as "something fashionable" by one manager (Interview 2001), but regarded as necessary to cover absences and replacements. At a management level, the workers seemed to be regarded as multi-skilled workers with more than one competency, and often in the possession of qualifications to certify their skills. However, discussions with workers revealed that 'multi-skilling' seemed to come about through experience and mobility through different areas of the plant, more than through training programmes. A worker, for example, might have worked in the furnace, on the rolling mill and in distribution. Thus, by virtue of a worker having moved about the plant they had acquired skills (but not necessarily qualifications) to work in different areas of the plant.

Section Three: Skills, Qualifications and Occupational Profile

The skills and qualification profile of the workforce was intimately related. This link is evident with the recruitment of workers into the plant. As stated by one senior manager:

When we hire new workers, we want them to have at least a general, secondary school education. That is a minimum requirement. (2001)

This principle was evident at all levels of the occupational hierarchy.

We prefer to recruit people that have absolved university studies, especially where it involves technical universities, while we mostly recruit workers with a secondary vocational education that have been working for our contractors. (2001)

However, in practice the relationship was far more complicated, and there was a strong emphasis on the acquisition of practical experience, coupled with a more *ad hoc* process of qualification acquisition.

At the time of recruitment, the approach is as follows:

...when a person applies for a job here, we look at the kind of job he has been doing before. We try to find out more about the person from his previous employer, for instance, what kind of a worker he (sic) is. Sometimes we recruit people from external companies that are active within our plant. In such cases we know the people in the management of these companies. If, however, we recruit somebody from outside of the Steelworks, we give him (sic) a trial period and see how it works out. (2001)

Although there has been limited recruitment over the last few years, with the establishment of the new rolling mill facility, recruitment has taken place on the basis indicated.

With reference to promotion and movement between different work areas in the plant, a department manager captures the broad approach followed in the plant.

We are encouraging people to obtain additional qualifications. Some people are doing this by gaining experience in their jobs, but certain positions require formal training in the training centre. We have introduced a practice of teaming up experienced workers with less experienced workers, who are learning by taking advantage of the older colleagues' experience. This is very much an on-the-job-learning situation. (2001)

This emphasis on experience, characterised as 'on the job learning', was also reflected in the promotion pathways in the plant and the relation between skills and qualifications. As stated:

Each position that is higher than the position of a smelter requires experience and an adequate level of schooling. Even an engineer is employed as a blue-collar worker. Such new workers have to work in this position for at least one year, in order to be eligible for being promoted to the job of foreman. The job of foreman is the highest blue-collar position here. The time it takes for a worker to become eligible for promotion depends on the worker's abilities and the available job opening. A worker with a secondary education can be promoted to first smelter after a minimum period of two years. This is the smelter who operates the furnace. The first smelter is the lowest managerial position. As a general rule these periods are longer due to the slow rotation of personnel. Promotion is based on acquired skills. (2001)

This emphasis notwithstanding, the occupational profile of the plant was linked directly to a 'schedule of required qualifications for the employees in Huta "Zawiercie" S.A. steelworks', as Table One shows.

Table 1: Schedule Of Required Qualifications For The Employees In Huta Zawiercie S.A. Steelworks

I. White collars

Ref.	Job Title	Employment Remuneration Ranking ²	Required	
			Education	Years of experience
1.	Director	VII-IX	MA or M.Sc. degree, appropriate for industry	10 years
2.	Assistant Director – Head of Unit	VI-VII	MA or M.Sc. degree, appropriate for industry	8 years
3.	Chief Specialist	V-VI	MA or M.Sc. degree, appropriate for industry	5 years
4.	Branch (Shift) Manager	IV-VI	MA or M.Sc. degree, appropriate for industry	5 years
5.	Office Manager	V-VI	MA or M.Sc. degree, appropriate for industry	3 years
6.	Department Manager	IV-V	MA or M.Sc. degree, appropriate for industry	3 years
7.	Line Specialist	IV-V	a) MA or M.Sc. degree, appropriate for industry b) Other university degree or high-school graduate in corresponding industrial sector	a) 3 years b) 5 years
8.	Specialist	II-IV	a) University degree, appropriate for industry b) High-school graduate in corresponding industrial sector	a) 1 year b) 4 years
9.	Foreman	III-V	a) University degree, appropriate for industry b) Technical high-school graduate in corresponding industrial sector	a) 1 year b) 3 years
10.	Dispatcher	II-III	Technical high-school graduate	2 years
11.	Lower rank official in the administration	I-III	High-school graduate in corresponding industrial sector	None

