

THE 3rd INTERNATIONAL ENVIRONMENTAL CONFERENCE

THE LATEST TECHNOLOGIES AND WORLD PRACTICE IN THE PROCESSING OF OILY WASTE

April 24-25, 2012

Novi Sad - Serbia



III Međunarodna ekološka konferencija Najnovije tehnologije i svetska praksa u preradi zauljenog otpada

od 24. do 25. aprila 2012.

Novi Sad - Srbija



«Утверждаю»
 Начальник Департамента
 производственной безопасности
 ОАО «Газпром-нефть»
 О.В. Николаенко
 « » 2012г.

Программа
Третьей Международной экологической конференции
ОАО «Газпром нефть»

№ п/п	Время	Мероприятие	Докладчик
24 апреля			
1.	09.30-10.00	Регистрация участников конференции, Приветственный кофе	
2.	10.00-10.10	Проведение вводного инструктажа	Представитель АО «NIS»
3.	10.10-10.20	Открытие конференции Приветственное слово от имени Генерального Директора ОАО «Газпром нефть»	Гуднин Юрий Николаевич, Заместитель начальника Департамента – начальник Управления экологической безопасности ОАО «Газпром нефть»
4.	10.20-10.30	Приветственное слово	Кравченко Кирилл Альбертович, Генеральный Директор АО «NIS»
5.	10.30-11.00	Система управления деятельностью по обращению с отходами производства и потребления в АО «NIS». Проблемы и пути решения	David Allison, Директор Дирекции HSE АО «NIS»
6.	11.00-11.30	Требования к организациям, осуществляющим деятельность по обезвреживанию отходов производства и потребления на территории Республики Сербия	Представитель «Министерства охраны окружающей среды, территориального планирования и горного дела Республики Сербия»
7.	11.30-11.50	Требования законодательства Республики Сербия в области управления отходами производства и потребления	Представитель «Регионального секретариата городского планирования и охраны окружающей среды Воеводино»
8.	11.50-12.10	Кофе пауза	
9.	12.10-12.30	Использование геоэлектрических методов определения загрязнения подземных вод нефтепродуктами, на объектах АО «NIS»	Milenko Burazer, Главный специалист по анализу несейсмических данных Научно технического центра АО «NIS»
10.	12.30-13.00	Применение технологии закачки отходов бурения в подземные горизонты	Черняков Анатолий Федорович, Начальник отдела ООС, ООО «Газпромнефть-Хантос»
11.	13.00-13.30	Существующие подходы по обезвреживанию и утилизации нефтесодержащих отходов в ОАО	Кирилов Дмитрий Владимирович, Заместитель главного инженера по ОП и ТБ ОАО «Славнефть-ЯНОС»

		«Славнефть – ЯНОС»	
12.	13.30-14.30	Обед	
13.	14.30-15.00	Особенности обеспечения экологической безопасности на объектах нефтепереработки	Nenad Obradovic, Президент «Veolia Water Solutions & Technologies Serbia »
14.	15.00-15.40	Опыт переработки нефтяных шламов НПЗ Петробрази (Румыния)	Stelea Sorin Adrian, Генеральный менеджер «Ludan Group»
15.	15.40-16.00	Кофе-пауза	
16.	16.00-16.40	Инновационные технологии в области ликвидации разливов нефти	Завадко Каролина Наримановна, Директор Департамента продаж экологического оборудования ЗАО «Аргус Пайплайн Сервис»
17.	16.40-17.00	Инновационные технологии в области переработки нефтешламов	Проктер Джон Алан, Директор Департамента экологии ЗАО «Аргус Пайплайн Сервис»
18.	17.00-17.20	Развитие экологического консалтинга в нефтегазовой промышленности	Кулак Данил Васильевич, Директор департамента охраны окружающей среды ООО «НефтеТехнологии»
19.	17.20-17.30	Подведение итогов	

