

U.S. Department of Labor Employment and Training Administration, Office of Apprenticeship (OA) Washington, D.C. 20210	Distribution: A-541 Hdqtrs A-544 All Field Tech A-547 SD+RD+SAA+; Lab.Com	Subject: New Apprenticeable Occupation: Utility Locator/Locator Technician Code: 200.1
Symbols: DSNIP/KAJ		Action: Immediate

PURPOSE: To inform the staff of OA, State Apprenticeship Agencies (SAA), Registered Apprenticeship program sponsors, and other Registered Apprenticeship partners of a new apprenticeable occupation:

Utility Locator/Locator Technician
 O*NET-SOC Code: 47-4011.00
 RAPIDS Code: 2041HY
 Training Term: 2,000-4,000
 Type of Training: Hybrid

BACKGROUND: Mr. Dennis Cox, on behalf of Salt River Project JATC, submitted the following occupation: Utility Locator/Locator Technician for apprenticeability determination.

The Utility Locator/Locator Technician will locate underground facilities including, but not limited to, telephone lines, electric power lines, cable television lines, gas lines, fiber optic lines, water lines, and sewer lines. This occupation may include locating buried drums, police evidence sub-surface leak detection, irrigation leak detecting, swimming pool leak detection, reclaimed water and fire system leak detection.

The Utility Locator/Locator Technician will be added to the List of Occupations Recognized as Apprenticeable by OA when the list is reissued. A suggested Work Process Schedule and Related Instruction Outlines are attached.

If you have any questions, please contact Kirk Jefferson, Apprenticeship and Training Representative, at (202) 693-3399 or Colleen Henry, Region VI State Director at (702) 388-6771.

ACTION: OA staff should familiarize themselves with this bulletin and the attached Work Process Schedule and Related Instruction Outline, as a source for developing apprenticeship standards and/or providing technical assistance.

NOTE: This bulletin is being sent via electronic mail.

Attachments

- [Utility Locator/Locator Technician](#)
[O*Net-SOC Code: 47-4011.00 Rapids Code: 2041HY](#)
- [Professional Competence Standards for Locating Technicians](#)

**WORK PROCESS SCHEDULE
UTILITY LOCATOR/LOCATOR TECHNICIAN
O*NET-SOC CODE: 47-4011.00 RAPIDS CODE: 2041HY**

Description: The Utility Locator/Locator Technician will locate underground facilities including, but not limited to, telephone lines, electric power lines, cable television lines, gas lines, fiber optic lines, water lines, and sewer lines. This occupation may include locating buried drums, police evidence sub-surface leak detection, irrigation leak detecting, swimming pool leak detection, reclaimed water and fire system leak detection.

	Approximate Minimum	Approximate Maximum
Basic Locator Theory	160 hours	320 hours
Use of a Transmitter	160 hours	320 hours
Use of a Receiver	160 hours	320 hours
Marking Procedures	160 hours	320 hours
 <u>Knowledge of Facilities</u>		
Communication Utilities	272 hours	544 hours
Electric Utilities	136 hours	272 hours
Water/Reclaimed Water Utilities	136 hour	272 hours
Sewer Utilities	136 hours	272 hours
Gas Utilities	136 hours	272 hours
Visual Observation Skills	130 hours	260 hours
Safe Work Practices & Regulations	130 hours	260 hours
One Call Regulation & Documentation	130 hours	260 hours
Excavator/Customer Relations	130 hours	260 hours
Locating Pipelines (Operator Qualification)	24 hours	48 hours
	Total 2,000 hours	4,000 hours

RELATED INSTRUCTION OUTLINE

UTILITY LOCATOR/LOCATOR TECHNICIAN
O*NET-SOC CODE: 47-4011.00 RAPIDS CODE: 2041HY

Core Classes

Basic Locator Theory	16 hours
Use and care of a Transmitter	16 hours
Use and care of a Receiver	16 hours
Marking Procedures (APWA)	16 hours

Knowledge of Facilities

Communications	48 hours
Electric Utilities	16 hours
Water/Reclaimed Water Utilities	16 hours
Sewer Utilities	16 hours
Gas Utilities	16 hours
Visual Observation Skills	16 hours
Safe Work Practices & Regulation	16 hours
One Call Regulation, Documentation and IT	16 hours
Excavator/Customer Relations	16 hours
Locating Pipelines (Operator Qualification)	16 hours

256 hours (total)

ELECTIVES (Based on Individual Employer Needs)

Must total an additional 32 hours for the 4,000 hour term.

OSHA 10	10 hours
Operator Qualifications	24 hours
API Work Safety (Petroleum)	14 hours
Operation of Company Vehicle	20 hours
Hazwoper OSHA Certification	24 hours

Reference Material:

NULCA Competency Standards (See Attachment)

NULCA
ИПГСА

National Utility Locating
Contractors Association

Over 15 Years in Damage Prevention



NULCA

Professional Competence Standards for Locating Technicians

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Website: www.NULCA.org

**Third
Edition**



NULCA STANDARDS FOR LOCATING TECHNICIANS

OVERVIEW

The National Utility Locating Contractors Association (NULCA) was formed in 1995 to maintain standards and practices that contribute to improved safety, quality and performance within the contract locating industry.

From its conception, NULCA members recognized the need for a common set of standards and practices directing the training and development of utility locators. In 1995, the NULCA Board of Directors initiated the construction of training standards. Representatives from the contract locating industry, one call system, utility companies and others involved in the damage prevention process were involved. In 1996, NULCA published the *NULCA Locator Training Standards and Practices*. This formed the basis for the training programs currently in use by NULCA members performing contract locates.

