

**Special Hazards Systems****Level III Content Outline****Engineering Technician**

The candidates for NICET certification at Level III in Special Hazards Systems should have the knowledge, experience and skills needed to work in the industry. They design gaseous, dry, and wet agent systems. They prepare submittals, estimates, and project reports. They manage a special hazards project that requires them to inspect, maintain, repair, install, and test complex systems. Level III technicians have at least 5 years of experience in special hazards systems.

3.1 Inspection, Testing, and Maintenance

(Questions related to these tasks make up 2-8% of the exam.)

- 3.1.1 Conduct a low-pressure CO₂ partial flow test. 2

3.2 Repair and Recharge

(Questions related to these tasks make up 15-21% of the exam.)

- 3.2.1 Replace control panel components. 3
3.2.2 Re-load the original programming configuration to a control panel after a repair. 3, 4
3.2.3 Conduct a discharge investigation. 2, 3, 4

3.3 Installation

(Questions related to these tasks make up 16-22% of the exam.)

- 3.3.1 Perform complex programming for multi-zone, multi-hazard, networked systems with directional valves, soak systems, or remote access over internet. 7, 8
3.3.2 Perform foam proportion accuracy test. 1
3.3.3 Conduct clean agent discharge and concentration final acceptance tests. 2, 4

3.4 System Design and Configuration

(Questions related to these tasks make up 69-75% of the exam.)

- 3.4.1 Determine an appropriate system type and agent for the site's hazard(s). 1, 2, 4, 9, 10
3.4.2 Select and lay out detection devices. 3
3.4.3 Select and lay out power supply devices. 3
3.4.4 Select and lay out cables, conduit, and raceways. 11, 14
3.4.5 Develop a programming matrix for a special hazards system. 1, 3, 4
3.4.6 Select and lay out discharge devices. 1, 2, 4
3.4.7 Select and lay out actuating/releasing devices. 2, 3, 4, 9
3.4.8 Select and lay out agent storage equipment. 4
3.4.9 Layout and calculate air sampling systems. 3, 12
3.4.10 Use software to calculate system flow for gaseous agents (including high-pressure CO₂). 2, 4
3.4.11 Use software to hydraulically calculate low-expansion foam water systems. 1

3.5 Work Management

(Questions related to these tasks make up 27-33% of the exam.)

- 3.5.1 Procure materials for a special hazards system installation. 3, 4
3.5.2 Prepare project documentation. 4, 5
3.5.3 Plan acceptance testing and prepare associated documentation. 5, 6
3.5.4 Evaluate final acceptance test results. 2, 4
3.5.5 Develop, coordinate, and monitor a project schedule. 5, 6
3.5.6 Prepare maintenance plans. 2, 3, 4
3.5.7 Conduct end-user training. 3, 4



3.6 Safety

(Questions related to these tasks make up 2-8% of the exam.)

3.6.1 Prepare and implement project-specific safety plans based on site conditions. 2, 13

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footnote number is linked to a reference on the Selected General References listing