

Title: EHS Global Standard, Illumina Global Injury and Illness Prevention Program

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1 Purpose

The purpose of the Injury and Illness Prevention Program (IIPP) is to establish the processes, procedures and systems all workers must follow in order to have a safe and healthy environment.

2 Scope

The IIPP applies to all Illumina sites and is accessible by all workers in SAP.

3 Roles, Responsibilities & Authorities

Function/ Role	Responsibilities / Authorities
IIPP Program Administration	<ul style="list-style-type: none"> The Illumina Environment, Health and Safety (EHS) Department has the authority and responsibility for implementing and administering the Injury and Illness Prevention Program. The head of Illumina’s EHS Department is responsible for ensuring the program is implemented worldwide. Site EHS Managers in the three regions are responsible for ensuring the administrative tasks outlined in the IIPP are carried out. This includes creating systems to conform with this program and the defined safety rules.
Management	<p>Management is responsible for knowing applicable safety and health policies and procedures and clearly communicating these to workers. Managers and supervisors are expected to enforce the rules fairly and uniformly.</p> <p>Managers are responsible for ensuring:</p> <ul style="list-style-type: none"> Full time and temporary workers follow this plan equally. Identifying required EHS training for their workers upon hire and when work responsibilities change. Ensuring their workers receives the required EHS training. An EHS risk assessment is performed for routine and non-routine work within their scope of responsibility. Workers shall be trained on the hazards and controls of their job and instructed to follow the safety requirements outlined in the EHS risk assessment and this program. Performing incident investigations when an incident occurs within their scope of responsibility. Reporting incidents utilizing the Platform for Assessment and Compliance in EHS (PACE) as soon as possible but no later than 24 hours. Communicating the procedures contained in this program to workers on a regular basis. Participating in audits and inspections as required. Ensuring audit and inspection findings within their area of responsibility are corrected promptly. Workers understand the applicable chemical hazards of their work. This includes ensuring workers are aware of applicable safety data sheets for the chemicals in the workplace.
Workers	<p>Workers are responsible of the following:</p> <ul style="list-style-type: none"> Their own safety. For knowing the safe method of performing their work and following those safe methods.

Function/ Role	Responsibilities / Authorities
	<ul style="list-style-type: none"> • Correcting an unsafe condition or behavior when they observe it through direct intervention or reporting it to their supervisor. • Knowing where to find the EHS risk assessment(s) in PACE that apply to their job and following the safety requirements outlined in the EHS risk assessment(s) and this program. • Reporting all incidents in PACE. • Wearing required personal protective equipment in working areas such as laboratory, production, warehousing or customer sites. • Knowing what EHS training is required of them, participating in that training and following the safe work practices outlined in that training. • Following EHS procedures outlined in this plan. • Ensuring visitors and contractors brought on site follow Illumina EHS requirements.
EHS	<ul style="list-style-type: none"> • EHS is responsible to administer the EHS program for Illumina, serve as an advisor, expert and consultant to the functions as it relates to EHS and ensure Illumina workers understand their responsibilities under this program. <p>Additionally, EHS is responsible for:</p> <ul style="list-style-type: none"> • Acting as the host of the EHS Committee • Developing Global EHS standards • Conduct or have conducted EHS audits on a periodic basis • Developing written programs to comply with this program • Developing metrics to measure EHS performance

4 References

Title	Document Number/Source
External: General Duty Clause	Occupational Safety and Health Administration (OSHA) 29 CFR 1910 Section 5
Internal: EHS Global Standard, Emergency Preparedness and Response	1000000036441
Internal: EHS Policy Statement	1000000036328

5 Definitions and Acronyms

Term/Acronym	Definition
Incident	Unexpected events that result or could have resulted in business interruption, injuries, illnesses, spills, fire, electric shock, smoke, traffic accident or the like.
Serious incident	An incident that results in more than one day of business interruption, multiple or catastrophic injuries or illnesses, overnight hospitalization of a worker or visitor, open uncontrolled flame, traffic accident resulting in multiple injuries or the like.
Near miss	Work related events that have the potential yet do not result in personal injury and/or property damage.
Corrective actions	Action to eliminate the cause of a detected nonconformity or other undesirable situation.
Preventative Actions	Action to eliminate the cause of a potential nonconformity or other undesirable potential situation.
Audit	An evaluation of an organization, system, process, enterprise, project or product. It goes beyond inspection to include a review of adequacy and conformance with operations.