II. Blue collars

Employment Remuneration Ranking	Required:	
	Education	Years of experience
I	Primary school and vocational school graduate	-
II	a. Primary school and vocational school graduate b. High-school graduate	a. 1 year b. -
III	a. Primary school and vocational school graduate b. High-school graduate	a. 3 years b. 1 year

Source: Training Centre, Huta Zawiercie, 2001

² According to the Polish Law the whole employment structure is divided into certain categories of employees. For each category a maximum salary is defined. An employee ranked in a certain category shall never get a salary, which is above the threshold set for this category.

The 'required education' was obligatory for staff at the different levels of the occupational hierarchy, with any exemptions subject to the resolution of the Managing Board of the company at the request of the section manager or the employee in question.

As the Table indicates the occupational profile reflects something of both work organisation and the management hierarchy models. It comprised grades of blue collar or production workers, which consisted of teams and team leaders. Beyond this there were several levels of more highly qualified/skilled (white collar) individuals who constituted much of the rest of the occupational profile.

Many of the steelworkers gain qualifications that are recognised under Polish legislation, but job specific. Electricians, for example, carry a qualification from the 'Electricians Society', issued as a license that is valid for a certain period of time and then has to be renewed. It is the same for crane operators, forklift drivers, welders and so forth. The renewal of these certificates is organised via the company. In principle, workers can only carry out the tasks that their qualifications permit them to do. An electrician, for example, is tasked by certificate to change light bulbs. Thus, it is in the interests of the company to ensure that workers are appropriately qualified, although the transferability of these qualifications is not clear.

There seems to be a clear divide between qualified and unqualified workers in terms of age. In recent times, and as a response to a restructuring steel industry, Huta Zawiercie was recruiting individuals qualified either to high-school or graduate level. Previously recruitment was focused on those with no or very low level qualifications or elementary school leaving certificates. Thus, older workers who are possess few or no formal qualifications tended to form the majority of the workforce. It is only with the relatively new drive to recruit more highly qualified workers, who tended to be younger individuals, that the qualification profile of the workforce had risen both qualitatively and quantitatively. This said, the recruitment of new workers was restricted by social package agreements, which meant recruitment could only occur with the express agreement of the government. As the government sought to reorganise the industry, then the qualification profile of the workforce seemed set to remain low.

Section Four: Training

The training provision at the plant has undergone considerable change over the last few years. The Training Centre was sold off in 1997, and since then the training arrangements via the Centre have become less clear cut than was the case previously. Nonetheless, a substantial amount of the training offered to workers was via the Centre. What was of more significance is that the focus of training is beginning to shift away from a practice of 'learning on the job' to one where formal training practice was recognised, although not always realised in practice.

Training Organisation

The Training Centre (Centrum Szkolenia), which was formerly known as the Training Department, was responsible for the majority of the training needs of Huta Zawiercie's steelworkers and managers. Training however, was done at a number of places, including at the Centre, on-site (at dedicated classrooms and small training rooms, as well as on the shop-floor) or some other relevant place. In addition, the Training Centre acted as an intermediary in organising some courses. The manager was clear that *all* training is organized through the

Training Centre, although this was unclear the extent to which departments had autonomy in organising and conducting training in particular areas.

As mentioned previously, the company sold off the training function in 1997, and from this time the Training Department became known as the Training Centre. Indeed, the older workers continued to refer to the Training Centre as the Training Department, whilst the younger workers referred to it as the Training Centre. Huta Zawiercie continued to own the buildings from which the Training Centre operated and provided most of the business for the new Training Centre enterprise. The 'owner' of the Training Centre paid the steelworks rental for the use of the buildings, which had been fenced off from the main plant. The equipment (mini-cranes, welding benches) was also still 'technically' owned by Huta Zawiercie.

The new owner of the Training Centre was the former Personnel Manager of the steel company; he had worked in the personnel department for 12 years. He employed five permanent, full-time staff and over 100 part-time and temporary staff (for particular courses). Many of the 'trainers' in the Training Centre were previously employed as production workers at the steelworks. The trainers signed a contract each year and were paid for the hours they taught. Training for 'trainers' was limited however. One course a year was offered on pedagogical skills, but this was optional and was dependent on the good will of the 'trainers'.

