

!
"#\$%&! ' (!) *%%&%+!
, % - . / 0 1 %&0!23!45#\$262-5+!
72602&! ' 2\$\$%8!
' 5%60&90! : #\$\$;! < = !> ?@AB!
!
CA@BD!EE?FGHEB!
%#\$%&(6*%%&%+ I JK(%L9!
!

" , M ' =N0PQ!

!
45(, (!C45#\$262-5+D;!M&#R%/6#0+!23!N%S . 6! . 0!=960#&(!N5%6#6T!U=V9#& . 6!Q20#2&!23!) K#%&K%U!
!
< (=(!C45#\$262-5+D;!M&#R%/6#0+!23!N%S . 6! . 0!=960#&(!
!
7(=!)

E*4F/&*8%EO&/'(2'.6/&*8%"\$)%E6')*\$6%GO4!"6/O\$<HI%J*"4.%O!%E*4F/&*%7*"4\$/\$#8%L(!*#05!<%85.&! N(!)*%%&%+!C#&!-/%-./0#2&D(!

%

!

=/0#K\$%6T!

!

U=V9#&.6#!N5/%%R%\$6!23!,#R#&%!4/%L#K.0#2&!#&!,.&0%#6!-"4")/0;U!50!/6"6'.!;j 2\$(!@A!C@\HED;! --(!?\FdE(!

!

UN5%!3\$6/&('')/'\$'.!&L!05%#4/2-%/#![.&89.8%!23!N5%2\$28+;U!K.. "9.%/\$%D*)/*F"(E6')/*.;!j 2\$(!d! CY.\$\$;!@\HBD;!--(!dEFEE(!

!

U<%0.-5+6#K6!.&L!#06!,#60#&K0#2&!3/2 1!) .K/%L!,2K0/#&%!#&! =V9#&.6;U!L\$O@(*)#*%"\$)%D*)/*F"(% -,/O.Om,98!]%#k2!N+f/#&2k.;! =&k.!0&`%/#! [%50#&%&#! ,.83#&&!Y1\$%6L.\$;!%L6(;!C : %\$6#&`#T! =&&.\$6!23!05%Y#&A!)2K#%0+!32/!<#66#2\$28+!.&L!"K9 1 %&#K6;!@\>D;!j 2\$(!1;!!--(!@A?F @B>(!

!

UY/2 1!, %0%/ 1 #&%L! < 20#2&!02!M&L%0%/ 1 #&%L! a #\$\$!.&L!Q.09/%!02!)9-%/&.09/%!#&! =V9#&.6;U! -,/O.Om,/&'(%+OM/&.;!?>;!?:!CY.\$\$!@\ \ ?D;!--(!H\F?@d(!

!

U=V9#&.6#!, 29J\$#!<%0.-5+6#K6!23!)# 1 -#K#0+!.&L!0&3#�+;U!C\$6*4\$ "6/O\$"(%-,/O.Om,/&'(% N "46*4(9;!GG!C)%-0% 1 J%!/!\GD;!--(!?\BFG@B(!

!

U] % * /#0#&8!05%!Q.//.0#R%!23!)K/#-09/%T!@?05!' %&09/+!, %J.0%6!PR%/!] % .62&!.&L!N5%2\$28#K.\$! Y2/ 1 ;U!D*)/*F"(%-,/O.Om,9%"\$)%+, *O(O#9;!G;!C@\GD;!--(!@FGd(!

!

UN5/%%Q20#2&6!23! =&.\$+6#6!CA*.O('6/OD!.&L!05%!)0/9K09/%!23!] % .62#&8!#&! =V9#&.6;U!+, % +, O! / .6;!EH;!?:!C=-/#!@\ \ dD;!--(!@\BF?dG(!

!

U : 985!23!)0(!j #K02/T!N5%!=98960#&#.&!N/.L#0#2&!23!) .K/%L!.&L!)%K9\$. /!] % .L#&8!] %R#6%L;U!#&! A*")/\$#%"\$)%=/.)O! <%+, %>%>O&64/\$""5,4/.6""\$""O!3 '#'.6/\$*/\$%6, %D/)(%3#*.8!%L(! "L* .L!, (!" &8\$#65;!M&#R%/6#0+!23!Q20/%!, . 1 %!4/%66;!@\E;!--(!A@FHG(!