Term/Acronym	Definition
Contractor	A non-illumina employee hired to perform a task for Illumina which requires no direct supervision by Illumina.
BSL	Bio Safety Level as defined by the Centers for Disease Control.
Confined Space	A normally unoccupied space with difficult access and egress that a person can enter.
NFPA	National Fire Protection Association
LEL	Lower explosive limit

6 Requirements

6.1 Compliance

- 6.1.1 Workers will be trained of the provisions of this IIPP as well as other Environment, Health and Safety programs through initial, refresher and periodic training. Additional training will be conducted when safety performance gaps are identified.
- 6.1.2 Workers shall follow Environment, Health and Safety global standards, procedures and practices.
- 6.1.3 Human Resources policy on progressive discipline shall be followed as it relates to EHS compliance.

6.2 Communication

- 6.2.1 We recognize that open, two-way communication between all workers on health and safety issues is essential to an injury-free, productive workplace. Communication regarding Environment, Health and Safety issues occur through new hire orientation, EHS training, notice boards, electronic communication, and meetings.
- 6.2.2 Workers are always encouraged to bring EHS issues of concern to the attention of their managers, supervisors or the EHS Representatives without fear of reprisal.
- 6.2.3 It is Illumina's policy that no worker or contractor can be discriminated against for communicating in good faith an EHS concern to management.
- 6.2.4 If a worker or contractor wishes to submit a safety suggestion anonymously, it can be done using the safety suggestion form located on the Illumina intranet home page. Safety Suggestions can also be submitted directly into PACE and will be routed to EHS.

6.3 EHS Committee

- 6.3.1 Each Illumina site shall have an EHS committee whose primary purpose will be two-way communication on safety issues. The committee shall have a procedure that describes the committee purpose, meeting frequency, membership and agenda items.
- 6.3.2 Meeting action items shall be accessible to all workers.

6.4 Hazard Assessment

- 6.4.1 EHS inspections shall occur monthly performed using the approved EHS inspection tool. EHS inspections shall identify the hazards and the recommended corrective actions. The results shall be documented and accessible.
- 6.4.2 Each Illumina site shall have an audit conducted on a periodic basis. The audit shall be conducted by personnel trained in EHS.

6.5 Incident Investigations

- 6.5.1 In an emergency, workers should be familiar with the local emergency response protocol and be prepared to call the appropriate responders. Field workers shall report all incidents in PACE as soon as possible but in no case longer than 8 hours after the incident. Field workers should also immediately report the incident to their customer site contact.
- 6.5.2 Workplace incidents including injuries, illnesses, property damage, fire, spills and near misses must be investigated and documented utilizing PACE
- 6.5.3 The first line supervisor is responsible for conducting the investigation.
- 6.5.4 Incidents shall be investigated for potential root causes. Corrective actions shall be identified for the incident. The incident investigation shall be performed within 24 hours.
- 6.5.5 Procedures for investigating workplace accidents, near misses and hazardous substance exposure include:
 - Visiting the incident scene within 24 hours. Serious incidents at a customer site should be investigated as soon as possible and be performed on-site.
 - Interviewing impacted workers, customer contacts and witnesses.
 - Examining the workplace factors & behaviors associated with the accident/exposure.
 - Determining the potential root cause(s) of the incident, near miss or spill
 - Taking corrective action to prevent the incident, near miss or spill from recurring.
 - Recording the findings and corrective actions taken.

6.5.6 Serious incidents shall be investigated by the EHS Representative. A formal root cause analysis may be performed as part of the investigation.

6.6 Hazard Correction

6.6.1 Workers are responsible for correcting or causing to be corrected hazards that they identify. If a hazard can be safely addressed by the person making the identification, the hazard should be corrected, and a PACE incident report completed. If the hazard cannot be safely addressed by the person making the identification, that person shall submit a Hazard ID in PACE as soon as possible.

6.6.2 Hazard correction will be performed in a timely manner based on the severity of the hazard. These hazards shall be tracked to completion.

6.6.3 When an imminent workplace hazard is identified which cannot be immediately abated, actions shall be taken to remove workers from the affected area until the hazard can be abated.

6.7 Management of Change

6.7.1 Each Illumina site shall have a management of change process. The process shall require and EHS evaluation of facility or process changes that could have an EHS Impact.

6.7.2 Prior to the following, the Illumina worker responsible for the change (exception: Like for like) shall engage in the Management of Change process:

- Implementing a facility change;
- Purchasing a new piece of scientific or industrial equipment;
- Changing or adding a manufacturing process or device; or
- Modifying a research process that must be done outside of a fume hood.

6.7.3 The process shall include:

- The initiator of the change completing a Management of Change (MOC) written description well in advance to the change occurring
- The completed form provided to EHS prior to the change
- EHS reviewing the MOC against current codes, permits and safe practices to ensure the change does not result in an unacceptable risk.