25 апреля			
1.	09.30-10.00	Прибытие участников конференции	
2.	10.00-10.10	Приветствие, объявление плана работы	David Allison, Директор Дирекции HSE АО «NIS»
3.	10.10-10.40	Современные полевые методы обнаружения загрязнений грунтов и грунтовых вод на площадках НПЗ	Ваньков Дмитрий Андреевич, Директор ООО «ГеоАудитсервис», международная группа компаний «Fugro»
4.	10.40-11.20	Биоремедиация на объектах АО «NIS». Опыт и будущие перспективы.	Miroslav M. VRVIĆ, Директор «BREM GROUP Ltd.»
5.	11.20-11.40	Кофе-пауза	
6.	11.40-12.20	Технология «MID-MIX®» переработки промышленных отходов.	BORO DURAKOVIĆ Директор «YUNIRISK»
7.	12.20-12.30	Подведение итогов, закрытие конференции	
8.	12.30-13.30	Обед	
9.	13.30-18.00	Ознакомление представителей ОАО «Газпром нефть» с функционированием полигона для размещения и захоронения отходов бурения «Ново Милошево»	

Заместитель начальника
Департамента производственной безопасности –
Начальник Управления Экологической безопасности
ОАО «Газпром нефть»

Ю.Н. Гуднин

3rd International Environmental Conference: "The latest technologies and world practice in the processing of oily waste"
Novi Sad, April 24th-25th, 2012, Serbia

**BIOREMEDIATION IN “PETROLEUM INDUSTRY OF SERBIA” (“NIS”):
OUR EXPERIENCE AND FUTURE PROSPECTS**

Prof. Miroslav M. VRVIĆ, D.Sc.Chem.

*Faculty of Chemistry of the University of Belgrade, Department of Chemistry of the University of Belgrade and “BREM GROUP” Ltd., Belgrade,
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Bioremediation is certainly one of the most acceptable procedures of biological treatment of the polluted environment in general as well as of stored polluting substances, including those from petroleum industry, starting from exploitation, through processing, transportation, storage and use, including the petrochemical industry complex. Thanks to unsurpassed potentials of microorganisms (and also of plants and animals) oil and oil derivatives are decomposed-mineralized-“biologically burnt out”, which results in humified material that has its use value.

Our cooperation with “NIS” goes back to 2005 when we demonstrated in Petroleum Refinery Plant in Pančevo all advantages of bioremediation on a pilot plant – mound that had the volume of about 150 m³. The demonstration was performed by manual manipulation. The initial concentration of the total petroleum hydrocarbons (TPH) was about 30 g/kg of the dry substance. Pollutants came from various parts of the petroleum refinery, including refinery sludge. Efficacy amounted to approx. 90 % in 160 days.

In the years to follow, the works mainly dealt with the implementation of research projects and drafting of schedules and plans for the overall biological treatment of the polluted areas in “NIS”, and that went on until 2011 when we had a successful demonstration of bio/remediation of the primary slurry pit (closed wells Tus-69).

Starting from 2011, we have been working on the project financed by the Ministry of Science of the Republic of Serbia in which BREM GROUP is taking part and for which we have obtained the support of “NIS”. The project is an integral, multidisciplinary project, comprising four sub-projects, and the first one is titled “Simultaneous Bioremediation and Soilification”. The content of these investigations and their application relates to *ex situ* microbiological degradation of oil pollutants and refinery debris (*i.e.* sludges) at degraded sites, such as ash dumps, mine dumps, etc. We perceive the development of this technology as something that will happen in the future. The special advantage of our “green” technologies is that we work with our own consortia of selected and adapted zymogenous microorganisms that we reproduce in mobile bioreactors, of our own design and made by us for the purpose of obtaining the required volume of biomass for bioremediation.

Bioremediation in “NIS” may be applied to the treatment of polluted soil and underground water, slurry pits, deposited slurries, all types of “oiled wastewater”, including the one that comes from the washing of plants and pipelines, tank and process precipitations and sludges, devices and assemblies used for the absorption of oil and oil derivatives that are permanently, accidentally or incidentally spilled out.

Our results confirm that practically there is no oil substrate or by-product of the petroleum industry which microorganisms cannot degrade *ex situ* or *in situ*.

III Medjunarodna ekološka konferencija: „Najnovije tehnologije i svetska praksa u preradi zauljenog otpada“
Novi Sad, 24.-25. 04. 2012.

BIOREMEDIJACIJA U “NAFTNOJ INDUSTRIJI SRBIJE” (“NIS”): NAŠA ISKUSTVA I IZGLEDI ZA BUDUĆNOST

Prof. dr Miroslav M. VRVIĆ, dipl. hem.

