

## HFESNZ Accepted HFE Skills and Service Types for the HASANZ Register

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This list has been taken from the 29.9.2017 HASANZ Register Definitions Spreadsheet and may require updating from time to time. On this spreadsheet associations have previously identified the services that appropriately qualified members are likely to be able to perform (and have assessed competence in) – thus the following are those services that HFESNZ has identified that its members may provide.

<b>General Services</b>	
Accident or Incident Investigations	The process of systematically gathering and analysing information about an accident or incident. This is done for the purposes of identifying root causes and/or making recommendations to prevent those types of accidents or incidents from happening again.
Expert Witness	Providing a skilled commentary on factual matters to allow decision-makers to better assess the probability that one or other of the various available inferences or conclusions is correct.
Compliance with Legislation	Working with organisations to ensure that they are aware of and take steps to comply with relevant health and safety laws and regulations.
Hazard or Risk Assessment	Hazard identification, risk assessment and management: A systematic process to identify hazards and assess/quantify the likelihood, consequence/severity of harm and put in place appropriate controls.
Health and Safety Advice	An opinion or recommendation about managing a business' health and/or safety risks.
Health and Safety Assessment	A health and safety assessment evaluates risk generated in the workplace or in the work process with objectives to remove, reduce and replace the source of risk with safer equipment or processes, or to lessen the risk to the health and safety of the workers. This may include assessment at an organisational, business unit or site specific level.
Health and Safety Assurance	Evaluating health and safety management system effectiveness to provide confidence to management on whether the system is fit-for-purpose.
Health and Safety Governance	Ensuring appropriate systems and processes are in place to support health and safety and, critically, that there is proper resourcing and verification of health and safety at the board table.
Health and Safety Leadership	Facilitating the development of commitment, attributes and leadership behaviours of people in businesses in order to develop a positive health and safety culture.
Health and Safety Management Systems	Facilitating the development of a health and safety management system which includes organisational structure, planning activities, responsibilities, policy, procedures, processes and resources, for developing, implementing, reviewing and maintaining positive workplace health and safety practices.
Health and Safety System Performance	Measuring the effectiveness of the workplace health and safety management system.
Monitoring and Reporting	Collecting data and/or analysing and interpreting actual health and safety performance compared with specific objectives, targets or standards.
Mentoring	Providing a learning partnership between an experienced professional person (mentor) and a less experienced person (mentee) for the purpose of sharing knowledge and information.
Risk Management Systems	Providing advice about systems that enable the setting of priorities based on risk assessment, establishing efficient and consistent risk reduction policies, evaluating the range of risk reduction alternatives, identifying cost-effective risk reduction measures, and identifying risk mitigation and contingency measures.

Training / Education	Providing education, training or facilitation in health and safety-related topics.
Wellness	Designing and implementing programmes which educate and promote positive choices towards a healthy and fulfilling life.
Worker engagement, participation and representation	Working with organisations to help them involve their workers in workplace health and safety.
Individual computer workstation set-up and advice	Assessing and providing education/guidance on workstation equipment and its adjustment, and on work methods including break practices and exercise to maintain health, comfort and performance at work also known as 'workstation audits or assessments'.
<b>Specialist Services</b>	
Design of Plant, Substances and Structures	The design or redesign of plant, substances or structures that are used (or could reasonably be expected to be used) in workplaces. 'Designers' includes all PCBUS contributing to the design process. Design must consider the lifecycle of the artefact and the health and safety of all those who interact with it at each stage including during construction, use and disposal.
Design of Transportation Systems	User centred road/transport system design (often via a multidisciplinary team including human factors professionals) may incorporate: road safety/ transportation research; system design recommendations and system specifications; human factors and user centred design methodology; road safety assessments; evaluation of human behaviour within the context of roading systems/transport; behavioural change programmes for transportation systems; and obtaining and analysing road user feedback.
Design Verification	Evaluation of whether a product, service, or system meets requirements and specifications (including compliance with regulations, requirements, specifications, or imposed conditions) and that it fulfils its intended purpose. In some circumstances design verification maybe restricted to certain persons by law or regulation e.g. cranes or pressure vessel design verification.