6.8 EHS Steering Committee

6.8.1 Illumina shall have a steering committee who is responsible for the direction and functional review of EHS issues. The committee shall be comprised of functional representatives within Illumina and shall be responsible for providing feedback and direction to the EHS function. The steering core team shall:

- Have a procedure outlining roles, responsibilities and actions
- Meet at least once a year
- Be responsible for reviewing changes, modifications and additions to global EHS programs
- Be responsible to communicate within their own organization EHS changes and requirements

6.9 Environment, Health and Safety Rules

6.9.1 EHS Risk Assessment

Risk assessments shall be conducted in PACE in accordance with the global procedure including:

- An EHS risk assessment shall be performed for each task or common group of tasks.
- EHS Risk assessments shall include what engineering controls, administrative controls and personal protective equipment is necessary to minimize or mitigate the hazards.
- Supervisors shall use completed risk assessments as a training tool. All workers performing activities at Illumina shall be trained in the hazards and controls of their job using an EHS risk assessments.
- Quantitative and qualitative chemical risk assessment shall occur based on the hazards of the chemicals. Each Illumina site shall have a written strategy and plan for this type risk assessment.
- The applicable EHS risk assessment shall be reviewed and updated after incidents to ensure the hazards and control measures are implemented and recorded.

6.9.2 Safety Engineering

- Processes with hazardous mechanical or chemical properties shall be designed in compliance with applicable engineering standards. These standards shall be identified as part of the design phase.
- Processes with hazardous mechanical or chemical properties shall be inspected and operated in compliance with applicable engineering standards. These standards shall be identified as part of the design phase.

6.9.3 Tailboard Talk

- A documented job briefing is required to be performed prior to each non-routine maintenance or other activity at Illumina.
- A written risk assessment is required to be performed prior to each non-routine maintenance or other activity at Illumina.
- Job briefings shall include:
 - a. All the members of the team involved in the activity shall be present and participation documented,
 - b. The work activity shall be reviewed in detail,
 - c. The risk assessment shall be reviewed, and
 - d. The lockout/tagout status of the equipment shall be discussed.

6.9.4 Chemical Handling & Storage

- There shall be a chemical inventory for each site. It shall be updated annually or more often if necessary.
- All chemical containers shall be labeled with the chemical name and associated hazard. Chemicals created on site shall also have the person's name who created the chemical.
- Prior to using a chemical for the first time the material safety data sheet shall be reviewed by the person using the chemical. Precautions for safe use shall be taken.
- Workers shall follow Illumina's chemical hazard communication program.
- Chemicals shall always be handled using proper personal protective equipment.
- Chemicals shall be stored so that incompatible materials are separated by distance, cabinet or secondary containment.
- Acids and bases in production or research areas shall be stored in approved acid/base cabinets.
- Chemicals shall only be used in well ventilated areas. Where chemicals are particularly toxic or general ventilation is not adequate, local ventilation may be necessary. Field workers should be aware of approved chemical use areas at customer sites.
- Chemical spills shall be cleaned up only by workers who are trained and knowledgeable of the chemical hazards. Spills of toxic materials in excess of .5 liters should only be cleaned up by trained personnel who are aware of the hazards. In addition, the proper response to a chemical spill will depend upon the quantity and nature of the chemical, and specifics of the incident. All spills must be carefully evaluated before acting. Each site should have a specific chemical spill response procedure which provides more guidance.
- Before using hazardous chemicals, workers shall identify the location of the nearest eyewash and understand how to use it.
- There shall be an emergency eyewash and shower located in the same room where hazardous chemicals are used. Emergency eyewashes and showers shall be activated and checked once a month or more often.
- Hazardous chemicals shall not be poured down sinks or drains. Chemical spills shall be prevented from entering drains or storm drains.
- Chemical and waste piping shall be labeled with the contents of the piping at the inlet, outlet, valving and every 30 feet.

