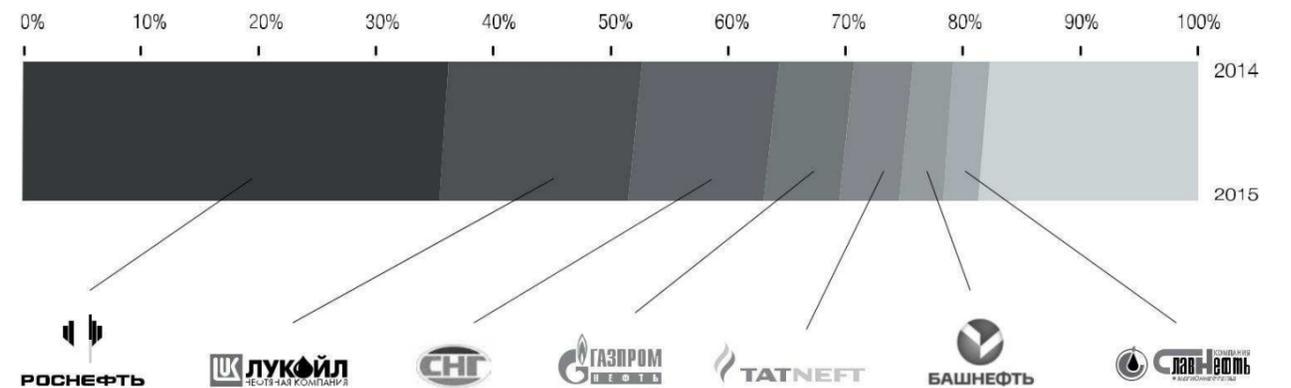


**Table 2. The volume of oil and gas condensate production in Russia in 2014–2015, biggest Russian oil companies (Source: Central Dispatch Division of the Fuel and Energy Complex (TsDU TAEK))**

Company/Year	2014 <sup>13</sup>		2015 <sup>14</sup>	
	Production volume, mln tons	Share, %	Production volume, mln tons	Share, %
"Rosneft"	190,898	36,24	189,202	35,43
"Lukoil"	86,571	16,43	85,654	16,04
"Surgutneftegaz"	61,425	11,66	61,622	11,54
"Gazprom Neft"	33,624	6,38	34,326	6,43
"Tatneft"	26,529	5,04	27,248	5,10
"Bashneft"	17,799	3,38	19,919	3,73
"Slavneft"	16,186	3,07	15,475	2,90
Total of above	433,032	82,21	433,446	81,16
Total volume of oil Produced in Russia	526,753	100	534,081	100



it is about underinvestment in the maintenance and replacement of wrecked or outdated infield oil pipelines which leads to the occurrence of numerous oil spills.

According to the State Report "On the State and Protection of the Environment in the Russian Federation in 2014",<sup>46</sup> the RF Ministry of Natural Resources, with the reference to the data from the Central Dispatch Division of the Fuel and Energy Complex, provides data on the ruptures of infield oil pipelines in 2011-2014. The data on the 7 oil companies analyzed in the present study, as well as on the Russian oil industry in general, are provided in the Table 9.

For a better visualization the authors of the present study supplied this Table with an additional graphic in which the number of ruptures is given per a million of oil extracted by the oil company in question. Oil companies are listed in descending order of their volumes of oil extracted in 2014 (See Table 2).

## 2.2. Hidden Support: underinvestment into the prevention of oil spills

Cutting operational expenses on environmental protection lets oil companies save substantial funds. In the first instance

**Table 9. Ruptures of infield oil pipelines in 2011–2014 acc. to the data of GP "Central Dispatch Division of the Fuel and Energy Complex" ("TsDU TAeK")<sup>47</sup>**

Company/Years	2011	2012	2013	2014
"Rosneft"	7671	7338	6495	5797
"Lukoil"	3776	3712	3373	3114
"Surgutneftegaz"	15	5	10	1
Gazprom neft"	872	963	738	635
"Tatneft"	985	877	775	615
"Bashneft"	278	633	1067	1132
"Slavneft"	18	20	19	10
<b>In Russia Pon the whole</b>	<b>14 406</b>	<b>14 105</b>	<b>12 983</b>	<b>11 709</b>
BP	н/д	204	185	156
Total	н/д	219	169	129
Exxon	н/д	356	330	335

