

CBK: >20 0@O ; 048<8@2=0
 ABC45=B 0 : 0D54@M>=>8: 0 8 C' @2; 5=85
 ?@4?@CB85< (=5DBO>9 8 307>2>9
 ?@<KH; 5=>AB8)
 ">A 89 ?>; 8B5E=8C5A 89 C=825@8B5B
 634050, 3. ">A, ?@A25: B 5=8=0, 4< 30,
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 " \$ "/ + %
 ! "

THE PROBLEMS OF LIQUIDATION FUND FORMATION DEVELOPING OIL DEPOSITS

=>B0F8Q

0AA<>B@K >A>2=K5 ?@1; 5<K D>@8@20=8O
 F5; 52>3>; 8: 2840F8>=>3> D>=40 4; O=5DBO=KE
 <5AB>@6 45=89, @7@10BK205<KE =0 CA>28CE
 ; 8F5=78>=>KEA3; 0H5=89. @<: 0E 40=>3> 8A
 A: 54>20=8O 87CB; 8AL ?@1; 5<K ?@8<C 5-
 AB 25=> ?@2>2>3> 8 M>=>8C5A: >3> BD@: B 5@.
 @<5 B>3>; : @B: > @AA<>B@K @H5=8Q :>
 B>@K5 ?@ACB AB 2CNB 2 ?@: B 8: 5=5DB 5307>2KE
 >@0=870F89, ?@4: >6 5=K 20@0=BK, :>B>@K5
 <>3CB 1KBL ?@: B 8C5A: 8 @0; 87>20=K.

; NG52K5 A: >20: =5DB5?@<KA; >2K9 >1J5: B : 0-
 ?8B 0; L=>3> AB @8B 5; LAB 20, F5; 52>9 ; 8: 2840F8-
 >=>K9 D>4, ; 8: 2840F8>=>K5 @1>BK.

Abstract:

The actual problems of forming target liquidating fund for petroleum deposits developed in terms of licence agreement are considered. Within the framework of the given research, the problems of legal and economic character were studied. Besides the problems common for oil and gas organizations are viewed in brief. The variants that could be practically realized are proposed

Key words: oil-field object of capital construction, target liquidating fund, liquidating works

025@H0NI 8< MB0?> 6 87=5=>3> F8: ; 0 <5AB>@6 45=89 =5DB8 8 3070, @7@10-
 BK205<KE =0 CA>28CE ; 8F5=78@20=8O 45CB5; L=>AB8, C2; C5BAO ; 8: 2840F8O>A>2=KE
 ?@872>4AB25=KE D>=4>2 (\$) 8 @A 4@38E @1>B 1I 0OAB>8<>ABL 2A5E <5@?@8O
 B89 =0 40=>=> MB0?5 4>AB8305B 10 % : 0?8B0; L=KE 70B@B=0 @7@1>B C<5AB>@6 45=89
 C3; 52>4>@4>2. 0?@8<5@ 4; O <5AB>@6 45=89 A70?0A0<8 ! 1 ?>@4: 0 40 <; = B=5DB8
 AB>8<>ABL ; 8: 2840F8>=>KE @1>B<>6 5BA>AB028BL 1>; 55 7 <; @ @1. [1].

=0AB>C 55 2@<O2 70: >=>40B5; LAB25 \$ =5>?@45; 5= 548=K9 ?>@4>: D8=0-
 A8@20=8O; 8: 2840F8>=>KE @1>B4; O; 8F5=78@20=KE=5DB5307>2KE <5AB>@6 45=89.

B> 6 5 2@<O=5@4: >=54@?>; L7>20B5; 8 =0 7025@H0NI 8E MB0?0E MA?; COB0F88 B0: 8E
 <5AB>@6 45=89, AF5; LN 87156 0BL 7=0C8B5; L=KE 70B@B=0 ; 8: 2840F8N \$, ?@81530NB
 : ?@: B8: 5 ?5@40C8 =0 10; 0=A2A59 8=D@AB@: BC@K <5AB>@6 45=8O>1>A>1; 5=K< 4>
 C5@8< AB@: BC@<, :>B>@K5 2?>A 54AB288 ?@7=0NBAOD8=0=A>2>=5A>AB>CB5; L=K<8, 8
 D8=0=A8@20=85 ; 8: 2840F8>=>KE @1>B?>; =>ABL N ?5@: ; 04K205BAO=0 3>AC40@AB> [2].