6.9.5 Cold Rooms

- Written safety instructions and warnings for working inside cold rooms shall be posted at the entrance to the cold room
- Cold weather gear shall be worn in cold rooms
- Emergency means of escape shall be designed into cold rooms
- Cold room work shall be performed by two or more persons or there shall be a passive emergency alarm system installed.
- To avoid moisture and mold build up, cold room doors, walls and equipment shall be promptly repaired when damaged
- Compressed gasses, dry ice or other asphyxiants shall not be stored in cold rooms with recirculated air.
- Paper and cardboard storage shall be minimal in cold rooms.
- Flammable liquids shall only be stored in cold rooms approved for that purpose

6.9.6 Compressed Gasses

- Oxidizing gasses shall be separated from combustible or flammable gasses by a two hour fire wall or 20 feet.
- Flammable and toxic gasses shall be stored in approved, vented cabinets or outside. Flammable or toxic gasses above a lecture bottle size shall not be stored in unvented storage cabinets.
- Propane or other flammable gasses shall not be stored with flammable liquids.
- Compressed gasses shall be secured in storage using a rack and non-combustible straps or other non-combustible securing means.
- When a cylinder is empty or not being used, the valve should be closed, the regulator removed, and the valve protector cap secured in place.
- Cylinders should be transported using hand trucks designed for that purpose and the cylinders should be secured so that they do not tip, fall or roll.
- Appropriate lifting devices, such as cradles or nets, must be used when using a crane, hoist or derrick to transport gas cylinders. Do not use magnets or slings to lift gas cylinders. Do not use the valve protection cap for lifting a gas cylinder.
- Applicable codes shall be identified that compressed gas piping shall follow before any piping and appurtenances are installed.
- Compressed gas piping shall be labeled with the contents of the piping at the inlet, outlet, valving and every 30 feet.
- Where cryogenic or compressed gasses are used or stored a calculation of the potential for oxygen deficiency shall be performed. Areas where an oxygen deficient atmosphere may exist will be equipped with an oxygen monitoring device.
- Dry ice shall be stored only in well ventilated areas. Dry ice shall not be stored in cold or freezer rooms that have recirculating air. Dry ice shall only be handled with appropriate gloves.

6.9.7 Confined Spaces

- There shall be an inventory of confined spaces for each Illumina location.
- Each confined space shall be labeled as such. Exception: confined spaces that are designed for normal occupancy.
- Only confined spaces that have been made safe shall be entered.
- Illumina sites that have confined spaces shall have a written entry program that describes entry procedures, rescue procedures, elimination or minimization of hazards, air sampling and ventilation and the role of contractors.
- Only trained and qualified Illumina workers shall enter confined spaces.

6.9.8 Contractor Safety

- Each Illumina site shall have a contractor safety program that includes pre-work contractor evaluation; communication of Illumina expectations while working on site, safe work practices, inspection of contractors work and chemical safety.

- The Illumina worker who hires a contractor to perform work for Illumina is responsible for ensuring the contractor follows the contractor safety program.
- Each contractor performing industrial or research-type work on Illumina premises shall follow the Illumina permit to work process.
- Contractors shall follow Illumina EHS policies while working on an Illumina site.

6.9.9 Driving Safety

- Illumina workers shall be properly licensed for the vehicle they are driving. The vehicle shall be safe to operate and in good condition.
- Illumina Workers shall follow all applicable state laws with regard to operating a motor vehicle, including but not limited to holding a valid license; current insurance; refraining from texting or using a handheld phone while driving (calls must be taken with a hands-free device) and otherwise adhering to applicable speed limits and other laws regarding the safe operation of a motor vehicle.
- Motorcycles and other two or three wheeled vehicles shall not be used to Illumina business including transportation between sites.
- Tickets received by employee for Vehicle Code violations are the personal responsibility of the employee to the fullest extent permitted by law.
- Mileage shall be claimed in accordance with the travel and expense policy.

6.9.10 Data Centers

- Heavy equipment exceeding 40 pounds shall not be lifted by a single person. A second person or mechanical means shall be provided.
- Where heavy equipment is regularly lifted, mechanical lifting equipment shall be provided.
- Electrical circuits shall be sized to provide anticipated load plus surge capacity.
- Only trained and qualified workers shall work on electrical equipment over 50 volts.
- Energized electrical equipment at or above 50 volts shall be guarded.
- Food, drinks and cosmetics shall not be permitted in data centers.
- Work on energized equipment shall only occur if the equipment has been unplugged or in cases where they are hard wired – lockout/tagout is performed.
- Combustible materials shall not be stored in data centers
- Extension cords shall not be used as permanent wiring. Power taps shall only be used only as directed by the manufacturer.