Human Factors/Ergonomics Assessment	Analysing tasks, activities and systems to design for healthy and safe human performance in efficient and productive systems. A range of methods are used to understand cognitive, physical, social and cultural aspects of performance. This includes manual handling risk analysis; workplace, workstation and work process design; product usability; reducing human error; design of complex systems; and human/computer interaction.
Health Monitoring	The systematic measurement and reporting of worker health, including as a result of exposure to work-related health hazards.
Facilitation of Health and Safety by Design Processes	Facilitating or coordinating health and safety by design processes for plant, substances and structures. This will usually involve coordinating the work of diverse technical specialists (potentially from multiple PCBUs) and facilitating the design process.
High Hazard Facilities	Specialist advice for workplaces designated as Major Hazard Facilities.
Injury/Illness Management/Treatment	Education, intervention and/or procedures that are undertaken or established to assist workers to stay at, or return to, work following injuries, or illness. Injury management teams may be necessary to provide skilled support for injured workers, with different professionals taking complementary roles.
Job Demand Analysis /Task Analysis	Evaluating task or job requirements to assess the physical, functional and/or cognitive demands on workers. This can be used as a pre-requisite for developing a physical, functional or cognitive capacity evaluation or to set baseline requirements for a task/job.
Pain and Discomfort Management	Assessing an individual in their job to identify factors contributing to discomfort, in order to prevent more significant pain or injury. This will include the provision of education/guidance on workstation equipment and its adjustment, and on work methods including break practices, exercises in order to maintain health and comfort at work.
Injury/Discomfort Prevention	Workplace and system design, education, or procedures to reduce injury or discomfort to workers.
Selection and Use of Equipment for Moving and Handling of People and/or Animals	Advice on selection and use of any appliance used to moving and handling people and/or animals, for example patient lifters.
Design and/or Certification of Lifting Equipment for material handling	Design and/or certification of any appliance used for lifting or moving material, for example lifting beams or stillages.
Selection and Use of Lifting Equipment for material handling	Advice on selection and use of any appliance used for lifting or moving material, for example lifting beams or stillages.
Machinery Health and Safety	Advice relating to the safe and healthy design, operation and/or maintenance of machinery.
Design for Moving and Handling of People/Animals	A systems based design approach to reduce exposure to the risks associated with the moving and handling of people or animals. This approach includes risk assessment, facility design, equipment selection, work organisation and education.

Cabin Operator Protective Structures (COPS)	Advice about the need for structures to reduce the likelihood of harm to the operator of mobile plant.
Design and/or Certification of Cabin Operator Protective Structures (COPS)	Design and/or certification of structures to protect the operator of mobile plant, for example, ROPS, TOPS, FOPS and OPS.
Safety Cases	Advice in relation to the preparation of safety cases usually required under the Major Hazard Facilities Regulations. A safety case is a structured argument, supported by evidence, intended to justify that a system is acceptably safe for a specific application in a specific operating environment.
Thermal Environment Advice	Advice about or measurement of the thermal environment which includes air temperature, mean radiant temperature, relative air speed, humidity as well as work rate (metabolic heat production) and clothing. This can be applied to indoor work environments as well as outdoor environments.
Workplace Assessments - simple	A preliminary assessment of work tasks, techniques, workload, equipment and environment.
Workplace Assessments - complex	An in-depth assessment of work tasks, techniques, workload, equipment and environment. The scope and nature of a workplace assessment can vary considerably depending on the needs of the business.
Lighting	The provision of advice regarding lighting, and/or the measurement of lighting to ascertain the quantity and quality of light to fulfil three functions: ensure the safety of people, facilitate the performance of the visual tasks and aid the creation of the appropriate visual environment. A full light survey can identify defects in the lighting system and the potential for short or long term health problems.
Temperature/thermal environment	The provision of advice regarding work environment temperature, and/or the measurement of the impact of working in hot and cold environments where exposure to extreme heat or cold can result in illness, injury and, in extreme cases, death. This can include measurements for heat stress/strain or cold stressors.
Workstation Assessment	An in-depth assessment of the immediate area accessed by a worker when performing a specific task or job cycle.