&5; L 40=>3> 8AA 54>20=8O - @AA<>B@BL 20@0=BK @H5=8O 0: BC0; L=KE ?@-
 1; 5<, 2>7=8: 0NI 8E ?@8 D>@8@20=88 F5; 52>3>; 8: 2840F8>=>3> D>=40 (& \$) 4; O
 =5DB5307>2KE <5AB>@6 45=89, @7@10BK205<KE =0>A>25 ; 8F5=788.

A>28Q ACI 5AB2=> 2; 8ONI 85 =0 MDD5: B82=>ABL @H5=8O?@1; 5<; 8: 2840-
 F88 =5DB5307>2KE <5AB>@6 45=89, 2: ; NCONB4; 8B5; L=>ABL 2@<5=>3> 8=B5@0; 0 A<>-
 <5=B0=0C0; 0 =0: >?; 5=8OD>=40 4><>5=B0=0C0; 0 ?@2545=8O 7025@H0NI 59 ; 8: 2840-
 F88; <0AHB01=>ABL 8 :>?; 5: A>ABL ; 8: 2840F8>=>KE @1>B 2; 8O=85 ?@8@4=>; : 8<0-
 B8C5A 8E 8 35>; >38C5A 8E CA>289; B@A?>@B=0OC40; 5=>ABL <5AB>@6 45=89 >B=0A5-
 ; 5=KE ?C=: B>2.

=0AB>C 55 2@<O 2 CA>28CE \$ =5>1E>48<>ABL ; 8: 2840F88 4>1K20NI 8E 8

=03=5B0B5; L=KE A 206 8=, >1J5: B>2 >1CAB@9AB20 =5DEO=KE <5AB>@6 45=89 8 ? @2545-
=8O@: C; LB820F88 B5@8B>@8 ? @ 7025@H5=88 MA?; COB0F88 <5AB>@6 45=8O>B@6 5=0
2 \$ \$ « =54@E» 2 AB 22 « A>2=K5 ? @20 8 >1O7O==>AB8 ?>; L7>20B5; O=54@. 4=0: >
40=0O=>@0B82=>? @2>20O 1070 =5 ? @4CA<0B@205B>1O70B5; LAB2> A>740=8O=54@-
?>; L7>20B5; O<8 A? 5F80; L=>3> 8AB>G=8: 0 4; O D8=0=A>2>3> >15A? 5G5=8O ; 8: 2840F8>=
=KE @1>B

>@0B82=>5 @3C; 8@20=85 ? @ D>@8@20=88 & \$ >ACI 5AB2; O5BAOB>; L: >4; O
=5DB5307>2KE <5AB>@6 45=89, @7@10EK205<KE =0 >A>25 A>3; 0H5=8O> @745; 5 ? @-
4C F88 (!) 2 A>>B25BAE288 A >; >6 5=85< @28B5; LAB20 \$ 74 >B 8.07.1999 3., 0
B0: 6 5, 2 2011 3. 2 C3; 54>1K20NI 59 >B@A; 8 1K; > @7@1>B0=> >; >6 5=85 > A>740=88
C3; 54>1K20NI 8<8 ? @4? @CB8O<8 ; 8: 2840F8>=KE D>=4>2 4; OD8=0=A8@20=8O@1>B
?>; 8: 2840F88, : >=A5@20F88 3>@KE ? @4? @CB89 [3].

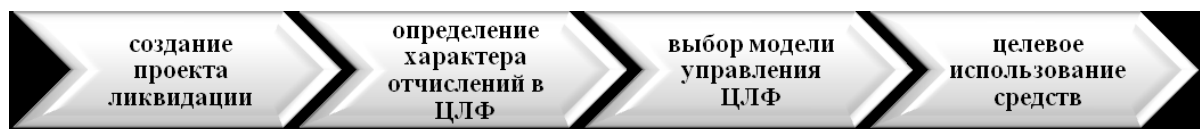
F5; <>A>2=K5 ? @1; 5<K ? @ A>740=88 & \$ <>6=> A3@? ?8@20BL?>=0? @2-
; 5=8O< ? @2>2>3> 8 M>=<8G5A >3> E0@: B5@ (@A 1).



