



UkrNIIOGaz

COMPLEX SOLUTIONS OF
ENVIRONMENTAL PROBLEMS
FOR INDUSTRIAL ENTERPRISES



Private Joint-Stock Company
“Research & Development Institute for Industrial and
Sanitary Purification of Flue Gas”

About Us

As for today, "UkrNIIOGaz" is a leading company of Ukraine for design, elaboration and implementation of technologies for complex solution of environmental problems, which are making our lives better.

The activities of "UkrNIIOGaz" were started since Zaporozhye Branch of State Research & Development Institute for Industrial and Sanitary Purification of Flue Gas was founded on October 2nd, 1965.

In 1996 the Institute was transformed into Joint-Stock Company "Research & Development Institute for Industrial and Sanitary Purification of Flue Gas" ("UkrNIIOGaz").

In 2002 "UkrNIIOGaz" was accredited as a Head organization of the Ministry of Industrial Policy of Ukraine for scientific and technical support in the questions of design, elaboration, investigation and implementation of flue gas cleaning installations.

The professional staff of the Institute have been accumulating huge experience since the very first design until nowadays.

At the same time, we are very attentive to modern tendencies in the field of environment protection, undertaking our own investigations and studies, implementing new hi-techs.





Dust cleaning devices of metallurgical furnaces at Erdenet plant, Mongolia.

Reconstruction of dust cleaning devices of metallurgical furnaces at shape steel-casting shop of PJS "ArcelorMittal Kryvyi Rih" – turnkey project.

Reconstruction of supply-and-exhaust ventilation at Ore-Benefication Shops1&2 of Ore-Mining Plant of PJS "ArcelorMittal Kryvyi Rih".

Reconstruction of dust cleaning devices at Metallurgical Furnace Maintenance Shop of PJS "ArcelorMittal Kryvyi Rih".

Feasibility study on utilization of wastes of the 4th class of hazard at PJS "ArcelorMittal Kryvyi Rih".

Reconstruction of aspiration devices of crushing-and-sorting factory of Mine Managing Unit for deep-mined output of ore at PJS "ArcelorMittal Kryvyi Rih".



ACTIVITIES

- Development of technological regulations for designing industrial flue gas and sewage purification systems based on recent scientific achievements and principles of energy saving technologies that allow reaching highly effective and economically grounded solutions.
- Turnkey development of construction documents, implementation and commissioning of industrial equipment for industrial flue gas and sewage purification.
- Inventory of the emissions from stationary sources and/or waste products.
- Formulation of regulating documents for permissible volumes of emissions.
- Studies on physical-chemical properties of different substances.
- Development, design and manufacturing of nonstandard equipment for flue gas purification, heat exchange processes, electro-technical purposes.
- Development of a system for environmental monitoring of emissions, for automatic operation of dust-gas purifying equipment.
- Upgrading of old-fashioned and design of new computerized managing systems for flue gas and water purification.
- Development of national, regional and branch complex environmental programs.
- Manufacturing of metal structures of various complexity and laboriousness.
- Landfills design; waste management.
- Selection of microorganisms for bacteriological purification of waste waters; optimization of technological parameters for bacteriological purification.

We are also ready to provide you with a complex solution of any environmental problems connected with a necessity of air purification from poison impurities, starting from receiving initial data and up to an implementation of a general contract and obtaining of all required permissions.

Your are just setting a problem, and we are providing you with a complete technological complex with a set of necessary documents



Feasibility study on the reconstruction of flue gas purification and aspiration systems at Fireproof-Calcic Shop of PJS "ArcelorMittal Kryvyi Rih".

Feasibility study on the reconstruction of dust cleaning devices at Novotroitsk Ore-Benefication Plant.

Reconstruction of dust cleaning devices at Ore-Benefication Shops 1&2 of Ore-Benefication Complex of PJS "ArcelorMittal Kryvyi Rih".



Elaboration of specific norms for metallurgical facilities of PJS "ArcelorMittal Kryvyi Rih".

Reconstruction of Electric Arc Furnaces (EAF-25) No 3&4 at "Kremenchuk Steel Foundry Plant".



Mastering the technology of mold casting using cold-hardening mixtures at PJS "ArcelorMittal Kryvyi Rih".

Design project on accumulation and utilization of biogas at the landfills of Energodar and Melitopol cities of Zaporozhye area, Ukraine.