!

U)9--26#0#2&!)#8#&3#K.0#2&!.&L!M&#R%/6.\$6T!<%0.-5+6#K.\$!.&L! [#&89#60#K!' 2 1 -%S#0+!#&! =V9#&.6;U!G4*;'4#*4%O*6.&4/16!P4%-,/O.Om,/%"\$)%+, *O(O#*;!d?;! : %30!G;!C@\ED;!--(! ?ABF?\>(!

!

U0&L#R#L9.0#2&!.&L!05%!72L+!#&! =V9#&.6;U!D/.&*("\$*"D*)/*F"/";!R2\$(!?!d!C@\AD;!--(!@BHF@\A(! C] % -/#&0%L!#&!D*)/*F"(%-,/O.Om,9;!d!R2\$(;!R2\$(!@;!<#&L;! [28#K;!&L! [.&89.8%(!"L#0%L!J+! '5/#60#&.!j .&!.+`%!.&L! =&L/%*! a (!=/ \$8;!!' /#0#K.\$! ' 2&K%-06!#&!45#262-5+!)%/#6;!] 290\$L8%;!?!>@\;!@BHF@\A(D!

!

U] %60/9K09/#&8!, %6#/%T!! =V9#&.6;! , %6K./0%6;!.&L! : 2JJ%6!2&!05%!4.66#2&6;U!#&!D**6/\$#%O!6, % D/\$).;!)0%-5%&!Y(!7/2 * & ;!%L(;!] %&K2&0/6!L%!45#262-5#%!<%L#%R.\$%;!B;!CN29/&5290T!! 7/%-2\$6;!@\HD;!--(!?\FGB(!

!

U=&6%\$ 1!9&L!L%/, #.\$28(!, #60.&i!9&L! j %/6f5&9&8;U!#!&!Q*.M4R&, *(/*.*\$S%- ,/(O.OM,/.&, *%
>/'(O#*%/'!%D/66*('(6*4(!e\$.96!b.K2J#!.&L!<#6K5!.!R2&14%/8%/;!%L(!NmJ#&8&T!_9&0%/!Q.//!
j %/\$.8!@\ \ \;!- -(!@>@F@?d(!

!

U=J%\$. /Ln6!4/28/%66T!!Y/2 1 ! [28#K!02!" 05#K6;U!C\$6*4\$ "6/O\$ "(% - ,/(O.OM, /&"(N ' "46*4(9;!d>!
C)% -0% 1 J% /! ?>>>D;!- -(!GABFBA(!

!

oP/L%/#&8!, #33%/%%&K%6T!!=V9#&.6!R6(!05%!<2L%/&6;p!#&!3T'/\$".%5*\$6*4%01%+, *O(O#98%U&&"./O\$ "(%
- "M*4.%O\$6, *%5 "6, O/&C\$6*((*&6 ' "(%7/1*;!&2(!d(!!=0\$.&0.T!!" 1 2/+!M&#R%/6#0+;! ?>>@;!- -(!EF
?d(!

!

U=V9#&.6!2&! j #K%!.&L!)#&;U!#&!+, *%K6, /&.%01%3T'/\$".(!)0%-5%&!b(!42-%;!%L(! a .65#&802&;!, (! ' (T!!
_#2/8%02 * &!M&#R%/6#0+!4/%66;! ?>>?;!- -(!E@F@AH(!

!

U [#0%/. /+!Y2/ 1 6!23!<%L#%R.\$!45#\$262-5+;U!+, *%E6"\$104)%K\$&9&(OM*)/"%01%- ,/(O.OM, 9!C a #&0%!
?>>?%L#0#2&D("L* ./LQ(^.\$0.C%L(D;M) [q500-Thh-\$.02(60.&32/L(%L9h./K5#R%6h * #&?>>?h%&0/#%
6h 1 %L#%R.\$FS#0%/. /+h(C) %R#6%L!.&L!%S- .&L%L;! ?>>B;! ?>@?;! ?>@ \D!

!

