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# Web Meeting

## December 20, 2011

### Proposed Minnesota Rule 7560.0100

#### **Subpart 13. Machine-Powered equipment of any kind.**

Means any mechanical device including simple machines and tools that provides a mechanical advantage, when used for the purpose of moving, removing, or otherwise disturbing the earth, (except for the statutorily required activities associated with marking, locating and pot holing **after a one call notice has been made**) and is capable of damaging an underground facility.



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# What is a “Rule”

- An administrative rule is a general statement adopted by an agency to make the law it enforces or administers more specific or to govern the agency's organization or procedure.

reference:

<https://www.revisor.mn.gov/rules/?view=info>





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# MNOPS Pipeline Authority

## General

49 U.S.C. 60501(a) delegates authority to administer and enforce pipeline safety regulations to state agencies that meet its criteria, which includes adoption of 49 CFR Part 192 (pipeline safety regulations). The Minnesota Office of Pipeline Safety (MNOPS) is authorized to inspect, investigate, determine compliance with and enforce pipeline safety standards (including 49 CFR Part 192) for intrastate gas pipelines within Minnesota (Minnesota Statutes 299F.56-641). MNOPS federal certification records are available at the Minnesota Legislative Reference Library. MNOPS has day-to-day responsibility for enforcing and administering federal pipeline safety regulations.

## Minnesota Supreme Court

49 CFR Part 192 contains some clear but many ambiguous standards. Pipeline safety regulations are technically complex. In situations where 49CFR Part 192 is clear, the Minnesota Supreme Court determined that agencies, such as MNOPS, may not interpret the regulation; however, where 49 CFR Part 192 “is unclear and susceptible to different reasonable interpretations”, “if the court determines that the agency’s interpretation is reasonable, then the court should generally defer to the agency’s interpretation”.





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# Current Definition

## Subdivision 5 - Excavation.

"Excavation" means an activity that moves, removes, or otherwise disturbs the soil by use of a motor, engine, hydraulic or pneumatically powered tool, **or machine-powered equipment of any kind, or by explosives.**

Excavation does not include:

- (1) the extraction of minerals;
- (2) the opening of a grave in a cemetery;
- (3) normal maintenance of roads and streets if the maintenance does not change the original grade and does not involve the road ditch;
- (4) plowing, cultivating, planting, harvesting, and similar operations in connection with growing crops, trees, and shrubs, unless any of these activities disturbs the soil to a depth of 18 inches or more;
- (5) gardening unless it disturbs the soil to a depth of 12 inches or more; or
- (6) planting of windbreaks, shelterbelts, and tree plantations, unless any of these activities disturbs the soil to a depth of 18 inches or more.



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# Simple machine

Wikipedia Dictionary:

A simple machine is a mechanical device that changes the direction or magnitude of a force. In general, they can be defined as the simplest mechanisms that use mechanical advantage (also called leverage) to multiply force. A simple machine uses a single applied force to do work against a single load force. Ignoring friction losses, the work done on the load is equal to the work done by the applied force. They can be used to increase the amount of the output force, at the cost of a proportional decrease in the distance moved by the load. The ratio of the output to the input force is called the mechanical advantage.

Usually the term refers to the six classical simple machines which were defined by Renaissance scientists:[4]

Lever

Wheel and axle

Pulley

Inclined plane

Wedge

Screw





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# Activities In Question:

- Shovels
- Tent stakes
- Anchor bolts
- Form pins
- Metal probes
- Survey stakes
- Hand augers
- Signs (political, real estate, etc)
- Other objects that have sharp ends capable of damaging an underground facility





