Managing Evidence of Compliance

SGA Conference

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Crafting Solutions for the Natural Gas Industry

GTS - Our Work

GTS understands the challenges facing utility managers. We believe that every client, and more importantly, every project is unique. To help you achieve your objectives, GTS is customized to you and your business challenges. Below is a short list of our services

ENGINEERING

- MAOP Validation
- Hydrostatic Test Engineering
- IM Engineering & Support
- ILI Retrofit Design
- Pipeline Engineering
- Station Engineering
- Distribution Engineering

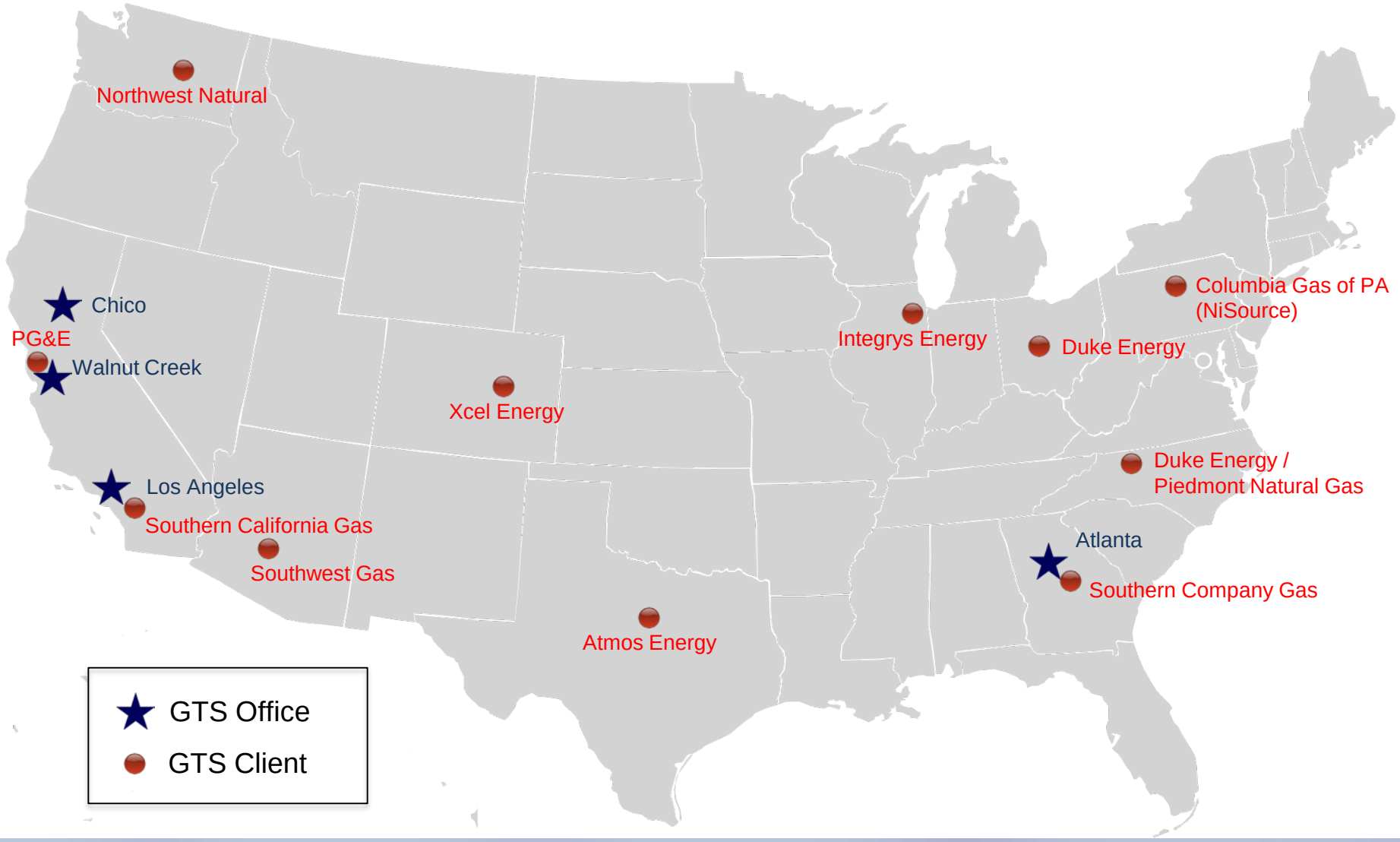
CONSULTING SERVICES

- Regulatory Compliance Support
- Data Validation & Management Support
- Process Review & Improvement
- Standards & Procedures Development