*Heminski fakultet Univerziteta u Beogradu, Centar za hemiju Instituta za hemiju, tehnologiju i metalurgiju Univerziteta u Beogradu i “BREM GROUP” doo, Beograd, 11158 Beograd, Studentski trg 16, P.f. 51, Srbija
(mmvchem@sezampro.rs)*

Bioremedijacija je svakako jedan od najprihvatljivijih postupaka biološkog tretmana zagadjene životne sredine uošte, kao i uskladištenih zagadjujućih supstanci, što se naravno odnosi i na naftnu industriju, počev od eksploracije, preko prerade, transporta, skladištenja do upotrebe, uključujući i kompleks petrohemidske industrije. Zahvaljujući neslućenim mogućnostima mikroorganizama (ali i biljaka i životinja) nafta i njeni derivati se razgradjuju-mineralizuju-“biološki sagorevaju”, pri čemu se dobija humifikovani materijal, koji ima upotrebnu vrednost.

Naša saradnja sa “NIS”-om datira od 2005. godine, kada smo u Rafineriji Pančevo demonstrirali sve prednosti bioremedijacije na pilot postrojenju-proektovanoj gomili zapremine oko 150 m³, sa manuelnom manipulacijom. Početni koncentracija kontaminata-ukupnih ugljovodonika (TPH-total petroleum hydrocarbons) bila je oko 30 g/kg suve supstance. Polutanti su bili iz različitih delova rafinerije, uključujući i rafinerijske muljeve. Efikasnost je bila oko 90 % za 160 dana.

Narednih godina, radovu su se glavnom odnosili na realizaciju istraživačkih projekata i izradu programa i planova za sveobuhvatni biološki tretman zagadenog prostora NIS-a, sve do 2011. godine, kada smo uspešno uradili demonstracionu bio/remedijacionu sanaciju primarne isplačne jame (zatvorena bušotina Tus-69).

Počev od 2011. godine radimo na projektu, koji finansira Ministarstvo prosvete i nauke Srbije, a “BREM GROUP” je participant, za koji smo dobili podršku “NIS”-a. Projekat je integralni interdisciplinarni sa četiri podprojekta, od kojih je prvi:”Simultana bioremedijacija i soilifikacija”. Sadržaj ovih istraživanja i njihove primene odnosi se na *ex situ* mikrobiološku razgradnju naftnih polutanata i rafinerijskog otpada (recimo muljevi), na degradiranim prostorima, kao što su na primer pepelišta, rudarska jalovišta,...Razvoj ove tehnologije vidimo kao izglednu za budućnost. Posebna prednost naših “zelenih” tehnologija je što radimo sa sopstvenim konzorcijumima selekcionisanih i adaptiranih zimogenih mikroorganizama, koje umnožavamo u proizvodnim mobilnim bireaktorima sopstvene konstrukcije i proizvodnje, u cilju dobijanja potrebne količine biomase za bioremedijaciju.

Bioremedijacija u “NIS”-u može da se primeni za tretman: zagadenog zemljišta i podzemnih voda, isplačnih jama, deponovanih isplaka, svih vrsta “zauljenih otpadnih voda”, uključujući i one od pranja postrojenja i cevovoda, rezervoarskih i procesnih taloga i muljeva, sredstava i sklopova za apsorpciju nafta i derivata, koji su permanentno, akidentno i incidentno izliveni.

Naši rezultati potvrđuju da praktično ne postoji naftni supstrat ili nusproizvod naftne industrije, koji mikroorganizmi ne mogu da razgrade *ex situ* ili *in situ*.