In 1998, the NULCA Board requested a review and evaluation of the existing *NULCA Locator Training Standards and Practices*. It was determined that industry and regulatory changes within the industry dictated the need for a new revised training standard for utility locators. A NULCA Standards Committee was formed to develop the new training standards. As a result of these efforts, NULCA published *Professional Competence Standards for Locating Technicians 2001 First Edition* which was reviewed and adopted by the NULCA Board and publicly presented in February 2002.

In 2007, the NULCA Board requested a review and evaluation of the *Professional Competence Standards for Locating Technicians 2001 First Edition*. This led to the next revision of the *NULCA Standards for Locating Technicians Second Edition* that was approved by the Board on April 17, 2009; and then released on July 1st, 2009. The Third edition was approved and released on November 21, 2013.

NULCA has developed these industry Standards for Locating Technicians (Standards) as an educational tool and general reference aid. The Standards have been developed by volunteers within NULCA, which is based on their collective experiences in the industry, and does not reflect the judgment of any one individual. NULCA membership consists of representatives from the contract locating industry, utility companies, excavators, equipment suppliers and others dedicated to the protection of the utility infrastructure.

NULCA Mission Statement

The mission of NULCA is to define, establish and maintain standards and practices performed by the underground utility locating industry. Our highest priority is the safety of the general public, excavators and our employees in the protection of North America's underground infrastructure. As an Association, we will accomplish our mission by partnering with utility owners, excavators, one-call centers, suppliers and regulatory agencies, as well as other interested parties determined to provide a leadership role in the reduction of underground facility damages. Any questions or recommendations related to the Standards should be sent to NULCA.

TERMS AND CONDITIONS OF USE

NULCA publishes these Standards subject to the following:

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9. As a volunteer organization NULCA has no authority to enforce compliance with these Standards on any party.
10. As used in these Standards words such as "must", "required", "minimum", are meant to be illustrative and are not intended to suggest a standard of conduct in and by themselves. Therefore, they must be read in the larger context of the Standard and are not meant to act as a floor or minimum level of conduct.

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NULCA Standards for Locating Technicians

2009 Second Edition

Chapter 1 Administration

1 General

Scope: This standard identifies the basic level of competence required of a Locating Technician. It specifically covers the competencies for basic level locators who are involved in buried facility locating. The locator must demonstrate knowledge and understanding of the practices and procedures through formal closed book examination, obtaining a passing grade, together with demonstrating in actual or simulated scenarios and demonstrating the ability to use locating equipment effectively and efficiently.

Purpose: The purpose of this standard is to specify the minimum competencies for those individuals who will respond to the request for the location of facilities which are below the surface of the ground. It is not the intent of this standard to restrict any jurisdiction from exceeding those minimum requirements. The purpose of these competencies is assist in safer excavation practice, with the goal of minimizing the possibility of causing damage to underground facilities.

1-2 Definitions

Authority Having Jurisdiction: The “authority having jurisdiction” is the organization, office or individual responsible for “approving” equipment, procedure, legislation or regulation.

CFR 191.614(b) (5): Subpart of US DOT Pipeline Safety Rule that addresses locating pipelines.

APWA Uniform Color Code: System of colors used for marking and recognition of various types of facilities located below the ground.

Circuit: Complete path of electrical current including the power source (transmitter), facility being located, grounding system, and soil.

Competence: Possessing knowledge, understanding, skill and judgment needed to perform specific tasks and/or objectives satisfactorily, with little or no supervision.

Electromagnetic Location: Detection of electromagnetic fields emitted by a transmitter and applied to buried metallic facilities.

Element of Competence: What individuals have to do to demonstrate or prove the Unit of Competence.

Facility: Any structure buried below the surface of the ground.

Locating Device: Any of a number of electronic instruments designed, manufactured and distributed for the purpose of finding buried metallic conductors as part of a utility system.

Locating Technician: An individual competent in the activity of locating buried facilities.

Hertz: Unit of measuring an alternating current. One Hertz is equal to one complete electronic cycle in one second; abbreviated Hz.

Locating: The practice of identifying and designating the position of a facility buried below the surface of the ground.

Manhole: Entry points to a vault and/or space below the surface of the ground.

NULCA: National Utility Locating Contractors Association

Performance Criteria: Precisely describes the Element of Competence.

Receiver: Equipment that receives a detectable signal for the purpose of identifying a buried facility.

Signal: A moving magnetic field capable of being detected by a receiver; typically applied deliberately by a transmitter for the purpose of locating.

S.U.E.: "Subsurface Utility Engineering" pre-project planning to determine the physical position and identity of buried facilities prior to project commencement.

Transmitter: Equipment that transmits a detectable signal for the purpose of identifying an underground facility.

Unit of Competence: A key area which has to be carried out if the key purpose is to be achieved.

Chapter 2 Competencies for Locator Technician

2 General

Introduction: The Locator Technician shall be trained to meet Federal, State, Provincial and local health occupation and safety regulatory requirements, whichever are appropriate for their jurisdiction.

Locator Technicians are those persons who, in the course of their normal duties will be required to identify and designate the appropriate horizontal position of buried facilities, subject to the applicable tolerance zone under applicable law.

Locator Technicians are expected to identify and indicate the position of buried facilities, Protect the general public and themselves from harm, and call for support when necessary.

The key purpose of the Units of Competence is to provide Locator Technicians with the Skill, Knowledge and Understanding to complete the following tasks and activities safely and professionally.