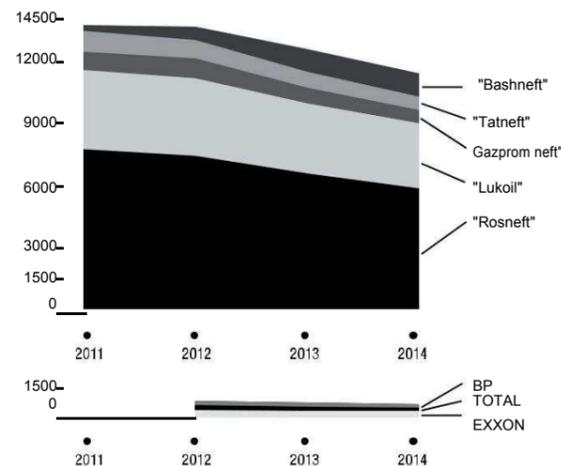
To compare: the overall number of oil spills over 1 barrel each (including oil which did not get into environment) made by BP constituted 204 in 2012, 185 in 2013 and 156 in 2014. For Total these numbers made 219, 169 and 129 spills accordingly. For Exxon - 356, 330 и 335 accordingly. One can assume that the necessity of investment to minimize the number of oil spills partially impacts the economic efficiency of these companies.

According to Bloomberg, the operating costs of "Rosneft" in 2015 made \$2.6 per a barrel of extracted oil. To compare, the same measure for Shell made \$6.8, for Total - \$7.8, for BP - \$10.3 per a barrel of extracted oil.<sup>69</sup>

As it reveals in Table 9, the number of ruptures of infield oil pipelines per a million of tons of extracted oil usually go into double digits, which proves that companies to a considerable extent economize on proper maintenance of infield oil pipelines. Accuracy of data provided by "Surgutneftremont" whose reported number of ruptures per 1 mln tons of extracted oil differs by one hundred times from the numbers of ruptures occurring

Number of ruptures per 1 mln tons of extracted oil in 2014	
"Rosneft"	<b>30</b>
"Lukoil"	<b>36</b>
"Gazpromneft"	<b>19</b>
"Tatneft"	<b>24</b>
"Bashneft"	<b>24</b>
Tjtal of ruptures in Russia	<b>70</b>
	"Surgutneftegaz" <b>0,02</b>
	"Slavneft" <b>0,62</b>
	[ruptures with no spill] 22

In February 2014 the Minister of Natural Resources S.E.Donskoy made public an estimation that to upgrade the whole network of infield pipelines oil companies will need to invest about 1.3 trillion Roubles.<sup>50</sup>



at the oilfields of companies-competitors to "Surgutneftegaz"'s raises certain doubts.

It is worthwhile mentioning that the given data was provided by oil companies themselves, so these data just partially reveals the reality (See Part 2.3.); as the authors of this Study believe, these data covers only **large-scale oil spills** - substantially exceeding the volume of 1 barrel each. The amount of finances "saved" by oil companies on maintaining a safe operation of infield oil pipelines can be assumed on the basis of expert data provided by the head of the RF Ministry of Natural Resources in 2012 and 2014. In April 2012 the Minister of Natural Resources Yu.P.Trutnev in his report to then the RF Prime Minister Vladimir Putin<sup>48</sup> gave the following evaluation of underinvestment in oil pipelines maintenance in the Khanty-Mansiysk Autonomous Region using the case of TNK-BP company as an example: "[in order to] put things right at one of its most problem-causing oilfields, it will take the company from 5 to 7 years, while investments in the replacement of oil pipelines need to be increased by 3 times."<sup>49</sup>