8A 1 – @??K ? @1; 5< ? @ D>@8@20=88 & \$

@1; 5<K M>=<8G5A >3> E0@: B5@ D0: B8G5A 8 >B@6 0NB >BACBAE285 ? @2>-
2>3> @3C; 8@20=8OD>@8@20=8O& \$, CB> A2O7O=> A? @: @I 5=85< 459AB28O>B@A 5-
2>3> ?>; >6 5=8O> ?>@4: 5 D>@8@20=8O 8 8A?>; L7>20=8O A@4AB2 ; 8: 2840F8>==>3>
D>=40 ? @4? @CB89, 459AB2>202H53> 4> 2002 3. [3].

@F5AA>740=8O& \$ 4; O? @2545=8O45<=>B06 =KE @1>B>1J5: B>2 : 0?8B0; L-
=>3> AB@8B5; LAB20 <5AB>@6 45=89 =5DE8 8 3070 ?>? CB>3>, @7@10EK205<KE =0 CA>
28CE ; 8F5=78@20=8Q 45<=>AB@ @5B @A 2.



8A 2 – - B0?K A>740=8OF5; 52>3> ; 8: 2840F8>==>3> D>=40 4; O=5DEO>3> <5AB>@6 45=8O

! 0<K< 206 =K< MB0?< O2; O5BAO @7@1>B 0 ? @5: B0 >1CAB@9AB20 <5AB>@6 45-
=8Q =5>1E>48<>9 @ABL N : >B>@3> O2; O5BAO? @5: B; 8: 2840F88 53> >A>2=KE >1J5: B>2
>1CAB@9AB20 4; OB>3>, CB>1K M>=<8G5A 85 ?>: 070B5; 8 1K; 8 A>@@: B8@20=K A CG5-
B< =5>1E>48<>9 ; 8: 2840F8>==>9 AC<K.

CGA> =081>; 55 0: BC0; L=KE ? @1; 5< ? 5@>3> MB0? 0 2E>48B>? @45; 5=85 >1J5-
<>2 70B@B=0 ? @2545=85 45<=>B06 =KE @1>B : >B>@5 <>6 5B1KBL ? @2545=> <5B>4<
? @<5=5=8O?>=86 0NI 8E : >MDD8F85=B>2 A>3; 0A> ! 81-36.2004, ? . 3.3 8 <5B>4<
@AC5B0 A<5BK 70B@B=0 45<=>B06 2 A>>B25BAE288 A> A1>@8: <\$ 81-02-46-2001 « 0-
1>BK ? @ @: >=AB@: F88 740=89 8 A>@@6 5=89» [4].

0AC5BA<5BK =0 45<=>B06 >1J5: B>2 : 0?8B0; L=>3> AB@8B5; LAB20 2 A>>B25BAE288

A> AI>@8: < \$ 81-02-46-2001 =52>7<>6 => ?@25AB ?>; =>F5=>, B0: : 0: AI>@8: =5
8<55BH8@: >3> : @30 @AF5=>: . A?>; L7>20=85 ! 81-36.2004, ?. 3.3 ?@4?>; 0305B
CB? ?@<5=CNBAOC @?>=5=K5 :>MDD8F85=BK : @AF5=: 0< AB@8B5; L=>-<>=B06 =KE @-
1>B A>AB>CI 8E 87 70B@BB@40 @1>C8E-AB@8B5; 59 8 <=>=B06 =8: >2, 0 B0: 6 5 87 70B@B=0
MA?; C0B0F8N <0H8= 8 <5E0=87<>2, ?>MB<C ACI 5AB2C5B1>; LH0025@CB=>ABL =5B-G->
CAB0=>28BL A<5B=CN AB>8<>ABL

F5; < ACC5B< ?@8<CI 5AB2 8 =54>AB0B >2 42CE<5B>4>2 ?@8 A>AB02; 5=88 A<5B
=0 45<=>=B06 >1J5: B>2 =5DB5? @<KA> >2=0 ?@: B8: 5 =081>; 55 >? @240=K< C2; C5BA08A
?>; L7>20=85 @AF5=>: AI>@8: 0 \$ 81-02-46-2001 A>2<5AB> A?>=86 0NI 8<8 :>MDD8-
F85=B0<8 A>3; 0A=> ! 81-36.2004, ?. 3.3.