Outside lecturers and teachers were also brought in for specific courses. For more general courses offered by the Centre, on occupational health and safety, or quality training, for example, outside lecturers were used. Equally, for courses that resulted in certification (for example, for electricians' qualifications) the Training Centre was required to use outside trainers and assessors.

Without the business of steel plant the Training Centre would fold. Hence, the Training Centre advertised elsewhere for business and conducted some work for other enterprises, including non-Polish based steelworks. The Centre, for example, had conducted training for steelworkers from Egypt and Iran, and the company Danieli – the manufacturer of much of the equipment in the rolling mill.

The Training Centre itself is relatively dated, and the facilities much used. It comprised a single two-storey building, which in turn comprised a series of classrooms, an Information Technology (IT) laboratory and workshops. The centre catered for theory and practice training. The overall impression was that the building seemed to be in a reasonable state of internal repair. The classrooms themselves were comfortable and reasonably well equipped. However there was only one IT room, which seemed rather limited in terms of equipment and scope. The corridors between the classrooms were cleanly swept, but had not been decorated recently. There were cracks in the plaster, and some evidence of damp. The workshops on the ground floor seemed rather poorly equipped. Equipment and vehicles used for training looked old and well used. These areas were also dirty and cold.

According to the Training Centre Manager and the official Training Centre programme a fairly comprehensive programme of training was available to Huta Zawiercie for its steelworkers. This included some certificated courses, which suggested evidence of some transferability of skills. The programme of training included: Gas welding, electrical welding and gas-shielded welding (upon the completion of the course the Certificate of the Institute of Welding – EN-287-1 is granted); manual gas/ flame cutting; power engineering and electrical devices operation (this included training courses and qualification test of the Association of Polish Electricians

SEP); crane operation and maintenance; Battery-driven truck and power truck drivers; IBM-compliant computer and government-approved cash-register operation; basic and periodical courses for the Occupational Health and Safety officers; and other courses upon request.

Training Practice

The organisation of training was complicated. Principal responsibility for the organisation and designation of training appeared to lie with the departmental management. As one manager stated:

It is the responsibility of a manager to have a fully operational team, because the manager of a department is responsible for the operation of that particular department. He is therefore also responsible for the replacement of workers when he selects workers for training. There are some peaks in our production and usually we plan to have training courses for bigger groups of workers to be carried out in January-February and November-December, when production levels are going down. This does not mean that we do not have any courses in the period between March and October. (2001)

In addition, training also involved dedicated programmes, involving outside staff, but in many cases for particular categories of worker only:

Other types of training are carried out at the plant. For example, at present there is a training for university graduates who are already employed by us. This is part of a post-graduate study organised by the Academy of Mining and Metallurgy, based in Cracow and the students have courses once a week here at the plant. The primary subjects of this study consist of management and new technologies in the steel industry. The duration of the study is half a year. The training is provided for people with a higher education level, who are already working here. They only receive two hours of time off, and have to take some of the courses on personal time. The course starts at one o'clock and continues until the evening. (2001)

One important point that came out of this review of training provision is that some of the training was in staffs' own time rather than in company time. However, this was a specific provision for graduate staff.

For non-graduate workers the situation was much more restrictive. This category of worker struggled to access formal training opportunities generally and was denied training for the acquisition of particular skills, for example language and IT skills, even when a desire to receive training was expressed:

Interviewer: Are there any courses being organised at present that aren't directly linked to your work that you would like to follow?

Yes, there are language and computer courses.... But only for employees with higher education. (Panel Interview 2001)

Indeed, if workers wished to pursue work related studies, that were not specifically required or mandated by management, it had to be in their own time and at their own cost. One worker stated:

We have to pay for additional training. There is nothing that could suit us in the plant unless someone changes jobs. We can learn or study but it has to be paid for. (Panel Interview 2001)

More generally, there was a practice of on the site training led by supervisory staff. As stated by a worker:

Every month we have a kind of refresher course. This actually consists of an update on health and safety legislation. It lasts for approximately half an hour and is conducted by the foreman. It is the only course we did last year. (Panel Interview 2001)

A variation in these procedures involved older staff 'training' younger staff. Another worker stated:

...we conduct internal training for young employees and afterwards they take formal exams in the Training Centre. (Panel Interview 2001)

In sum, there appeared to be relatively sharp differentiation between the training provided for staff and that for routine white collar workers, operatives and related occupations.

