

NATIONAL JOINT-STOCK COMPANY
“NAFTOGAS OF UKRAINE”
BRANCH COMPANY
“UKRTRANSGAS”
MANAGEMENT OF MAIN GAS PIPELINES
“CHERKASYTRANSGAS”

Implementation of the Project on
Natural Gas Leak Reduction at the
Management of Main Gas Pipelines
“Cherkasytransgas”

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Management of Main Gas Pipelines “Cherkasytransgas” is one of six subdivisions of Branch Company “Ukrtransgas”.

The Management’s balance includes 5000 km of gas pipelines, 23 compressor stations located in 11 Ukrainian regions. Annually the Management transmits 100-120 bn. m³ of natural gas from Russia and Turkmenistan into the West European countries.

In 2001 - 2002, the Department of Ecology and Energy Saving developed the Project “Program on Energy Saving and Environmental Protection” which won EcoLinks grant.



This project resulted in annual gas leak reduction of 1.9 million m³ at two compressor stations, the cost of which makes up 101.3 thousand USD, taking into account that the total project cost is 83 thousand USD.



The Management used EcoLinks funds to purchase Hi Flow Sampler for gas leak measuring manufactured by Bacharach, Inc. The similar devices are not found in Ukraine.

Since 2002, according to the enterprise's order on leak inventory, equipment inspections to detect gas leak have been delivered to all facilities of the management.



Project “Leak Reduction at Compressor Stations of Management of Main Gas Pipelines “Cherkasytransgas” in 2005-06.

- Project stages to eliminate leaks at compressor station valves are the following:
- Leak detection at compressor stations;
 - Leak measuring;
 - Results assessment;
 - Repairing plan development;
 - Repair works;
 - Post-sealing measurements to define repair works efficiency;
 - Reports on provided work.

The project cost is USD 446,000.

- USD 200 thousand – IUEP grant funds.

- USD 246 thousand – own funds.

Gas leak elimination reached 5.9. million m³ at 251 valves.

The project payback period is less than one year.



IUEP grant was used to purchase:

- air hydraulic sealant injection pumps;
- air compressor
- auxiliary equipment (tool kits)
- 3078 lb of cleaning and sealing materials for valves
- Therma Cam-P 65 infrared camera

Seaweld company provided training to “Cherkasytransgas divisions on methodologies of repair technology and valve diagnostics.

Ecological laboratory Department of Ecology and Energy Saving

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- A photograph showing three technicians in an outdoor industrial setting. One technician in a dark blue uniform and cap is leaning over a blue valve assembly. Another technician in a white shirt and cap stands nearby. A third technician in a black shirt and cap is kneeling, working on a piece of equipment. The background features a concrete wall and a metal gate. The scene is brightly lit, suggesting daytime.
- Detection of gas leak at valves;
 - Gas overflows at valves;
 - Packing (sealing);
 - Post-sealing measurements to define sealing efficiency;
 - Reports on conducted work;
 - Pollutant emissions measuring at gas combustion equipment;
 - Measured data processing and estimation of environmental charge.

Hi Flow Sampler manufactured by Bacharach, Inc. measures volume of gas leak at compressor stations and linear gas pipelines.



Overflow is detected



Infrared camera "Therma Cam-P 65"

Valve sealing



Seaweld Activ-8 hydraulic pump

Valve sealing



Speedaire air compressor

Valve sealing



Sealweld® BALL VALVE SEALANT #5050

• Synthetic Sealant for Pipeline Valves •

Sealweld Ball Valve Sealant #5050 provides an excellent film of lubricant to protect valve seats and valve leakage regions. Specially processed particles of PTFE will seal valves in long life use up to 500' KM (not hard on or plug) off conventional gate ball/rod valve assembly. Sealweld Sealant #5050 is ideal for use in natural gas, water, oil and other hydrocarbon gas systems and best seals with metal to solve leakage problems. Use of Sealweld #5050, pump or compressor stations and in gas distribution systems. Suitable for ball valves, gate valves, wellhead solutions, and related petroleum production uses.

Remove all oil and Sealweld Valve Grease, then leave in the valve for 30 minutes to 1 hour (even longer). Follow up with Sealweld Total-Lube #911, use #5050 on 7 days after.

Sealweld #5050 and #5050 grades for severely leaking valves & emergency use applications.

Viscosity	Pressure: 10,000 psi	Special additives: PTFE
Color: Green	ASTM Penetration: 350-375	Performs Best: Microseal
Oil Resistance	Compatibility: Excellent	Compositions: Seal-224
Stability	Solvent Resistance: Excellent	Temp. Range: -20 F to +200 F -20 C to +100 C

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Edmonton, Alberta T6C 2E4
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For additional information regarding valve servicing visit our maintenance website at www.sealweld.com or email info@sealweld.com or call Sealweld Corporation directly.
MADE IN CANADA

Post-sealing measurements are carried out to define sealing efficiency.



Report on work results is compiled
at the end.



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At present, the Department of Ecology is planning implementation of measures to reduce methane emissions at facilities of "Cherkasytransgas" in cooperation with the Pacific Northwest National Laboratory. These activities are aimed to eliminate methane emissions at 255 valves in the period of 2007-2009.

Forecasted reduction of methane emissions - 4.45 million m³.

Our goal is:

- Significant reduction of methane emissions in the facilities of "Cherkasytransgas";
- Improving efficiency and speed of gas leak elimination at valves;
- Improving valve operation after sealing;
- Upgrading valve sealing;
- Diagnostics of valve state;
- Extending "Cherkasytransgas" experience around the whole gas pipeline system of Ukraine.

Department of Ecology and Energy Saving

International activity



THANK YOU