The Locator Technician shall satisfy the performance criteria of all Elements and Units of Competence outlined herein by using locating equipment to locate a minimum of one or all of the various buried facilities (in rural or urban settings as it pertains to a geographical area of responsibility) under actual or simulated conditions such as:

1. Electrical Systems (electric power lines, cables, conduit, & lighting cables)
2. Gas, oil, steam, petroleum, or gaseous materials
3. Communication systems (alarm or signal lines, cables, or conduit)
4. Potable water
5. Reclaimed water, irrigation, and slurry lines
6. Sewer and draw lines
7. Other underground structures

The Locator Technician must demonstrate the knowledge and understanding in the Units of Competency for every type of facility the Locator Technician is required to Locate. Locator Technicians are to demonstrate their knowledge and understanding through formal and informal questioning.

2-2 Competencies

Units of Competence:

1. Basic Locating Theory
2. Use of the Transmitter
3. Use of the Receiver
4. Marking Procedures
5. Knowledge of Facilities
6. Visual Observation Skills
7. Safe Work Practices and Regulations
8. One-Call Regulation, Requests, & Documentation
9. Excavator & Customer Relations
10. Locating Pipelines (US)

Unit 1 “Basic Locating Theory”

The Locator Technician shall, given various simulated or actual site situations or by diagram, demonstrate basic competency in the knowledge of Basic Locating Theory.

Elements of Competence:

- 1.1 Demonstrate a basic knowledge and understanding of electromagnetic theory as it applies to utility locating.
- 1.2 Demonstrate a basic knowledge and understanding of a simple circuit as it applies to utility locating.
- 1.3 Demonstrate a basic knowledge and understanding of signal frequency as it applies to utility locating.
- 1.4 Demonstrate a basic knowledge and understanding of signal power as it applies to utility locating.
- 1.5 Demonstrate a basic knowledge and understanding regarding signal distortion.

Performance Criteria:

- 1.1a Demonstrate a basic knowledge and understanding of the relationship between electricity and magnetism.
- 1.1b Demonstrate a basic knowledge and understanding of what "signal" is and how it is produced.
- 1.1c Demonstrate a basic knowledge and understanding of the relative Conductivity of various utility structures.
- 1.2a Demonstrate a basic knowledge and understanding of how electricity flows through a locating circuit.
- 1.2b Demonstrate a basic knowledge and understanding of common obstacles to the flow of electricity in a locating circuit.
- 1.3a Demonstrate an understanding of common frequency measurement terms (i.e., Hz & kHz).
- 1.3b Demonstrate an understanding that instruments offer a variety of signal frequencies and each frequency has situational advantages and disadvantages.
- 1.3c When presented with a variety of common locating scenarios (actual or simulated), demonstrate the ability to select the most effective frequency from among at least two choices.
- 1.4a Demonstrate an understanding that instruments offer a variety of output power settings and that each has situational advantages and disadvantages.
- 1.5a Demonstrate a basic knowledge and understanding of how signal distortion is created.
- 1.5b Demonstrate knowledge of at least one technique used to recognize the presence of signal distortion.
- 1.5c Demonstrate a basic knowledge of how to overcome signal distortion when it is detected.

Unit 2 “Use of the Transmitter”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, identify and indicate the position of those facilities correctly using their equipment as per the manufacturer’s instructions, accessing all other reference material available and in an effective and safe manner. The Locator Technician shall be able to:

Elements of Competence

- 2.1 Demonstrate a basic knowledge and understanding of the three methods of signal application (direct connect, close induction/clamp & induction).
- 2.2 Demonstrate knowledge of basic transmitter operation.
- 2.3 Demonstrate proper equipment maintenance procedures.

Performance Criteria

- 2.1a Demonstrate the knowledge of how to apply a signal by direct connection, close induction/clamp, and induction.
- 2.1b Demonstrate a knowledge and understanding of the situational advantages and disadvantages of each method of signal application.
- 2.2a Demonstrate how to determine what frequencies are available on a given transmitter and how to select from among them.
- 2.2b Demonstrate how to determine what power output settings are available on a given transmitter and how to select from among them.
- 2.2c Demonstrate how to determine the relative quality of the circuit created (where applicable).
- 2.2d Demonstrate the knowledge and understanding of proper transmitter use by accurately indicating the presence of pre-selected buried facilities.
- 2.3a Demonstrate basic knowledge of proper storage, maintenance and cleaning of a transmitter.
- 2.3b Demonstrate the ability to check for continuity in direct connect leads.
- 2.3c Demonstrate knowledge of the transmitter’s power source and how to maintain useful power.

Unit 3 “Use of the Receiver”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, identify and designate the position of those facilities correctly, use locating equipment as per the manufacturer’s instructions, accessing all other reference material available in an effective and safe manner. The Locator Technician shall be able to:

Elements of Competence

- 3.1 Demonstrate knowledge and understanding of common receiver antenna configurations.

- 3.2 Demonstrate knowledge of basic receiver operation.
- 3.3 Demonstrate proper equipment maintenance procedures.

Performance Criteria

- 3.1a Demonstrate a basic understanding of peak, null and directional receiver responses and how they are achieved.
- 3.1b Demonstrate a basic knowledge and understanding of the situational advantages and disadvantages of peak, null and directional receiver responses.
- 3.2a Demonstrate how to determine what frequencies are available on a given receiver and how to select from among them.
- 3.2b Demonstrate how to determine which types of receiver response (peak, null or directional) are available on a receiver and how to select from among them.
- 3.2c Demonstrate a knowledge and understanding of how to perform an electronic or manual depth measurement.
- 3.2d Demonstrate a basic knowledge and understanding of receiver gain and how to adjust it.
- 3.2e Demonstrate the knowledge and ability to recognize and avoid air coupling.
- 3.2f Demonstrate the ability to conduct both circle and blind sweeps.
- 3.2g Demonstrate a knowledge and understanding of proper receiver use by accurately indicating the presence of pre-selected buried facilities.
- 3.3a Demonstrate a basic knowledge of proper storage, maintenance and cleaning of a receiver.
- 3.3b Demonstrate knowledge of the receiver's power source and how to maintain useful power.

