



DEPARTMENT OF CHEMICAL ENGINEERING NED UNIVERSITY OF ENGINEERING & TECHNOLOGY, KARACHI



DEPARTMENT OF CHEMICAL ENGINEERING

Departmental HSE Manual

August 2023

DOCUMENT HISTORY AND REVISIONS

Issue Date Notes

04/08/2023 Issue of Manual

Next Review due: 04/08/2024 – responsibility for this assigned to Head of Department and Safety Convener.



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1. INTRODUCTION

The Department of Chemical Engineering (DEC) has issued a statement of policy with respect to the health and safety of everyone who uses DEC premises.

DEC, as a department, distinguishes the importance of its staff and students understanding and appreciating the extent of their individual responsibilities in preserving a safe working environment. We expect their full co-operation in ensuring that the Health and Safety Policy and Procedures of the department are observed, starting with reading and understanding this document.

This document is intended to ensure DEC's statement of Health and Safety Policy to bring these policies to the attention of all employees and students.

The Health and Safety Policy Statement is supplemented by individual procedures covering a range of activities and everyone must ensure they are aware of the safety precautions appropriate to the area in which they work. As HoD, I recognise that overall responsibility for the health and safety of all persons affected by the undertakings of DEC lies with me. This responsibility is successively devolved through DEC's management structure, and all DEC staff and students carry a personal responsibility for the health and safety of those affected by their actions.

I would encourage you to adopt at all times a positive attitude towards health and safety requirements and to promote a healthy and safe working environment for ourselves, our students and others affected by the work of the department.

This Policy will be reviewed and updated on at least an annual basis, or more frequently should changes in legislation require.

Prof Dr. Saud Hashmi
Head of Department
Chemical Engineering Department
NED UET Karachi.
August 2023

Engr. Shahzad Shaikh
Safety Convener
Chemical Engg. Dept



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2. DEFINITIONS

The following definitions have been adopted for this document:

DEC/the department – Chemical Engineering Department

The Act - Sindh Occupational safety and Health Act 2017

HoD - Head of Department/Chairman

CS - Convener Safety

COSHH - Control of Substances Hazardous to Health

SOP - Standard Operating Procedure

MS - Method Statement

MSDS – Material Safety and Data Sheet



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3. THE HEALTH AND SAFETY POLICY STATEMENT

It is the Policy of DEC to:

1. Regard legal compliance as the lowest acceptable standard of management with regard to health and safety. Please note that for the purposes of this policy document the term 'health and safety' will be deemed to include all aspects of occupational health;
2. Regard health and safety as a core management function;
3. Develop a clear structure identifying health and safety responsibilities at all levels across the Department;
4. Promote an attitude of safe working by employees and students in all aspects of the Department's work, underpinned by appropriate training and disciplinary procedures in line with the overarching University policy;
5. Encourage discussion and consultation between management, employees and students on safety, health and working environment matters and establish a Health and Safety Committee for this purpose;
6. Maintain a safe and healthy working environment and safe methods of operation;
7. Ensure the provision and maintenance of premises, plant and equipment to a safe level;
8. Ensure the provisions of appropriate resources to meet health and safety issues;
9. To bring to the attention of all staff and students, their responsibilities to ensure the health and safety of themselves and any other persons affected by their actions or omissions;
10. Provide all necessary information, instruction, training and supervision, to ensure the health and safety of employees at work;
11. Provide as appropriate and ensure the correct use of, approved safety equipment and protective clothing and to ensure no charge will be personally levied on any employee in respect of anything carried out or provided in pursuance of any specified requirements of relevant statutory provisions;
12. Ensure immediate and accurate reporting and investigation of occupational ill-health issues, accidents and incidents;



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13. Ensure the provision of an appropriate number of specialist safety staff with responsibilities for safety and health and to ensure appropriate contingency arrangements are made during the absence of such staff to meet the relevant statutory requirements;
14. Develop a system of inspection, monitoring and auditing procedures which will allow the identification of risk and ensure that acceptable standards of risk management are being achieved across the University.
15. Review this Health and Safety Policy not less than once every year;
16. Make specific arrangements on sites controlled by the University to ensure that contractors are carrying out their responsibilities for Health and Safety to a standard acceptable to University management.
17. Ensure that the health and safety of all staff, students, contractors, visitors and any others who may be affected by our undertakings is safeguarded, so far as is reasonably possible.

Risk Management: We prioritize the identification, assessment, and management of potential hazards associated with chemical engineering activities. Our goal is to minimize risks to an acceptable level through comprehensive risk assessments and the implementation of effective control measures.

