

PRINCIPLES OF GOOD WORK DESIGN (Part 1)

Good work design optimizes work health and safety, human performance, job satisfaction, and business success.

Introduction:

This article is underpinned by the principle that well-designed healthy and safe work will allow workers to have more productive lives. This can be more efficiently achieved if hazards and risks are eliminated through good design.

The ten principles of good work design:

This article has been written in two parts and contains ten principles which demonstrate how to achieve good design of work and work processes. Each is general in nature so they can be successfully applied to any workplace, business or industry. The ten principles for good work design are structured into three sections:

1. Why good work design is important?
2. What should be considered in good work design? And
3. How good work is designed?

This article, divided in two parts, complements a range of existing resources available to businesses and work health and safety professionals including guidance for the safe design of plant and structures.

Scope of this article:

This article provides information on how to apply the good work design principles to work and work processes to protect workers and others who may be affected by the work. It describes how design can be used to set up the workplace, working environment and work tasks to protect the health and safety of workers, taking into account their range of abilities and vulnerabilities, so far as reasonably practicable. The article does not aim to provide advice on managing situations where individual workers may have special requirements such as those with a disability or on a return to work program following an injury or illness.

Who should read this article?

This article should be read by those with a role in designing work and work processes, including:

- Persons conducting a business or undertaking (PCBUs) with a primary duty of care;
- PCBUs who have specific design duties relating to the design of plant, substances and structures including the buildings in which people work;

- People responsible for designing organizational structures, staffing rosters and systems of work;
- Professionals who provide expert advice to organizations on work health and safety matters;

Experts who provide advice on the design of work may include: engineers, architects, ergonomists, information and computer technology professionals, occupational hygienists, organizational psychologists, human resource professionals, occupational therapists and physiotherapists.

WHAT IS GOOD WORK

Good work is healthy and safe work where the hazards and risks are eliminated or minimized so far as is reasonably practicable. Good work is also where the work design optimizes human performance, job satisfaction and productivity.

Good work contains positive work elements that can:

- Protect workers from harm to their health, safety and welfare;
- Improve worker health and well-being;
- Improve business success through higher worker productivity

WHAT IS A GOOD WORK DESIGN?

The most effective design process begins at the earliest opportunity during the conceptual and planning phases. At this early stage there is the greatest chance of finding ways to design out hazards, incorporate effective risk control measures and design-in efficiencies.

Effective design of good work considers:

THE WORK:

- How work is performed, including the physical, mental and emotional demands of the tasks and activities;
- The task duration, frequency and complexity, and
- The context and systems of work.

THE PHYSICAL WORKING ENVIRONMENT

- The plant, equipment and substances used, and
- The vehicles, buildings, structures that are workplaces.

THE WORKERS

- Physical, emotional and mental capacities and needs.

Effective design of good work can radically transform the workplace in ways that benefit the business, workers, clients and others in the supply chain.

Failure to consider how work is designed can result in poor risk management and lost opportunities to innovate and improve the effectiveness and efficiency of work.

The principles of good work design support duty holders to meet their obligations under the Central and State laws and also helps them to achieve better business practice generally.

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WHY IS GOOD WORK DESIGN IMPORTANT?

Principle 1

Good work design gives the highest level of protection so far as is reasonably practicable

- All workers have a right to the highest practicable level of protection against harm to their health, safety and welfare.
- The primary purpose of the Central and State laws are to protect persons from work-related harm so far as is reasonably practicable.
- Harm relates to the possibility that death; injury, illness or disease may result from exposure to a hazard in the short or longer term.
- Eliminating or minimizing hazards at the source before risks are introduced in the workplace is a very effective way of providing the highest level of protection.

Principle 1 refers to the legal duties under the Central and State laws. These laws provide the framework to protect the health, safety and welfare of workers and others who might be affected by the work. During the work design process workers and others should be given the highest level of protection against harm that is reasonably practicable.

Prevention of workplace injury and illness

Well-designed work can prevent work-related deaths, injuries and illnesses. The potential risk of harm from hazards in a workplace should be eliminated through good work design.

Only if that is not reasonably practicable, then the design process should minimize hazards and risks through the selection and use of appropriate control measures.

New hazards may inadvertently be created when changing work processes. If the good work design principles are systematically applied, potential hazards and risks arising from these changes can be eliminated or minimized.

Reducing the speed of an inappropriately fast process line will not only reduce production errors, it can diminish the likelihood of a musculoskeletal injury and mental stress.

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Principle 2

Good work design enhances health and wellbeing

- Health is a “state of complete physical, mental, and social wellbeing, not merely the absence of disease or infirmity” (World Health Organization);
- Designing good work can help improve health over the longer term by improving workers’ musculoskeletal condition, cardiovascular functioning and their mental health;
- Good work design optimizes worker function and improves participation enabling workers to have more productive working lives.

Health benefits

Effective design aims to prevent harm, but it can also positively enhance the health and wellbeing of workers for example, satisfying work and positive social interactions can help improve people’s physical and mental health.

As a general guide, the healthiest workers have been found to be three times more productive than the least *healthy*. It therefore makes good business sense for work design to support people’s health and wellbeing.

Recent research has shown long periods of sitting (regardless of exercise regime) can lead to increased risk of preventable musculoskeletal disorders and chronic diseases such as diabetes. In an office environment, prolonged sitting can be reduced by allowing people to alternate between sitting and standing whilst working.

