Appendix A : Examples of Hazards

Hazards are often very similar within an industry. Once you have identified the hazards appropriate for your industry, product, or services, you are likely to be able to reuse the list with perhaps small changes. This appendix contains some example lists of hazards that have been used on real projects. Of course, the stakeholders are the ultimate decision makers about what types of losses and hazards will be considered. The losses that are considered important to the stakeholders for a particular project will obviously affect the hazards identified.

Nuclear Power Plant

Losses:

L1: People injured or killed

L2: Environment contaminated

L3: Equipment damage (economic loss)

L4: Loss of electrical power generation

Hazards

H1: Release of radioactive materials [L1, L2, L3, L4]

H2: Reactor temperature too high [L1, L2, L3, L4]

H3: Equipment operated beyond limits [L3, L4]

H4: Reactor shut down [L4]

Aircraft

Losses:

L1. Loss of life or serious injury to people

L2. Damage to the aircraft or objects outside the aircraft

Hazards

H-1: Aircraft violate minimum separation standards in flight [L1, L2]

H-2: Controlled flight of aircraft into terrain [L1, L2]

H-3: Loss of aircraft control [L1, L2]

H-4: Aircraft airframe integrity is lost [L1, L2]

H-5: Aircraft environment is harmful to human health [L1, L2]

H-6: Aircraft departs designated taxiway, runway, or apron on ground [L1, L2]

H-7: Aircraft comes too close to other objects on the ground [L1, L2]

Radiation Therapy

Losses:

L1: The patient is injured or killed from overexposure or undertreatment.

L2: A nonpatient is injured or killed by radiation.

L3: Damage or loss of equipment.

L4: Physical injury to a patient or nonpatient during treatment.

Hazards:

H1: Wrong dose: Dose delivered to patient is wrong in either amount, location, or timing [L1].

H1a: Right patient, right dose, wrong location.

H1b: Right patient, wrong dose, right location.

H1c: Right patient, wrong dose, wrong location.

H1d: Wrong patient.

H2: A nonpatient is unnecessarily exposed to radiation [L2]

H3: Equipment is subject to unnecessary stress [L3].

H4: Persons are subjected to nonradiological injury [L4].

Military Aviation

Mishaps

M-1: Loss of or damage to the aircraft or equipment on the aircraft

M-2: Serious injury or fatality to personnel

M-3: Inability to complete the mission

Hazards

H-1: Violation of minimum separation standards from fixed or moving objects [M-1, M-2, M-3]

H-2: Inability to control the aircraft [M-1, M-2, M-3]

H-3: Loss of airframe integrity [M-1, M-2, M-3]

Additional hazards may be relevant depending on the missions of the aircraft. As an example, for the weapon system on the aircraft:

H-4: Uncommanded detonation [M-1, M-2, M-3]

H-5: Uncommanded launch [M-1, M-2, M-3]

H-6: Collateral damage or friendly fire [M-1, M-2, M-3]

H-7: Non-deployment (detonation and/or launch) of ordinance when commanded [M-3]

Automotive

Losses

L1: Loss of life or serious injury to people

L2: Damage to the vehicle or objects outside the vehicle

Hazards

H1: Vehicle does not maintain safe distance from nearby objects [L1, L2]

H2: Vehicle enters dangerous area/region [L1, L2]

H3: Vehicle exceeds safe operating envelope for environment (speed, lateral/longitudinal forces) [L1, L2]

H4: Vehicle occupants exposed to harmful effects and/or health hazards [L1, L2]
(e.g. fire, excessive temperature, inability to escape, door closes on passengers, etc.)