Education and Training: We are dedicated to providing ongoing health and safety education and training to all members of the department. This includes students, faculty, staff, and anyone involved in chemical engineering activities. Training covers safe laboratory practices, handling of hazardous materials, emergency procedures, and the proper use of personal protective equipment (PPE).

Safe Laboratory Practice: We enforce strict safety protocols in all laboratories and research facilities. These protocols include appropriate storage and handling of chemicals, maintaining well-equipped first aid and emergency response stations, and ensuring safety signage and equipment are prominently displayed.

Emergency Preparedness: We have established clear and effective emergency response plans for various scenarios, including chemical spills, fires, and injuries. All members of the department are familiar with these plans, and regular drills and exercises are conducted to enhance preparedness.

Environment Protection: We are committed to minimizing the impact of our activities on the environment. This includes the responsible use, storage, and disposal of chemicals, as well as promoting sustainable practices in research and teaching.



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Continuous Improvement: We regularly review and update our health and safety practices to incorporate advancements in technology and best practices. Feedback from students, faculty, and staff is encouraged to identify areas for improvement.

4.0 STATEMENT OF RESPONSIBILITIES

All employees have the responsibilities listed in the sub-section 'All Employees'. Designated individuals have additional and specific responsibilities as detailed in the relevant sub-section.

4.1. All Employees

The Sindh Occupational safety and Health Act 2017 states that EVERYONE has a responsibility for health and safety, their own and that of others working around them. It is important that everyone appreciates the extent of their responsibilities, namely that they:

- a. Shall make themselves familiar with the Health and Safety Policies of the Department, and shall be fully familiar with sections of these Policies which directly affect their particular activities;
- b. Shall accept individual responsibility to:
 - take all reasonable care for the health and safety of themselves and of any other person who may be affected by their acts or omissions;
 - co-operate with the University so far as is necessary to enable it to comply with its legal duties; undertake, as required, all health and safety training which is deemed necessary by their line manager to secure their own health, safety and welfare and that of anyone else affected by their actions while at work.
- c. Shall report to supervisory staff/CS/HoD any unsafe practices or any occupational ill-health issues/accidents/incidents/ dangerous occurrences or near misses, whether or not injury is sustained. They shall report systems of work or conditions which they consider may create risks to their own health and safety or damage to equipment and premises;
- d. Shall not, intentionally or recklessly, interfere with or misuse anything provided by the University in the interests of health, safety or welfare;
- e. Shall conform to all instructions, written and oral, given to ensure their personal safety and the safety of others;
- f. Shall at all times make full use of appropriate protective clothing and appropriate safety equipment and devices provided;
- g. Shall maintain all work equipment in good condition, reporting any defects to their supervisor.
- h. Shall complete required declaration forms as proof of acceptance of the contents of any policies, or sections thereof, pertinent to their work in DEC.



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4.2. Head of Department/ Chairman (HoD)

The HoD/Chairman is responsible for the adoption of the University Policy within their area of control. To achieve this they will ensure that they take the lead in driving the health and safety programme within their area of responsibility.

The HoD/Chairman must demonstrate visible commitment by acting in the following way: -

- Accept their own responsibility in health and safety, and encourage colleagues to do the same;
- Set the local health and safety policy based on institutional requirements and their own assessment of the risks inherent in the work of their department. Through this mechanism, the HoD shall inform staff of their own responsibilities, the arrangements for the introduction and maintenance of measures designed to identify, assess, control and monitor risks, and the process of health and safety planning in the department;
- Appoint a Departmental Safety Officer (DSO) and other specialist Safety Officers if required by the work undertaken;
- Allocate the necessary resources, both in terms of time and financial resources, to staff appointed to carry out a health and safety role, particularly, but not limited to, the Departmental Safety Officer;
- Establish local consultative health and safety arrangements in the form of a Departmental Health and Safety Committee;
- Provide the necessary information, instruction and training to enable staff to perform their job in a safe manner;
- Make health and safety training a core element of departmental teaching at all levels;
- Ensure staff provide appropriate supervision of students, based on effective risk assessment of activities undertaken;
- Adopt relevant health and safety advice from University Health & Safety and from the DSO as appropriate;
- Encourage and consult with Trades Union Safety Representatives;
- Ensure that any matter brought to their attention by Safety Representatives is given prompt and appropriate attention;
- Ensure that such matters are reported to the Vice President for Engineering for their information;
- Bring to the President & Vice-Chancellor's attention any breach of statutory requirements which cannot be dealt with effectively at Departmental/Faculty level;
- Encourage and facilitate the attendance of appropriate members of the Department on relevant internal and external health and safety training events;
- Ensure that all members of the department undertake such training as is deemed mandatory;



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- Provide as appropriate, correct protective clothing to all persons under their control;
- Devise and implement phased order of priority plans for expenditure of finance or effort to solve health and safety problems, which cannot be resolved at one particular time.
- Take personal action to immediately suspend or stop any activity that is dangerous or not carried out within departmental health and safety policy.