@8<CI 5AB20 8 =54>AB0B 8 40=KE <5B>4>2 ?>: 070=K 2 B01; . 1.

" 01; 8 F0 1

! @2=8B5; L=0OE0@: B5@AB8: 0 <5B>4>2 ?>@45; 5=8OAB>8<>AB8 45<=>=B06 =KE @1>B

	5B>4 ?@<5=5=8OAI>@8: 0 \$ 81-02-46-2001 « 01>BK ?@ @: >=AB@: F88 740=89 8 A>@6 5=89»		5B>4 ?>=86 0NI 8E :>MDD8F85=B>2 A>3; 0A=> ! 81-36.2004, ?. 3.3.	
	@8<CI 5AB20	54>AB0B 8	@8<CI 5AB20	54>AB0B 8
0B@BK 2@<5=8 A<5BC8- :>2=0 @AC5BAB>8<>AB8 45<=>=B06 0		KA: 89 C@-25=L B@4>70-B@B		KA: 89 C@-25=L B@4>70-B@B
">G=>ABL @AC5B0 AB>8-<>AB8 45<=>=B06 =KE @-1>B	081>; LH00 B>G=>ABL			08<5=LH00 B>G=>ABL
! B5?5=L C: @?>=5=>AB8 A<5B=KE @AF5=>:	0AF5=: 8 48D-D5@=F8@-20=K 4; O@7-=KE 284>2 @-1>B			KA: 00AB5-?5=L C: @?-5=>=AB8 @A F5=>:
8DD5@=F80F8O284>2 45<=>=B06 =KE @1>B4; O ; 8: 2840F88 >1J5: B>2 =5DB5307>2>9 >B@A 8		3@=8C5=>	(8@: 0048D-D5@=F80F8O	

B> 6 5 2@<O2KA: 89 C@25=L B@4>70B@B?@8 ?@<5=5=88 40=KE <5B>4>2 3>-
2>@B> B<, CB> F5; 5A>>1 @7=> ?>@45; CBL 70B@BK =0 ; 8: 2840F8N \$ A8A?>; L7>20-
=85< =>@0B82>2, >B>A8<KE : AB>8<>AB8 AB@8B5; L=>-<>=B06 =KE @1>B?> >A>2=K<
3@?>0< >1J5: B>2 >1CAB@9AB20 <5AB>@6 45=89, =0?@<5@: 0: 2 [1]. 0=K9 <5B>4 4>-
AB0B>G=> ?@AB2 @AC5B0E, >4=0: >B@1C5B?>4@1=>3>>1>A>20=8O8 0: BC0; 870F88 CAB0-
=>2; 5=KE =>@0B82>2.

@<O=0C0; 0 D>@8@20=8O& \$, 8AB>G=8: 8 8 AC<<K ?@4AB>CI 8E>BC8A 5=89
=0 ?@2545=85 ; 8: 2840F8>=KE @1>B7028ACB>B1>; LH>3> :>; 8C5AB20 D0: B>@2 8 1C4CB
8=48284C0; L=K<8 4; O: 06 4>3> <5AB>@6 45=8O

! CI 5AB2C5B<=>6 5AB2 <=>5=89 >B>A8B5; L=> <<5=B0 2@<5=8, A: >B>@3>=5>1-
E>48<>=0C8=0BL D>@8@20BL & \$, 8 ?>: 0 <>6 => A 070BL B>G=> B>; L: > B>, CB> 45; 0BL
>BC8A 5=8OF5; 5A>>1 @7=>=5 @=LH5 ?>; =>F5=>9 ?@<KH; 5=>9 4>1KG8, :>340 AB018-
; 878@NBAOD8=0=A2K5 ?>B>: 8.

