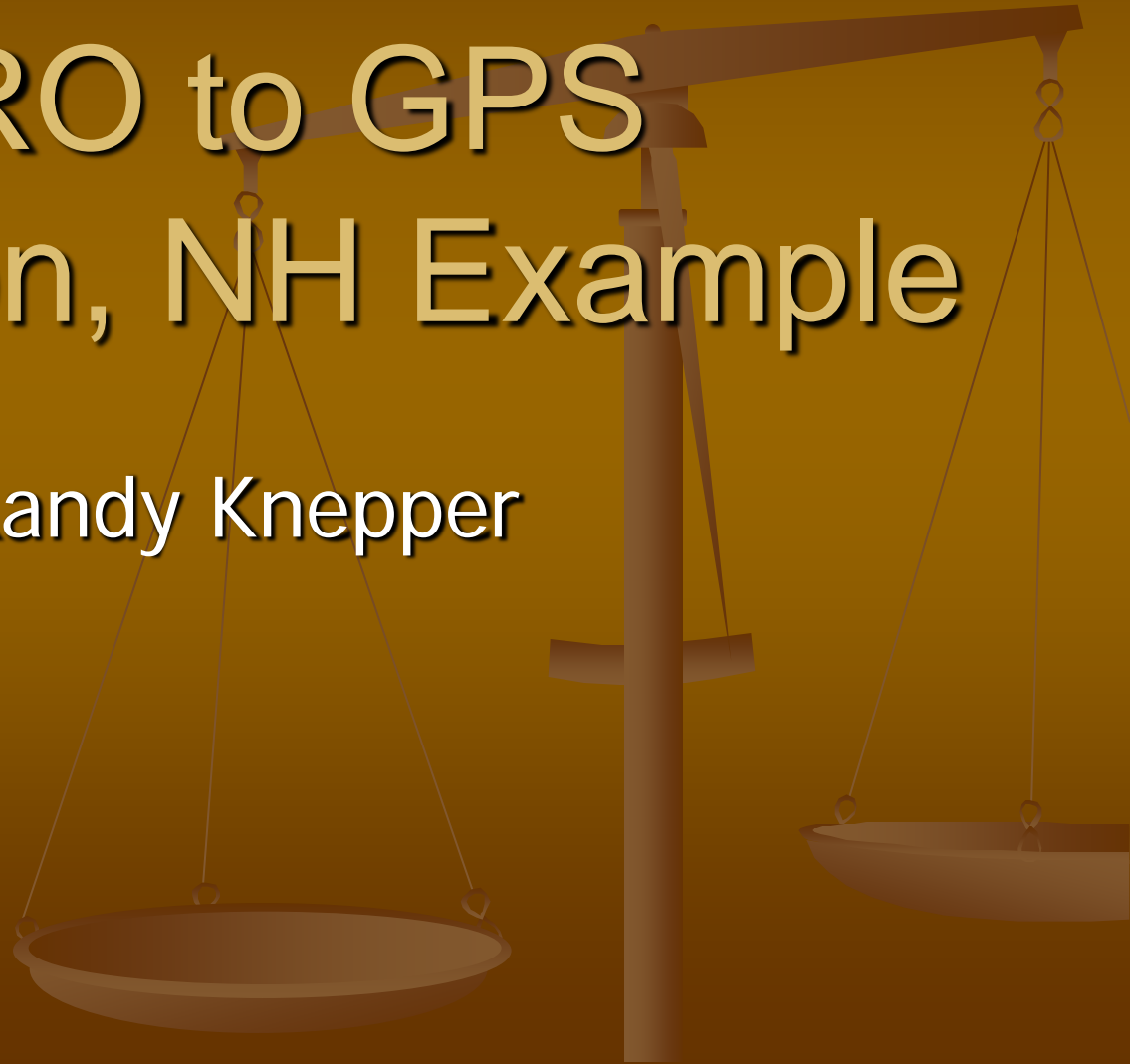


INTRO to GPS

Discussion, NH Example

By Randy Knepper



NH PUC GPS Requirements Of Liberty

Each **Critical Valve** installed on a main shall be in an accessible location and its Global Positioning System (GPS) coordinates and/or triangulation ties shall be marked and **maintained on a pipeline system drawing or other suitable media**. The GPS collection system shall meet the requirements described in the next slides. Current maps should be easily accessible to operating personnel.

NH PUC GPS Requirements Of Liberty

1) Submit a plan for incorporating GPS into GIS
- due Jan 2013

- The GPS Plan will include project management details sufficient to establish base schedules, project milestones, budget expenditures and details of technology selected and integration with systems

NH PUC GPS Requirements Of Liberty

2) Collection of data types including but not limited to locations involving mains; services; other gas facilities; intersections of mains with service lines; **any point of directional change; exposed or new crossings of other utility,** municipal, or other underground facilities and system infrastructure.

NH PUC GPS Requirements Of Liberty

3) GPS locations shall be recorded at any vertical offsets in elevation of a pipeline including any appurtenances that may extend from a pipeline including valve stems, tapping tees, service stubs and blowoffs. GPS data collection shall be at intervals along a pipeline sufficient to achieve geospatial accuracy

NH PUC GPS Requirements Of Liberty

3) Description of the methods by which GPS data will be collected and incorporated into and available for design, planning, integrity management review and field operations, including field repairs, locating/mark-outs and emergency.

4) Description of the methods in which photo documentation or other visual imaging methods will be linked to facility records.