- 1 Business activity management system in production wastes treatment in NIS. Problems and solutions - David Allison, NIS HSE Directorate, Director
- 2 Requirements to companies engaged in production and consumption waste deactivation on the territory of Serbia - Snežana Kuzmanović, Representative of Ministry of Environment, Mining and Spatial Planning of Republic of Serbia
- 3 Application of geoelectric methods of underground water oil products pollution detection at NIS facilities - Milenko Burazer, NIS research engineering centre specialist of non-seismic information analysis
- 4 Drilling waste pumping to subsurface horizons technology application - Anatoliy Fjodorovich Chernyakov, Gazprom Net-Khantos LLC HSE department head
- 5 Present approach to deactivation and oil-contaminated waste disposal in JSC Slavneft-YANOS - Dmitriy Vladimirovich Kirillov, JSC Slavneft-YANOS HSE Deputy chief engineer
- 6 Efficient methods of oil-contaminated waste processing application at TNK-VR Alexey Igorevich Zarechny, JSC TNK-VR Management BN Refinery and sales HSE manager
- 7 Oil sludge treatment experience in Petrobrazi Refinery (Romania) - Stelea Sorin Adrian, General manager of Ludan Environmental Technologies SRL (Romania)
- 8 Innovation technologies in oil spills response - Karolina Narimanovna Zavadko, JSC Argus Pipeline Service Argus Limited (USA) branch Ecological equipment sales Department Director
- 9 Innovation technologies in oil sludge processing - John Alan Procter, JSC Argus Pipeline Service Argus Limited (USA) branch Ecology Department Director
- 10 Ecological consultations in oil and gas industry - Danil Vasilyevich Kulak, Nefte Technologies LLC Environment protection department Director
- 11 Modern on-field methods of polluted soils and ground water detection at Refinery sites - Dmitriy Andreevich Van'kov, GeoEngService LLC Internation company group FUGRO (Netherlands) branch Director
- 12 Bioremediation at NIS facilities. Experience and perspectives - Miroslav M. VRVIĆ, BREM GROUP Ltd., Serbia, Director
- 13 Ecological safety provision peculiarities at oil refinery facilities - Nenad Obradovic, Veolia Water Solutions & Technologies (France) President
- 14 Industrial waste treatment technology MID-MIX® Boro Duraković YUNIRISK, Serbia, Director



Third International Environmental Conference JSC "Gazprom Neft"-
"PETROLEUM INDUSTRY OF SERBIA" (NIS)

BIOREMEDIJACIJA U "NAFTNOJ INDUSTRiji SRBIJE" (NIS): NAŠA ISKUSTVA I IZGLEDI ZA BUDUĆNOST

BIOREMEDIATION IN "PETROLEUM INDUSTRY OF SERBIA"
(NIS): OUR EXPERIENCE AND FUTURE PROSPECTS

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Direkcija "NIS", Novi Sad
24.-(25.) 04. 2012.

From: [Департамент производственной безопасности](#)

Sent: Tuesday, March 20, 2012 3:08 PM

To: 'office.beograd@veoliawater.com' ; 'office@dekonta.rs' ; 'trade@geotest.cz' ; 'btt@btt.sk' ; 'mitra@ludan.rs' ; 'mmvchem@sezampro.rs' ; 'mmvchem@bremgroup.com' ; 'milorad.smitran@ritank.t-com.hr' ; 'office@sct-cert.rs'

Cc: [Давыдов Иван Владимирович](#)

Subject: Invitation to Participate in the Environmental Conference

Best Regards,

Tatyana Yurchenkova

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e-mail: Yurchenkova.TA@gazprom-neft.ru

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С уважением,

ЮРЧЕНКОВА Татьяна Александровна

Главный специалист

Отдел специальных программ

Департамент производственной безопасности

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Attn.: To whom it may concern

20.03.2012. № HK-34/5577

*Ref.: Invitation to Participate in the
Environmental Conference*

Dear Sirs!

Gazprom Neft, being a rapidly growing oil company, is a socially responsible organization which aims at environmentally friendly way of conducting its operations. The Company's environmental strategy focuses on sound management of natural resources, elimination of environmental legacy and reduction of environmental impact. However, oil production and refining operations are associated with drilling and oily wastes.

In order to establish the advanced waste management system through the efficient use of international and Russian best practices, Gazprom Neft intends to host an international environmental conference at NIS (Naftna industrija Srbije), Belgrade, on the week of April 23, 2012.

The conference agenda includes: modern approach to waste treatment, national waste management regulations, international world experience in implementing low-waste, resource-saving and environmentally safe technologies, feasibility study and potential options to apply those technologies at our operational sites.

Representatives from Companies with strong experience in waste management and delegates from environmental departments of JSC «Gazprom neft» and its affiliates (in Russia and Serbia) will take part in this conference.

The participation in the conference is free of charge.

If you are interested in participating in the conference and want to share your views, please send the information in accordance with the application form enclosed to DPB@gazprom-neft.ru by March 25, 2012.

Conference program and contact details of the organizers will be sent to you promptly.

Contact person:

Yurchenkova Tatyana, e-mail Yurchenkova.TA@gazprom-neft.ru, tel.+7 812 363 31 52, ext.5317

Regards,

Oleg Nikolaenko
Head of Health, Safety and Environmental Department
JSC «Gazprom neft»

Ivan Davydov,
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