Water-Based Systems Layout Certification

Level II Content Outline

Associate Engineering Technician

The candidates for NICET certification at Level II in Water-Based Systems Layout should have the knowledge, experience and skills needed to work more independently than Level I technicians. Under supervision, they perform routine job tasks. They work on small projects, perform simple calculations, and set up remote areas. They set up risers, prepare close out documents, and are training in project management. Level II technicians have at least 2 years of experience in water-based systems layout.

2.1 Safety
(Questions related to these tasks make up 1-7% of the exam.)
- 2.1.1 Locate information in safety data sheets (SDS). 13

2.2 Contract Documents
(Questions related to these tasks make up 1-10% of the exam.)
- 2.2.1 Edit/apply project specifications. 1, 3, 5, 12
- 2.2.2 Interpret project plans. 1
- 2.2.3 Coordinate with other trades. 1, 11
- 2.2.4 Identify project scopes. 2, 3

2.3 Survey Existing Conditions
(Questions related to these tasks make up 1-10% of the exam.)
- 2.3.1 Identify conflicts between plans and existing conditions. 1
- 2.3.2 Identify occupancies and uses. 1
- 2.3.3 Obtain water supply information. 1, 4
- 2.3.4 Field-verify existing systems. 1

2.4 Codes and Standards
(Questions related to these tasks make up 4-14% of the exam.)
- 2.4.1 Determine applicable codes and standards. 1, 3, 4, 7, 8, 9, 12
- 2.4.2 Evaluate design options. 1, 9

2.5 Basic Sprinkler System Layout
(Questions related to these tasks make up 40-50% of the exam.)
- 2.5.1 Select system types (e.g., wet, dry, pre-action). 1, 2
- 2.5.2 Select system configurations (e.g., tree, loop, grid). 1, 9
- 2.5.3 Determine hazard classifications (e.g., non-storage). 1
- 2.5.4 Identify storage arrangements. 1
- 2.5.5 Identify storage commodity classifications (e.g., Class I, Class II). 1
- 2.5.6 Identify the impact of construction types on the selection and layout of sprinklers. 1, 8, 9
- 2.5.7 Determine the location and sizing of hangers, bracings, and restraints. 1
- 2.5.8 Prepare material and fabrication stocklists. 1, 3

2.6 Basic Standpipe System Layout
(Questions related to these tasks make up 4-14% of the exam.)
- 2.6.1 Select type and class of standpipe systems. 12
- 2.6.2 Layout valves and hose connections. 12

2.7 Basic Fire Pump System Layout
(Questions related to these tasks make up 3-13% of the exam.)
- 2.7.1 Configure fire pump layouts (e.g., basic valve and piping). 3, 10
- 2.7.2 Establish pipe and valve sizes (e.g., suction or test header sizes). 3

2.8 Hydraulic Calculations
(Questions related to these tasks make up 7-17% of the exam.)
2.8.1 Obtain water supply. 1, 4, 9
2.8.2 Determine hydraulically remote areas. 1
2.8.3 Hand-calculate basic branchlines. 1
2.8.4 Hand-calculate basic standpipe systems. 1, 2

2.9 Submittal and Approval Process
(Questions related to these tasks make up 1-7% of the exam.)
2.9.1 Prepare submittal packages. 1

2.10 Project Management
(Questions related to these tasks make up 1-8% of the exam.)
2.10.1 Follow project schedules. 1, 6, 14
2.10.2 Prepare closeout documents. 1, 3

October 1, 2018 footnote number is linked to a reference on the Selected General References listing