6.9.11 Electrical Safety

- Only trained and qualified workers shall perform work on energized or de-energized electrical equipment. This includes facility, assembly and test activities.
- A lockout/tagout procedure shall be followed for working on de-energized facility equipment.
- There shall be at least two workers present for live work performed over 115 volts. At least one person shall be trained in first aid and CPR.
- Extension cords and power strips shall not be used in lieu of fixed wiring. Power strips shall only be used as their manufacturer approval allows. Power strips shall not be used to power manufacturing equipment, heaters, refrigerators, motors or other high-draw equipment. Extension cords and power strips shall not be “daisy Chained” (one cord plugged into a second cord).
- Only approved electrical equipment marked as tested by a Nationally Recognized Testing Laboratory (NRTL) and having a CE mark shall be used. Illumina specific equipment shall be tested by a NRTL before being used in production.
- All energized parts, equipment or wires shall be covered except when being worked on by a trained and qualified person.
- Electrical equipment shall be rated for the load they are intended to carry.
- Ground fault circuit interrupters shall be used where there are wet locations.
- Arc flash potential shall be calculated for all circuit breakers and switches at Illumina facilities. Arc flash potential shall be labeled on the breaker or switch.

- Appropriate personal protective equipment based on the arc flash potential shall be worn for working on electrical equipment. Workers working on electrical equipment shall not have exposed skin in the arc flash zone and shall not wear outer synthetic clothing.

6.9.12 Ergonomics

- Computer workstations shall be laid out using the following general guidelines:
 - When sitting at workstation, feet should be flat on the floor
 - Lower leg should be perpendicular to the floor
 - Upper leg should be parallel to the floor
 - Lower torso should be perpendicular to the floor
 - Forearm should be parallel to the floor
 - Upper arm should be perpendicular to the floor
 - Hand should be flat as compared to arm (no significant angles)
 - Top of computer screen should be at eye level
- An ergonomic assessment should be requested by contacting your local EHS team if discomfort is felt and is not resolved.
- Processes with repetitive motion should be evaluated.

6.9.13 Fire Protection

- All cutting, welding and hot work shall be done in accordance with the Illumina hot work procedure.
- There shall be no open flame (including Bunsen burners) in areas that have not been made fire safe. Fire safe means assessing the risk of fire and putting in controls including removing combustibles, flammable liquids and flammable gasses.
- Use of an open flame requires a fire extinguisher nearby. The person using the open flame must be trained on fire extinguisher use.
- Fixed fire extinguishers shall not be blocked by storage or equipment.
- Flammable and combustible liquids shall be stored in approved flammable liquid storage cabinets.
- Flammable liquid storage rooms shall be approved for use. Combustible materials such as cardboard, wood or plastics shall not be stored with flammable liquids.
- Aisles shall be maintained in flammable liquid storage rooms.
- Transfer of flammable liquids in excess of 1 liter shall be done by bonded containers. Containers in excess of 5 gallon shall be grounded.
- Flammable liquid control zone limits shall be identified for each area where flammable liquids are used. Workers using flammable liquids shall understand the limits.

6.9.14 First Aid and CPR

- First aid kits shall be provided in strategic areas of each site. First aid kits shall contain supplies appropriate for the risk.
- There shall be at least two people trained in first aid and CPR on each shift.
- There shall be a minimum of at least one person present trained in first aid and CPR where electrical work in excess of 50 volts is being performed.

6.9.15 Hand Tools

- Hand tools shall be inspected for damage prior to use. Any damage shall be repaired before use.
- Hand tools shall be used for their intended purpose. Hand tools shall not be used for purposes other than what they were designed for.
- Compressed air or gasses shall not be used to clean clothing.

6.9.16 Housekeeping

- Floors and aisles shall be kept free of debris, liquids and unwanted materials.
- Spills shall be cleaned up promptly. Spills of customer chemicals or samples shall not be cleaned by Illumina workers.

- Material storage shall be only in designated locations. Storage shall be well kept and organized. Storage shall not impede on working areas, machines, fume hoods or aisles.
- Material storage shall be kept to a minimum. Storage of supplies shall be the minimum necessary for business purposes.

6.9.17 Hydrogen

- Written operating procedures shall be developed for all hydrogen systems.
- Operators and maintenance workers of hydrogen system shall be trained in hydrogen safety and applicable operating procedures.
- Spark-proof tools shall be used when working on or near hydrogen systems that may contain hydrogen.
- No cutting, welding or spark producing activities shall be permitted in areas where hydrogen is actively in use.
- No portable electronic equipment (i.e. phones) shall be permitted in areas where hydrogen is actively in use unless the equipment is classified for use.
- Hydrogen shall only be stored or used in well ventilated areas. Hydrogen cylinders of any size shall not be stored in unventilated cabinets.
- Hydrogen systems shall be evaluated using an appropriate process hazard analysis.
- Hydrogen systems shall be electrically bonded together and grounded.

