

Record Keeping
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Appalachian Underground Corrosion Short Course

Records Must Be Kept

- They must be **Complete**
- They must be **Accurate**
- They must be **Accessible**



“A short pencil is better than a long memory”

COMPLETENESS

(use forms)

- Identify the location of test or operation
- Date
- Names of participants
- Detail description of test or operation

ACCURACY



- Use “as built” prints
- Measure location of stations and other corrosion control facilities

ACCESSIBILITY (Retrieval System)

- Manual Filing System
- Computerized Filing System

SUMMARY REPORTS FOR MANAGEMENT

- Analysis of any leaks
- Level of cathodic protection
- Summary of developing problem areas
- Recommendations of required action



TYPES OF RECORDS

- Structures Physical Information
- Corrosion Records
- Corrosion Control Records



PHYSICAL INFORMATION

- Installation Date
 - Structure Information
 - Structure “as built” Drawings or Maps
 - Protective Coatings
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IN THE CASE OF PIPELINES

- **Pipeline Diameter**
- **Wall Thickness, Grade, Weight per Foot**
- **Location of Cased Crossings**
- **Construction Type**
- **Location of Branch Taps**
- **Location of Insulated Joints**
- **Location of Underground Structures**

- Operating Temperatures



- Location of Paralleling HV Power Lines

- Location of Stray Current

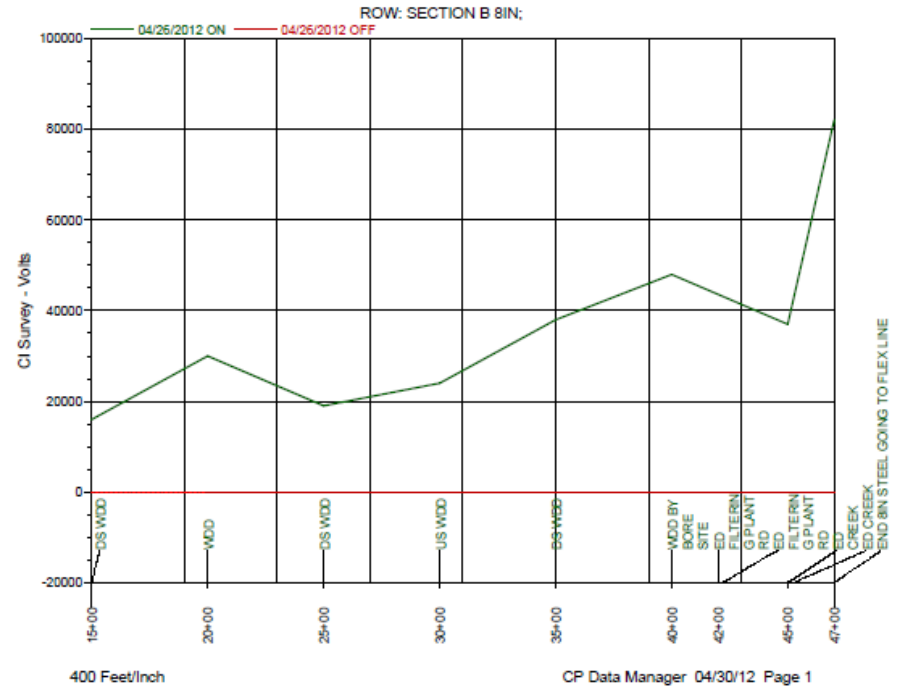
- Pipeline Alignment Sheets

CORROSION RECORDS

- Pipeline Inspection Reports that show the condition of the pipe surface and pipe coating
- Leak Reports
- Leak Repair Reports



CORROSION CONTROL RECORDS



- Soil Resistivity
- Pipe Coating Resistance
- Current Requirement Tests
- CP Site selection Survey
- Design Calculations & Drawings of CP Unit Installations

- Energization & Adjustments of CP Unit Installations
- Interference Test
- Stray Current Surveys
- Mitigation to Offset Stray Current
- Testing for Induced AC Voltage
- Design Calculations & Drawings to Mitigate AC Induced Voltage



