Corporate ergonomics programme at an Energy Brazilian Company

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1. Introduction

The Gas and Power business unit of an energy company has been developing structured and systematic actions on the Ergonomic Program according to the legal and internal requests. On the hall of actions, stands out the Ergonomic Work Analysis (Guérin et al., 2001) developed in all the operations unit by the preconized methodology according to the Brazilian specific regulatory standard (NR-17) Application Manual (MTE/STI, 2002). It has been developed with partnership with the department of production engineering of a Brazilian federal university.

According to the sustainability annual report, the company's mission statement considers perform in the oil and gas industry in an ethic, safe and profitable way, with social and environment responsibility, highlighting among the challenges, the Safety, Environment, Energy Efficiency and Health issues as a principle of the companies operation and workforce commitment.

Since 2000, facing the energetic Brazilian crisis and encouraged by the Thermoelectric Plant Priority Program (PPT), established by the Decree 3,371/2000, the energy company has invested in the power generation industry through its thermoelectric generating complex. In 2013, the generating complex reached an installed capacity of 6,549.4 megawatts (MW) and 4,043 MW generated to the National Integrated System, through its 21 thermoelectric plant operated or controlled by the energy company.

It might be highlighted that the energy company has established, for over a decade, a corporative ergonomic program which has been implemented, including workers' capacitation on ergonomics issues (corrections and conceptions), ergonomics committees, rules, procedures, indicators and so on. However, the development phase is heterogeneous among the business units and operations units, and the gas and power unit figures as the youngest business unit in the company.

2. Project organization and phases

Until 2013, the ergonomic actions have been decentralized developed in the gas and power business unit and mostly focused on administrative workstation and few control rooms. A technical analysis, carried by the Safety, Environment, Energetic Efficiency and Health (SEEH) management, pointed that predominated understanding was that the ergonomic programs should care mostly of postural analysis, work related musculoskeletal disorders (WMSDs) and shall act in the furniture corrections.

In order to leverage the ergonomic program in the business unit and reach an ergonomic understanding culture change in the gas and power unit, the SEEH management established a corporative ergonomic project. It has been developed by the partnership of a Federal University (Production Engineering Department), since the first semester of 2013, performing Ergonomic Work Analysis (EWA) at the industrial tasks in order to increase the process efficiency and guarantee safety and health conditions to the workforce.

The organizational structure keeps some similarities with other ergonomics projects carried by large companies, such as Ford Motor (JOSEPH, 2003) and the BCM Airdrie (SMYTH, 2003). It is coordinated by ergonomics experts, it counts on the commitment of leaders and it is developed with participation of multidisciplinary teams.

The methodology adopted in each Operating Unit (OU) consists in 4 phases that encompass all stages of EWA, in accordance with the Federal Regulatory Standard No. 17 of the Brazilian Ministry of Labor and Employment.

- 1st phase includes the identification of difficulties faced by workers in various operating and maintenance activities (demands). This phase includes prioritization based on risk and ease of implementing
changes related to the demands. A participatory process with workers and company managers select 5 demands to be analyzed.
- 2nd phase covers various stages of EWA and aim to get to a problem diagnosis and its causes. Validation of diagnostic and preliminary ergonomic recommendations is conducted at the end of this phase.
- 3rd phase, details of recommendations are developed and validated with the OU team.
- 4th (final): an action plan for monitoring the recommendations implementation is developed through a participatory methodology.

3. Conclusions
The project aims to promote the commitment of leader and workforce since its first moment, from the demand selection until the acceptance of recommendations to be implemented. However, their commitment was more effective when there was understanding that the methods and objectives of the EWA do not compete, but contribute to the better performance and should be aligned to the other strategies of the organization. During this participatory ergonomics project the teams could identify, analyze and treat the difficulties (physical, cognitive and psychosocial demands) faced by workers, improving the work conditions (organization, environmental conditions, equipment, material handling, furniture etc.)

The experience also shows some improving opportunities at the corporate ergonomics program, among which may be mentioned: the constitution of local ergonomics committee, the continuity of the ergonomics projects in spite of substitution of some managers, the way of establishing investment budget in SEEH, the involvement of ergonomist specialists in projects and the collaboration among operation units (OU) in order to disseminate knowledge and improves implemented in any operation unit.

References