081>; 55 >1AC6 405<>9 M>=<<8: >-D8=0=A>2>9 B@4=>ABL N, A2O70=>9 A & \$,
C2; C5BA0 2K1>@8AB>G=8: >2 (2=5H=8E 8; 8 2=CB@=8E) >BC8A 5=89, :>B>@K5 4>; 6=K

=081>; 55 ?>; => A>B25BAB2>20BL 8=B5@A0< 2A5E AB>@=. >4 2=5H=8< 8AB>G=8: < ?@4-
 ?>; 0305BAOD8=0=A8@20=85 ; 8: 2840F8>=KE @1>B70 AC6BA@4AB2 3>AC40@AB20, => 2 A>-
 2@<5=KE @K=>G=KE CA>28CE, 40=K9 20@0=B O2; O5BAO=5?@5<; 5<K<. 2=CB@=-
 =5<C 8AB>G=8: C, 2 A>B25BAB288 A=0AB>CI 8< =0; >3>2K< @6 8<< \$, >B>A8BAO?@-
 1K; L=54@?>; L7>20B5; Q 4=0: >>BC8A 5=8O2 & \$ <>3CB1KBL 2: ; NG5=K 2 A>AB02 2=5-
 @0; 870F8>=KE @AE>4>2, : >B>@K5 B0: 6 5 A>: @I 0NB8 =0; >3>>1; 0305<CN 107C; ; 8HL?>
 D0: BC8E A25@H5=8O =0C8B5; L=K9 6 5 >1J 5< 40=KE >BC8A 5=89 ?@4?>; 0305B8E ?@4-
 20@B5; L=>5 =0: ?>; 5=85, ?>MB<C 8AB0O?@81K; L?@4?@CB8OC2; O5BAO=08<5=55 ?@4-
 ?>CB8B5; L=K< 8AB>G=8: < >BC8A 5=89 2 ?>; L7C & \$, B0: : 0: MB> ACI 5AB25=> A=878B
 MDD5: B2=>ABL>@0=870F88 [3]. <>GL@H8BL40=K9 2?@A<>6 5B>?KBD>@8@20-
 =8O& \$ 4; O<5AB>@6 45=89, @7@10BK205<KE=0>A>25 A>3; 0H5=8O> @745; 5 ?@4C -
 F88.

>?@AA>1J 5<0<8 >BC8A 5=89 B0: 6 5 O2; O5BAO?@4<5B< H8@>: >3>>1AC6 45=8Q
 B : . =0 A 54CNI 5< MB?5 =5>1E>48<> CABO=>28BL E0@: B5@>BC8A 5=89 A@4AB2 2 & \$ 8
 A>A>1 8E >ACI 5AB2; 5=8O %0@: B5@>BC8A 5=89 <>6 5B 1KBL 2 D>@>5 70: >=>40B5; L=>
 CABO=>2; 5=>>3> 548=>3> @7<5@>BC8A 5=89 D8=0=A>2KE A@4AB2 2 & \$ 4; O2A5E <5-
 AB>@6 45=89 =0 B5@AB>@88 \$. 4=0: > 2 40=>< A CC05 =5 C8BK205BAOC=8: 0; L=>ABL
 <5AB>@6 45=89 =5DB8, ?>MB<C 1>; 55 ?@: B8G<K< O2; O5BAOCABO=>2; 5=85 8=48284C0; L-
 =KE @7<5@>2 >BC8A 5=89 D8=0=A>2KE A@4AB2 =0 ; 8: 2840F8N >1J 5: B>2 8E >1CAB@9-
 AB20, : >B>@K5 1C4CB@AAC8BK20BLAO2 ?@5: B0E ; 8: 2840F88 \$: 06 4>3> =54@?>; L7>-
 20B5; Q