PROGRAM & PROJECT MANAGEMENT

- IMP Assessment
- Asset Knowledge Acquisition Programs
- Traditional & Non-Traditional ILI Coordination

GTS Footprint



GTS Experience

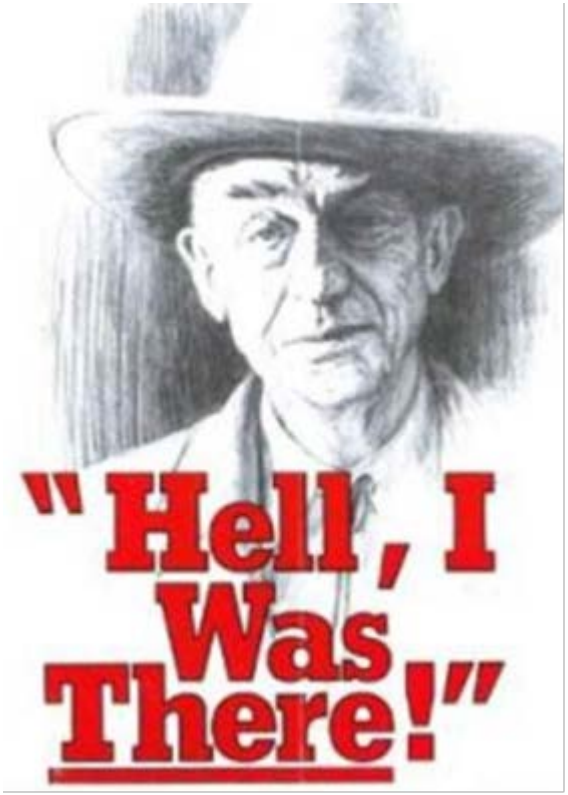
- Many years of experience at all levels, as an operator
- Consultants that act as operators – we have been in those shoes
- First hand experience with the 2010 San Bruno Incident
  - Assisted in investigation for the operator
  - MAOP Validation
  - Test vs. Replace Analysis – incorporating pipeline cycling
    - ✓ In-situ hydrostatic test designs (with spike tests)
    - ✓ Replacement design
  - Design of Modern System-of-Record (i.e. enhanced GIS)
    - ✓ Feature Based GIS
    - ✓ MAOP Calculator in GIS
    - ✓ Records access through GIS