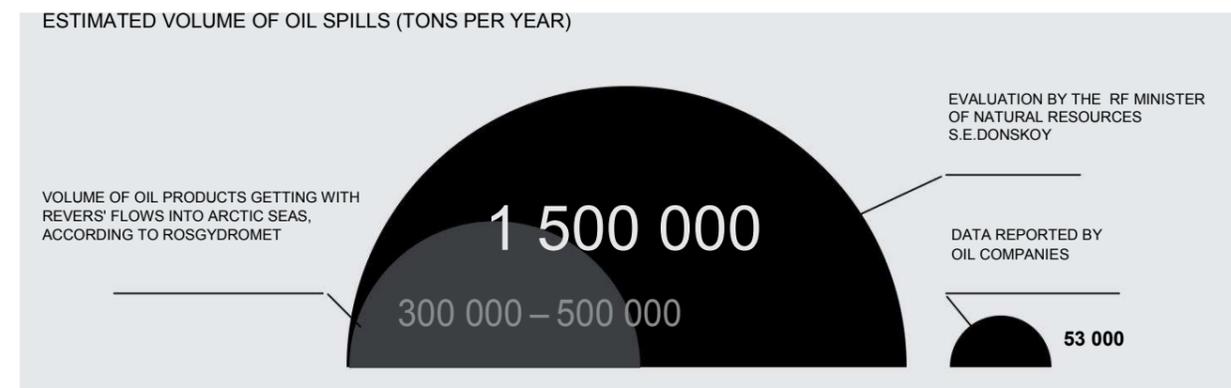
Hence, the required yearly investments in the appropriate upgrade of the network of infield oil pipelines will make 180-260 billion Roubles per annum providing that the upgrade would take the period of 7 or 5 years respectively.

Taking into account that oil companies in Russia invest in the replacement and upgrade of oil pipelines - by a rough estimate of the authors of this Study - about 1/3 of what is really required, their underinvestment can make from 120 to 170 billion Roubles per annum<sup>51</sup>. Judging by the profits gained by the 7 biggest oil companies in Russia in 2013-2014, the underinvestment can reach 10% of their net profit.

A more accurate estimate can be obtained through an indepth analysis of the scale, essence, and, most importantly - the amplitude and efficiency of the fulfillment of investment programs of oil companies which requires an additional study. However even if more accurate calculations can be made, it is necessary to consider possible error margins due to the absence of access to data needed for such analysis.

### 2.3. Hidden measures of support to the oil industry: avoidance of full financial liability for oil spills

Wreckages of the infield oil pipelines cause a tremendous damage to the environment. In accordance with the RF legislation, entities that caused damage to the environment are obliged to compensate such a damage to the full extent



indicates that the supervising and control bodies do not have trustworthy data on the scale of yearly losses of hydrocarbon resources and contamination of the environment, on the measures taken by the users of natural resources on the cleaning of oil contamination, as well as on the accumulated environmental damage to soils, water bodies and bottom sediments".

Doubts re. the accuracy of the data on oil pipelines ruptures reported by oil companies rise also due to the facts described below. For example, in 2014 "Surgutneftegaz" reported to the Central Dispatch Division of the Fuel and Energy Complex just **one** (!) rupture of oil pipeline, while the volumes of oil extracted by the company make over 60 mln tons per year (3rd in oil production in Russia). Just to compare, in 2014 "Rosneft" reported over 5,500 ruptures, while "Lukoil" - over 3,000.

According to the conclusions of the Round-table discussions "Ensuring Ecological Safety of the Works on Oil and Oil Products Spills Mitigation" held by the Higher Ecological Council under the RF State Duma Committee for Natural Resources

(according to Article 77 of the Federal Law "On the Protection of the Environment").

Meanwhile the shortcomings of the Russian legislation and the poor work of state bodies leave a loophole oil companies to avoid responsibility for non-complying with the legal requirements. Hereafter we provide some examples of such cases.

#### Hiding the facts of oil spills

According to the "State Report on the Protection and State of the Environment in the Russian Federation in 2014"<sup>52</sup>, during the last years the number of ruptures at infield oil pipelines made between 11,500 and 14,500. In 2011 altogether 14,406 ruptures occurred, in 2012 - 14,105, in 2013 - 12,983, and in 2014 - 11,709.