@=F8?K 8 <5E0=87< 040?B2=>3> ?>4E>40 <>6 => ?>708<AB2>20BL 87 ?>KB0 8A
 C8A 5=8O=0; >30 =0 4>1KCC?>; 57=KE 8A >?05<KE (AB342 \$), : >340 ?@4?>; 0305BAO
 48DD5@=F8@20=K9 ?>4E>4 : ?>@45; 5=8N AB02>: >BC8A 5=89 70 ?>@45; 5=K5 ?5@-
 >4K =0 1 B4>1KB>9 =5DB8 >15AA>; 5=>9, >1572>6 5=>9 8 AB018; 878@20=>9. @ MB<
 =0; >3>20OAB02: 0 A2O70=0 A: >MDD8F85=B<, E0@: B5@7CNI 8< AB5?5=L 2K@1>B0=>AB8
 : >=: @B>3> CC0AB 0 =54@25; 8C8=C70?0A>2 : >=: @B>3> CC0AB 0 =54@AB5?5=L A>6 =>-
 AB8 4>1KCB =5DB8.

>MB<CCABO=>2; 5=85 @7<5@>BC8A 5=89 2 & \$ 4>; 6=> C8BK20BL A 54CNI 85
 B5E=8: >-M>=<<8C5A 85 ?>: 070B5; 8 @7@1>B 8 <5AB>@6 45=8O

- >1J 5< 872; 5: 05<KE 70?0A>2 C3; 52>4>@4>2;
- :>MDD8F85=B872; 5C5=8O=5DB8 () 8 53> 87<5=5=85;
- 87<5=5=85>1I 59 AB>8<>AB8 ?@2545=8O; 8: 2840F8>=KE @1>B

#: 070=K5 ?0@<5B@K 40NB2>7<>6 =>ABL ?>@45; 8BL <8=8<0; L=K5 8 ?@45; L=>
 4>?CAB<K5 7=0C5=8O>BC8A 5=89 4; O: 06 4>3> 3>40 MA?; COB0F88 <5AB>@6 45=8O >; 55
 45B0; L=>5 >1AC6 45=85 MB>3> 2>?@A0 1C45B>4=>9 87 «1>; 52KE B>C5: » ?@ ?@CB88 70-
 : >=>40B5; L=KE 4>: C<5=B>2.

5?>A@4AB25=> A<<5=B<, : >340 =0C8=0NB?>ABC?0BL ?5@K5 AC<<K 2 D>=4,
 A2O70=MB? 2K1>@MDD5: B2=>9 <>45; 8=0: ?>; 5=8O8 C?@2; 5=8O& \$, : >B>@O4>; 6=0
 >B25C0BL@4C?@=F8?>2, 4; OC53>=5>1E>48<> 70: >=>40B5; L=> 70: @?8BL>?@45; 5=K5
 ?@20 2; 045=8O8 @A?>@6 5=8OA@4AB20<8 & \$ 70 =54@?>; L7>20B5; 5<.

! CI 5AB2CNB420 A?>A>10 C?@2; 5=8O(=0: ?>; 5=8O) D8=0=A>2K<8 A@4AB20<8 4; O
 F5; 59 ; 8: 2840F88 <5AB>@6 45=8O 0: B2=K9 8 ?0AA82=K9 (@A 3) [3].

; 02=K<8 ?@=F8?0<8 ?0AA82=>9 <>45; 8 2KABC?0NB=0456 =>ABL 8 A>E@=5=85
 >BC8A 5=89 2 ?>; L7C & \$. @=F8? =0456 =>AB8 ?@4CA<0B@205B B>, CB> A@4AB20
 D>=40 1C4CB8A?>; L7>20BLAO AB@3> ?> =07=0C5=8N 2 ?>@45; 5=K9 A@: . @=F8? A>-
 E@=>AB8 ?@4?>; 0305B CB> 25; 8C8=0 @75@=>3> D>=40 AB5C5=85< 2@<5=8 1C45B=587-
 <5=>9 2=5 7028A8<>AB8 >B2=5H=8E M>=<<8C5A 8E 8 D8=0=A>2KE ?@F5AA>2. 6 5<5-
 AOG=K5 =0C8A 5=8O?@F5=B>2 =0 45?>78B 8E : 0?8B0; 870F8Q 2>7<>6 =>ABL 4>102; 5=8O
 A@4AB2 : B5: CI 5<CA@>G=<<C2: ; 04C, 0 B0: 6 5 >BACBA285 70B@B?> C?@2; 5=8N D>=4<<
 ?>4B25@40NB2K?>; =5=85 ?@=F8?>2 ?0AA82=>9 <>45; 8 C?@2; 5=8O& \$.