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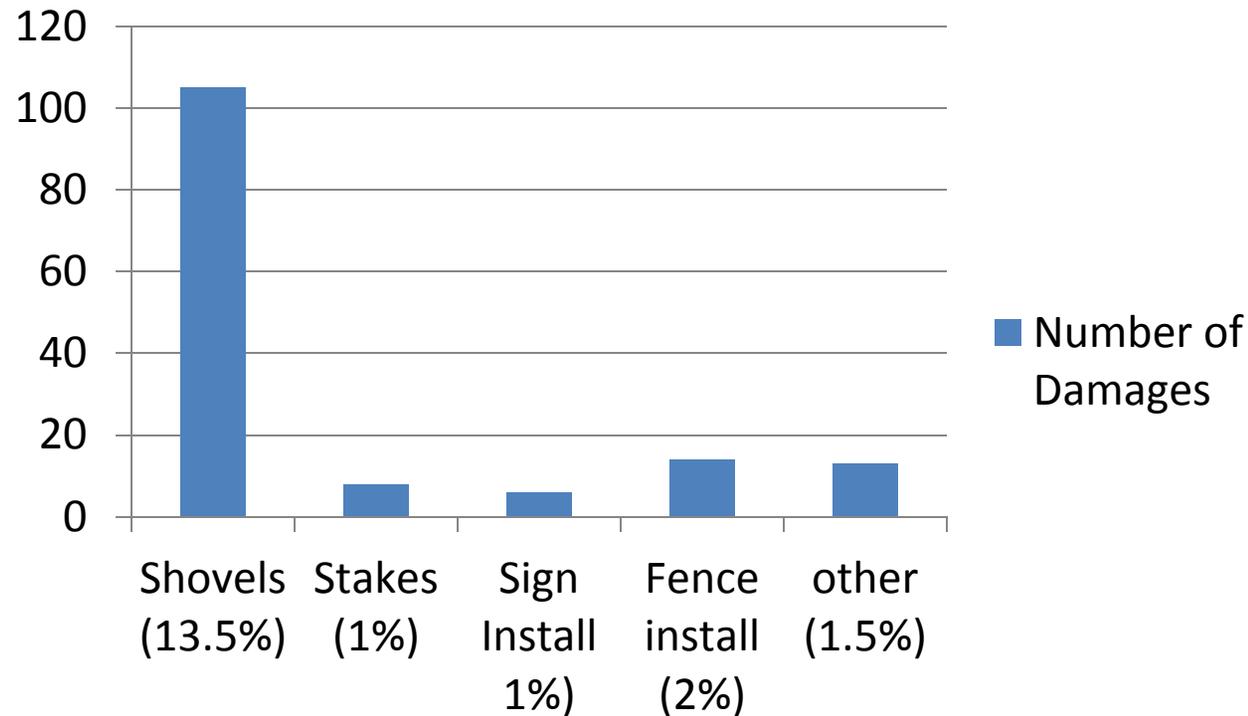
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# How Big is this Issue?

- Facility Type: Natural Gas
- Analysis Period: 2011 Reported Data
- Scope of Analysis: 775 Damages (only the damages known and reported)
- 19% of all reported gas damages due to hand tools

## Number of Damages





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# How Big is this Issue?

- Facility Type: Communications
- Analysis: 2011 reported data
- Scope of Analysis: 100 damages
- 24% of the damages were due to shovels





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# Definition of Excavation: Neighboring States



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# WISCONSIN (no exemptions)

“Excavation” means any operation in which earth, rock or other material in or on the ground is moved, removed or otherwise displaced **by means of any tools, equipment or explosives** and includes grading, trenching, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing and driving and means any operation by which a structure or mass of material is wrecked, razed, rended, moved or removed.



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# North Dakota

- "Excavation" means any operation in which earth, rock, or other materials in or below the ground is moved or otherwise displaced **by means of hand or power tools, power equipment, or explosives** and includes grading, trenching, digging, ditching, drilling, augering, tunneling, boring, scraping, and cable or pipe plowing and driving.

The term does not include:

- a. Opening a grave in a cemetery.
- b. Plowing, cultivating, planting, harvesting, and similar operations in connection with agricultural activities, unless any of these activities disturbs the soil to a depth of eighteen inches [45.72 centimeters] or more.
- c. Gardening and landscaping unless it disturbs the soil to a depth of twelve inches [30.48 centimeters] or more.
- d. Normal maintenance of roads and streets if the maintenance does not change the original grade and does not involve the road ditch.
- e. Normal repair and maintenance of track and track bed by a railroad on its own right of way.



