Education and Culture DG
Lifelong Learning Programme

GT VET
Greening Technical VET – Sustainable Training Module for the European Steel Industry

Industry Driven Job Requirements
European legislation

Project Meeting Gliwice
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technische universität dortmund

Introduction

- The Work Package no 2 is focusing to carry out an analysis of industry driven job requirements in the range of green aspects (ecological sustainability as well as health and safety) for chosen technical workers in three departments of steel enterprise:
  - blast furnace (where appropriate),
  - steelmaking shop (both basic oxygen and electric together with casting),
  - hot rolled departments.
- The job positions require qualifications, skills and competences of mechanical and electrical technicians in three above mentioned metallurgical shops were selected to be analyzed within the project
- The notions of “mechanical technician” and “electrical technician” conformed respectively International Labour Organization’ classification of occupations (document ISCO-08 Draft definitions, dated 9 July 2009):
  - code 3115 “mechanical engineering technician”,
  - code 3113 “electrical engineering technician”.

European environmental legislation

- Treaty on European Union and the Treaty on the Functioning of the European Union Article 191
- Generation of Waste
  - Directive on waste 2008/98/EC; Landfill of waste Directive 1999/31/EC; WEEE Directive 2002/96/EC and Packaging Directive 94/62/EC
    - *Influence on a daily work of mechanical and electrical technicians:*
      The influence is limited to handle waste resulting from maintenance and repair of machines and mechanical and electrical installations; technicians should pay special attention on hazardous waste; Waste generated in the range of activity of electrical and mechanical technicians needs to be classified according to the Directive and this dictates where waste may be landfilled; WEEE and packaging Directives are greatly affect mechanical and electrical technicians in their day to day duties and how they consign waste packaging and electrical / electronic equipment

European environmental legislation (cont.)

- Generation of Emissions to Atmosphere
  - IPPC Directive 2008/1/EC; Pure air for Europe Directive 2008/50/EC; Industrial Emissions Directive 2010/75/EU; BAT Iron & Steel BREF; BAT Ferrous Metal Processing BREF
    - *Influence on a daily work of mechanical and electrical technicians:*
      Technicians should be aware of the requirements of the permit to ensure no uncontrolled releases or emissions occur (e.g. during maintenance activities). The mechanical technicians should apply the best available techniques BAT accepted for their work-places; technicians should be aware in all their activities that Best Available Techniques assign limits of emission and consumption levels with reference to all environmental aspects

European environmental legislation (cont.)

- Generation of Emissions to Water
  - Water Framework Directive 2000/60/EC; IPPC Directive 2008/1/EC; Industrial Emissions Directive 2010/75/EU:
    - *Influence on a daily work of mechanical and electrical technicians:*
      Technicians (both mechanical and electrical) have the potential to cause the uncontrolled release of contaminants to waters through maintenance activities (replacement of fluids such as coolants/oils, etc., blow down of cooling towers, chemical storage, etc.) or through the setup of control instrumentation and monitoring systems
- Climate Change & Energy Efficiency
  - IPPC Directive 2008/1/EC; Industrial Emissions Directive 2010/75/EU:
    - *Influence on a daily work of mechanical and electrical technicians:*
      Technicians have the potential to impact the emissions and energy performance of the plants on which they operate through maintenance activities (replacement of drives/motors, balancing of extraction systems, furnace combustion optimisation) or through the setup of control instrumentation and monitoring systems.

European health & safety legislation

- Treaty on European Union and the Treaty on the Functioning of the European Union Article 156
  - The Health and Safety FRAMEWORK DIRECTIVE 89/391/EEC
    - *Influence on a daily work of mechanical and electrical technicians:*
      Directive creates general frames both for employers and employees (independent on skills and posts – so including mechanical and electrical technicians). The duties of employers cover: general obligations; protective and preventive services; first aid, fire-fighting and evacuation of workers, serious and imminent danger; worker information; consultation and participation of workers; training of workers. The duties of employees cover the responsibility of each worker to take care as far as possible of his own safety and health and that of other persons affected by his acts or Commissions at work in accordance with his training and the instructions given by his employer
    - Workplace requirements Directive 89/654/EEC
      - *Influence on a daily work of mechanical and electrical technicians:*
        Directive describes (independent on skills and posts – so including mechanical and electrical technicians) minimum safety and health requirements for workplaces used for the first time and for workplaces already in use

European health & safety legislation (cont.)

- Dangerous agents at work Directive 98/24/EC
  - *Influence on a daily work of mechanical and electrical technicians:*
    Mechanical and electrical technicians are at risk of exposure to hazardous chemicals and industrial gases while performing their daily duties such as repairs and maintenance of machines and installations, and moving around the site
  - Exposure to chemical agents and chemical safety – Directives: 2004/37/EC - carcinogens or mutagens at work; 2009/161/EU, 2000/39/EC, 2006/15/EC, 91/322/EEC - indicative occupational exposure limit values; 2009/148/EC - exposure to asbestos at work
    - *Influence on a daily work of mechanical and electrical technicians:*
      Mechanical and electrical technicians are exposed to the same risks while performing their duties (maintenance and repairs) like other workers in the company. In metallurgical processes or processes carried out in metallurgical companies (e.g. welding) carcinogens or mutagens (e.g. dioxins, furans, polycyclic aromatic hydrocarbons, compounds of chromium, nickel) could be created or could be released; in metallurgical processes or processes carried out in metallurgical companies some agents listed in Directives 2009/16/EU, 2000/39/EC, 2006/15/EC, 91/322/EEC (e.g. sulphuric acid, hydrogen sulphide; chlorobenzene, hydrogen chloride, hydrogen fluoride; chlorine, phosphine, carbon dioxide; nitrogen monoxide, tin (inorganic compounds as Sn) could be created or could be released

European health & safety legislation (cont.)

- Noise Directive 2003/10/EC C
  - *Influence on a daily work of mechanical and electrical technicians:*
    Whether employees (independent on skills and posts – so including mechanical and electrical technicians) move around the company, as well as performing their duties on different departments, they are exposed to background noise (from other workplaces) and they use the devices which are emitting noise and vibrations
  - Artificial optical radiation Directive 2006/25/EC
    - *Influence on a daily work of mechanical and electrical technicians:*
      Whether employees (independent on skills and posts – so including mechanical and electrical technicians) move around the company, as well as performing their duties on different departments, they are exposed to artificial optical radiation from other workplaces
  - Personal Protective Equipment Directive 89/686/EEC
    - *Influence on a daily work of mechanical and electrical technicians:*
      Technicians and electricians while performing their duties should be provided with appropriate PPE in accordance with the scope of their work. In addition, due to occurrence of different risks in different departments of the plant, they should do their work with appropriate collective protection or should be equipped with PPE provided for employees of this department