Technical Credentials for Working in ESH

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Introduction

Presentation will

- provide information on some of the various types of credentials related to ESH work in the semiconductor industry.
- address traditional ESH arena and not include discussion of PE, PG, RS, COHN and DEE types of designations or opportunities for ISO certification.
Introduction (cont.)

Will look at four fields of certification:
- Safety
- Industrial Hygiene
- Environmental
- Hazardous Materials

No certification was found for ERTs
Why pursue credentials?

- Requirement of present job
- Requirement for advancement to next level
- Personal satisfaction
- Independent evaluation of skills
Common Administration Issues

- Documentation of work history and descriptions
- References
- Documentation of academic classes and content
- Re-certification requirements/training
Safety Certifications

- Certified Safety Professional (CSP)
- Associate Safety Professional (ASP)
- Certified Safety Executive (CSE-WSO)
- Certified Safety Manager (CSM-WSO)
- Certified Safety Specialist (CSS-WSO)
- Certified Safety Technician (CST-WSO)
Industrial Hygiene Certifications

- Certified Industrial Hygienist (CIH)
- Occupational Health and Safety Technician (OHST)
Environmental Certifications

- Qualified Environmental Professional (QEP)
- Certified Environmental Professional (CEP)
- Registered Environmental Manager (REM)
- Registered Environmental Professional (REP)
- Certified Environmental Auditor (CEA)
- Registered Environmental Property Assessor (REPA)
Hazardous Materials Certifications

- Certified Hazardous Materials Manager (CHMM)
- Registered Hazardous and Chemical Materials Manager (RHCMM)
- Registered Hazardous Substances Professional (RHSP)
- Registered Hazardous Substances Specialist (RHSS)
- Certified Hazardous Materials Technician (WSO-CHMT I and WSO-CHMT-II)
- Supervisor (WSO-CHMS)
- Executive (WSO-CHME)
Certified Safety Professional (CSP) and Associate Safety Professional (ASP) Requirements

- Bachelor’s (any field) or associates degree in safety and health
- Four years of primary work function
  - Can substitute advanced degrees and OHST or CHST designation for some experience
- Pass Safety Fundamentals Examination
  - Can be waived if CIH or CHP
  - Five hour examination
CSP and ASP Requirements (cont.)

- ASP is a temporary designation awarded to those completing Safety Fundamentals examination and meeting academic requirements for CSP.
- Pass Comprehensive Practice Examination, resulting in CSP recognition.
  - Examination is 5-1/2 hours.
- Offer self assessment examination to help you determine your readiness for exam.
- Sample questions available on web site.
Safety Fundamentals Examination

Basic & Applied Science  25%
Program Management & Evaluation  18%
Fire Prevention & Protection  14%
Equipment & Facilities  19%
Environmental Aspects  14%
System Safety & Product Safety  10%
Comprehensive Practice Examination

- Engineering: 30%
- Management: 35%
- Applied Sciences: 15%
- Legal/Regulatory Aspects and Professional Conduct and Affairs: 20%
CSP and ASP Administration

- Continuance of certification points required in 5 year cycle
- Fees $100 application $205-240 examination $65-75 annual renewal
- Board of Certified Safety Professionals (BCSP)
  208 Burwash Avenue, Savoy ILL 61874
  217-359-9263
  bcsp@bcsp.com
  www.bcsp.com
World Safety Organization Titles

Certified

- Safety Executive (WSO-CSE)
- Safety Manager (WSO-CSM)
- Safety Specialist (WSO-CSS)
- Safety/Security Director (WSO-CSSD)
- Governmental Safety Officer (CGSO)
- Governmental Safety Specialist (CGSS)
- Governmental Safety Technician (WSO-CGST)
WSO Safety Certification Requirements

- Bachelors degree in safety, physical science, engineering or management
- Four years professional safety experience
  - Advanced degrees can be substituted for work experience
- Pass certification exam
  - Three hour exam, multiple choice
  - 150 questions general safety, 100 in specialization area
  - Governmental designators have minimum grade requirement (GS-9 for Officer)
WSO Administration

WSO has Consultative Status as NGO to UN Economic and Social Council
Re-certification on 3 year cycle
Fees- application $70, monitor’s fee $50, certification $110