Workstation and environment setup advice for people with disabilities	Provision of advice for workstation, work task and work environment setup for people with disabilities (e.g. wheelchair users, those with vision impairment, or people with physical or mental/cognitive impairment) to enable optimal participation in the workforce.
Workplace design	The designing of workplace physical environments, work processes, work methods, and tools/ equipment/plant to reduce health and safety risks and maximise productivity. (See "Work system design" for more complex requirements).
Work system design	The design of work systems and parts of work systems to optimise health and safety or workers and productivity of processes. Design focus may be on task processes, workplace layout and relationships, the functioning of items of plant and equipment, the knowledge and skills required by operators for optimal system functioning, the usability of equipment/software, and/or cognitive/psychological aspects of performance. Work system design is likely to include assessment of worker population function in existing systems. The knowledge gained from assessment may inform the selection/procurement of plant, furniture and equipment. A wide range of assessment methods and a team approach may be utilised.
<b>Specific Injury or Illness</b>	
Back or Musculoskeletal Injuries/discomfort	Injuries or pain in the body's joints, ligaments, muscles, nerves, tendons, and structures that support limbs, neck and back. This can arise from a sudden exertion (e.g., lifting a heavy object), or from making the same motions repeatedly (repetitive strain), or from repeated exposure to force, vibration, or awkward posture.
Fatal Injuries	A fatality is the permanent death of a person (i.e. it does not include instances where a person is revived). A fatal <i>injury</i> is a traumatic injury that directly causes the permanent death of a person. This means it does not include death as a result of illness or chronic issues, but only those by acute harm from a traumatic event.  In cases where attribution is unclear a Coronial decision stands as the official cause of death - this may apply, for example, where there are multiple injuries that alone may not have caused death, where trauma was a reasonably long time before death, or where existing illness or chronic conditions impaired recovery from trauma.

Fatigue / Chronic Fatigue	<p>Fatigue can be a symptom of a medical problem, but more commonly it is a normal physiological reaction to exertion, lack of sleep, boredom, changes to sleep-wake schedules (including jet lag), or stress.</p> <p>Physical fatigue is the inability to continue functioning at the level of one's normal abilities; a person with physical fatigue cannot lift as heavy a box or walk as far as they could if not fatigued.</p> <p>Mental fatigue manifests in sleepiness or slowness. A person with mental fatigue may fall asleep, react very slowly, or be inattentive. With micro-sleeps, the person may be unaware they were asleep. Without proper amount of sleep, it will feel like certain tasks seem complicated, concentration will drop and it can ultimately result in fatal mistakes.</p>
Hand-arm Vibration Syndrome	<p>Excessive exposure to hand arm vibrations can result in Hand Arm Vibration Syndrome (HAVS) or Vibration White Finger (VWF). This can affect nerves, joints, muscles, blood vessels or connective tissues of the hand and forearm. Symptoms include: a) Tingling 'whiteness' or numbness in the fingers (blood vessels and nerves affected). b) Fingers change colour (blood vessels affected) from pale and sometimes bluish when exposed to the cold, to a red flush (often with throbbing) when circulation returns. c) Loss of manual dexterity and reduced grip strength (nerves and muscles affected). In more severe forms, attacks may occur frequently in cold weather, not only at work, but during leisure activities, such as gardening, car washing or even watching outdoor sports.</p>
Head injury	<p>Head injury usually refers to a Traumatic Brain Injury (TBI), when an external force injures the brain, but is a broader category because it can involve damage to structures other than the brain, such as the scalp and skull. TBIs can be classified based on severity, mechanism (closed or penetrating head injury), or other features (e.g., occurring in a specific location or over a widespread area). Concussion refers to a mild TBI and can often go undiagnosed. Symptoms vary amongst individuals and may include symptoms such as fatigue, headaches, visual disturbances, memory loss, and poor concentration.</p>
Manual Handling Injuries	<p>Injury (gradual or acute) caused by any activity requiring a person to interact with their environment and use any part of their muscles or skeletal system to lift, lower, push, pull, carry, throw, move, restrain or hold any animate, or inanimate, object.</p>
