Professional Process Safety Engineer Standard

The IChemE competence and commitment standard for Professional Process Safety Engineers.

Standard	Guidance
Professional Process Safety Engineer registrants in design, operations or other relevant fields, must be competent throughout their working life, by virtue of their education, training and experience, to:	Examples of activities which could demonstrate that you have achieved the Professional Process Safety Engineer criteria
Section A: Evidence of abilities to apply knowledge and understanding of technical process safety to practical engineering situations **and** of your ability to apply appropriate theoretical and practical methods to the analysis and solution of process safety problems	
A1. Hazard identification Able to identify hazards using recognised hazard identification techniques	Evidence could be drawn from personal experience of relevant techniques which, non-exhaustively, could include HAZID, FMEA, and HAZOP…
A2. Assessment of consequences Able to assess hazard consequences using recognised consequence modelling techniques.	Evidence could be drawn from personal experience of relevant techniques which, non-exhaustively, could include fire and explosion consequence analysis; flare calculation; occupied building analysis; escape and evacuation…
A3. Control of hazards Able to assess and implement safeguards appropriate for the hazard being considered in an operations or design environment.	Evidence could be drawn from personal experience of controlling hazards which, non-exhaustively, could include: inherent safety in design and operations; control of ignition; safe handling of dangerous chemicals; active and passive fire protection; managing residual risk through safe operating practices and procedures; human factors engineering…

A4. Risk assessment Able to undertake risk assessment to determine whether safeguards are adequate to mitigate hazards.	Evidence could be drawn from personal experience of relevant topics which, non-exhaustively, could include QRA; SIL; LOPA; fault tree; event tree; human factor engineering; management of change…
Section B: Evidence of your ability to handle the wider implications of your work as a process safety practitioner	
B1. Understanding and application of relevant regulations Able to demonstrate effective understanding and application of regulations appropriate to the industry and geographical area(s) in which the engineer practises.	Evidence could be drawn from personal experience of relevant regulations which could, non-exhaustively, include: NORSOK; API; UK-HSE; ATEX; OSHA; DSEAR: and COSHH…
B2. Protection of the public Able to demonstrate understanding and application of process safety principles in reducing public risk.	Evidence could be drawn from personal experience of relevant topics which, non-exhaustively, could include QRA for third-party risk and land use planning, stakeholder communication…
B3. Incident investigation Able to demonstrate understanding and experience of incident investigation and implementation of lessons learned.	Evidence could be drawn from personal experience of relevant incident investigation which, non-exhaustively, could include: integration of lessons learned; root cause analysis; occupied buildings analysis…
B4. Emergency planning Able to demonstrate understanding and experience in defining emergency actions for hazards identified.	Evidence could be drawn from personal experience of relevant regulations topics which, non-exhaustively, could include integration of escape and evacuation risk analysis; TR integrity; emergency evacuation procedures…
Section C: Evidence of effective technical safety leadership and communication	
C1. Process safety management Able to demonstrate understanding and personal experience of process safety management	Evidence could be drawn from personal experience of PSM leadership which, non-exhaustively, could include topics such as process safety KPIs; monitoring process safety performance and organisational factor; safety and environmental management system design, auditing…
C2. Influencing process safety culture Able to demonstrate direct influence of process safety culture during professional practice.	Evidence could be drawn from personal experience of influencing process safety culture(s); auditing; sharing lessons learned; training; development of safe working practices; operating procedures…

Section D: Evidence to show your personal commitment to high standards of professional conduct related to process afety	
Able to demonstrate the ability to set high standards of personal conduct	Evidence could be drawn from personal experience of commitment to high standards of conduct where you have had to hold others (or yourself) to account or ensure that an aspect of a design was not compromised for operational reasons.
Section E: Evidence of Continuing Professional Development (CPD)	
E1. CPD in the past 2 years	Describe any significant CPD activity you have carried out in the 1-2 working years. Provide information on the purpose/objective of carrying it out, and the benefits you gained from it.
E2. CPD in the future	Describe your development objectives for the next 1-2 years and the purpose of each. Detail which activities you plan to carry out to achieve it, and the expected timescale.