U) -%K9\$.0#R%!N5%2\$28+!.&L!05%!N/.&632/ 1 .0#2&!23!)% - ./0#2&!.&L! [2&8#&8;U!#&! - .9&, *%"\$)%EM/4/6/
V>/'(*&6/&.%01%+4"\$\$.104! "6/O\$(!"L#0%L!J+! ' 5/#6!)K5\$.9K5!.&L! a #\$\$#. 1 !<#%66&%/;!- -(!\ \ F
??d(!M&#R%/6#0+!23! = 1 %/#K. !4/%66;! ?>>G(!

!

U=&6%\$ 1!6! - 40.(O#O\$T!!N5%!, %6#/%!32!/05%! a 2/L;U!+, *%E"/\$6\$3\$.*(!%20'4\$"(!C?>>GD!@(!
M) [q500-Thh * * * (.&6%\$ 1 (%L9h#J/. /+h) =bh) =b#&L%S(50 1 \$!

!

UN5%!] 5%02/#K!23!4/. +%/!.&L! =/89 1 %&0!#&! =&6%\$ 1 ;U! - ,/(O.OM, 9%"\$)%A, *604/&!GH;!&(d!C?>>EDT!
GEEFBH(!

!

U=J%\$. /L!6!W/. 604/"%5 "(" ! /6 "6 ' ! !.&L! [%00%/6T!!) %\$3!.6!)% . /K5!.&L!)0/988\$%;U! - 0*6/&.%+O) "9;!R2\$(!
?H(!?C) 9 1 1 %/! ?>>BDT!G>GFGGA(!

!

oN5%! =6+ 1 1 %0+!J%0 *%%&! [.&89.8%!.&L!7%#&8T!!N5%! ' .6%!23! =&6%\$ 1 ;p!#&!U\$7"\$# ' "#*<%
3\$"(96/&8%5O\$6/\$*\$6"("\$)\$%W/. 604/&"(% - *4.M*&6/F*.(!Q% *K.60\$T!!' . 1 J/#L8%) K52\$./6!
4/%66;! ?>>B;!- -(!EBF@BB(!

!

o) %%#&8!, 29J\$%T!N52 1 .6! =V9#&.6!.&L!05%!4/2J\$% 1 !23!<2L%/�+!05/2985!05%! ' 2&0#&%&0.\$! [%&6;p!
3 ! *4/&"\$5 "6, O/&%- ,/(O.OM, /&"(N ' "46*4(9!HG;!G!C?>> \DT!!GH\Fd?>(!

!

UN5%!4/2J\$% 1 !23!45#\$262-5+!.&L!N5%2\$28+!#&! =&6%\$ 1 !23!' .&0%/J9/+;U!#&!D*)/*F"(%- ,/(O.OM, 9%
"\$)%+, *O(O#9%/\$6, *%70\$#D/)(*(%3#*.S%3%+4/; '6*60%E6*M, *%G\$%: 40@\$(!!"L#0%L!J+!e %&0!
" 1 %/+!.&L!] 966%\$\$Y%#L 1 .&;!dHBF@D!)09L#%&!9&L!N%S0%i 9/! _%#60%68%6K5#K50%!L%6!
<#00%\$. \$0%/6(! [%L%&T!" (!b(!7/#\$;! ?>@@(!

!

o=V9#&.6!2&!05%!) %R%&!, % .L\$+!)#&6T!!N/.L#0#2&!.&L!0&&2R.0#2&;p!#&!E/\$/\$D*)/*F"("\$)\$%K"4(9
DO)*4\$5 '(6'4*%+ , *%+4")/6/O\$%01%6, *%E*F*\$%>") (9E/\$.(!"L(!] #K5./L! _(!Q% *5.96%/!.&L!
)96.&!b(!] #L+./L;!HEF@>A(!r 2/'<%L#%R.\$!4/%66!#&!.662K#.0#2&! *#05!72+L%\$\$!.&L!7/% *% /!
?>@?(!