Meanwhile, the official all-Russian data on pipelines' ruptures is based on the reports from oil companies to the Central Dispatch Division of the Fuel and Energy Complex. As already noted, those figures are often understated, which was admitted by the Minister of Natural Resources S.E.Donskoy: "The comparison of the number of accidental oil spills and ruptures reported by the users of mineral resources to the supervising and controlling bodies (no more than 5,000 per annum) with the number of those recovered in the result of a complex inspection of just one user

on December 5, 2014, many facts of accidental oil spills are deliberately hidden"<sup>53</sup>.

It is difficult to assess the number of oil spills hidden by oil companies on a national level. One can only assume that it considerably contributes to the decrease of oil companies spendings on the maintenance and replacement of wrecked oil pipelines, hence - it adds to their commercial efficiency.

#### Understating of oil spills volumes

As opposed to the numbers of accidental oil spills, data on oil spills' volume is presented to a more extent and, by analyzing it, one can assess the extent of a company's "savings" by decreasing its expenditures on oil pipelines maintenance. To do this, one can compare the data of different agencies on the volume of oil lost in the result of pipelines' ruptures with the data provided by oil companies themselves.

According to the data of oil companies reported to the Central

Dispatch Division of the Fuel and Energy Complex, the losses of oil in the result of pipelines' ruptures make 53,000 tons per year - according to the data reported by oil companies in 2011.

This data and its adequacy can be implicitly evaluated by comparing it with the reported by Rosgydromet volume of crude oil getting into the Arctic Seas with a river flows (See *infographics above*).

According to this data, no less than a few hundred thousand tons of oil are spilled into the environment on a yearly basis in the result of pipelines' ruptures, which is many times more than oil companies report. According to the evaluation of then the Minister of Natural Resources Yu.P.Trutnev made in April 2012, the volume of oil from oilfields getting into the Arctic Seas with river flows can vary between 300,000 and 500,000 tons per annum.<sup>54</sup>

According to the assessment of the Minister of Natural Resources S.E.Donskoy in 2015, oil spills reach 1.5 mln tons per annum<sup>55</sup>, i.e. 30 times more than oil companies report. To compare, the value of this volume at \$40/barrel makes it about \$0,4 bln - or equivalent to about 30 bln Roubles.

At the same time, according to S.E.Donskoy, in 17% of accidents oil contamination impacts water bodies,<sup>56</sup> which implicitly confirms the assessment made by Yu.P.Trutnev about 300,000 - 500,000 tons of oil getting into the Arctic Seas.

In 2014 the officially reported damage to the water bodies in Russia recovered by Rosprirodnadzor made 5 bln Roubles.<sup>57</sup>

Basing on the formula for the calculation of payments for over-the-limit dumping of oil products in the volume of 500,000 tons, one can make a hypothetic calculation of such payments, which can make about 160 bln Roubles (equivalent to

~\$2.5 bln) per annum.<sup>58</sup>

If we make a similarly hypothetic calculation of the payments for the damage caused to water bodies by the same amount of oil and oil products (500,000 tons), we will come to a sum of 280 bln Roubles (equivalent to ~\$4.6 bln) per annum.<sup>59</sup>

Obviously, it is not the whole volume of oil reaching the Arctic Seas that comes from the oilfields, thus the above given assessments should be considered as indicative ones. Meanwhile one can assume, that the major part of this volume, as well as the related damage, should be linked to oil spills, which is confirmed by the evaluations of Yu.P.Trutnev.

As a result, the damage caused to the northern rivers in monetary equivalent can reach up to 10% of the Russian oil companies' net profit.

However, the cumulative ecological damage exceeds the figures given above, as, apart from the damage caused to the Northern rivers, spilled oil also impacts soils, forests, enclosed water bodies, as well as rivers of other basins. That is why one can presume that the overall ecological damage by far exceeds the noted 280 bln Roubles.

#### **Compensation of the caused ecological damage by factual spendings on the rehabilitation of contaminated areas - as a result of which the ecological damage is not compensated to the full extent**

Upon the completion of works on the mitigation of accidental oil spills and rehabilitation of the contaminated areas carried out by oil companies themselves, part of spilled oil remains in the soil - it is the so-called residual contamination. Meanwhile, oil companies do not compensate (in monetary means) or do not compensate to a full extent the above noted residual damage.

the rehabilitation of the contaminated areas. However, a considerable drawback of this option is that in practice the rehabilitation of the damaged areas is not fulfilled up to the initial state of the area, as the RF legislation allows residual oil contamination - sometimes in sufficient quantities and with no financial compensation for it.