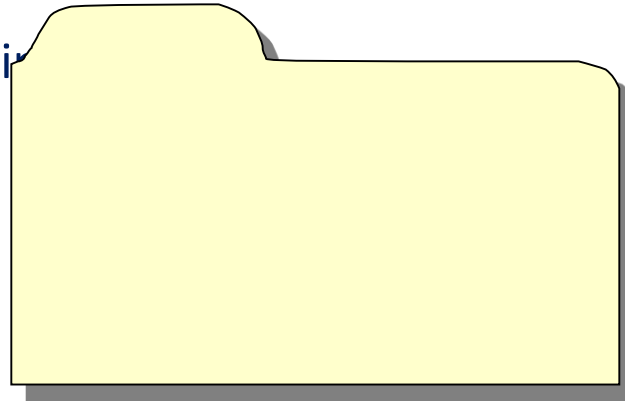
- Pipe to Soil Potential Surveys
- Rectifier Periodic Test
- Periodic Interference Bond Test
- Periodic Stray Current Test
- Periodic Test of Coupons

REGULATIONS

- Federal Pipeline Safety Regulations
- State Pipeline Safety Regulations

FEDERAL RECORD KEEPING REQUIREMENTS

- Report of Leaks
- Leak Repairs
- Pipe Inspections that Include the Following Information;
- Pipe Corrosion
- Coating Condition
- Internal Inspection
- Record Retention Time
- Periodic Exam of Coupons
- Location of CP Facilities Including
- Pipe Under CP
- CP Facilities
- Structures Bonded to CP
- Record Retention Time



TESTS, SURVEYS & INSPECTIONS

Five Year Requirement

- Soil Resistivity Tests
- Bacterial Activity Tests
- Pipe to Soil Measurements
- pH Measurements
- CP Current Requirements
- Leak Detection Surveys
- Coating Inspections
- CP Adequacy Tests
- Periodic Rectifier Tests
- Periodic Stray Current Tests
- Re-Evaluation of Unprotected Pipe
- Periodic Inspections of Internal Corrosion Tests
- Atmospheric Corrosion Tests



Lifetime Record Requirement

- Periodic CP adequacy tests for natural gas and liquid pipelines 192.465(a)
- Reevaluation of unprotected pipelines required in 192.465(e)
- Maps or records showing the location of all cathodically protected pipe and facilities.
- Evaluations of pipe removed from service for internal corrosion and results. 192.475(b)

KEEP IN MIND

- Federal Pipeline Safety Regulations are the minimum requirements
- State Regulations could have supplementary requirements
- Regulations differ for different facility types
- Regulations are subject to revisions



COMPUTERIZED RECORDS

- Rapid accessibility of data
- Plotting capabilities
- CP installation drawings in electronic storage form
- Rapid data sorting & searching
- Recall data on terminal screen
- Freedom from loss

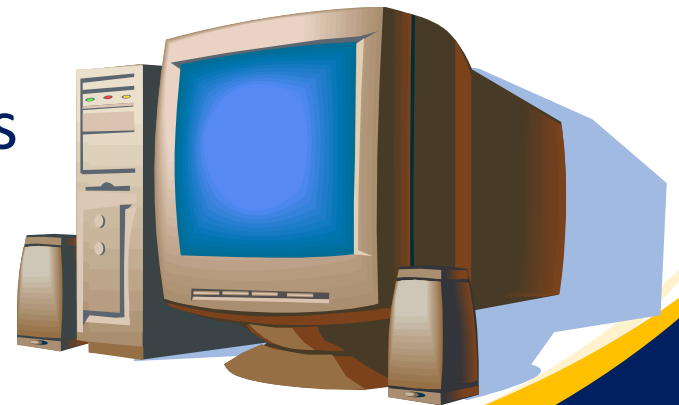


FIELD DATA SHEETS

- Uniformity (standard information)
- Protection against missing data

CONCLUSION

- No two record systems are alike
- A record system must be planned to meet the needs of the user
- Take time to thoroughly study the following;
- The underground system
- Future expansions of systems



- Management information requirements
- Federal & state requirements
- Cost of each record system
- System maintenance requirements
- Availability & compatibility of computer facilities



Questions?

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