Need for Accurate Records

Traceable, Verifiable & Complete

Background – how'd we get here…

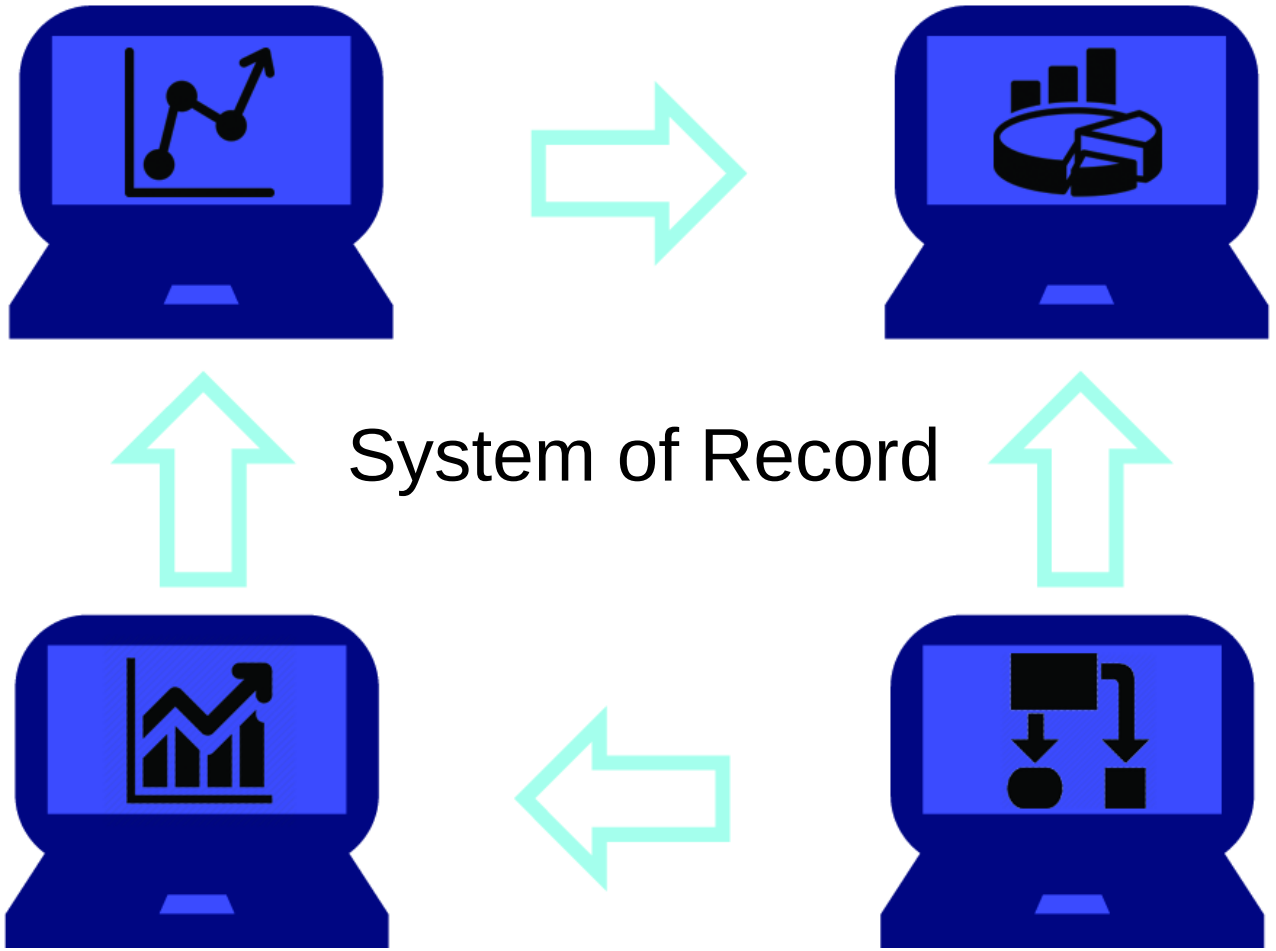
- September 9, 2010 – Pipeline Failure in San Bruno, CA
- NTSB Recommendation P-10-2
  - Records review @ component level (i.e. Pipeline Features Build)
- Follow-on Actions
  - Dig programs – Asset Knowledge acquisition
  - Solutions – Test or Replace
  - GIS as System of Record



NPRM Records Requirements

- Records requirements are proposed to be in non-retroactive and retroactive sections of the code
  - ✓ You will have to know what your in-situ assets are made of and how they were constructed and tested
- Material traceability
- Physical asset knowledge requirements are essentially the same: OD, WT, SMYS, Seam type, etc.
- Some certification data has remained the same (e.g. strength test data requirements)
- Method of construction of assets
- Certification of constructors

System of Record



System of Record

Definition

A **system of record** (SOR) or source **system of record**(SSoR) is a data management term for an information storage **system** (commonly implemented on a computer **system** running a database management **system**) that is the **authoritative** data source for a given data element or piece of information.

In Other Words

The place where you go to get the truth.