Unit 4 “Marking Procedures”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, mark their position on the surface of the ground using the most appropriate method for the specific task after referencing any Federal, State, Provincial or local requirements or regulations concerning such activities. The Locator Technician shall be able to:

Elements of Competence

- 4.1 Satisfactorily delineate the approximate horizontal location of buried facilities.
- 4.2 Demonstrate knowledge and understanding of different marking systems.

Performance Criteria

- 4.1a Demonstrate the ability to indicate the location of buried facilities within required Federal, State, Provincial and local regulatory requirements.

- 4.1b Demonstrate the ability to indicate the location of buried facilities as per the facility owner's standards, which may exceed Federal, State, Provincial and local regulatory requirements.
- 4.2a Demonstrate a knowledge and understanding of Federal, State, Provincial and local color codes.
- 4.2b Demonstrate a knowledge and understanding of the common types of marking devices and proper application methods for their use.
- 4.2c Demonstrate the ability to recognize and understand industry symbols used to indicate buried facilities.

Unit 5 “Knowledge of Facilities”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, correctly identify those facilities and select the most appropriate method of locating such a facility. The Locator Technician shall be able to:

Elements of Competence

- 5.1 Demonstrate a basic knowledge of the physical utility system(s) being located.
- 5.2 Demonstrate a basic understanding of the mapping system for the facility(ies) being located.

Performance Criteria

- 5.1a Demonstrate a basic understanding of how the utility product (communications signal, petroleum, steam, water, power, etc.) travels to the consumer from a source point (power plant, headend, central office, etc.)
- 5.1b Correctly identify various common surface structures and appropriate signal application points on the facility being located.
- 5.1c Correctly identify various underground pipe, cable, or wire types commonly used on the assigned system.
- 5.1d Demonstrate a basic knowledge of the situational advantages and disadvantages of various signal application points and methods.
- 5.1e Correctly identify proper isolation and or bonding/un-bonding procedures for the facility being located (if applicable).
- 5.2a Demonstrate the ability to find a specific location on a given facility map.
- 5.2b Demonstrate the ability to differentiate between aerial and underground facilities on a facility map.
- 5.2c Demonstrate a basic knowledge and understanding of key mapping symbology.
- 5.2d Demonstrate the ability to identify the approximate physical location of on-site facilities using a facility map.
- 5.2e Understand the procedure for reporting mapping errors, omissions & irregularities.

Unit 6 “Visual Observation Skills”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, correctly identify visible indicators that would lead to the possibility of the existence of an underground facility. The Locator Technician shall be able to:

Elements of Competence

- 6.1 Correctly identify the most common surface structures of each utility system.
- 6.2 Correctly identify different visual evidence of the presence of buried facilities
- 6.3 Demonstrate a basic knowledge regarding private facilities.

Performance Criteria

- 6.1a Recognize different utility plant features (i.e. utility poles, pedestals, gas meters, manhole covers etc.).
- 6.2a Recognize areas where previous excavations may have been taken place.
- 6.2b Recognize trench or excavation scars in paved roadways or highways.
- 6.2c Recognize and reasonably interpret markings from previous locates.
- 6.3a Demonstrate the ability to recognize common private facilities and a knowledge of what procedures are to be followed when they are encountered.

Unit 7 “Safe Work Practices and Regulations”

The Locator Technician shall, given various simulated or actual site situations with different buried facilities, create safe working environments for the general public, excavators, themselves and others at the work site, following Federal, State, Provincial and local health safety and environmental regulations and practices. The Locator Technician shall be able to:

Elements of Competence

- 7.1 Demonstrate knowledge and understanding of safe work practices.
- 7.2 Demonstrate knowledge and understanding of emergency response requirements.
- 7.3 Demonstrate knowledge and understanding of the hazards surrounding confined space entry.

Performance Criteria

- 7.1a Demonstrate knowledge and understanding of how to protect themselves at the work site location, protect the general public in and around the work site location, and protect the work area.

- 7.1b Demonstrate knowledge and understanding of the right to refuse any work that is unsafe to themselves or others present at the worksite.
- 7.1c Demonstrate knowledge and understanding of the obligation to stop any work that is unsafe to themselves or others present at the worksite.
- 7.1d Demonstrate knowledge and understanding of how to manage and channel traffic to minimize the disturbance and inconvenience to the general public, within the Federal, State, Provincial and local regulatory requirements.
- 7.1e Demonstrate the ability identify hazardous environments and practice safe work methods to ensure the safety of the Locator Technician and others.
- 7.1f Demonstrate a knowledge and understanding of common hazards of working with the general public with an emphasis on customer relationships and conflict management.
- 7.1g Demonstrate a knowledge and understanding of common hazards of working outdoors (animals, natural occurrences, etc.) and the necessary steps to protect themselves.
- 7.1h Identify and wear all personal protective equipment as required by Federal, State, Provincial or local regulatory requirements or more stringent company standards.
- 7.1i Demonstrate a knowledge and understanding of basic defensive driving techniques (i.e., National Safety Council or similar program).
- 7.2a Demonstrate knowledge and understanding of how and where to quickly access required emergency information when necessary.
- 7.2b Demonstrate knowledge of how to activate the emergency response system for the geographical area they locate in.
- 7.3a Demonstrate a knowledge and understanding of what constitutes a confined space and the potential consequences of unauthorized entrance.
- 7.3b Demonstrate a knowledge and understanding of the equipment and procedures necessary to safely enter a confined space (where applicable).