: B82=>5 C? @2; 5=85 \$? @4?>; 0305B>15A? 5G5=85 53> =0456 =>AB8, A>E@=>-
 AB8, ; 8: 284=>AB8, 4>E>4=>AB8 8 4825@8D8: 0F88. ! >1; N45=85 ? @8=F8?0 4>E>4=>AB8
 8; 8 =0@I 5=8O0: BC0; L=> ? @8 <8=8<870F88 C? CI 5=KE 2>7<>6 =>AB59, : >B>@K5 2>7=8-
 : 0NB? @8 87J CB88 A@4AB2 87E>7OAB25=>3>>1>@B0 ? @4? @8CB8Q @8=F8? 4825@8D8-
 : 0F88 ? @8 @7<5I 5=88 @75@>2 \$ 70: ; NC05BAO2 =5>1E>48<>AB8 2; >6 5=89 A@4AB2 2
 @7=>>1 @7=K5 8AB>G=8: 8 4>E>4>2, CB> ?>72>; CB>A=878BL @8A 8 ?>@BD5; L=>3> 8=25AB8-
 @20=8Q



8A 3 – 25 <>45; 8 C? @2; 5=8O(=0: >?; 5=8Q) D8=0=A-2KE @75@>2 ; 8: 2840F8>=>3> D>=40
 >1J 5: B>2 : 0?8B0; L=>3> AB@8B5; LAB20 =5DBO>3> <5AB>@6 45=8O

B01; . 2 ? @82545=0 A@2=8B5; L=0O E0@: B5@AB8: 0 <>45; 59 C? @2; 5=8O A@4-
 AB20<8 & \$?>>A>2=K< 8E>A>15=>ABO< [3].

" 01; 8F0 2

A>15=>AB8 ?0A82=>9 8 0: B82=>9 <>45; 59 C? @2; 5=8O
 F5; 52>3> ; 8: 2840F8>=>3> D>=40

A>15=>AB8 <>45; 8	0A82=0O<>45; L	: B82=0O<>45; L
=25AB8F8>=0O ?>; 8B8: 0	4=>=0? @2; 5=85 2; >6 5=89	\$ >@8@20=85 8=25AB8F8>=>- =>3> ?>@BD5; O
# @25=L @8A 0 ? @8 ? @8<5=5=88 <>45; 8	8=8<0; L=K9 C@25=L @8A 0	>2KH5=K9 C@25=L @8A 0
>E>4=>ABL <>45; 8	8=8<0; L=K9 C@25=L 4>E>4=>AB8	>7<>6 => 4>AB8 6 5=85 <0: A8<0; L=>3> C@2=O 4>E>4=>AB8
0; >3>>1; >6 5=85 4>E>40	\$ 8: A8@20=0O AB02: 0 ?> 2: ; 04C	0; >3>>1; >6 5=85 4>E>40 2 @7<5@ >B15 4> 25 %
0; 8C85 ? @C8E 8745@ 5:	BACBAE2CNB	" @=A0: F8>=K5 8745@ : 8
1J 5< @1>B?> C? @2; 5=8N & \$	8=8<0; L=K9	8=8<0; L=K9 ? @8 ? @82; 5G5=88 CA; C3 B@AB>2>3> C? @2; ONI 53>

025@H0NI 89 MB? 2: ; NC05BF5; 52>5 8A?>; L7>20=85 A@4AB2 D>=40 : 0: ? @8 70-
 25@H5=88 MA?; C0B0F88 <5AB>@6 45=8Q B0: 8 ? @8 ; 8: 2840F88 >B45; L=KE >1J 5: B>2 70-
 4>; 3> 4> >: >=C0=8O @7@1>B 8, 5A; 8 MB? ? @4CA>B@=> ? @5: B<.