Training and Skills

Training at the plant was in the main job specific. In short, steelworkers were trained how to be steelworkers. It was difficult, therefore, for them to make a change in career or find employment elsewhere. The focus of the training was very much dependent on occupational category:

We have special people working with computers. Naturally, they need additional training but for the regular this is not required. It depends on the specific task an employee had. (Manager 2001)

Blue collar workers tended to be trained in technical skills. Specifically, 'blue collar' courses were offered for computer operators, cranes operatives, foundry workers, electricians, welders, flame cutters and fork lift drivers.

Managerial and technical staff were encouraged to develop transferable and generic skills, such as communication and negotiation skills. These categories of staff were regularly updated on technological issues. Such courses ranged over Health and Safety, IT, Accountancy and Modern Management Techniques ('outsourced' via universities and the Metallurgy Institute and usually at the postgraduate level). Other, more generic courses included modules on marketing, customer service and sales.

The restructuring of the steel works, in the context of a State driven reorganisation of the industry, laid the foundation for changing skills requirements. With the construction and introduction of advanced steel making equipment in the new bar rolling mill, in 1999, the company embarked on a replenishment of the workforce. Older, less skilled workers were encouraged to leave and their positions were taken over by a younger and more 'skilled' workforce. This process was presented in an understated way by a senior manager:

Some employees left the company and we had to hire new ones. This was also a result of the changed requirements with respect to qualifications. (2001)

The lead up to the commissioning of the new plant was an occasion for dedicated training for both blue collar and staff workers. As a manager from the rolling mill stated:

...the blue-collar workers have been training prior to the new rolling mills becoming operational. The lecturers from the University of Mining and Metallurgy were conducting the training twice a week for intervals of eight hours each, for a duration of half a year. Now, all of them are taking courses in information technology, which mostly consists of operating computers, data input and problem solving. (2001)

This dedicated training programme aimed to create an appropriately skilled workforce in this area.

Increasingly this aspect of the training was geared towards the creation of a multi-skilled workforce. One manager from the rolling mill linked the process of restructuring with the promotion of multi-tasks:

We talk to them, and we use a restructuring programme, what we call a framework. We assume that workers should be able to work at least in three jobs or more. (2001)

By 2001, training was increasingly orientated towards multi-skilling, and there was a possibility that this training would begin to address a broader range of skills needs than had been the case in the past. Nonetheless, while there was an aspiration to create a multi-skilled workforce, organised in teams, this quest seemed to be driven by technological change, and requirements, rather than the promotion of teamworking *per se*.

Assessment

Training was provided at this plant through a Training Centre, which once comprised part of the plant itself. In so far as the Training Centre provided training in technical and transferable skills, it met a stated need. The training, however, was far from comprehensive, nor was it accessed in a way that necessarily benefited the worker or the company. At the most general level, training was often defined so generally that it included 'on the job learning' and 'learning by looking'. In these circumstances it was unclear what the value of such procedures were, other than enabling new and often younger workers to settle into established work teams and relationships. Nonetheless, training programmes were offered to the workforce in a variety of ways, as block courses where new technologies were introduced, and more often as individually focused learning programmes for technically related jobs. The one exception was the courses offered to educated staff, where the company clearly took steps to both educate and retain these staff.

These patterns of training were qualified by the commissioning of the new rolling mill, and the advent of forms of team working. In this instance, dedicated training programmes were promoted to meet immediate and specific training needs. It could be argued that it was this experience that enabled the management to begin to move towards the promotion of embryonic forms of teamwork training although often presented in an uneven and *ad hoc* way.

Overall, however, there was no right to training and where training was negotiated it was in a narrow and job specific way. Certainly, the ability of the workforce to cope with changes to work organisation and production activity was compromised by technical training that was too narrow and non-existent transferable and generic skills training, at production and technician worker level. This was compounded by a rather myopic approach to IT training (and equal opportunities), and a limited grasp of what was necessary to develop a workforce able to work successfully with both fellow team workers and customers.

Section Five: Future Needs

The training needs for the future are linked to the changes that are taking place within the industry as well as within the external educational arrangements that apply to the industry and to these groups of employees. At an industry level there has been a move towards team working, modernizing plants and developing a greater involvement in down stream production activity. Such developments are linked to perceived gaps in the current training provision in a number of ways.

Skill Needs

There are five principal needs identified:

- Customer relations/language training.
- Team-working/communication skills.
- Technical skills: Fault finding and Multi-skilling.
- Credentialisation.
- IT skills.