Unit 8 “One Call Regulation, Requests and Documentation”

The Locator shall, given various simulated or actual site situations demonstrate a basic understanding of local One-Call regulations, as well as the documentation associated with locate requests and completed locates. The Locator shall be able to:

Elements of Competence

- 8.1 Demonstrate a basic knowledge and understanding of One-Call regulations and processes for the assigned area of responsibility.
- 8.2 Demonstrate knowledge and understanding of locate request documentation.
- 8.3 Demonstrate knowledge and understanding of locate response documentation.
- 8.4 Demonstrate a basic knowledge and understanding of the damage investigation process.

Performance Criteria

- 8.1a Demonstrate a knowledge and understanding of the basic local One-Call process from customer request through ticket expiration.
- 8.1b Demonstrate a knowledge and understanding of positive response requirements for locator and excavator (where applicable).
- 8.1c Demonstrate a knowledge and understanding of the various locate request priorities and response requirements in the assigned area of responsibility.
- 8.1d Demonstrate a basic understanding of local One-Call requirements and/or how to reference them.
- 8.2a Demonstrate knowledge and understanding of locate request documentation in their geographical area of responsibility.
- 8.3a Demonstrate ability to create written/computerized documentation of a completed locate.
- 8.3b Demonstrate a basic ability to graphically document a completed locate using a sketch, computer assisted drawing, photograph or video.
- 8.4a Demonstrate a basic knowledge of how to recognize and report facility damages.
- 8.4b Demonstrate a basic knowledge and understanding of the employer's procedure for handling facility damages.

Unit 9 “Excavator & Customer Relations”

The Locator Technician shall, given various simulated or actual site situations, interact with customers and others in a professional and effective manner. The Locator Technician shall be able to:

Elements of Competence

- 9.1 Promote positive working relationships with excavators & the public.

Performance Criteria

- 9.1a Correctly identify most commonly used excavation equipment.
- 9.1b Demonstrate a basic knowledge of how to professionally interact with excavators in the field.
- 9.1c Demonstrate knowledge of how to professionally address common customer concerns about the locating process.
- 9.1d Demonstrate knowledge and understanding of the employer's procedure for handling an escalating conflict in the field.
- 9.1e Demonstrate the knowledge of how to refer a customer to the One-Call center or company customer service department.
- 9.1f Demonstrate an understanding of the importance of communicating an incomplete locate attempt.
- 9.1g Demonstrate a basic understanding of the CGA's Best Practices for Locating & Marking, and the National Dig Safely Message / 811 Campaign.

Unit 10 “Locating Pipelines (US)”

The Locator Technician shall, if locating pipelines in the U.S., comply with CFR 192.614(b)(5).

Elements of Competence

Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as possible, the activity begins.

Locating Pipeline Steps

1. Perform equipment operation check
2. Verify scope of locate request
3. Visually inspect locate area
4. Locate and mark the facility(ies)
5. Recognize and react to Abnormal Operating Conditions

Step 1: Perform equipment operation check

Abnormal Operating Conditions

(None Identified)

Evaluation Criteria

The individual will, before the first locate, be able to:

- a. Perform equipment operation check in accordance with manufacturer instructions,
- b. Verifying battery strength, if required
- c. Initiate corrective action for equipment out of specification

Step 2: Verify scope of locate request

Abnormal Operating Conditions

(None Identified)

Evaluation Criteria

The individual will be able to utilize maps/records and engage in discussion with the excavator to:

1. Determine type of pipe being located
2. Verify location of job site
3. Verify extent of locate request

Step 3: Visually inspect locate area

Abnormal Operating Conditions

Damaged pipe

Damaged pipe coating

Excavation activities (including blasting) started prior to locating

Evaluation Criteria

The individual will be able to:

- a. Identify facilities that may affect locate
- b. Compare records to existing conditions and identify and communicate discrepancies

Step 4: Locate and mark the facility(ies)

Abnormal Operating Conditions

Damaged pipe

Damaged pipe coating

Excavation activities (including blasting) started prior to locating

Missing or broken tracing wire

Unable to locate pipeline

Evaluation Criteria

The individual will be able to:

- a. Select type of locating method:
 1. Conductive
 2. Inductive
 3. Measurement
- b. Operate locate equipment in accordance with manufacturer instructions
- c. Initiate action if signal is lost or insufficient
- d. Locate within scope of the request
- e. Mark (paint, flag or stake) the location of the facilities:
 1. Mark changes in direction
 2. Place marks so there is no doubt about the location of facilities
- f. Compare records to existing conditions and identify and communicate discrepancies

Step 5: Recognize and react to Abnormal Operating Conditions

Abnormal Operating Conditions

(None Identified)

Evaluation Criteria

The individual will be able to:

- a. Recognize Abnormal Operating Condition(s) that may be encountered while performing the task
- b. React to the Abnormal Operating Condition(s) by:
 1. Initiating remedial action
 2. Reporting for analysis by:
 - i. Determining if remedial action is required
 - ii. Determining a remedial action to correct the Abnormal Operating Condition(s)
- c. Describe the Abnormal Operating Condition(s) that an individual could reasonably expect to encounter while performing this covered task(s)
- d. Describe the response required for each Abnormal Operating Condition



NULCA STANDARDS COMMITTEE (2013)

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Assistant Vice-Chairperson

Marc Levesque
 On Target Utility Services

NULCA BOARD OF DIRECTORS (2009)