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Principle 3**Good work design enhances business success and productivity**

- Good work design prevents deaths, injuries and illnesses and their associated costs, improves worker motivation and engagement and in the long-term improves business productivity;
- Well-designed work fosters innovation, quality and efficiencies through effective and continuous improvement;
- Well-designed work helps manage risks to business sustainability and profitability by making work processes more efficient and effective and by improving product and service quality.

Cost savings and productivity improvements

Designing-out problems before they arise is generally cheaper than making changes after the resulting event, for example by avoiding expensive retrofitting of workplace controls.

Good work design can have direct and tangible cost savings by decreasing disruption to work processes and the costs from workplace injuries and illnesses.

Good work design can also lead to productivity improvements and business sustainability by:

- allowing organizations to adjust to changing business needs and to streamline work processes by reducing wastage, training and supervision costs
- Improving opportunities for creativity and innovation to solve production issues, reduce errors and improve service and product quality, and
- making better use of workers' skills resulting in more engaged and motivated staff willing to contribute greater additional effort.

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What should be considered by those with design responsibilities?

Principle 4

Good work design addresses physical, biomechanical, cognitive and psychosocial characteristics of work, together with the needs and capabilities of the people involved

- Good work design addresses the different hazards associated with work e.g. chemical, biological and plant hazards, hazardous manual tasks and aspects of work that can impact on mental health;
- Work characteristics should be systematically considered when work is designed, redesigned or the hazards and risks are assessed;
- These work characteristics should be considered in combination and one characteristic should not be considered in isolation;
- Good work design creates jobs and tasks that accommodate the abilities and vulnerabilities of workers so far as reasonably practicable.

Hazards and risks associated with tasks are identified and controlled during good work design processes and they should be considered in combination with all hazards and risks in the workplace. This highlights that it is the combination that is important for good work design.

Workers can also be exposed to a number of different hazards from a single task. For example, meat boning is a common task in a meat-processing workplace. This task has a range of potential hazards and risks that need to be managed, e.g. physical, chemical, biological, biomechanical and psychosocial. Good work design means the hazards and risks arising from this task are considered both individually and collectively to ensure the best control solutions are identified and applied.

Good work design can prevent unintended consequences which might arise if task control measures are implemented in isolation from other job considerations. For example, automation of a process may improve production speed and reduce musculoskeletal injuries but increase risk of hearing loss if effective noise control measures are not also considered.

Workers have different needs and capabilities; good work design takes these into account. This includes designing to accommodate them given the normal range of human cognitive, biomechanical and psychological characteristics of the work.

The Indian workforce is changing. It is typically younger with higher educational levels, more inclusive of people with disabilities, and more socially and ethnically diverse. Good work design accommodates and embraces worker diversity. It will also help a business become an employer of choice, able to attract and retain an experienced workforce

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Principle 5**Good work design considers the business needs, context and work environment**

- Good work design is 'fit for purpose' and should reflect the needs of the organization including owners, managers, workers and clients;
- Every workplace is different so approaches need to be context specific. What is good for one situation cannot be assumed to be good for another, so off-the-shelf solutions may not always suit every situation;
- The work environment is broad and includes: the physical structures, plant and technology, work layout, organizational design and culture, human resource systems, work health and safety processes and information/control systems.

The business organizational structure and culture, decision making processes, work environment and how resources and people are allocated to the work will directly and indirectly impact on work design and how well and safely the work is done.

The work environment includes the physical structures, plant, and technology. Planning for relocations, refurbishments or when introducing new engineering systems are ideal opportunities for businesses to improve their work designs and avoid foreseeable risks.

These are amongst the most common work changes a business undertakes yet good design during these processes is often quite poorly considered and implemented. An effective design following the processes described in this article can yield significant business benefits.

NOTE: Off-the- shelf solutions can be explored for some common tasks, however usually design solutions need to be tailored to suit a particular workplace

Good work design is most effective when it addresses the specific business needs of the individual workplace or business. Typically work design solutions will differ between small and large businesses.

However, all businesses must eliminate or minimize their work health and safety risks so far as reasonably practicable. The specific strategies and controls will vary depending on the circumstances. The table on the next page demonstrates how to step through the good work design process for small and large businesses.

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Table 1 – steps in good work design for large and small businesses		
Good design steps	In a large business that is downsizing	In a large business that is downsizing
Management commitment	Senior management makes their commitment to good work design explicit ahead of downsizing and may hire external expertise.	The owner tells workers about their commitment to designing out hazards during the upcoming refit of the store layout to help improve safety and efficiency.
Consult	The consequences of downsizing and how these can be managed are discussed in senior management and WHS committee meetings with appropriate representation from affected work areas.	The owner holds meetings with their workers to identify possible issues ahead of the refit.
Identify	A comprehensive workload audit is undertaken to clarify opportunities for improvements.	The owner discusses the proposed refit with the architect and builder and gets ideas for dealing with issues raised by workers.
Assess	A cost benefit analysis is undertaken to assess the work design options to manage the downsizing.	The owner, architect and builder jointly discuss the proposed refit and any worker issues directly with workers.
Control	A change management plan is developed and implemented to appropriately structure teams and improve systems of work. Training is provided to support the new work arrangements.	The building refit occurs. Workers are given training and supervision to become familiar with new layout and safe equipment use
Review	The work redesign process is reviewed against the project aims by senior managers.	The owner checks with the workers that the refit has improved working conditions and efficiency and there are no new issues.
Improve	Following consultation, refinement of the redesign is undertaken if required.	Minor adjustments to the fit out are made if required.

End of Part 1

Part 2 will be published in next issue

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