Mental Health Issues in the Workplace	<p>In any organisation there will be a range of mental health experiences across employees and this will change over time. This range includes people experiencing optimal/'positive' mental health, people who are mentally unwell (and/or have a diagnosed mental illness which may or may not be being treated), people who lack general mental wellbeing (usually disengaged and unmotivated people who lack meaning or purpose in their daily lives), and people who don't meet the criteria for a diagnosable mental illness but may be highly stressed or distressed due to home or work life or a traumatic event. Health issues can manifest in a variety of ways in the workplace. The two most significant ways in which workplaces experience poor physical and mental health of employees is through increased absenteeism (when workers are off sick), and increased presenteeism (when workers are at the workplace but not mentally engaged with work).</p>
OOS (Occupational Overuse Syndrome) or RSI (Repetitive Strain Injury)	<p>An umbrella term covering a range of disorders characterised by pain and/or other sensations in muscles, tendons, nerves, soft tissues and joints with clinical signs evident to a medical practitioner. Symptoms such as pain, discomfort, and muscle weakness may continue even after initial clinical signs have diminished and tend to develop gradually and worsen over time if not addressed. The disorders are caused, or significantly contributed to, by occupational factors including prolonged muscle tension, repetitive actions, forceful movements and sustained or constrained postures, which exceed the usual ability of the body to rapidly recover.</p>
Pain and discomfort	<p>Pain and discomfort is subjective, though discomfort is usually regarded as a less serious form of pain. People who experience pain or discomfort may or may not have an identifiable injury, and the amount pain or discomfort someone experiences does not necessarily relate to the amount of any tissue damage or severity of an injury. Pain and discomfort can itself lead to injury, where the right combination of contributing factors exists.</p> <p>Pain and discomfort can manifest from traumatic injury or illness (from minor to very severe), gradual process conditions, and strains and sprains (including back/neck pain). Aside from trauma, it is usually it is a result of a body being used in a way it is not designed to do comfortably.</p>

Post-Traumatic Stress Disorder (PTSD)	PTSD is a psychological reaction to experiencing or witnessing a significantly stressful, traumatic or shocking event. PTSD manifests as persistent mental and emotional stress occurring as a result of this injury or severe psychological shock, and typically involves disturbance of sleep and constant vivid recall of the experience, with dulled responses to others and to the outside world. Without treatment PTSD can lead to depression and suicidal thoughts. Anxiety, panic attacks, eating disorders, and substance abuse are also common elements of PTSD.
Sprains, strains and bruises	Injuries that involve body tissues apart from bone are generally classified as soft tissue injuries. Sprains, strains and bruises are all soft tissue injuries, although the cause and tissues involved in each injury are different. A <b>sprain</b> is an injury that involves the ligaments (tough bands of fibrous tissue that connect two bones together in joints) and other soft tissues around a joint, such as an ankle or wrist. A sprain stretches or tears the ligaments. A <b>strain</b> occurs away from a joint and involves a torn or overstretched muscle or tendon (the fibrous cord of tissue that connects muscles to bones), commonly in the calf, thigh or lower back. A strain stretches or tears the muscle or tendon. A <b>bruise</b> is a soft tissue injury that involves the skin and nearby tissues following a blow or other forces that break a blood vessel close to the surface of the body. Bruising may be seen with either a sprain or strain.
Stress and Anxiety	Stress describes the physical or emotional response to demands or pressures that people may experience from time to time. Common causes of stress include work, money, relationships and illness. Symptoms may include irritability, difficulty sleeping or relaxing, headaches and muscle tension. Anxiety, particularly ongoing, all-over anxiety or Generalised Anxiety Disorder (GAD), is where the level and frequency that people experience stress, distress, dismay, and worry is greatly increased. It is common for people with GAD to have other conditions such as depression, or other anxiety-related disorders like panic attacks and obsessive-compulsive disorder.
<b>Specific Area of Concern</b>	
Absenteeism	The practice of regularly staying away from work. Also includes presenteeism, the practice of coming to work despite illness, injury, anxiety, etc., often resulting in reduced productivity.