<u>Name</u>	<u>Company</u>
Terry Riesen	Marathon Petroleum
Dan Bradley	Safe Site Field Services
Greg Jefferies	Craig A. Smith & Associates
Guy (Skip) McIntosh	Safe Site Inc.
Dennis Tarosky	UtiliQuest/STS
Mark Burel	USIC
John Walko	Excavac Corporation
Marc Levesque	On Target Utility Services
Mark Drew	Vivax Corporation
Nick Starke	Radio Detection/SPX
Christopher Koch	Hance Utility Services
Vincent Marchese III	Premier Utility Services
Josh Hinrichs	Elm Locating Servies
Brett Ramsey	Accumark

NULCA OFFICERS (2014)

President

Dan Bradley

Vice President

Greg Jeffries

Treasurer

Bill Deckard

Secretary

Dennis Tarosky

Past President

Christopher Koch

Legal Council

Mark Palma

Executive Director

Ron Peterson



BYLAWS

OF

NATIONAL UTILITY LOCATING CONTRACTORS ASSOCIATION

BYLAW I

OBJECTIVES

Specific Objectives of this Association are to:

- 1.1 To define, establish and preserve the identity and the common interests of the underground facility locating industry.
- 1.2 To educate and promote better relations between members and governmental agencies, other Associations, contractors, professional engineers, manufacturers, suppliers, utility companies, one call centers, the public, and the underground facility locating industry.
- 1.3 To collect and disseminate information relative to the business in which Association members are engaged.
- 1.4 To represent the common interests of Association members at hearings, meetings and conferences held by legislative and other public administrative bodies on national, state and local levels. This means that the voice of the underground facility locating industry should be heard with respect to the promulgation of Federal, State and Local codes, programs relating to the needs of communities for proper facility location, public works programs, the enactment and administration of prevailing wage laws and such other governmental activities as may be of significance or interest to the underground utility locating industry in the United States .

1.5 To participate in, or support, legal actions to the extent and in the manner deemed appropriate in each case, which affect the interests of the underground facility locating industry.

1.6 To promote ethical practices among underground facility locators and the general public.

1.7 To promote research for the underground facility locators locating industry.

1.8 To encourage safety in the conduct of work.

1.9 To exchange data and information with other stakeholders of the Common Ground Alliance (CGA) and to act as the voice of the stakeholder for the Association in the CGA and its committees. The Association shall also conduct this same function with other trade associations, chambers of commerce, boards of trade, and other organizations engaged in similar activities. 1.10 To encourage the education of Association members in the pursuit of underground facility locating in accordance with sound business principles.

1.11 To promote the practical application of scientific and technical knowledge related to the underground facility locating industry for the benefit of public health, safety, and comfort.

1.12 To promote and develop equitable insurance classifications applicable to this industry, including workers' compensation and liability protection.

BYLAW II

MEMBERSHIP

2.1 Membership Classes: Membership in the Association shall be of seven general types: (a) Locating Member (multiple tiers to be determined by the Board) (b) Locating Member/Utility Owner (by state of operation with multiple tiers to be determined by Board) (c) Vendor Member (d) National Associate (e) Honorary (f) One-Call Center (g) Individual. Membership in the Association may be obtained only by majority affirmative action of the Board on written application accompanied by the appropriated dues for the current dues period

2.2 Locating Member: Locating Member shall consist of any person, firm or corporation who locates underground facilities to provide above ground location of these facilities in response to locate requests generated by the owner or operator of the facility, government entity, or a one-call center in accordance with the provisions of the Constitution and Bylaws. Locating Members shall be entitled to vote and hold office.

2.3 Locating Member/Utility Owner: A Utility Locating Member/Utility Owner shall be an underground facility owner who provides above ground location of their facilities in response to locate requests generated by a government entity or a one-call center in accordance with the provisions of the Constitution and Bylaws.

2.4 Vendor Member: A Vendor Member shall be a person, firm or corporation who or which is directly involved in the underground facility locating industry as supplier of equipment, materials, service provider, vertical engineering and design surety, or other stakeholder group as determined by the Board of Directors. Vendor members are eligible to vote on Association matters which come before the Annual Meeting except for those matters determined by the President to be restricted to voting by Locating Members only.

2.5 National Associate Member: A National Associate Member shall be an underground facility owner, but not a Locating member/utility owner, that is concerned with underground damage prevention. National Associate members are eligible to vote on Association matters which come before the Annual Meeting except for those matters determined by the President to be restricted to Locating members.

2.6 Honorary Member: A person who has performed notable service for the Association, industry, or the United States may become an Honorary member of the Association. Honorary members shall be entitled to any of the privileges of membership without the payment of dues but shall not be entitled to vote or hold office. Honorary membership shall be valid until death unless suspended or revoked for good causes by unanimous vote of the Board present and voting at any regularly constituted meeting.

2.7 One-Call Center : A One-Call Center member shall be a call center that processes excavator locate requests and where applicable forwards those requests to contract locators.

2.8 Individual Member: Individuals interested in the underground facility locating industry may apply for individual membership. Individual members may collectively elect one (1) member to the board.

2.9 Admission: Membership may only be confirmed by the board. If a firm is admitted to membership then any other member of such firm may represent the firm at any meeting of members.

2.10 Members' Duties: Each member is obligated to comply with the Articles of Incorporation and the Bylaws and to meet all financial obligations to the Association in the time and manner specified by the Board. Each member is expected to cooperate fully with appropriate officials of the Association with respect to Association matters including official inquiries and requests concerning compliance with the terms of the Articles of Incorporation and the Bylaws of the Association.