World Safety Organization,
305 E. Market St, Warrensburg, MO 64093
816-747-3132
www.world safety.org
Certified Industrial Hygienist Requirements

- Bachelors degree in IH, chemistry, physics, chemical/mechanical/sanitary engineering, biology
- One year full time employment as IH for Core Examination, five years for Comprehensive or Chemical Practice
  - Technician experience not creditable
- Passage of Core examination (289 questions) and Comprehensive (general practice) or Chemical Practice(laboratory) exam (250 questions)
- IHIT certification available
CIH Examination

Core
- Recognizer of health stressors: 30%
- Evaluator of health stressors: 42%
- Controller of health stressors: 27%
- Ethics: 1%

Comprehensive
- Recognizer of health stressors: 30%
- Evaluator of health stressors: 24%
- Controller of health stressors: 37%
- Manager and ethics: 1%
Occupational Health and Safety Technician (OSHT)

ור纹理 experience in occupational health or safety activities for 35% of job duties

may substitute some academics for experience

Pass OHST exam

Survey and inspection techniques 40%
Basic and applied sciences 15%
Control concepts 15%
Investigation 10%
Data computation and record keeping 10%
Laws, regulations, education, training 10%
CIH and OHST Administration

❖ Re-certification required on 5 year cycle
❖ American Board of Industrial Hygiene
  6015 West St Joseph, Suite 102
  Lansing, MI 48917-3980
  517-321-2638
  abih@abih.org
  www.abih.org
❖ Also offer a Construction Health and Safety Technician (CHST) certification
Qualified Environmental Professional (QEP)

- Bachelors degree (physical/earth sciences, engineering)
- 5 years professional work experience
- Passage or written exam

OR

- Bachelors degree with 15 years experience
- One QEP reference
- Oral exam
QEP Administration

Exam is non-regulation, multimedia environmental science

Exam consists of two parts, - General Environmental Science, and Specific Practice area
- Air quality, water quality, waste management, environmental science/policy

Each part is 3 hours, closed book, 100 questions

Re-certification every 5 years - evidence of continuing professional development and participation
QEP Administration

❖ Fees - $100 application, $200 exam, $125 annual dues
❖ Affiliated with AWMA and WEF
❖ Institute of Professional Environmental Practice
  One Gateway Center, 3rd Floor
  Pittsburgh, PA 15222
  412-232-0901
  nbernheisel@awma.org
  www.ipep.org
Certified Environmental Professional (CEP) Requirements

- Bachelors degree
- Nine years of applicable environmental experience
  - Five years must be responsible charge or responsible supervision
  - Advanced degrees can substitute for some of the non-responsible experience
- Passage of interview and written exam
  - Mandatory and elective essay questions
CEP Administration

Certification offered in five areas

- Assessments (risk evaluation of exposure)
- Documentation (preparing of reports and records)
- Operations (managing facilities to permits)
- Planning (future construction/operation /permits)
- Research and Education
CEP Administration

- Application fee $250
- Academy of Board Certified Environmental Professionals
  6524 Ramoth Drive
  Jacksonville, FL 32226-3202
  904-251-9900
  email naep@ilnk.com
  www.naep.org
Registered Environmental Manager (REM) Requirements

- Bachelors in environmental related discipline
- 5 years work experience related to environmental engineering, science, health or management
- Passage of certification exam
  - Four hour timed examination
REM Administration

- Regulatory compliance  25%
- Program Management    20%
- Chemistry, toxicology  15%
- Assessment evaluation   8%
- Standards and policy    7%
- Professional practice  10%
- Monitoring, abatement, remediation technology  15%
Associate Environmental Professional (AEP) Requirements

- Two years into bachelor's program
  - Can substitute 3 years work experience for each year
- Passage of certification exam
  - Four hour timed examination
    - Environmental regulations: 30%
    - Program implementation: 30%
    - Site and risk assessment: 10%
    - Monitoring, abatement and remediation technology: 10%
    - Ethics: 5%
Certified Environmental Auditor (CEA) Requirements