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# South Dakota

- "Excavation," any operation in which earth, rock, or other material in or below the ground is moved or otherwise displaced **by means of tools, equipment, or explosives**, and includes grading, trenching, digging, ditching, drilling, augering, tunneling, scraping, and cable or pipe plowing or driving,
- Except from the definition:
  - (a) Tilling of soil and gardening to a depth of twelve inches and the tilling of soil for agricultural purposes to a depth of eighteen inches;
  - (b) Pot hole repair and grading of an existing public road if the pot hole repair and grading does not extend more than eighteen inches below the finished roadway;
  - (c) **Any vehicle operation or operation involving the use of any hand tool, other than a power tool, so long as such operation does not extend more than eighteen inches below the surface of the groundline within the right-of-way;**
  - (d) Any road and ditch repair or road and ditch activity that does not extend more than eighteen inches below the surface of the original groundline within the right-of-way;
  - (e) Digging in a cemetery;
  - (f) Digging in a planned sanitary landfill;
  - (g) Any bar test survey deemed necessary by an operator in response to a suspected natural gas, propane, or other combustible liquid or gas leak that is necessary to ensure public safety in an emergency



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# Iowa

- 4. *"Excavation"* means an operation in which a structure or earth, rock, or other material in or on the ground is moved, removed, or compressed, or otherwise displaced **by means of any tools, equipment, or explosives** and includes, but is not limited to, grading, trenching, tiling, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing, driving, and demolition of structures.

### *Exceptions:*

- 1) normal farming operations,
- 2) residential, commercial, or similar gardening,
- 3) the opening of a grave site in a cemetery,
- 4) normal activities involved in land surveying pursuant to chapter 542B, operations in a solid waste disposal site which has planned for underground facilities,
- 5) the replacement of an existing traffic sign at its current location and at no more than its current depth,
- 6) normal road or highway maintenance which does not change the original grade of the roadway or the ditch.



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# Definition of Excavation: Other States



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# Nebraska

- Excavation (Dig) Any activity in which earth, rock or other material in or on the ground is moved or otherwise displaced **by means of tools, equipment or explosives**; includes grading, trenching, digging, ditching, drilling, augering, tunneling, scraping and cable or pipe plowing;  
Does not include:
  - 1) normal road maintenance not involving road ditch or changing grade of road,
  - 2) tilling of soil and gardening for seeding and agricultural purposes,
  - 3) digging graves or landfills in planned locations,
  - 4) railroad tract maintenance which does not change grade,
  - 5) hand-digging around base of power pole for inspection or replacement so long as hole is not made larger.



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# Kansas

- “Excavation” means any operation in which earth, rock or other material below the surface is moved or otherwise displaced **by any means,** exceptions: tilling the soil for normal agricultural purposes, or railroad or road and ditch maintenance that does not change the existing railroad grade, road grade and/or ditch flowline, or operations related to exploration and production of crude oil or natural gas, or both.



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# Wyoming

- (iii) "Excavation" or "excavates" means any operation in which earth, rock or other materials on or below the ground is moved or otherwise displaced **by means of hand or power tools**, power equipment or explosives or other means, and includes grading, trenching, digging, ditching, drilling, augering, tunneling, boring, plowing-in, pulling-in, ripping, scraping and cable or pipe installing, except tilling of soil and gardening or agricultural purposes.



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# Montana

- "Excavation" means an operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced **by means or use of any tools, equipment, or explosives**. The term includes but is not limited to grading, trenching, digging, ditching, drilling, augering, tunneling, scraping, and cable or pipe plowing and driving.
- Excavation does not include surface road grading maintenance or road or ditch maintenance that does not change the original road or ditch grade or flow line.