2.11 Members' Rights and Privileges: The privileges of membership in this Association includes the right to participate in Association activities, to secure the service provided the Association and to publicize such membership, including the use of the Association's emblem, so long as the emblem is not utilized in a manner that will reflect adversely upon the Association. Contractor members shall be entitled to serve on the Board in accordance with the nominating and election criteria. National Associate members are eligible to vote on Association matters which come before the annual meeting except for those matters determined to be restricted to Contractor members only.

2.12 Designated Representative: If any company or corporate representative shall be elected as an officer or Director of this Association, then the duties of such office shall be performed by the individual so elected and may not be assumed by any other officer or employee of that member company or corporation. Persons authorized to act for a member company or corporation shall be so designated in writing by a person authorized to act for the company or corporation and the last designation of record shall determine company or corporation in the Association.

2.13 Dues and Assessment: The Board is authorized to establish dues payment procedures and penalties where needed. Dues for each fiscal year shall be established by a three-fourths (3/4) vote of those members of the Board.

BYLAW III

TERMINATION OF MEMBERSHIP

3.1 Dues Payment. A member becomes delinquent and is considered to have voluntarily resigned if appropriate dues are not paid within thirty days after the annual due date. A membership interest of a member shall automatically expire if the member fails to pay any dues assessed without further action by the Association within the thirty (30 day period set forth above.

3.2 Membership Resignation Any member of the Association may resign by giving written notice. If a member's dues are not paid the member shall be considered to have voluntarily resigned and relinquished all rights to membership as of the date of non-payment. The resignation, expulsion or suspension of any member shall not cancel any debt owed. A member who has resigned, been expelled or suspended may request a waiver of any debt owed. Such request must be provided in writing to the Treasurer of the Association. Such requests will be reviewed by the Board at the next meeting. The member shall be notified as to the Board's decision within ten days following the meeting. Approval of such requests requires a simple majority vote of the Board members in attendance at a Board meeting.

3.3 Member Expulsion. A member may be expelled by three-quarters (3/4) action of the Board.

3.4 Readmission of Members. A member who has been expelled may not be re-admitted for at least one year and then only upon proof that the member is eligible for membership as a new member.

3.5 Return of Property. On termination of membership the member is obligated to return promptly all properties of the Association.

BYLAW IV

DUES AND ASSESSMENTS

4.1 Dues Structure. The Board is authorized to approve a dues structure for the Association, with one or more categories of dues dues, by action approved by three-fourths (3/4) of the Board..

4.2 Dues Cycle. Dues shall be billed annually. Members admitted during the course of the fiscal year shall pay dues for an entire year.

BYLAW V BOARD OF

DIRECTORS

5.1 Board Composition: The number of directors shall be not less than three (3) but may be more as determined by resolution of the Board.

5.2. Voting Rights: Each director shall be entitled to one vote. There shall be no cumulative voting. Voting may be by remote communication. Remote communication includes electronic communication, conference telephone, video conference, the internet, webinars, use of the Association's, website and any other similar method of conveying information.

5.3 Year of Service: Members of the Board, all of whom must be members of the Association, shall be installed for a period of one year, or until their successor is elected and takes office.

5.4 Past President: The Past President shall continue to hold the position of Past President, so long as he or she (1) remains active in the industry; and (2) until the current President becomes the immediate Past President.

5.5 Removal of Directors: Any Director of the Association may be removed with or without cause at a regular meeting, or a special convention called for the purpose of considering such action by a vote of three-fourths of the members of the Association registered as being in attendance at the meeting.

5.6 Meeting Schedule: The Board shall determine the schedule of meetings for the purpose of attending to the discharge of the duties of their offices.

5.7 Quorum: A simple majority of the members of the Board shall constitute a quorum.

5.8 Written Action: Any action that may be taken at a meeting of the Board may be taken without a meeting when signed by the number of directors that would be required to take the same action at a meeting of the Board at which all directors are present. Between meetings of the Board, any questions may be submitted to the Board for ballot by mail, or any form of remote communication.

5.9 Compensation and Reimbursement : Officers, Directors, Committee Chairmen and Committee members shall not receive any salary for their services. Travel expenses may be reimbursed to those attending meetings or approved in accordance with expense reimbursement policies established by the Board.

5.10 Resignation. A director may resign at any time by giving written notice to the Association. A resignation shall take effect at the time specified in the resignation or upon receipt by the Association if no time is specified. Acceptance of a resignation shall not be necessary to make it effective.

5.11 Vacancies. Any vacancy or newly created position in the Board shall be filled by a vote of the majority of the remaining Directors, though less than a quorum, and each director so chosen shall hold office until the next election and until his or her successor shall be duly elected and qualified.

5.12 Action of the Board. Unless otherwise specified in these Bylaws for

actions requiring 3/4 vote of the entire Board, any board action shall take action by the affirmative

vote of a majority of the directors present at a duly held meeting.

5.13 Waiver of Notice. A director may waive notice of a meeting of the Board. A waiver of notice by a director entitled to notice is effective whether given before, at, or after the meeting, and whether given in writing, orally, or by acceptance. Attendance by a director at a meeting is a waiver of notice of that meeting, unless the director objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened and does not participate in the meeting.

5.14 Special Participation. Members of the Board, or any committee appointed by the Board, may participate in a meeting by means of remote communication. Such participation shall be considered presence in person at such meeting for purposes of notice and quorum requirements.

5.15 Advanced Consent or Opposition. A director may give advance written consent or opposition to a proposal to be acted upon at a Board meeting. Such consent or opposition shall not constitute presence at the meeting for quorum purposes. The proposal acted upon at the meeting must be substantially the same or have substantially the same affect as the proposal to which the director has consented or objected for that consent or objection to be considered effective.