Increasingly, steel was being produced at the plant in a more focused way, and there were the beginnings of an emphasis on down-stream activity. With such developments, a number of training needs were identified. Certainly training in down stream activity and customer relations training was identified by the President and by young workers, although not by older production workers and other management levels. More particularly, young workers identified a need for language training and for skills to be transferable. Language training could form part of a broader set of customer based/down stream activity skills.

This specification of needs forms part of more widely identified need for the facilitation of team working through training in generic and transferable skills, particularly communication skills. These themes were identified as necessary by all levels of management, and yet movement towards the achievement of such aspirations was limited:

No, we don't send them [blue collar workers] to courses like that [communication skills]. They might be needed but it is already too late, really. They are needed especially in the case of people with a university degree. (2001)

More significantly, the need for these types of skills had not been identified by or communicated to the Training Centre. The Centre ran courses in these types of skills, but for management only. It was clear, however, that all would benefit in their work if such training courses were made more widely available.

Assessment

Overall, this was a plant characterised by a relatively limited and restrained outlook on the inter-relationship between skills, qualifications and training. Three points can be made.

First, in line with a bureaucratised past and relatively formalistic approach to skills assessment, there is now a strong emphasis on formal qualifications particularly as part of the entry requirement into the workforce. Once employed, training focused narrowly on technical skills, and was often limited to time-served methods of class-room and practical work. The result was a skilled workforce, at least in so far as the production of steel was concerned. However, it was also a company that faced a changing and variable set of skills needs, which by and large were unmet by both the credentials held by staff and the training offered.

Second, there was moreover, a failure to develop credentials in any meaningful way. Newly recruited workers possessed credentials, which could be used to find work elsewhere. The plant had already implemented large-scale redundancies in recent years, partly at the behest of a government programme to rationalise the industry, which was supported by a social package for retraining. However, the industry still comprised many (older) workers recruited with few or no qualifications, and whose work experience and skill profile had been shaped solely by the industry. In the absence of credentials these relatively well paid workers faced difficulties obtaining jobs at the same level elsewhere. This problem of transferability as well as employability was something that the company had not addressed, and seemingly was unlikely to address in the near future.

Third, with the restructuring taking place in the Polish steel industry, and more specifically the way this history impacts on this privatised plant, senior management had begun to acknowledge the need for a broader technical skills training, presumably to meet commercial imperatives rather than technical requirements. It was in this context that the aspiration to develop a flexible and multi-skilled workforce was expressed. These assessments were made with obvious reference to the hoped for future success of the company.

Appendices

Appendix 1 Occupational profile of Polish steel industry

Appendix 2 Age profile by gender of Polish steel industry (at the end of 2000)

Appendix 3 The number of workers in the Polish steel industry

Appendix 4 Qualification profiles of Polish steel industry employees (at the end of 2000)

Appendix 5 :‘Schedule Of Required Qualifications For The Employees In Huta “Zawiercie” S.A. Steelworks’.

Appendix 1

Occupational profile of Polish steel industry										
Gender profile of Polish steel industry (at the end of 2000 y)										
No	Steel mills	Manufacturing		Auxiliary depts		Administration		Total		
		women	men	Women	men	women	men	women	men	all
1	Andrzej	94	613	38	109	102	100	234	822	1056
2	Baildon	91	392	105	330	93	40	289	762	1051
3	Bankowa	130	616	80	167	70	19	280	802	1082
4	Batory	132	754	162	300	82	15	376	1069	1445
5	Buczek	77	350	44	65	72	27	193	442	635
6	Cedler	127	688	61	175	196	97	384	960	1344
7	Częstochowa	307	1135	334	416	182	106	823	1657	2480
8	Ferrum	92	338	48	137	38	24	178	499	677
9	Florian	135	632	236	628	38	3	409	1263	1672
10	Gliwice			15	36	30	6	45	42	87
11	Jedność	64	237	64	202	85	67	213	506	719
12	Katowice	480	2950	602	1295	315	136	1397	4381	5778
13	Kościuszko			16	145	67	30	83	175	258
14	Królewska	122	604	58	41	6		186	645	831
15	L-W	62	1047	8	170	155	212	225	1429	1654
16	Łabędy	78	434	33	26	70	31	181	491	672
17	Łaziska	56	468	22	211	60	31	138	710	848
18	Małapanew	108	526	79	327	80	24	267	877	1144
19	Ostrowiec	104	1413	122	934	234	176	460	2523	2983
20	Pokój	84	467	52	173	88	36	224	676	900
21	Sendzimir	555	5699	389	2014	696	583	1640	8296	9936
22	Zawiercie	72	703	156	220	69	14	297	937	1234
	Total	2970	20066	2724	8121	2828	1777	8522	29964	38486
		23036		10845		4605		38486		
		11.82497		25.11757		61.41151		22.14312		