!

o=&6%\$ 1 !#&! , #.\$289%! * #05!05%!P05%/;p!#&!X\$/F*4. "(/69%01%A* ".0\$\$% - ('4"/69%01%- ,/(0.0M,/*.%/\$%6, *%
D/))(*%3#*.;! - 40&**)/\$#. %01%6, *%YCC6, %C\$6*4\$ "6/O\$ "(%50\$#4* .8% - "(*4 ! 08%Z[% %]J)%
E*M6* ! ; *4%JII^(! j 2\$(!00(@;! - -(!@E\F@AH(! " L(!=\$%66.&L/2! < 96K2;!%0!.\$(;!4.\$%/ 1 2T

!
o a 5%&!#6!#0! a /2&8s! < 2L%\$6!23! = /89 1 %&0! .&L!0&0% / - /%0.0#2&!3/2 1 !05%!@? !02!05%!@G !' %&09/+;p!
D/.&*("\$*\$"%D*)/"*F"/";!R2\$(!d>!C?>@HDT!@\FGH(!

!
o) #&! .&L! _/.K%;p!#&!3%5 " ! ;4/)#*%50! M"\$0\$%60%D*)/*F"(%K6, /&. ;! - -(!GdHFGB?(!"L#0%L!J+!
N52 1 .6! a #\$\$#. 16(!Q% *! r 2/ ^ T! ' . 1 J/#L8%!M&#R%/6#0+!4/%66;! ?>@H(!

!
o = &6%\$ 1 !2&! "R#\$! .&L! "9L. # 1 2 1 ;p!#&! ? *@%A*")/\$#. %0!3\$. *(!%0!5 "6*4; '49B. %C\$6*((' * &6 ' "(%
D*6, 0). ;! - -(!@H>F\ @(!" (!b(%7/#\$\$;! ?>??(!

!
o "05#K6! .&L!) 2K# . \$!] %\$. 0#2&6;p!#&!3%5 '(6'4"(%W/.6049%0!C)*". !/\$%6, *%D*)/*F"(%3#*(! j 2\$(?!?23!3%
5 '(6'4"(%W/.6049%0!C)*". %CA!R2\$6(D!"L#0%L!J+! , .\$. 6! _(! , %&%/+(!7\$22 1 6J9/+! =K.L% 1 #K;!
?>??;! - -(!EGFAH(!

!
o [2R%;!05%!4.66#2&6;!] %\$. 0#2&65#-T!N5%! ' 2&0/#J90#2&!23!05%! < %L#%R. \$! [. 0#&!N/ .L#0#2&;p!#&!
7*"4\$/\$#%60% : *%W' ! "\$<%+ , *% - 40&**)/\$#. %0!6, *%YYCb% = 04() %50\$#4*.. %0! - , / (0.0M, 98%
: *%c/\$#8%5 , /\$ "8%3 '#'. 6%ZavJI8%]IZd(!C32/05K2 1 #&8D!

!
o 72%05#. &! [28#K! .&L!05%!72%05#. &!4/2k%K0;p!#&!E&, 4/16*\$%e'4%Q4*#04/"\$/^VG04. &, '\$#%];! = /6!
)K#%&0#. ;! j %/\$. 8!) %J&% 1 ! r .R9i!C)K5 *%#iD;! ?>@\;! - -(!H?F\ \(!

!
o N5%!N/ .L#0#2&!23! = 33%K0#R%!) - #/#09. \$#0+T!Y/2 1 ! = &6%\$ 1 !6!4/ . + %/6!02!05%!@?05!K(p!+ , *%E"/\$6%
3\$. *(!%20'4\$"/;!R2\$(!@A;!&2(!@!CY. \$\$! ?>?>DT!d@FEA(!

!
o a 5'
...>α0%/#&8!05%!P05%/!#&!) %/R#K%! [% . /&#&8;p!#&!E*4F/&*8%EO&"/(%
,L0) *\$6%G04! "6/0\$<%HI%J"*4. %0!E*4F/&*%7*"4\$/\$#!C32/05K2 1 #&8D!

!

f=\$.&!23! [#\$\$!2&!)K/#-09/%T! , 9.\$#0+! .&L!4. / .L2S;p!#&!7gK&4/6 '4*%h%M"46/4%)gU4/#i\$*%c'.T'gh%h%
7"'4*\$6%b"((("!"L#0%L!J+!j .\$/#.#!0&8%8&2!.&L!_#J%/0! , .5.&(!7/%-2\$6!C.0!-/%66D!