5.16 At-Large, Ex -Officio, Honorary and Advisory Directors. The Board may by resolution designate one or more at-large, honorary, ex officio, or advisory directors who shall have such rights, voting or otherwise, as are conferred by the Board.

5.17 Special Meeting. Special meetings of the Board may be convened by the President or any two (2) Directors.

BYLAW VI

OFFICERS

6.1 Officers. The officers of the Association shall consist of a President, a Vice-President, a Secretary, a Treasurer, and such other officers as may from time to time be determined by the Board.

6.2 President. The President shall serve for a term of one year and shall be the chief executive officer of the Association and at such time as the Board is not meeting shall be charged with the general control and management of the business of the Association and shall perform all duties incident to the office, as well as such additional duties as the Board may direct or prescribe. The President may sign and execute authorized bonds, contracts, checks or other obligations in the name of the Association in accordance with procedures contained in the Articles of Incorporation or the Bylaws or established by the Board. The President shall also keep the Board fully informed and shall freely consult with them concerning the business of the Association and from time to time shall make such recommendations regarding the establishment and implementations of policies germane to the objectives and business of the Association.

The President shall conduct and preside at all meetings of the Board and at all Annual and Special Meetings of the Association.

This Section shall not be construed, however, to prevent the President, during absences from the offices of the Association, from delegating the duties and responsibilities incident to the day-to-day conduct of the Association's business to assistants or other subordinate members of the Association's official staff.

6.3 Vice President. The Vice President shall assist the President in such a manner as they shall see fit so as to become fully acquainted with the duties of those offices. The Vice President shall automatically succeed to the office of President. In the event of the unavailability or the temporary incapacity of the President to act, the Vice President shall act as President.

6.4 Treasurer. The Treasurer shall subject to the direction and under the supervision of the Board, have general charge of the financial affairs of the Association. Checks against or deposits of the Association shall be signed by one of the following officers: President or Treasurer unless otherwise authorized by the Board. The Treasurer shall oversee the collection or have collected all monies from time to time due and owing the Association, including membership dues and assessments and shall have oversight over deposits and disbursements pursuant to the instruction of the Board. The Treasurer shall keep or cause to be kept accurate books of account, which shall be the property of the Association, and he shall render a statement of the financial affairs of the Association to the Board whenever they may require it, and at each Annual Convention of the Association, submit a complete statement of his account as Treasurer, showing all receipts and expenditures for the preceding calendar year. If required by the Board the Treasurer shall give bond for the faithful performance of his duties in such sum, and with such surety or sureties as the Board shall require: the premium for such bond shall be paid by the Association.

6.5 Secretary. The Secretary shall keep or cause to be kept an accurate record of the proceedings of all meetings of the members of the Association and of the Board in books belonging to the Association, which books shall be open at all reasonable times to the inspection of any member of the Association. The Secretary shall issue or cause to be issued all notices of the meetings of the Association and of the Board and all other required notices. In the event of the Secretary's absence from any meeting a Secretary pro tempore may be appointed by the President or the presiding officer.

6.6 Removal. Any officer of the Association may be removed with or without cause at any time by vote of three-fourths of the Directors present at a meeting and any officer shall simultaneously cease to hold office as Director. The Executive Director is not entitled to the benefit of this procedure.

BYLAW VII

ELECTION OF OFFICERS AND DIRECTORS

7.1 Board Composition. The Board shall consist of the immediate Past President who remain active in the industry, all current officers, two Locating Members, two National Associate members, two at-large directors, one Individual Member, and two ex-officio members.

7.2 Succession of Office. The Vice President shall automatically succeed to the office of President at the convention following election as Vice President.

7.3 Term of Office. The elected officers of the Association, and Directors who have been duly appointed to vacancies shall hold office until their respective successors have been duly qualified and elected. In case of temporary absence or disability of any officer other than a Director, the Board may appoint a person to perform the duties of such officer during such absence or disability. In case a vacancy shall occur in any office of

the Association from any cause, the Board shall appoint a person to perform the duties incident to the office until the same shall be filled by election by the members at the next Annual Meeting or at a special meeting called for that purpose.

BYLAW VIII

COMMITTEES

8.1 **Committee Structure** Committees other than those which are specifically established in these Bylaws may be established by the Board. The Board shall confer such powers as they may deem necessary.

8.2 **Standing Committees** There shall be established if so determined by resolution of the Board one or more of the following standing committees:

(a) **Membership Committee.** This committee, composed of no less than three members, shall have jurisdiction over the development of membership in the Association and accordingly it shall review and make recommendations with respect to all matters relating to membership in the Association, such as, the appropriateness of classifications held by members and all other matters relating to the acquisition and retention of membership in this Association.

(b) **Executive Committee.** This Committee may in its discretion, delegate to such committee the power to receive and to pass all applications for membership, to make rules governing applications for membership, and to change, alter, or amend such rules from time to time as the business of the Association may require.

(c) **Finance Committee.** This committee, composed of no less than three members, shall have jurisdiction over the financial condition and requirements of the Association and shall keep the Board posted thereon, shall have review jurisdiction over the collection and disbursement of funds, and, in addition, review operation of the budget. This committee is authorized to make an orderly review of Association expenditures to ascertain whether they are within budget. It is within the jurisdiction of this committee to retain a Certified Public Accountant to audit the accounts of the Association for each year.

BYLAW IX

AMENDMENTS

9.1 **Amendment Process** . These Bylaws may be restated, amended, altered or replaced and new Bylaws may be adopted by affirmative vote of three-fourths (3/4) of the Board of Directors. Upon approval of any amendment or modification to these Bylaws, the Association shall notify the members by remoter communication of the change or post the changes or the revised Bylaws on its website.

Amended 4-17-09 Board Meeting