System of Record

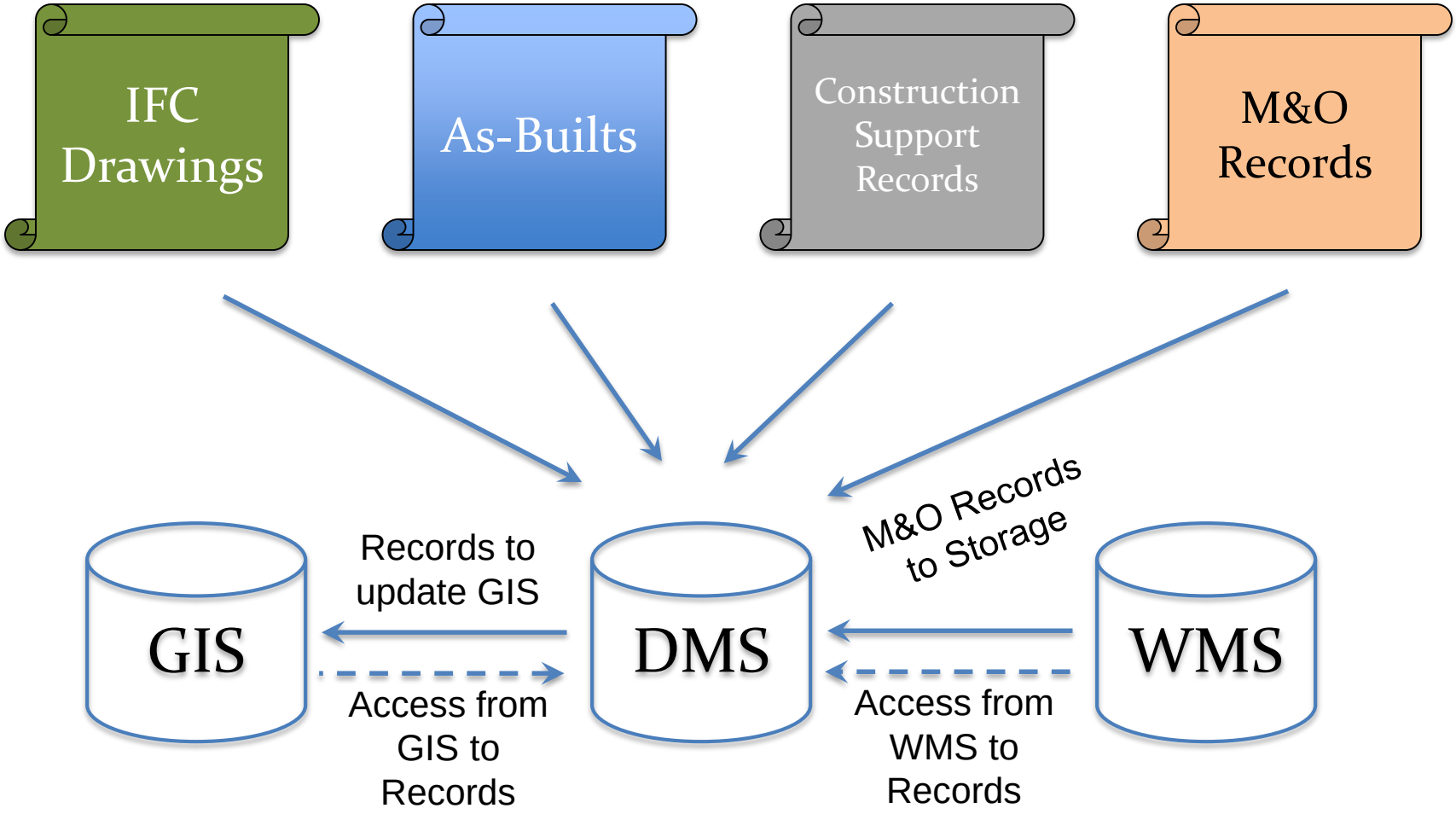
For Pipeline Assets that are in operation, the SOR is:

- ❑ Pipeline Plan & Profile Sheets
- ❑ Pipeline Plat Sheets
- ❑ Geospatial Information System (GIS)
- ❑ As-built record filing system
- ❑ Annotated Atlas Maps

History of GIS Implementations

- Secondary Records data/information to GIS
  - Picked best secondary records that would have the most data/information
  - When best record was not available, the next best record was used
  - Contradicting data/information may have been corrected or not
  - SMEs utilized as needed
- Centerlines established in most likely locations

Modern SORs



Modern SORs – Sources of the Truth

- Location of assets
- Select asset attributes

- Records of assets
- Asset attributes

- What was found on the asset
- What was done to the asset

Generally Accepted Recordkeeping Principles

1. Accountability
2. Integrity
3. Protection
4. Compliance
5. Availability
6. Retention
7. Disposition
8. Transparency

Performance Maturity Spectrum

Level 1 Sub-standard	Level 2 In Development	Level 3 Essential	Level 4 Proactive	Level 5 Transformational