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# Illinois

- Excavation. "Excavation" means any operation in which earth, rock, or other material in or on the ground is moved, removed, or otherwise displaced by means of any tools, power equipment or explosives, and includes, without limitation, grading, trenching, digging, ditching, drilling, augering, boring, tunneling, scraping, cable or pipe plowing, and driving **but does not include farm tillage operations or railroad right-of-way maintenance or operations or coal mining operations regulated under the Federal Surface Mining Control and Reclamation Act of 1977 or any State law or rules or regulations adopted under the federal statute, or land surveying operations as defined in the Illinois Professional Land Surveyor Act of 1989 when not using power equipment, or roadway surface milling.**



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# California

- "Excavation" means any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by **means of tools, equipment, or explosives** in any of the following ways: grading, trenching, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing and driving, or any other way.





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# Damaged Facility Reporting

- Under the current excavation law in Minnesota, If an underground facility gets damaged (including nicked coating) as the result of a hand tool, it may not be reported since it is not considered “excavation” and does not fall within the scope of MS216D.





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# No Locate Reporting Discussion

- 2010 – 16% of all MN reported damages to underground facilities occurred as the result of no locate request. (2<sup>nd</sup> highest cause)
- Minnesota - hand tools are not considered “excavations”
- Hand tool damages typically reported as “Damage by Hand Dig” (13% in 2010).
- Nationally – No locate damages = 32% but the majority of the States include hand tools as “excavations”.



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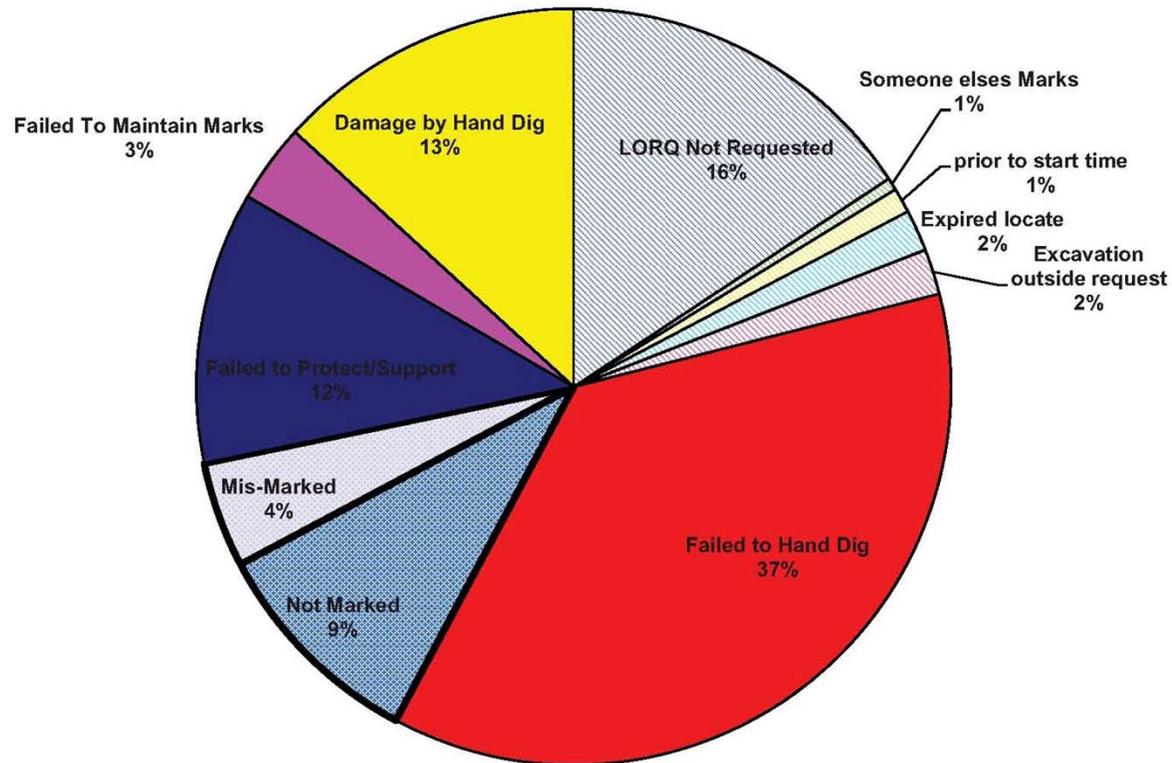
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# 2010 Reported Damages in MN