Abuse or Harassment	Abuse includes physical assault, sexual violence, emotional abuse and controlling behaviour. It is often a pattern of ongoing behaviour but may also refer to a one-off incident. Abuse can result in physical and mental health consequences for victims, perpetrators and children who are witnesses. Harassment is a pattern of behaviour that is directed against another person, including specified acts (for example as defined in the Harassment Act 1997) that causes the other person to fear for their safety (or that would cause a reasonable person in the circumstances to fear for their safety). In common use this can also extend to fear for the person's health.
Ageing Workforce	The average age of people in the New Zealand workforce is becoming older (and more female), and will stop expanding by about 2030. This will affect the labour market as ageing will affect the size, characteristics and possibly the productivity of the New Zealand workforce. The ageing of the New Zealand population will raise a number of labour market issues that have important implications for policy development, service delivery and the way organisations operate in the future.
Armed offenders	People who use, or threaten to use, firearms against members of the public or Police.
Bullying	Repeated and unreasonable behaviour directed towards a person or a group of people that can lead to physical or psychological harm. <i>Repeated</i> behaviour occurs more than once and can involve a range of actions over time. <i>Unreasonable</i> behaviours are actions that a reasonable person in the same circumstances would see as unreasonable. It includes victimising, humiliating, intimidating or threatening a person. Bullying may also include harassment, discrimination or violence. Common bullying behaviours fit into two main categories - attacks that are direct and personal or those that are indirect and task-related.
Falls	[Also see Dropped/Falling objects] This includes falls from height as well as falls to depth. The act of moving from a higher to a lower level, usually in an uncontrolled manner under the force of gravity. A fall in the sense of injury is an event which results in a person coming to rest inadvertently on the ground or floor or other lower level. The consequences of a fall range in severity depending on a range of factors (e.g. their age, health, height from which they fell, and forces other than gravity acting on them). Globally, falls are the second leading cause of unintentional injury or death, after road/traffic injuries.

Fatality	A fatality is the permanent death of a person (i.e. it does not include instances where a person is revived). Fatalities can result from senescence ('old age'), injury, or illness or chronic issues. In cases where attribution is unclear a Coronial decision stands as the official cause of death, including drawing conclusions about whether a fatality was work-related.
Handheld Tools / Power Tools	A hand tool is any tool that is powered by hand (e.g. wrenches, pliers, cutters, striking tools, struck or hammered tools, screwdrivers, vices, clamps, snips, saws, drills and knives). A power tool is a tool that is actuated by an additional power source and mechanism other than solely manual labour. Commonly power tools use electric motors, internal combustion engines, steam engines, direct burning of fuel and/or propellants, or natural power sources like wind or moving water. PCBUs need to manage risks related to noise, machinery safety and vibration that arise from the use of handheld or power tools.
Human Error Prevention	Human error is when something is either done/not done by a human operator, which is unintended by the operational system and can lead to safety risks. Human error prevention (human reliability assessment - HRA) does not blame the operator, but considers that actions are the product of the system via its design, environment, culture, training and other factors. HRA presumes that an error could happen to any operator.
Human Performance	Human performance is dynamic, a combination of physical and mental functions upon which external and internal influences may impact. Mental workload includes the notions of expertise, memory, attention, situation awareness, and social and organisational factors, whilst physical workload includes the loads handled, distance travelled, speed of performance and many other factors. Human performance is often defined in terms of speed of performance or errors, but may be measured in many ways.
Hydration	Hydration refers to the amount of water in the body. As humans are approximately 60% water and rely on being well-hydrated for optimal performance, being under-hydrated can negatively affect both work performance and health.
Manual Handling (lifting, twisting)	Manual handling is any activity requiring a person to interact with their environment and use any part of their muscles or skeletal system to lift, lower, push, pull, carry, throw, move, restrain or hold any animate or inanimate object.
Mental overload/underload	Consideration of the overall mental load of operators performing tasks. Mental workload includes expertise, memory, attention, situation awareness, and social and organisational factors as well as other internal and external factors. Work performance may be impacted by both mental overload and underload.
Mining, Quarrying & Tunnelling	Collectively work in these sectors is usually referred to as the 'Extractives industry' and refers to the removal of metals, mineral and aggregates from the earth. New Zealand legislation places requirements on the extractives industry with regard to health and safety, specific to the type of operation. This includes the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016.