NH PUC GPS Requirements Of Liberty

3) Description of the methods by which GPS data will be collected and incorporated into and available for design, planning, integrity management review and field operations, including field repairs, locating/mark-outs and emergency.

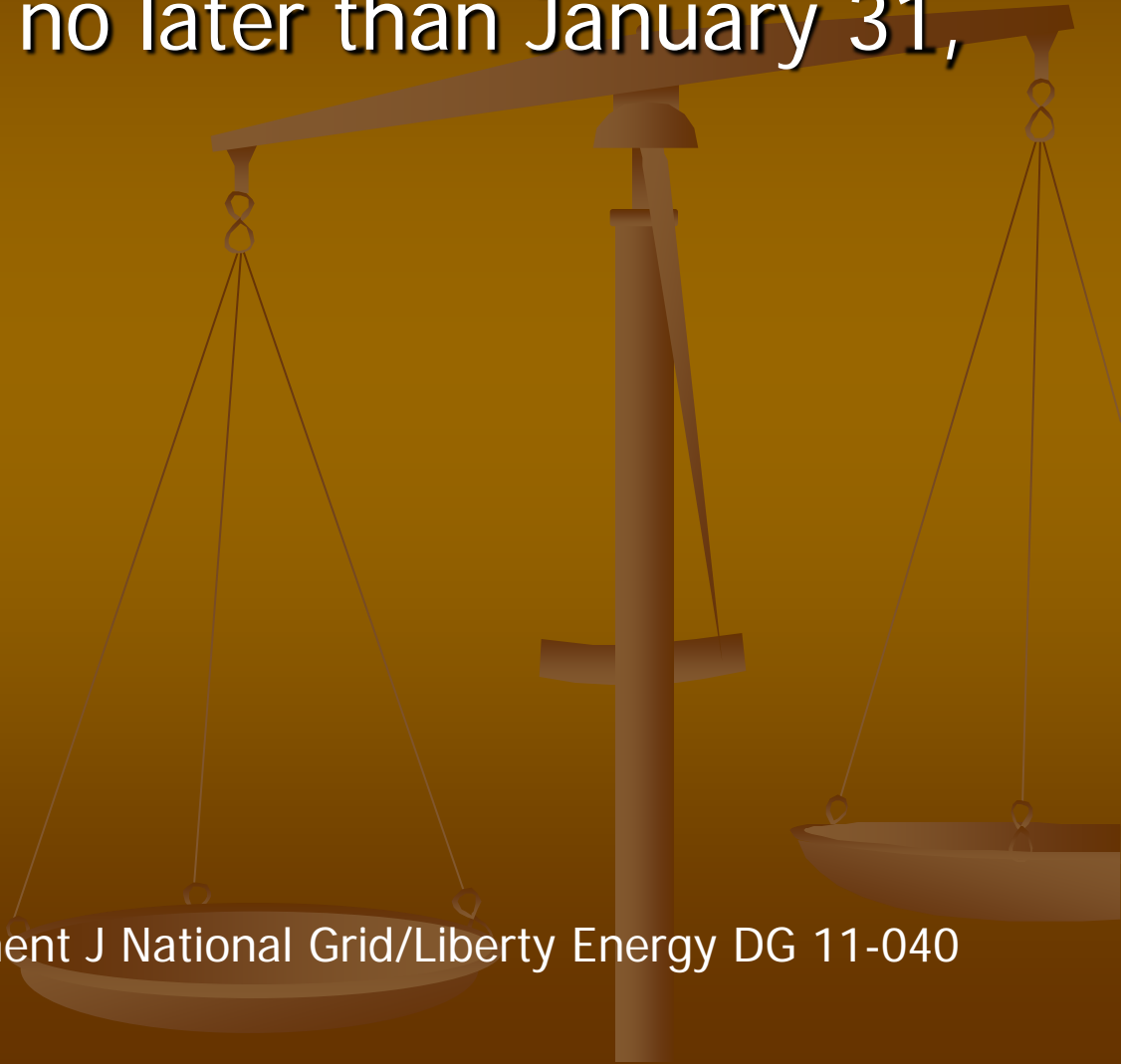
4) Description of the methods in which photo documentation or other visual imaging methods will be linked to facility records.

NH PUC GPS Requirements Of Liberty

5) Liberty shall implement a GPS collection system by July 01, 2013. Immediately upon implementation of the system, data shall be collected regarding the location of all Critical Valves; **newly installed** underground facilities, **newly relocated** underground facilities (including insertions); and **any exposed underground facilities**

NH PUC GPS Requirements Of Liberty

6) All GPS data collected for Critical Valves be integrated with GIS no later than January 31, 2014



ME PUC GPS Requirements for Natural Gas Utilities

1) Each natural gas utility shall provide global positioning system (GPS) coordinate identifiers, referenced to the North American Datum of 1983, for the location of all facilities installed after January 1, 2012.

ME PUC GPS Requirements for Natural Gas Utilities

2) Coordinates for existing facilities shall be recorded whenever an underground facility is exposed, but coordinates for all existing critical valves shall be obtained by January 1, 2013, whether or not they have been exposed or accessed for other reasons.

ME PUC GPS Requirements for Natural Gas Utilities

3) GPS location data for new facilities shall be obtained for critical valves, at intersections with service lines, main or other gas facilities, at any point of directional change and at intervals along a pipeline sufficient to achieve geospatial accuracy.