- Bachelors in environmentally related discipline
  - Can substitute 3 years work experience for each year
- Four years work experience with audits
- Pass certification examination
  - Four hour timed exam
    - environmental laws and regulations 45%
    - program management 33%
    - chemistry, toxicology, geology 10%
    - technology 2%
Registered Environmental Property Assessor (REPA) Requirements

- Bachelors in environmentally related discipline
  - Can substitute 3 yrs work experience for each year
- 3 years work experience with property transfer
- Pass certification examination
  - Four hours timed open book multiple choice
    - Physical site reconnaissance 30%
    - Finding and using informational resources 20%
    - ASTM standards and policy 15%
    - Regulations 10%
Registered Environmental Professional (REP) Requirements

- Advanced university degree related to environmental health, science technology or law
- Certification by NREP Board approved credential (CIH, CHP, PE, Etc)
- NO exam
REM, AEP, CEA, REPA, REP Administration

- Preparation classes and manuals available
- Fees of $90-150/exam and $90 annual
- Yearly proficiency maintenance required
- National Registry of Environmental Professionals (NREP)
  
  PO Box 2068  Glenview, IL  60025
  847-724-6631
  nrep@primenet.com
  www.nrep.org
Certified Hazardous Materials Manager (CHMM) Requirements

- Program levels are In-Training, Senior, Master
- Bachelors in related field (CHMM-I-T)
- Three years experience (11 without BS) (Senior level)
- Seven years experience (Master level)
- Passage of examination
  - Three hour, multiple choice
- Re-certification on five year cycle
CHMM Examination

❖ Laws and regulations
  ● SDWA, RCRA, FIFRA, CERCLA, OSHA, SARA, TSCA, Transport
❖ Compliance standards, work practices
❖ Management of hazardous material programs
❖ Science and and technology
Certified Hazardous Materials Manager (CHMM) Administration

Fees - 90% application, $150 exam, $50 annual

Institute of Hazardous Materials Management
11900 Parklawn Dr. Suite 450
Rockville, MD 20852
310-984-8969
ihmm@cyclenet.com
www.ihmm.org

Council of Engineering and Scientific Specialty Boards
Registered Hazardous and Chemical Materials Manager (RHCMM) Requirements

- Bachelors degree in environmental related field
- Five years work experience related to environmental engineering, health, science or management
- Passage of certification exam
  - four hour timed multiple choice
- Administered by the NREP (see contacts under environmental)
RHCMM Examination

- Regulatory compliance 32%
- Program management 33%
  - P2, emergency response, SPCC, OPA 90, UST/AGT, ASTM, ISO 14000
- Chemistry, biology, geology, hydrology 15%
- Monitoring, abatement, remediation technology 15%
- Ethics 5%
Registered Hazardous Substances Professional (RHSP) Requirements

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Program has four tracks varying degree and experience requirements

- Bachelors degree in related environmental field
- Three years work experience in hazardous materials/waste management

Passage of certification exam

- Four hour, multiple choice, 240 questions

Re-certification every two years
RHSP Examination

- Federal regulations
- Toxicology
- Sampling/monitoring
- Treatment/disposal
- Risk assessment/management
- Public/industry participation
Registered Hazardous Substances Specialist Requirements

- Completion of AA program in hazardous materials/waste management
  
  OR

- High school diploma with two years work experience

- Passage of examination
  - Three hour, multiple choice, 200 questions
  - Format similar to RHSP, more regulation focused
RHSP and RHSS Administration

National Environmental Health Association
720 S. Colorado Blvd. Suite 970-S
Denver, CO 80246
303-756-9090
staff@neha.org
www.neha.org
World Safety Organization
Certifications

- Certified Hazardous Materials Technician I (WSO-CHMT I)
- Certified Hazardous Materials Technician II (WSO-CHMT II)
- Certified Hazardous Materials Supervisor (WSO-CHMT)
- Certified Hazardous Materials Executive (WSO-CHME)
WSO Requirements

- No degree required
- CHMT-I - 40 hours of training, 6 months experience, plus exam
- CHMT-II - 150 hours of training, Level I or equivalent, plus exam, plus 6 months experience
- CHMS - 60 hours training, Level I and II or equivalent, plus exam plus 1 year experience hazmat response/operations
- CHME- 150 hours training, Level I, II and CHMS or equivalent, plus exam plus 1 year program management experience