For example, during the re-cultivation of the soil, the so-called "limits of acceptable residual containment of oil and products of its transformation in the soil after the completion of re-cultivation or other rehabilitation works" are applied (according to DOSNP).<sup>60</sup>

It is obvious that the adoption and implementation of DOSNP is to some extent justified, as the rehabilitation of the soil to its initial state (prior to oil spill) is often merely impossible. However the DOSNP "limits" can exceed the initial levels by hundreds and thousands times which enables considerable residual contamination after the completion of rehabilitation works with no whatsoever compensation for it..

This contradicts Paragraph 1 of Article 77 of the Federal Law on the Protection of Environment" due to which legal entities that caused damage to the environment must compensate it to a full extent.

A similar situation is occurring in the case of water bodies' contamination. For instance, in the result of a large-scale oil spill next to the Kolva River in the Komi Republic in May-June 2013, the damage to the water bodies was determined at 114 mln Roubles. The company that had caused the damage later on claimed that it compensated the damage by the related rehabilitation works, which it carried out by itself and which cost the company about 99 mln Roubles (i.e. about 87% of the determined ecological damage). Hence, the monetary compensation made about 15 mln Roubles<sup>61</sup>. However, judging by the existing international practice, the authors of this Study have substantial doubts that the company managed to collect even 50% of oil that had got into the Kolva River.

In 2015 the RF Constitutional Court tried to clarify this collision.<sup>62</sup> Nevertheless the issue on the compensation of ecological damage by conducting rehabilitation works remained unresolved.

The Constitutional Court prescribed to the lower courts to "further on, until the adoption of new regulations, to decrease the amount of damage caused to forests by the amount of costs of rehabilitation works, if, in the result of undertaken works, consequences of contamination were actually removed."

However, the Constitutional Court did not clarify what the "actual removal of the consequences of contamination" meant ,and whether it presupposes the cleaning away of 100% of oil, rehabilitation of forest stand, fulfillment of other recreational works and compensation of residual oil contamination.

Nongovernmental organizations including Greenpeace Russia, Save the Pechora Committee among other take a firm standing that in case the rehabilitation works cannot ensure the initial state of contaminated by oil spill area, the residual contamination must be compensated financially. The amount of such compensation must be calculated on the basis of rate scales and methods approved by the orders of the RF Ministry

of Natural Resources.

In other words, the amount of voluntary expenses for the cleaning/rehabilitation works is determined by the company responsible for the contamination. After rehabilitation works are over, the remaining (residual) contamination - which will most likely never cleaned away - must be compensated in a monetary as it is required by the Federal Law "On the Protection of Environment" regarding the full compensation of ecological damage.

It is this model of damage compensation that is used internationally: e.g. BP which was guilty for the 2010 oil spill not only covered the rehabilitation works but also paid a fine covering irreparable damage caused to the environment. In Russia such a model (approach) works in other fields, though not related to environmental issues: e.g. in case of a ticketless trip in a public transport, a fare evader is not exempted from paying a fine even if he pays for the ticket when caught.

#### **COMPARATIVE ASSESSMENT OF THE AMOUNT OF ECOLOGICAL DAMAGE** (bln Roubles)

##### **10** ECOLOGICAL DAMAGE CAUSED BY OIL SPILLS RECOVERED BY THE STATE BODIES (OPEN DATA)

**160** PAYMENT FOR AN OVER-LIMIT DUMPING OF OIL PRODUCTS INTO THE RIVERS OF THE ARCTIC SEAS' BASIN (AS OF 500,000 TONS)

**280** AMOUNT OF DAMAGE CAUSED TO WATER BODIES IN THE RESULT OF DUMPING 500,000 TONS OF OIL INTO THE NORTHERN SEAS

**1300** FIXING AND REPLACEMENT OF OIL PIPELINES (TOTAL COST ACC. TO THE ASSUMPTION OF THE MINISTER S.E.DONSKOY)

**170** AMOUNT OF UNDERINVESTMENTS IN THE MAINTENANCE AND REPLACEMENT OF INFIELD OIL PIPELINES (AMOUNT OF INVESTMENTS WITHIN 1 YEAR OF THE 5-YEAR PROGRAM)