ACTIVITIES

Our Institute designs technological normative documents for the following directions:

- Assessment of the environmental impact
- Inventory of emissions and their sources
- Calculation of dispersion and justification of volumes of emissions
- Estimation of sanitary protection zones
- Certification of dust-gas purifying equipment and assessment of their efficiency
- Waste inventory, determination of their **dangerous codes**, composition of waste register tables and passports

The Institute laboratories are accredited for the following investigations:

- Poison emissions from different industrial sources (dust, hydrocarbons, oxides of sulphur, nitrogen and carbon, chloride and fluoric hydrogen etc, totally 105 different components);
- Natural and reused waters (organic compounds, pesticides, hard metals etc, totally 55 different components)
- Soils and solid wastes (hard metals, pesticides etc, totally 59 different components)
- Industrial dust (physical-chemical variables)
- Quality characteristics of products and materials



Feasibility study on the construction of central aspiration system at Milling and Shotcrete Departments of PJS "ArcelorMittal Kryvyi Rih".

PJS "ArcelorMittal Kryvyi Rih". Elaboration of new emission indices (specific emissions) of air pollutants from the processes which were tended for changes (Ore-Mining Plant, Shape Cast-Iron Shop, Rolling Shop 3, Steel Shop 2, Sinter Plant of Metallurgic Enterprise, Blast-Furnace Plant).

Studying of the ways for decreasing of the emissions of hydrogen sulfides and sulfurous anhydride at Mud Processing Shop of JS "Zaporozhstal".

Elaboration and registration of normative documentation for the determination of the efficiency of bio-filtration at PJS "Mironovska Poultry Farm".

PJS "UkrGraphite". Estimation of a waste dangerous code. Elaboration of a waste technical passport and a register map".

PJS "ZAZ". Determination of dangerous codes for 5 types of industrial wastes of the station for neutralization of sewage at a Paint-and-Varnish Plant and elaboration of corresponding documents.



SCIENTIFIC AND TECHNICAL POTENTIAL

There are almost one hundred professional personnel in the Institute. The majority of our staff are engineers being PhD's as well. Our R&D laboratories, designing department and experimental facilities are occupying about 8000 m². The Institute has its own information department with a research library and a huge archive of designing projects and patent information.

Our R&D Center is equipped with modern measuring and analytical techniques, including atomic spectrophotometer, chromatographs, flame photometer etc. The Center is specialized in the following scientific and analytical activities:

- Analytical control of air, water and soil
- Investigation of physical parameters of industrial dust
- Investigation of a composition and properties of wastes
- Utilization and deactivation of wastes
- Investigation of air emissions from different polluters





PJS "ArcelorMittal Kryvyi Rih".
Aggloblast-Furnace
Department, Agglomerative
shop 1, Agglomerative shop 2.
Determination of a flue gas
chemical composition and
investigation of organic
substances in industrial
emissions.

PJS "DTEK Dneproenergo".
Servicing for technical
investigations and analysis.

PJS "ZAZ. Analytical
measurements.

"AgroPromInvest 08" Ltd.
Analytical measurements of
air pollutants from stationary
sources.

JSC "Intercorn Corn Processing
Industries". Estimation of the
efficiency of an off-gas catching
device and sanitary-protection
zone control.

"Cargill Enterprise" Ltd.
Analytical measurements of
press flue-gases at a
Preparatory Shop.



INNOVATIONS

Reconstruction of casts manufacturing lines under the method of cool hardening mixtures (CHM)

In 2010-2013 the Institute together with the German company “FAT” designed and implemented at PJSC “ArcelorMittal Kryvyi Rih” the turnkey project of casts manufacturing under the method of cool hardening mixtures in the mold-casting shop. That allowed to increase the product quality and to decrease the self costs.

The results of the reconstruction were as follows:

- Substantial decrease of silica sand consumption
- Succeeding of highly accurate moulds
- Decreasing of casting defects and spoilage
- Decreasing of power consumption
- Increasing of labor productivity
- Decreasing of maintenance costs





JS "ZaporozhStekloFlus".
Preliminary estimation of an off-gas cooling system and dust utilization.

"EcoTech-Engineering" Ltd.
Analytical measurements of air pollutants during of electric filters start-up.

JS "Dneproenergo".
Determination of the concentrations of benz(a)pyrene in the off-gases of boiler units at Zaporozhye HES".

Participation in expert commission for efficiency determination of gas-cleaning devices at Kurahovska HES.

"Ukrainian Graphite" Ltd.
Estimation of a waste dangerous code.
Elaboration of a waste technical passport and a register map.

PJS "Kremenchuk Plant of Road Machines". Chemical analysis of wastes and estimation of their dangerous codes.



Fresh sand and reclaim bin



filter



Mixer of CHM for 10 Mt/hour

The authority for the activities of "UkrNIIOGaz" are ratified by the
State License of Ukraine of Architect-Construction Inspectorate
No 587579 AB of June 15th, 2011
In 2012 "UkrNIIOGaz" implemented Quality Management System
ISO 9001:2008



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