A>20=85< 4; O«A=CB8O» A@4AB2 A> ACB0 1C45BA; C6 8BL ? 5@>=0C0; L=K9 B5E=8-
 CBA 89 ? @5: B=0 ; 8: 2840F8N A87<5=5=8O<8, A>3; 0A>20=K9 8 CB25@ 45=K9 2 CAB0-
 =>2; 5=>< ?>@4: 5. 4<8=8AB@B82=CN 8/8; 8 8=K5 284K >B25AB25=>AB8 <>6 => CAB0-
 =>28BL: 0: 70 C; ; >=5=85 >BD>@8@20=8OD>=40, B0: 8 70 =5F5; 52>5 8A?>; L7>20=85 53>
 A@4AB2.

>MB<C 206=59H0O7040C0 40==>3> MB? 0 1C45B 2>-?5@KE, ?>AB>O=0O0: BC0; 8-70F8O AB>8<>AB8 ?@5: B0 ; 8: 2840F88 8, 2>-2B>@KE, 6 5AB 89 :>=B@; L 70 F5; 52K< 8A?>; L7>20=85< & \$ 8 4>AB0B>G=>ABL N A@4AB2 =0 70: ; NG8B5; L=K5 <5@?@8CB8O?>; 8: -2840F88 >1J5: B>2 : 0?8B0; L=>3> AB@8B5; LAB20.

" 0: 8< >1@7<, 2 70: ; NG5=88 <>6=> A 070BL, GB> 2 =0AB>C 55 2@<O?@1; 5<0 D>@8@20=8O& \$ 4; O=5DBO=KE <5AB>@6 45=89 A2O70=0 A@H5=85< @40 M>=><8G5-A 8E?@1; 5<, : 06 40087: >B>@KE B@1CNB40; L=59H53>: <?; 5: A=>3> 87CG5=8O8 @H5=8Q 2?5@CN >G5@4L, =0 70: >=>40B5; L=< C@2=5. 7=0G8B5; L=>9 AB5?5=8 A?>A>1AB2>-20BL @H5=8N ?@1; 5< 1C45BC6 5 8<5NI 89AO>?KBCAB0=>2; 5=8O?@2>2KE=>@ 2 \$ 2 AD5@=54@?>; L7>20=8Q 0 B0: 6 5 040? B0F8O>?KB0 @728BKE AB@=.

8 B5@BC@

1. 07C@=0 . . D>@8@20=88 ; 8: 2840F8>=KE D>=4>2 <5AB>@6 45=89 C3-; 52>4>@4=>3> AK@O/ . . 07C@=0 // 5DB5307>20O 35>; >38Q " 5>@8O 8 ?@: B8: 0 ".5. - 2010. - 1. [- ; 5: B@=K9 @AC@] - 56 8< 4>ABC?0:

http://www.ngtp.ru/rub/3/9_2010.pdf

2. ! 0D8= . . 8: 2840F8>=K5 D>=4K. @1; 5<K 8 @H5=8O/ . . ! 0D8=, . . 0A>2A 89, . . %0: 8<>2 // 8=5@; L=K5 @AC@AK >AA88. - :>=<8: 0 8 C?@2; 5=85. - 2013. - 3. - ! . 14 - 17.

3. 0@>2 . . @0=870F8>=>-M>=<8G5A 89 <5E0=87< D>@8@20=8O 8 C?@2; 5=8O; 8: 2840F8>=K< D>=4< 2 =5DB54>1K20NI 5< ?@4?@8CB88 / . . 0@>2, . . %0; 8:>20, . . CA8=0 // 5DB5307>2>5 45;>. - 2003. - 2. [- ; 5: B@=K9 @AC@] - 56 8< 4>ABC?0: http://www.ogbus.ru/authors/Karpov/Karpov_1.pdf

4. \$ >: 8= . ! B>8<>ABL 2K?>; =5=8O45<=>=B06 =KE @1>B2 AB@8B5; LAB25 / . \$ >: 8= // ! <5B>=>4>3>2>@0O@1>B0 2 AB@8B5; LAB25. - 2008. - 12. - ! . 33.