On-the-job Road or Vehicle Accidents	Driver-vehicle-road-pedestrian interactions form a complex system with many causal factors that can contribute to accidents. The human factors that require consideration include both <i>physiological</i> - the nervous system, vision, hearing, stability sensations, other senses (e.g. haptic, touch and smell) and <i>modifiers</i> (e.g. fatigue, drugs) as well as <i>psychological</i> factors - such as perception, expectations, motivation, intelligence, learning/experience, emotion, maturity, conditioning and habits. Human Factors considerations need to be assessed in conjunction with vehicle and road environment factors as these impact on human performance.
Working in and around vehicles	Driver-vehicle-road-pedestrian interactions form a complex system with many causal factors that can contribute to accidents. The human factors that require consideration include both <i>physiological</i> - the nervous system, vision, hearing, stability sensations, other senses (e.g. haptic, touch and smell) and <i>modifiers</i> (e.g. fatigue, drugs) as well as <i>psychological</i> factors - such as perception, expectations, motivation, intelligence, learning/experience, emotion, maturity, conditioning and habits. Human Factors considerations need to be assessed in conjunction with vehicle and road environment factors as these impact on human performance.

Remote/Isolated Work	Work can be remote or isolated from the assistance of other persons because of location, time, or the nature of the work. Work can be isolated without being remote, and be remote without being isolated. Remote or isolated work includes working alone or separated from colleagues, working in a geographically isolated or inaccessible area - where the nearest emergency help (e.g. fire service or hospital) is some distance away, working outside normal business hours or shift/night work, and working in locations where communication is difficult.
Repetitive Tasks	Activities that require the same physical actions to be performed repeatedly may expose workers to greater injury risk than from one-off tasks due to demands placed on the muscles, other soft tissues and the skeletal system. Consideration should be given to task variation, work-rest routines, and individual strength and fitness.
Sedentary Work	Non physically-demanding work activities (usually in sitting), that do not require large range changes of position or place much cardiovascular load on the body.
Slips, Trips & Falls	Slips are loss of traction events (usually with the feet); trips are when a step is disrupted by contact with an object. Both slips and trips may result in a fall, though falls may also occur for other reasons. Falls are when a loss of balance or other event occurs, causing the body to fall due to gravity onto a lower surface.
Temperature extremes	Excessive exposure to heat is referred to as heat stress and excessive exposure to cold is referred to as cold stress. In a very hot environment, the most serious concern is heat stroke. Heat exhaustion and fainting (syncope) are less serious types of illness which are not fatal but interfere with a person's ability to work. At very cold temperatures, the most serious concern is the risk of hypothermia or dangerous overcooling of the body. Another serious effect of cold exposure is frostbite or freezing of the exposed extremities such as fingers, toes, nose and ear lobes.
Using / Operating Machinery	The use and operation of powered tools, machines or vehicles, that may be remote (operator does not sit in the cab/vehicle or hold the tool/machine) or directly controlled (operator is in the immediate vicinity of the tool/vehicle/machine).
Vibration	Vibration is an oscillatory motion that occurs in solids. Workers may be exposed to two types of vibration. 1 - hand transmitted, commonly resulting in hand/arm vibration syndrome (HAVS) where the vibration enters the body through the hands; 2 - whole body vibration (WBV) which occurs when the body is supported on a surface which is vibrating. Vibration can also transmit sound for example vibrating panels on machine casings or in a ventilation system.
Wellbeing	Wellbeing, welfare or wellness is a general term for the condition of an individual or group, for example their social, economic, psychological, spiritual or medical state. A high level of wellbeing means in some sense the individual or group's condition is positive, while low wellbeing is associated with negative happenings. Work-life balance is a concept including proper prioritizing between "work" (career and ambition) and "lifestyle" (health, pleasure, leisure, family and spiritual development/ meditation).
Workplace and equipment design	The design of workplaces or work equipment to optimise health and safety and productivity.
Work-life balance	Work-life balance is a concept including proper prioritizing between "work" (career and ambition) and "lifestyle" (health, pleasure, leisure, family and spiritual development/meditation).