Appendix 2

Age profile by gender of Polish steel industry (at the end of 2000)								
No	Steel mills	gender	> 30 y	31-40 y	41-50 y	51-60 y	> 60 y	Total
1	Andrzej	women	36	110	76	12		234
		men	205	289	234	94		822
2	Baildon	women	13	59	159	58		289
		men	63	161	307	231		762
3	Bankowa	women	19	63	171	27		280
		men	199	168	313	123		803
4	Batory	women	37	90	218	31		376
		men	229	235	349	251	5	1069
5	Buczek	women	18	47	86	32		183
		men	95	98	201	58		452
6	Cedler	women	35	71	214	61	3	384
		men	226	178	377	176	3	960
7	Częstochowa	women	78	271	414	71		834
		men	168	413	745	348	1	1675
8	Ferrum	women	11	57	88	20	2	178
		men	64	97	190	140	8	499
9	Florian	women	19	115	225	50		409
		men	184	353	496	227	3	1263
10	Gliwice	women	4	11	24	5	1	45
		men	7	5	15	15		42
11	Jedność	women	32	66	104	11		213
		men	182	89	165	70		506
12	Katowice	women	48	302	928	119		1397
		men	472	1033	2013	852	11	4381
13	Kościuszko	women	3	19	56	5		83
		men	13	34	98	30		175
14	Królewska	women	8	41	132	5		186
		men	122	126	309	88		645
15	L-W	women	19	42	133	31		225
		men	233	175	592	422	7	1429
16	Łabędy	women	28	61	80	12		181
		men	110	151	169	59	2	491
17	Łaziska	women	18	50	62	8		138
		men	124	231	275	78	2	710
18	Małapanew	women	23	99	139	6		267
		men	126	325	373	53		877
19	Ostrowiec	women	7	64	349	40		460
		men	188	489	1407	438		2522
20	Pokój	women	38	52	106	28		224
		men	191	140	204	139	2	676
21	Sendzimira	women	196	536	782	126		1640
		men	1520	2081	3162	1499	34	8296
22	Zawiercie	women	16	65	197	16		294
		men	125	231	424	158	2	940
	Total	women	706	2291	4743	774	6	8520
		men	4846	7102	12418	5549	80	29995
		all	5552	9393	17161	6323	86	38515
%		women	8.3	26.9	55.7	9.1	0.1	100
		men	16.2	23.7	41.4	18.5	0.3	100

Appendix 3

The number of workers in the Polish steel industry					
No.	Steel mills	Employment level at the end of year:			
		1998	1999	2000	2001
1	Andrzej	2451	1,325	1050	894
2	Baildon	1684	1,251	1052	244
3	Bankowa	1695	1,420	1080	999
4	Batory	3830	2,419	1445	1203
5	Buczek	1213	818	635	567
6	Cedler	1628	1,498	1344	1236
7	Częstochowa	7477	6,204	2480	2250
8	Ferrum	869	783	677	478
9	Florian	2218	1,897	1672	1002
10	Gliwice	712	421	87	12
11	Jedność	2354	1,781	719	682
12	Katowice	14294	7,268	5778	5050
13	Kościuszk	1708	1,243	258	246
14	Królewska	0	0	831	830
15	L. W.	2147	1,769	1654	1291
16	Łabędy	1428	945	672	564
17	Łaziska	1342	910	848	750
18	Małapanew	2116	1,355	1143	356
19	Ostrowiec	4019	2,966	2983	2191
20	Pokój	1720	1,227	900	697
21	Sendzimira	17032	14,614	9956	9117
22	Stalowa Wola	2968	221	20	5
23	Szczecin	422	340	317	288
24	Zawiercie	1645	1,346	1234	1093
25	Zygmunt	1192	833	43	27
Total		78164	54854	38878	32072

