



# PODS<sup>TM</sup>

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Pipeline Open Data Standard  
2011 USER CONFERENCE

**NOVA Chemicals Database  
Management**  
October 12<sup>th</sup>, 2011  
Sugarland, Texas



- NOVA Chemicals operates ~2,200 kms of ethane and ethylene transmission pipelines across two UTM zones in western Canada.
- In 2009 NOVA Chemicals Pipeline Integrity group re-evaluated the need for a GIS spatial database management system.
- NOVA Research and Technology was brought in to assist this process.
- This is our story.....

# The History

- In 2005 our pipeline assets increased from 170 km to 2200 kms when NOVA Chemicals acquired the ethane gathering system from BP.
- Data was being housed in a number of different databases however they were not integrated or optimized.
- New data was being entered as ILI runs were completed however the analysis and dig programs were being developed outside of the PODS environment.

# The Transition

- In choosing a new GIS database vendor we targeted these key criteria;
  - User friendly, rapid implementation, reduced license costs and manageable maintenance costs.
- We wanted to maintain a PODS data format in a Microsoft.NET environment.
- We chose Cylo Technologies to develop a new 3D spatial database application in the PODS environment.

# The Progression

- PODS 5.0 database installed and configured on SQL Server 2008.
- Historical SDE data converted to spatial Geometry.
- 3D surface profiles incorporated into system
  - Move beyond dynamic segmentation and M values
- Extended PODS tables to support SQL Geometry data
- Developed ILI Management Dashboard.
- Modified B31G (.85dL) Burst Pressure calculations.
- SCC, foreign crossings and hydrology data inputted.

# The Achievements

- Loading and managing unfiltered historic ILI data
- Comprehensive historic NDE “in the ditch” data from excavations
- Knowing where anomalies are...locating defects “bang on”
- Millimeter Level Defect, cluster and group matching
- Utilizing NDE contractor SmartPipe Laser surface scans
- API RP1163 full data lifecycle reporting
- Virtual Earth Satellite mapping with street map capability to display data
- Super cluster aka Distance Relation process of ILI run PODS DB program routine
- Reduced time from ILI analysis to instigating a dig program
- Pipe joint by joint analysis
  - Coating assessment ..
  - Test track concept...

# The Challenges

- Spatial formatting from ILI vendors was disparate and needed to be consistent.
  - Relative ODO positioning of event
  - Anchor point (xy) normalizing
- A template (adhering to API RP1163) was given to tool vendors that ensured our data came back formatted correctly and used the calculations we required.

# The Road Forward - 5.1 PODS

- Areas we would like to address
  - Work flow processes
  - Alberta One-Call (Call before you dig)
  - Aerial photography
  - CP data
  - POF, POE and consequence models/risk analysis
  - Summary Integrity Reporting on System and Segment

# The Demo

# Working with PODS 3.X, 4.X