6.9.18 Laboratory Safety

- All workers, visitors and contractors shall follow the posted personal protective equipment requirements at the entrance to the laboratory.
- All workers shall follow the corporate laboratory safety plan while in the laboratory.

6.9.19 Laser Safety



Laser safety signage

- Each Illumina site and region that uses class 3 or 4 lasers shall have a laser safety program that complies with local legislation and ANSI Z 136.1.
- Each Illumina site and region that uses class 3 or 4 lasers shall have a laser safety officer.
- Class 3 or 4 lasers shall be used only by those properly trained.
- Class 3 or 4 laser operations shall be segregated from other operations by a barrier that prevents penetration of the laser.
- Any person working in an area where class 3 or 4 lasers are or could be fired, shall wear personal protective equipment appropriate for the risks.
- Workers who work on or near a class 3 or 4 laser shall have a baseline laser eye exam. Laser eye exams shall also occur when the worker no longer works with lasers and upon employment termination.
- Only mechanical or electronic means shall be used as a detector for guiding the internal alignment of the laser.
- Areas where class 3 or 4 lasers are in use shall be clearly posted.

6.9.20 Life Safety and Means of Egress

- All emergency exits shall be kept clear and unobstructed.

- Temporary and permanent storage shall be prohibited in egress ways and aisles.
- Fire doors shall not be blocked open
- All fire rated walls and separation shall be maintained undamaged. Penetrations shall be filled with rated fill.
- Room occupancy load shall be posted. Occupancy load shall not be exceeded.
- Emergency lighting shall be provided. Emergency lighting shall be tested at least monthly.
- Maintenance and inspection procedures shall be written for fire protection systems including sprinkler systems, gaseous systems, smoke and heat alarms. Procedures shall be based on applicable fire protection standards such as NFPA.
- Emergency response procedures shall be developed. Emergency evacuation drills shall be conducted at least annually.

6.9.21 Lifting Safety

- A single person shall not lift more than 40 pounds. Any lift in excess of 40 pounds requires more than one person or mechanical lifting means.
- Before lifting something, be prepared and plan the move. Size up the load to make sure it can be handled it safely. If the load is too bulky or too heavy, ensure there is more than one person to help or break it up into smaller, more manageable loads. Use a hand truck or dolly if necessary. Plan your route and make sure the path is clear of trip, slip, and fall hazards.
- Use proper body mechanics when lifting. Stand close to the object with your feet about shoulder width apart. Squat down, bending at the hips and knees. Keep your back straight and in a locked position. Be sure to keep the load close to your body. When you set the load down, squat down, bending at the hips and knees, keeping your lower back arched in.
- Turn, don't twist. Instead of twisting, turn your whole body in the direction that you want to go.
- Push don't pull. Whenever you must move something that's on a cart, a dolly, or a hand truck, push the load. Pushing puts less strain on your back.
- Don't store heavy objects higher than your waist. Lifting objects overhead puts a lot of undue stress on your back. It's one of the surest ways to injure your back.

6.9.22 Machinery and Machine Guarding

- Moving parts of machinery shall be appropriately guarded.
- Manufacturer's guards shall not be removed except for maintenance and repair. Guards shall be replaced before the equipment is put back in service.
- Only trained workers, temporary workers and contractors shall use machinery.
- Machinery designed for a fixed location shall be securely anchored.
- Prior to use, machines shall be visually inspected. Only machines in proper operating condition shall be used.
- Areas around machines shall be kept clear of tools, dies and debris. Oils, shavings and waste shall be promptly cleaned after use of the machine.

6.9.23 Manual Handling

- Only trained and qualified workers shall operate a forklift.
- Powered industrial trucks shall be maintained and inspected in accordance with manufacturer recommendations.
- Powered industrial trucks shall be inspected once per shift in accordance with manufacturer's recommendations.
- Only trained and qualified workers shall operate cranes and hoists.
- Overhead hoists shall be maintained and inspected in accordance with ANSI B30.16 or equivalent. This includes documented inspections prior to use and a scheduled preventative maintenance program.
- Slings shall be maintained and inspected in accordance with ANSI B30.9 or equivalent. This includes documented inspections prior to use and a scheduled preventative maintenance program.
- Use of mobile cranes on site shall require an individual risk assessment. Critical lifts shall require a lift plan.

6.9.24 Noise

- Areas with high noise shall be have the noise measured using an area monitor. If area monitoring exceeds 80dBA in any normally occupied area, personal noise dosimetry shall be performed to establish exposure.
- Engineering controls shall be used to reduce noise levels when feasible.
- Where personal noise dosimetry or area noise monitoring indicate the need for a hearing conservation program, a written program for the site shall be developed.
- High noise areas shall be labeled as such. Appropriate hearing protection shall be worn in high noise areas. This requirement shall be posted.
- Workers that are entered in the hearing conservation program shall have annual audiometric tests.

