Increasing Your Operating Efficiency By Keeping Your Pipeline Clean.
From launch to completion, N-SPEC® offers a variety of ways to remediate any number of pipeline problems:

**CHEMICAL CLEANING ONLINE** N-SPEC’s unique online service allows pipeline operators to internally clean the pipeline without taking it out of service. N-SPEC® pipeline professionals can design pig runs using the correct pig types and design to ensure the most effective cleaning performance program.

Advanced chemical cleaning online is the most cost-effective way of cleaning and avoiding disruption of service for extended periods of time. A typical pipeline can be cleaned in four days or less with this method and, using the pipeline cleaning separator, operators can have the pipelines cleaned online or perform system improvements without shutting down operations.

**CHEMICAL CLEANING OFF-LINE** N-SPEC® chemicals lift away and remove black powder and paraffin from pipelines. Gas or fluid passing around and through the pigs causes increased agitation of the chemical pipeline cleaners, increasing the product’s performance. The removal of hydrocarbons and other carbon material is a requirement for the discharge of hydrostatic test water to surface. N-SPEC’s water soluble cleaning products and services allow the elimination of costly carbon filtration of test water.

**EQUIPMENT RENTALS** A broad inventory of high and low pressure filter separators and portable pig traps ranging from 4” to 30”. Other available rental equipment includes steel body pig mandrels, injection pumps, pig tracking transmitters/receivers, etc.

**MECHANICAL DRY CLEANING** Removal of black powder and paraffin with mechanical pigs alone can be effective in some cases, but usually is not necessarily the best course of action. The process can be risky and slow as the powder and paraffin can stick and lodge pigs. Additionally, mechanical cleaning provides marginal results in removing fine, tacky or abrasive sediments especially in low-pressure pipelines.

**PARAFFIN REMOVAL** Pipelines restricted with paraffin buildup can be cleaned and opened with the application of N-SPEC® products and pigging runs. The full internal dimension of the pipeline can be regained through a progressive pigging program using pigs with flow-through jetting ports and N-SPEC® chemicals to remove dry, hard paraffin.

N-SPEC® products remove the adhesive characteristics of paraffin, or in some cases, liquify it into free-flowing slurry, allowing it to flow through the pipeline into the production system or be collected in holding tanks.

**HYDROSTATIC TESTING** Performed for newly constructed and existing pipelines, hydrostatic testing can be coordinated with our off-line cleaning program for surface discharge of hydrostatic test water. N-SPEC’s hydrostatic test technicians are highly trained and experienced in all aspects of hydrostatic testing.
Years of field experience and sophisticated computer software products allow N-SPEC® to offer a broad range of technical services, including:

**PROGRAM DESIGN** N-SPEC® starts with a lab analysis of a sample taken from inside the pipeline. It is a critical step that allows N-SPEC®'s skilled pigging technicians to determine the exact cleaning agents necessary to break down and mobilize the deposits. The process ensures a successful and thorough cleaning of your pipeline.

**MONITORING** N-SPEC® field technicians can provide monitoring during the line-cleaning application to log the date and time of each pig passage audibly and electronically, enabling you to calculate the effectiveness of each pig run in real time. The real-time approach to cleaning efficiency allows on-site personnel to be sure the line is clear before interrupting the process. N-SPEC® data can then be transferred to your company’s computer for further analysis and permanent records. Clean pipelines will enable your company’s modeling flow programs to run as designed.

**LABORATORY SERVICES** N-SPEC’s unique in-house laboratory backs up field services, providing a wide selection of analytical procedures designed to support N-SPEC® applications.

Quantifying and qualifying the nature of the solids removed from pilot runs provides N-SPEC® engineers with valuable system knowledge, assisting them in the design of a line-cleaning program that has the highest efficiency possible.

The buildup of solids or sediments in pipelines can cause a significant decline in operation efficiency, especially in deep water where temperature and depth can cause flow problems. N-SPEC® uses an array of liquid super surfactants, polymers and dispersants, created specifically for the pipeline industry to open lines with extremely reduced ID or plugged lines caused by paraffin/asphaltine deposits and other contaminants.

The majority of N-SPEC® cleaning products are environmentally safe and can be processed with crude oil with no upsets to production equipment. Our products are formulated to allow post-job treatment in an on-site program that segregates oil, water and solids, allowing the phases to be recovered and/or disposed of in the most cost-effective fashion.

For more information on N-SPEC® products and services, visit our Web site at www.n-spec.com.

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N-SPEC® CHEMICAL PRODUCTS

N-SPEC® 50 For Paraffin Control and Removal
N-SPEC® 60V Solution for Offshore Paraffin Removal
N-SPEC® 105 For Sand Control and Black Powder
N-SPEC® GS 120 For Hydrocarbon Removal Prior to Hydrotest
N-SPEC® 120 For Sand Control and Black Powder
N-SPEC® 200 For Calcium Carbonate Removal
N-SPEC® 304 Hydrotest Inhibitor
N-SPEC® 333 Corrosion Inhibitor
N-SPEC® 372 Corrosion Inhibitor
N-SPEC® GS 40 Equipment Cleaner (Amine, Glycol, Heat Transfer)
N-SPEC® GS 41 Equipment Cleaner with Added Anti-foulant

N-SPEC® PIPELINE SERVICES

Technical Services
Online Pipeline Cleaning
Off-Line Pipeline Cleaning
Hydrostatic Testing
Pipeline Dewatering and Drying
Pipeline Chemical Treating
Pipeline Abandonment
Offshore Flow Line Cleaning
Pig Tracking
Glycol Dehydration Unit Cleaning
Ethanolamine Unit Cleaning
Heat Transfer System Cleaning
Gas Separation Unit/Vessel Cleaning
Pipeline Pigs
Equipment Rentals (Filter Separators, Pig Traps, Injection Pumps and more)

THE N-SPEC® ADVANTAGE

Reduced Horsepower Requirements
Increased Pipeline Efficiency
Reduced Corrosion Potential
Reduce or Eliminate Sensor Lift-off
Improved Quality of Data Collection During Inspections

N-SPEC® APPLICATIONS

Gas Pipelines (Onshore/Offshore)
Oil Pipelines for Crude and Processed Products (Onshore/Offshore)
Product Pipelines in Refineries and Petrochemical Plants
Ethanolamine Units in Natural Gas and Refineries Applications
Glycol Dehydration Units in Natural Gas Applications
Small Storage Tanks