**1765** NET PROFIT OF TOP-7 COMPANIES IN 2014

**836** YEARLY NATIONAL SUBSIDIES TO THE PRODUCTION OF MINERAL RESOURCES, ON THE AVERAGE DURING 2013-2014

According to Paragraph 1 of Article 78 of the Federal Law "On the Protection of Environment" the definition of the amount of damage caused to the environment in the result of breaking the environmental legislation is determined on the basis of the factual expenditures on the rehabilitation of the damaged areas inclusive of lost revenues and opportunities. It is also determined in accordance with the rehabilitation projects, or, in the absence

of such projects - in accordance with rates and methods of damage calculation adopted by the executive power bodies authorized to execute control of the environmental protection.

However, the existing practice shows that companies responsible for accidental oil spills usually prefer the option of a voluntary compensation of the caused damage by fulfilling

## SOURCES:

[...]

46 "The State Report on the Protection and State of the Environment in 2014".

[http://www.mnr.gov.ru/upload/iblock/b27/gosdoklad\\_2015.pdf](http://www.mnr.gov.ru/upload/iblock/b27/gosdoklad_2015.pdf).

Press-release on the publication of the Report:

<http://www.mnr.gov.ru/news/detail.php?ID=142681> (accessibility of the link checked on January 3, 2016).

47 Ibid, p.27, Table 32.

48 <http://archive.premier.gov.ru/events/news/18713/>

(accessibility of the link checked on January 4, 2016).

49 After the takeover of "TNK-BP" in 2013 by "Rosneft", the infield infrastructure, noted by the former Minister of Natural Resources, became an integral part of the PAO "NK-Rosneft" infield infrastructure.

50 The Report of the RF Minister of Natural Resources S.E.Donskoy at the meeting of the Commission for the Development Strategies of Fuel and Energy Complex and Ecological Safety "On the Problems of Ensuring Ecological Safety of the Development of Natural Resources on the Territory of the Russian Federation and Its Continental Shelf" held on February 25, 2014

[www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=133886&print=Y](http://www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=133886&print=Y) (accessibility of the link checked on January 4, 2016).

51 The calculation is made on the basis of the overall cost of the Program, which is 1.3 trillion Roubles, and the period of the Program's implementation - from 5 to 7 years. Thus, the average yearly expenditures would make from 0.186 to 0.26 trillion Roubles. Basing on the assertion that investments into fixing and replacement of oil pipelines need to be increased by 3 times (as it happened with "TNK-BP") one can assume that additional investments during the period from 5 to 7 years can be between:  $0.186 - 0.186/3 = 0,124$  trillion Roubles and  $0.26 - 0.26/3 = 0.17$  trillion Roubles.

52 "The State Report on the Protection and State of the Environment in 2014"

[http://www.mnr.gov.ru/upload/iblock/b27/gosdoklad\\_2015.pdf](http://www.mnr.gov.ru/upload/iblock/b27/gosdoklad_2015.pdf).

p.27, Table 32 (accessibility of the link checked on January 3, 2016).

53 The recommendations of the Round-table discussions "Ensuring ecological safety of the mitigation and elimination of oil and oil products' spills" of the Higher Ecological Council under the Committee for Natural Resources, Natural Resources' Management and Ecology of the RF State Duma held on December 5 2014.

54 <http://archive.premier.gov.ru/events/news/18713/>

(accessibility of the link checked on January 4, 2016).

55 Information message of the RF Ministry of Natural Resources on July 22, 2015

<https://www.mnr.gov.ru/news/detail.php?ID=141640> (accessibility of the link checked on January 4, 2016).

56 The Report of the RF Minister of Natural Resources S.E.Donskoy at the meeting of the Commission for the Development Strategies of Fuel and Energy Complex and Ecological Safety "On the Problems of Ensuring Ecological Safety of the Development of Natural Resources on the Territory of the Russian Federation and Its Continental Shelf" held on February 25, 2014

[www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=133886&print=Y](http://www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=133886&print=Y) (accessibility of the link checked on January 4, 2016).