So far, as it is reasonably practicable, ensure all contractors engaged by the department are adequately supervised and conduct their work in accordance with:

- The specified terms of contract;
 - Agreed method statements and risk assessments;
 - Statutory regulations and University approved codes of practice;
 - Avoidance of danger to University's employees, students or members of the public.
- Actively monitor health and safety performance by receiving regular updates on departmental health and safety related occupational ill-health issues/accidents/incidents and health and safety inspections/ investigations.

4.3 Convener Safety (CS)

In the course of their duties the CS will:

- Report to the Head of Department on all health and safety related issues.
- Report any breaches of Health and Safety policy (departmental) to the HoD immediately.
- Maintain oversight of the implementation of the department's Health and Safety Policy, and any associated policies and/or annexes, and all documentation and management systems that support it.
- Ensure that members of the department are adhering to the policy through regular assessment of areas of work, both announced and unannounced.
- Document the outcomes of these assessments, with specific reference to implementation of actions arising from previous assessments.
- Report on the results of these assessments, whether good or bad, to the HoD and the subsequent Health and Safety Committee meeting. This will include, where appropriate, actions taken, and recommendations for policy updates.
- Provide a written report on recent activities and incidents to each Department Executive meeting.



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- Present a written report on recent activities and incidents to each Departmental staff meeting.

4.4. All staff with supervisory duties

- For the purposes of this policy, staff with supervisory duties are defined as:
- Academic Staff (including University Teachers) who have academic supervision responsibilities for students, both undergraduate and postgraduate.
- Academic staff who have line management responsibilities for research staff.
- Academic, professional or support staff (administrative and technical) who undertake day-to-day supervision of staff (e.g.: Technical Team Leaders) and students
- Academic, professional or support staff who have formal line management responsibilities for support staff.

All supervisory staff must:

- Maintain a full and up-to-date understanding of the University and local Health and Safety Policies and understand and apply them within all areas under their responsibility and/or control.
- Ensure that their team members/people they are responsible for are operating in accordance with the University, and local departmental, Health and Safety Policy at all times, as relevant to the work being performed under their direction or control.
- Ensure staff/students who are their responsibility are inducted into their work area and suitably trained to enable them to identify a requirement for, and then carry out, suitable and sufficient risk assessments, and COSHH risk assessments, as necessary.
- Be responsible for initial review, assessment and development, and reviewer sign-off of risk assessments and COSHH risk assessments produced by their team/group members to ensure they are fit for purpose and that they are updated and maintained as required by the EEE

COSHH Policy

- Provide guidance to their team members/people they are responsible for when they are developing procedures and creating associated paperwork (procedural documents, Risk assessments, and COSHH risk assessments)
- Ensure that they and their staff have been trained in the principles, operations and emergency procedures necessary for health and safety in the areas and environments in which they are working.



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- Ensure the competence of individuals appointed to perform allotted tasks, and where necessary provide, or arrange for provision of, training in the necessary skill and knowledge areas to make those individuals competent.
- Ensure that safe-working practices are observed by all staff/students/visitors under their control and/or supervision, to create a safe working environment, at all times.
- Ensure that a suitable substitute is in place to provide supervision to team members if they are away from the office/laboratory for any period of time, and communicate this to anyone affected.

4.5. Local area managers

For the purposes of managing Health and Safety, The Departmental estate is divided in local areas listed in the table below. Each area has coherent set of activities and forms more or less contiguous space within one building or area. Each local area has a designated local area manager who has specific responsibilities on the development, delivery and monitoring of H&S practice within their local area. These individuals are selected by the head of Department for their intimate working knowledge of operations in their local area.

Area manager	Name	Tel	e-mail
Fire Safety and Exit (First Floor)	Engr. Shahzad Shaikh	2275	shahzadshaikh@neduet.edu.pk
Fire Safety and Exit (ground floor)	Engr. Muhammad Umair Shaikh	2402	muhammadumair@neduet.edu.pk
Labs	Engr. Syed Muhammad Hasnain	2585	smhasnain@neduet.edu.pk
Safety Equipment	Engr. Talha Hassan	2585	talhasankhan@neduet.edu.pk

Their specific responsibilities of area managers are:

- To monitor the conduct of all area users in relation to H&S practice.
- To ensure that inductions have taken place and have been recorded by users, and research groups, operating within their area of responsibility.
- To intervene as appropriate, including immediate stopping of activities which are deemed not to follow acceptable practice.
- To report any breaches of Departmental Health and Safety policy to the relevant supervisor, CS and Head of Department.