6.9.25 Office Safety

- Office space shall not be used for chemical or mechanical research, diagnostic or storage purposes. Hazardous materials and reagents shall not be brought into office space. Consumables, electronic parts and research or engineering equipment shall not be brought into office space. Exceptions are for non-hazardous display purposes only.
- Workers shall walk cautiously up and down stairs and use handrails whenever possible.
- Desk drawers and file cabinets shall be kept closed when not in use.
- Only one drawer of a file cabinet shall be pulled out at a time.
- Boxes, chairs, buckets, etc. shall not be used in place of ladders.
- The floor shall be kept clear of tripping hazards such as telephone cords, electrical extension cords, paper cartons, etc.
- Hallways and aisles shall be kept clear of obstructions.
- All emergency exits, electrical panels, fire extinguishers, and emergency equipment shall be kept clear of all obstructions.
- Workers shall not attempt to operate, clean, oil or adjust any machine or equipment that they are not trained for.
- Unsafe electrical cords, faulty equipment, or any other hazardous condition shall be reported and taken out of service until the repairs are completed.
- Broken glass and other sharp objects shall not be placed in wastepaper containers.

6.9.26 Personal Protective Equipment

- Hazards shall be assessed elimination of the hazard shall be the preferred method of mitigation. Should that not be possible, engineering controls followed by administrative controls and only then by personal protective equipment. The EHS risk assessment shall be the preferred place to document what controls are appropriate for specific hazards.
- Where the EHS risk assessment or this program indicate personal protective equipment is necessary, Illumina shall have a program to provide that equipment to workers and temporary Workers. Contractors shall provide their own equipment.
- Approved safety glasses shall be used when there is a hazard of flying particles or debris. Personal glasses are not approved unless they are specifically marked as such. Safety glasses shall meet ANSI Z87.1 or equivalent standard.
- Appropriate gloves shall be worn where there is a risk of chemical or mechanical injury to the hands.
- Body protection shall be worn for workers working with chemicals. This includes lab coats for laboratory work, coveralls or impermeable cover for production work and full body suits for handling of bulk chemicals.
- Respiratory protection including dust masks shall be worn in accordance with the respiratory protection program.
- Contaminated personal protective equipment shall not be worn in office areas or hallways unless specific rules have been set up and communicated.
- Foot protection shall be worn where there is a hazard of crushing to the foot.

- While in a laboratory space, all workers and visitors shall wear lab coats and safety glasses. Workers handling materials in lab space shall wear laboratory gloves. Exception is only for workers entering lab on their way to put on personal protective equipment.

6.9.27 Process Safety

- Process safety procedures shall be developed for each site that utilizes flammable or toxic liquids or gasses under pressure. These procedures shall be applied to processes that have volumes in excess of 1.5 liters.
- Process safety procedures shall include process hazard analysis, pre-start up safety review, process safety information, operating procedures and mechanical integrity.

6.9.28 Warehouse Safety

- Only approved equipment such as order pickers or forklifts shall be used to lift materials.
- Only approved ladders or portable stairs shall be used to reach upper shelving. Climbing of shelves, standing on pallets or boxes/crates is prohibited.
- Personnel shall not ride or be lifted on the forks of a forklift except when in a specially designed personnel lift. Riding on a pallet that is lifted is prohibited.
- Designated aisles shall be kept clear. Storage of products and shipping materials shall only be in designated areas.
- Powered material handling equipment shall never be used to transport personnel except where specifically designed to do so. "Hitching rides" on forklifts, golf carts or other transportation equipment where no seat is provided is prohibited.
- Forklift horns shall be activated when forklifts are driven around corners. Horns shall be activated when forklifts are driven in reverse.
- The forks of the forklift shall not be elevated when driving. The forks shall be kept as close to the ground as possible when driving with a load without scraping the ground.
- When driving with a load that obstructs the view of the driver, the forklift shall be driven backwards.
- Chemicals must be stored appropriately. The types of chemicals, hazard properties and compatibility must be known before being stored. Control zone limits for chemicals shall be known and followed.

6.9.29 Welding, Cutting and Hot Work

- Welding, cutting and hot work outside of dedicated areas shall be performed using the Illumina hot work permit program. Where flammable or combustible gasses, fumes or vapors may be present, area inspection shall include an LEL test.
- Welding, cutting and hot work shall be performed only by trained workers or contractors.
- Areas designed for welding and cutting shall meet the requirements of NFPA 51B.
- Adequate ventilation shall be provided for all welding activities.