57 Information message of the RF Ministry of Natural Resources on April 10, 2015 <https://www.mnr.gov.ru/news/detail.php?ID=140873>

(accessibility of the link checked on January 4, 2016).

58 The calculation was made according to the following formula:

$$S = V \times N \times K_{(e.f.)} \times C_{(o.l.e.)} \times C_{(ic2013)},$$

where:

S - payment for over-the-limit dumping of oil and oil products;

V - volume of oil and oil products that got into the Northern rivers equal to 500,000 tons;

N - normative standard of payments for dumping oil and oil products into surface and ground water bodies; according to Supplement 1 to the RF Government Resolution # 344, dated June 12, 2003, it is equal to 27,550 Roubles per 1 dumped ton of oil and oil products;

K(e.f.) - coefficient that accounts for ecological factors (state of water bodies) in the basins of the Arctic Seas and Rivers according to Supplement 2 to the RF Government Resolution # 344, dated June 12, 2003. Due to the fact that the value of this coefficient varies depending on the region, we use the coefficient for Khanty-Mansiysk Region which is 1.04;

C (o.l.e.) - 5-fold increasing coefficient for an over-the-limit contamination of the environment in accordance with Paragraph 5 of the Order of Calculating Payments and Their Maximum Values for the Contamination of the Environment, Waste Disposal and Other Types of Harmful Impact (adopted by the RF Government Resolution #632 on August 28, 1992;

C (ic2013) - increasing coefficient for the normative payments for a negative impact on the environment, adopted by the RF Government in 20013 and applied in 2013; it is equal to 2.2 (according to the Federal Law# 216-FZ dated December 3, 2012). Hence, basing on the given data, the payment for an over-the-limit dumping of 500,000 tons of oil would make 157,586 bln Roubles.

59 The calculation was made in accordance with the Methodology for Calculating the Amount of Damage Caused to Water Objects in the Result of Breaking the Water Resources Legislation (adopted by the RF Ministry of Natural Resources Resolution # 87 on 13.04.2009) - further on referred to as "Methodology"- in line with the following formula:

$$D = C_{(sy)} \times C_{(w)} \times C_{(ind)} \times C_{(d)} \times O,$$

where:

D - monetary value of the amount of damage, in mln Roubles;

C(sy) - coefficient accounting for nature and climatic conditions depending on the season of the year; it is determined according to the Table 1 of Supplement 1 to the Methodology and in the present formula is equivalent to the minimal value of 1.05 standing for high waters and floods;

K(w) - coefficient accounting for ecological factors (state of water objects); it is determined according to Table 2 of the Supplement 1 to the Methods and is equal to the coefficient for the Ob' River (the main "supplier" of oil and oil products to the Arctic Seas), i.e. 1.22;

C(ind) - coefficient of indexation (readjustment) which accounts for the inflationary component of economic development; it is determined according to Paragraph 11.1 of the Methodology and is equal to 1 in the present formula (as of 2007);

C(d) - coefficient accounting for the duration of negative impact by contaminants on water objects when no measures on eliminating this impact are being taken; it is determined according to Table 4 of Supplement 1 to the Methodology; in the present formula it is equal to 1.1 - the minimal coefficient taken with an assumption that the duration of the period when no measures to eliminate the negative impact are taken makes up to 6 hours;

O - rate scale to calculate the amount of damage occurred in the result accidental contamination of water bodies with oil and oil products; it is

determined on the basis of 500,000 tons and the value of 0.4 mln Roubles per ton of oil products;

Thus the overall calculation makes the total of 281,820 bln Roubles.

60 "Allowable Residual Containment of Oil in the Soil" (DOSNP) - put in force by the Order #574 of the RF Ministry of Natural Resources on 12.09.2002.

61 The letter # 01-42/148 dated April 28, 2014, from the Ministry of Natural Resources of the Komi Republic.

62 <http://www.ksrf.ru/ru/News/Pages/ViewItem.aspx?ParamId=3227> (accessibility of the link checked on January 4, 2016).