Appendix 4

Qualification profiles of Polish steel industry employees (at the end of 2000)						
No	Steel mills	gender	Education			
			secondary. (workers)	College (technical, economist)	higher	total
1	Andrzej	women	90	119	25	234
		men	540	217	65	822
2	Baildon	women	101	148	40	289
		men	434	227	101	762
3	Bankowa	women	109	148	23	280
		men	477	242	83	802
4	Batory	women	167	180	29	376
		men	728	254	87	1069
5	Buczek	women	74	88	21	183
		men	253	152	47	452
6	Cedler	women	164	182	38	384
		men	508	374	78	960
7	Częstochowa	women	357	397	80	834
		men	941	501	233	1675
8	Ferrum	women	56	96	26	178
		men	253	168	78	499
9	Florian	women	190	177	42	409
		men	759	383	121	1263
10	Gliwice	women	8	32	5	45
		men	21	13	8	42
11	Jedność	women	116	87	10	213
		men	360	112	34	506
12	Katowice	women	414	800	183	1397
		men	2323	1550	508	4381
13	Kościuszko	women	17	57	9	83
		men	86	65	24	175
14	Królewska	women	128	38	20	186
		men	494	123	28	645
15	L-W	women	57	119	49	225
		men	881	404	144	1429
16	Łabędy	women	89	67	25	181
		men	359	101	31	491
17	Łaziska	women	59	60	19	138
		men	524	137	49	710
18	Małapanew	women	116	119	32	267
		men	644	186	47	877
19	Ostrowiec	women	119	271	70	460
		men	1498	791	234	2523
20	Pokój	women	83	98	43	224
		men	415	187	74	676
21	Sendzimira	women	532	846	262	1640
		men	5489	2139	668	8296
22	Zawiercie	women	97	152	45	294
		men	510	309	121	940
	Total	women	3143	4281	1096	8520
		men	18497	8635	2863	29995
			21640	12916	3959	38515
	%	women	36.9	50.2	12.9	100
		men	61.7	28.8	9.5	100

Appendix 5

'Schedule Of Required Qualifications For The Employees In Huta "Zawiercie" S.A. Steelworks'.

1. The required number of years of experience constitutes the recommendation for the organisational unit managers during the process of recruitment and promoting.
2. Persons appointed to the directorship, apart from the education specified above, should have university or post-university degrees in management, and should possess communication skills in at least one Western language.
3. The position of Chief Specialist may be established exclusively on managerial level if an organisational unit in an appropriate area of specialisation is also established. The scope of duties includes the operating, advisory and consulting activities within the area of specialisation in question (manufacturing, engineering, repairs, organisation, payroll, etc.).
4. Only one person may be appointed the position of Chief Specialist.
5. Business Office Managers, apart from the education specified above, should possess communication skills in English or German.
6. Line Specialists represent the same area of specialisation as Chief Specialists, however they are less advanced, they may also represent other specialisations and areas for which no managerial post is required.
7. The scope of duties of Line Specialists includes: problem solving, which requires the involvement of comprehensive and thorough knowledge within the areas of the respective organisational unit. In particular, the scope of activities of the Line Specialist should include the task of preparing complete background information and databases for senior management, for the use in the decision-making process (analyses, projections, suggested options for new solutions). Line Specialists must also be able to decide on materials, processing and analyses of methods, as well as on the matters remaining within the scope of his/her duties.
8. A Line Specialist will be held solely responsible for his/her actions by his/her superior, as well as by the state authorities (Revenue Office, Social Insurance Agency, etc.).
9. As a minimum requirement, a Line Specialist should be able to:
 - develop, implement and improve rules and procedures within the area of his/her specialisation;
 - organise team work, select contractors, distribute responsibilities, make decisions and manage the team of employees;
 - provide instructions and training for other employees within the scope of his/her specializations.
10. A Line Specialist may report directly to the Organizational Unit Manager or Assistant Manager or he/she may act as an assistant manager. In such case his/her title shall be "Assistant Manager/Line Specialist".
11. The posts of Specialist are subject to the same terms and conditions as that of the Line Specialist, except for the managerial, instructing and training skills.
12. While ranking foremen, the principle of granting them the highest rates within the team will be applied. In case it is impossible to grant the foreman a higher rate than the rest of the workers, the foreman may be ranked in the category which follows directly after the maximum rate. However, this rate may not be higher than the rate which constitutes half of the max. rate in such a category. In case the foreman is dismissed or resigns, the labour and remuneration conditions must be changed upon the termination or upon consent of the parties involved.
13. Assistant managers may be ranked not higher than the medium within the managerial category.

Source: Training Centre 2001

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