

Management of Main Gas Pipelines "Cherkasytransgas"
Branch Company "Ukrtransgas"
National Joint-Stock Company "Oil and Gas of Ukraine"

LEAK REDUCTION

AT NATURAL GAS COMPRESSOR STATIONS

**of gas transition system of
UKRAINE**

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“Ukrtransgas”

branch company

Ukraine is located in the center of Europe and borders Russia the east and Belarus, Poland, Slovakia, Hungary, Romania and Moldova in the west



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Gas transition system of Ukraine is the second on capacity in Europe after RAO Gazprom.



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35 thousand km of gas mains

171 compressor stations



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Branch Company "Ukrtransgas" is the main « gas bridge » between Russia - the greatest gas extracting country and consumers in the countries of Central and Western Europe.



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190-200 billion m³ of gas



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management of Main Gas Pipelines

“Cherkasytransgas”

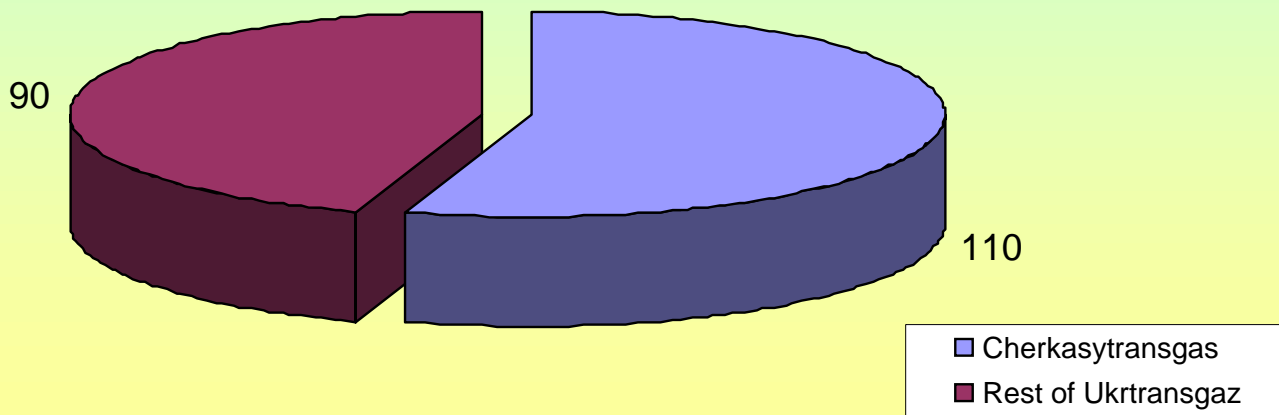
5 thousand km of gas mains

23 compressor stations

100-120 billion m³ of gas

main office

Comparative Volume of gas transition
of Ukrtransgas and
Cherkasytransgas, billion m³ per year



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NARRATIVE PART

leak detection and measuring



1

development of leak repair plan



2

development of leak repair plan
aimed on elimination
of methane emissions

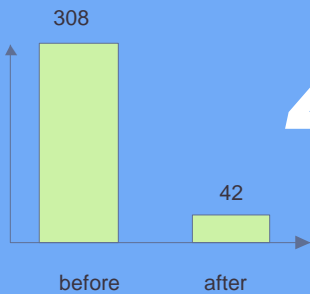
leaks detection
and measuring

**LEAK
REDUCTION
at natural gas
compressor stations**

repair works

summarizing

summarizing



4

repair works



3

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KREMENCHUK Linear Management

20-100 billion m³ of gas

1 thousand km of gas mains

3 compressor stations

Compressor station



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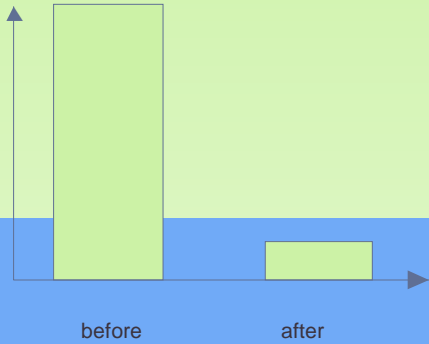
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KREMENCHUK Linear Management

Compressor station

leak detection



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leak
detection

combination of soap solution and
natural gas electronic detectors



leak detection

three measuring techniques

Leak measuring using
Hi-Flow Sampler

“Vent-Bags”
method ”

Leak measuring
using
anemometer

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l e a k
d e t e c t i o n

Leak measuring using Hi-Flow Sampler

1



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l e a k
d e t e c t i o n

“Vent-Bags” method ” using
calibrated bags made of anti-static plastic

2



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l e a k
d e t e c t i o n

Leak measuring using anemometer

3



l e a k

d e t e c t i o n

Results of measurements

169 leaks with a **total leakage of 2209 thousand m³/year** were found at Zadniprovskaya compressor station.

112 leaks with a **total leakage of 749,0 thousand m³/year** were found at Kremenchugskaya compressor station.

The carried out analysis has shown, that **70 % of the total leakage** at each site comes **from 20 % of the leaking components**.

leak detection

Results of measurements

The **total leakage** at two Compressor Stations **was reduced by 1954 thousand of m³ per year** that makes in money terms 101,3 thousand US dollars per one year at cost of gas of 51,7 US dollars for thousand m³.



101,3 thousand US dollars
per one year

OUTCOMES OF THE PROJECT

- For the first time in Ukraine was conduct leak measurements using “Indaco” techniques.
- To estimate existing leak rates on equipment of natural gas compressor stations.
- Define the priority of components to be repaired and demonstrate feasibility of such repair
- The modernized “Indaco” instrument for leak measurement was bought at the expense of grant

OUTCOMES OF THE PROJECT

Within the project the gas leaks has been measured twice before and after repair.

Initial leak rate measurements have allowed:
to create leak database.
develop norms of technological leaks.

Measurements conducted **after repair** have allowed:
to define efficiency of repair.
provide the internal monitoring system.

The article about the project is placed on “Ecolinks” site:
www.ecolinks.org

PROMOTION OF THE PROJECT EXPERIENCE

Booklet about the project

Implement the experience of
“Cherkasytransgas” in all divisions of gas
transition system of Branch Company
"Ukrtransgas".

For last two years gas leak
measurements have been done at 23 compressor
stations, linear valves and gas distribution stations,
after repair at 8 compressor stations.

In future we plan to conduct
measurements at all compressor stations, gas
distribution stations and linear valves, to
create database for all the leaks.



Seminar after the project

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“Cherkasytransgas”

Thank you !