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- To make resource requests (both personnel and equipment) to the Head of Department to ensure that standards of H&S practice are maintained.
- To have oversight and act as a reviewer for any Standard Operating Procedures (SOP) or Method statements (MS) within the local area, that are not directly related to research work being undertaken (for which the relevant PI/Academic Supervisor would be responsible).

Area managers have further specific responsibility in relation to COSHH as detailed in the policy.

4.6. All Students

All students: Shall at all times, whilst they are on University premises or taking part in University activities, follow the Health and Safety Policy and comply with any health and safety instructions given to them;

Shall not, without the consent of the member of staff in charge of the areas or activity, introduce any equipment for use on University premises, alter any fixed installations, alter or remove health and safety notices or equipment, or otherwise take any action which may create hazards for persons using the premises or employees of the University;

Shall at all times, whilst in residence in University property, comply with all fire, safety and security procedures as laid down in the contract of residence;

Shall not, intentionally or recklessly, interfere with or misuse anything provided by the University in the interests of health, safety or welfare;

Shall conform to all instructions, written and oral, given to ensure personal safety and the safety of others;

Shall use protective or specialist clothing as required and shall use all safety equipment available;

Shall maintain all equipment in good condition, reporting any defects to their supervisor, shall report all occupational ill-health issues/accidents/incidents/near misses, whether or not injury is sustained, to their supervisor or the member of staff in charge of the activity or facility.

A H&S checklist to be implemented in all laboratories in the department. The named Laboratory Supervisor must ensure that the lab checks are carried out by a nominated person EACH MONTH and they report any issues to the Laboratory Supervisor for immediate rectification. The forms must be kept on display in the lab for at least one year and be available for inspection



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at any time by the Convener Safety (CS). The CS will inspect the forms periodically and will carry out regular inspections of the laboratory.

5. IMPLEMENTATION OF HEALTH AND SAFETY POLICY

This Section provides details of the implementation of the Department's Health and Safety Policy.

5.1 University Level HSE Committee

The University Level HSE Committee (HSE UL) reports to the Vice Chancellor and provides legal and technical guidance for standardized HSE policies. It collaborates with departments to implement safety processes, offers training, and conducts site evaluations. HSE UL also works with the QEC, evaluates laws, and investigates accidents related to health, safety, and the environment.

5.2 Departmental Level Committee

The Environment, Health, and Safety of Department of Chemical Engineering is responsible for promoting a safe and sustainable working environment for all employees across the organization. During the assessment period, the department consisted of three dedicated EHS professionals.

5.3 Departmental EHS Policy and Procedures:

The Department of Chemical Engineering maintains a comprehensive EHS policy that outlines our commitment to protecting the health and safety of all stakeholders, including faculty, officers, staff, research researchers, students, and visitors and minimizing our environmental impact. Our policies are regularly updated to align with relevant regulations and standards.

5.4 Laboratory Policy

A laboratory safety policy in the department has been formulated and prominently displayed within the laboratory premises. The policy is designed to ensure the highest level of safety for all personnel working in the lab, including students, faculty, and staff.



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The lab safety policy encompasses guidelines and procedures for handling hazardous materials, using equipment safely, and responding to emergencies. It emphasizes the importance of personal protective equipment (PPE) and mandates its usage at all times while in the lab.

5.7 EHS Convener and Committee Team:

Under the our EHS Convener, the Department of Chemical Engineering ensures that all stakeholders, including faculty, officers, staff, research researchers and students are aware of their EHS responsibilities. Department Level (HSEC-DL), comprising of the following Faculty members.

Department: <u>Chemical Engineering</u>		
S. No.	Name	Designation
1)	Prof. Dr. Saud Hashmi	Chairman/Professor
2)	Engr. Muhammad Umair Shaikh	Lecturer
3)	Engr. Shahzad	Lecturer

6. Information

The appropriate environmental, health, and safety teams will collaborate closely with the Departmental level to plan NEDUET's response to external regulatory agencies concerned with workplace health, safety, and environmental compliance in cases of actual or potential regulatory enforcement actions, investigations, or employee complaints.

Any queries or issues about compliance ought to be brought to the Safety Convener and Departmental Head attention, or to the relevant member of the environmental, health, and safety committee.

Concerns may also be expressed by phone at **+922199261261 (ext. 2286, 2275)** or by email at

shahzadshaikh@neduet.edu.pk