2010 Damages by Cause - All Utilities





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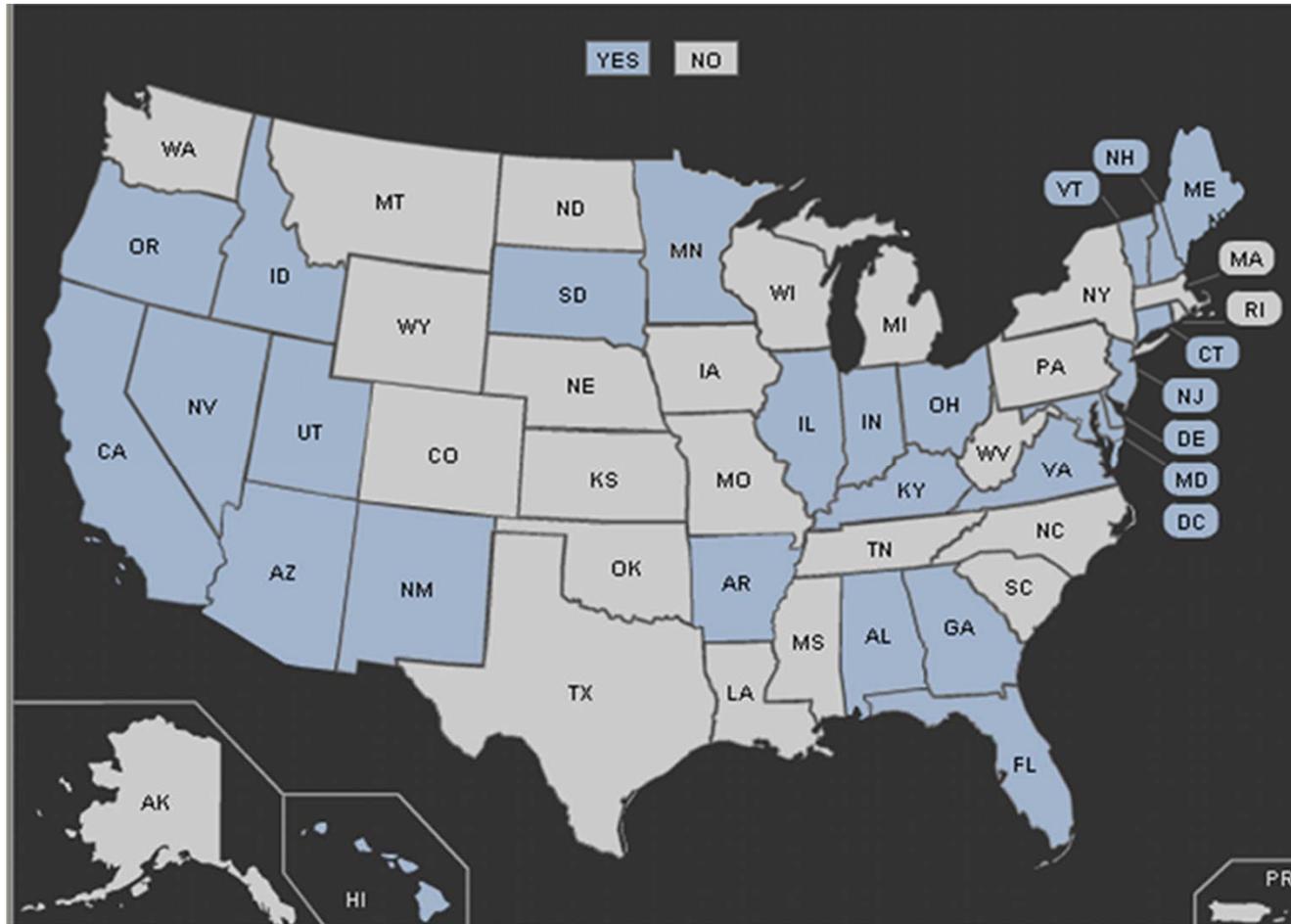
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# State that require Hand Dig/Vacuum Excavation within tolerance zone