6.9.30 Working at Heights

- Heights in excess of four feet where personnel are normally present or expected to operate a valve or piece of equipment once a week or more shall be provided with a workspace and guardrails.
- Only fiberglass ladders shall be used. No wood or aluminum ladders shall be used.
- Ladders shall be placed on a firm base and leaned against a stable surface. The ladder lean shall follow the 1:4 ratio (one foot out for every four feet of height). A frame ladders shall have the brace locked prior to use.
- The top two steps of ladders shall not be used as a step.
- Ladders shall be secured when in use. Extension ladders shall be secured at the top. A frame ladders may be secured by a second person.
- Portable and fixed ladders shall be visually inspected prior to use and monthly. Monthly inspections shall be documented.
- Scaffolding shall be approved by a competent person prior to use. Visual evidence of approval shall be available at the base of the scaffold.

- Scaffolding shall be inspected daily by a competent person while in use. Inspections shall be documented.
- A fall protection plan shall be in place for working at heights over four feet that are not protected by guardrails. Workers expected to work at heights shall be trained in the plan. The plan shall include:
 - Use of personal protective equipment
 - Maintenance of equipment
 - Fall arrest systems and rating of structural members
 - Training

6.9.31 Working at a Non-Illumina Location

- An EHS risk assessment shall be performed for each engagement.
- Illumina workers shall obtain a copy and understand EHS requirements of any work performed at a non-Illumina site.
- Illumina workers shall follow good biologic safety practices when in laboratories including wearing Lab Coats, safety eyewear and protective gloves. This will occur irrespective of host laboratory safety practices.
- Work performed in biologic or chemistry laboratories shall be performed by workers trained in laboratory safety awareness.
- Illumina workers shall not perform work in BSL 3 or higher facilities without EHS and executive approval.
- Illumina workers shall not work on equipment contaminated with radiation until it has been decontaminated, surveyed and survey results provided to EHS.
- Illumina workers shall not lift equipment exceeding 40 pounds. Illumina workers shall not push, pull or manipulate equipment exceeding 70 pounds. Additional workers or manual handling devices shall be used to lift, push, pull or manipulate equipment with a per person limit of 40 (lifting) and 70 (Push, pull, manipulate) pound limit.

7 Training, Awareness & Competence

Requirement Description	Type of Requirement	Frequency
At a minimum, EHS training shall occur for: <ul style="list-style-type: none"> • New Environment, Health and Safety programs; • New workers; • Workers that are given new job assignments for which training has not been previously received; • When new substances, processes, procedures or equipment are introduced to the workplace that represents a new hazard or a different risk; • When EHS is made aware of a new or previously unrecognized hazard that training is part of the corrective action; and • Managers and supervisors 	Internal requirement	Annual and as needed

8 Performance Monitoring, Measurement & Evaluation

Activity	Objective	Planned Results (Target)
Program Implementation Review	Demonstrate the review and or revision of the Injury and Illness Prevention Program	Once a year and as needed as part of Management of Change.

9 Documented Information

Record description	Format (hard copy, electronic / form #)	Record Owner function	Retention Period	Location
Hazard ID, Incident and Near misses	Electronic	EHS	3 years	PACE
EHS Inspections	Electronic	EHS	3 years	PACE
EHS Risk Assessment	Electronic	EHS	3 years	PACE
EHS Training Records	Electronic	EHS	3 years	LMS
EHS Documents (EHS Global Standards, Procedures, Work Instructions)	Electronic	EHS	3 years	SAP

Appendix A Environment Health & Safety (EHS) Policy Statement

Environment Health & Safety (EHS) Policy Statement

Illumina is dedicated to improving human health by unlocking the power of the genome.

We embrace this mission through the establishment, implementation and maintenance of an integrated EHS management system that commits us to:

- Prevent injury, illness, or ill health by proactively managing risk and supporting our innovative culture by strategically analyzing and minimizing health and safety risks in the workplace
- Respect and protect the environment by preventing pollution, minimizing waste, and conserving resources
- Review and improve our EHS processes while meeting or exceeding compliance and other obligations
- Provide an environment for open communication and collaboration by consulting with employees at all levels of the organization, training, and advising internal and external interested parties
- Evaluate and manage the EHS aspects and risks of our processes, equipment, and services based on hierarchy of control
- Measure and enhance EHS performance and provide a framework for setting objectives to achieve continual improvement

All employees are accountable for their commitment to our EHS policy.



Francis deSouza
President & Chief Executive Officer