Information courtesy of PHMSA





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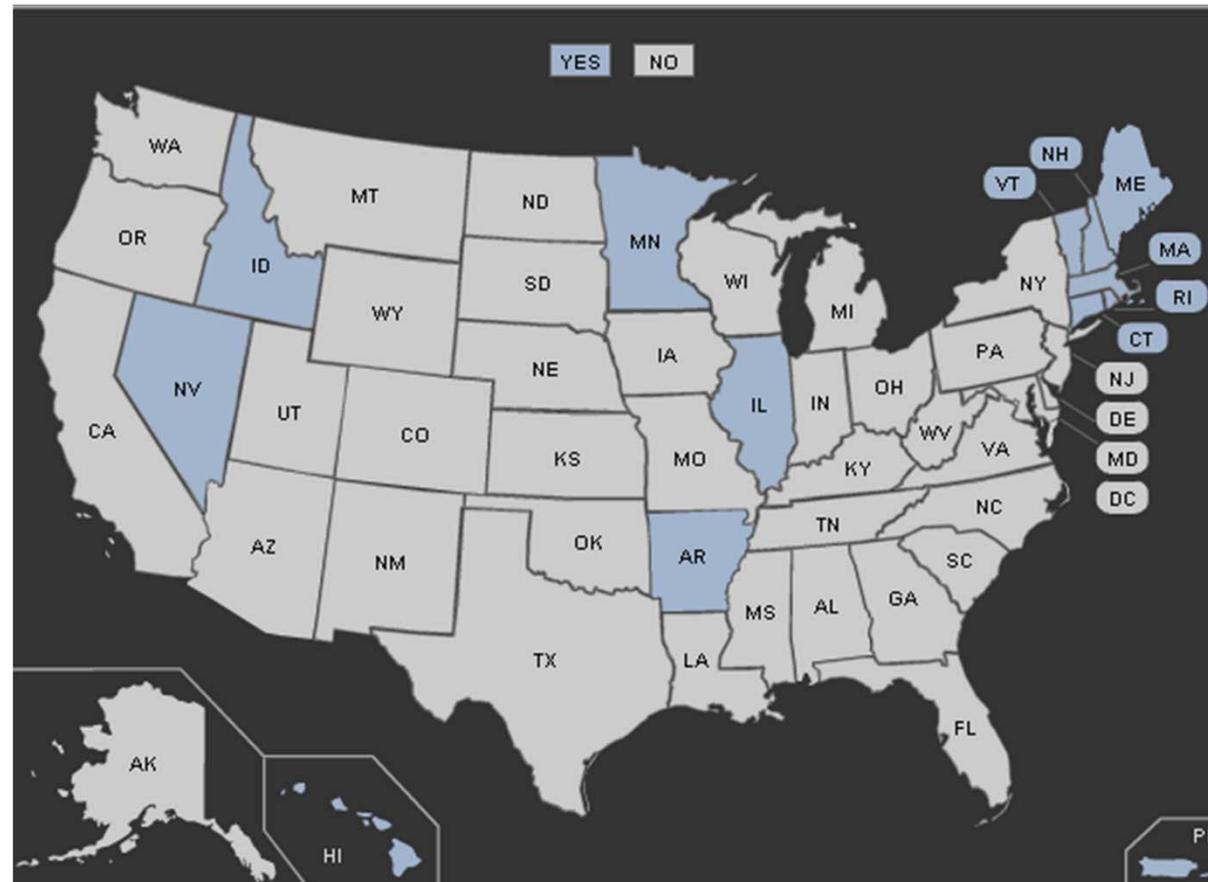
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# States that require excavator to white mark their proposed excavation



Information courtesy of PHMSA