!

o=&!P/#8#&!)02/+!32!/45#\$262-5+!*#05290! [#0%/./+!Y2/1;p!#&%7/6*4"6'4*%"\$)%- ,/(0.OM,9<%
A*."4&,%D*6,0).8%G04!.8%"\$)%5"6*#04/*.%01%+,0'#,6("!"L#0%L!J+!w.&%0.!Q.\$%*.k`F
N9/%K`.;!%0!.\$(!7/#\$!C32/05K21#&8D!

!

oN5%!E'!!!"%&O\$64"%"#*\$6/(*!.!&L!=#6020%\$#.&!)K#%&K%;p!#&!54/6/&"(%Q'/')%*60%+,0!"%.%3T'/\$".B.%
E'!!!"%50\$64"%"Q*\$6/(*.(!"L#0%L!J+!N521.6!P6J2/&%!.&L!N9/&%/!Q%R#00(!'.1J/#L8%!
M&#R%/6#0+!4/%66(!C#&!-/%-./.#2&D(!

!

4P , '=)N)!

!

o"#\$\$%&!) *%&%+!2&! =&6%\$ 1;p!W/.6049%01%- ,/(0.OM,9%=/6,0'6"%"\$9%Q"M.(%" -#62L!?!>A;!-260%L!@>!
b.&9./+!?!>@E(!500-6Th5#602/+23-5#262-5+(&%0h.&6%\$ 1 F6*%&%&+!

!

!

] " j 0" a)!

!

)091-;!"\$%.&2/(!:0*6,/'.g.%C\$%5/&*40\$/.%+OM/&"

] %\$#5.&!b2%\$!' (!+, *%-4/.0\$*4B.%- ,/(0.0M, 9<%7/1*"\$)%>*6, %/\$%:0*6,/'.B.%50\$.0("6/0\$8%
M&#R%/6#0+!23!Q20/%! , . 1 %!4/%66;!?>>B;!#&!A*(#/0' .%E6 ')/*.%A*F/*@!GA!CGD!C?>@>DT!?Gd!
!
a .&8;!)0%-5%&(!

a #05!_/%82/+!Y/#L;!o)%/R#K%![% ./&#&8!.&L!05%!"L9K.0#2&!23!Y%\$#&8T! ' 2&0/#J90#2&6!3/2 1 !05%!
<#LL\$#!=8%6!.&L! ' 2&0% 1 -2/.+!=--\$#K.0#2&p! < .`./#26! ' 2&3%/%%&K!2&! ' 5./ .K0%/!.&L!
j #/09#!#&!05%!' 5/#60#. &!N/.L#0#2& ;] 2 1 % ; ! < .+! ?AF?H;! ?>?G(!

!

oN/.K#&8!05%!4.66#2&6!3/2 1 ! < %L#%R. \$!02! < 2L%/&!N5#&`%/6;p! : 9 1 J2\$L0!M&#R%/6#0+;!7%/\$#&;! < .+!
?@;! ?>?G(!

!

o=30%/!=V9#&.6T!) 2 1 % ! [.0%/! < %L#%R. \$! , %R%\$2- 1 %&06!2&!05%!4.66#2&6;p! ' .n!Y26K./#!M&#R%/6#0+;!
j %&#K%;!Q2R% 1 J%/! ? \ ; ! ? > ? ? (!

!

oN5%!) 29/K%!23! < 2/.\$!"R#T!4.66#2&!R6(!05%! a #\$\$;p!) 2K#%0v!0&0%/&.0#2&.\$#!-29/!\$X09L%!L%!
45#\$262-5%#! < %L#%R. \$%;! a 2/\$L! ' 2&8%/66;!4./#6;! =98960!??F?A;! ?>? ? (!

!

o=V9#&.6! 2&! 05%! 4.66#2&6! #&! ' 2&0%S0T! 4/%K9/62/6! .&L! Y2\$\$2 * %/6;p!) 2K#%0+! 32/! < %L#%R. \$! .&L!
] %&.#66.&K%!45#\$262-5+! ' 2&3%/%%&K%;!M&#R%/6#0+!23!Q20/%! , . 1 % ; !PK02J%/!dFA;! ?>?@!

!

o=&! P/#8#&!)02/+!32/!45#\$262-5+! * #05290! [#0%/./+!Y2/ 1 ;p! [#0%/ .09/%! .&L!45#\$262-5+T!] %6%./K5!
< %052L6;!Y#89/%6! .&L! Y2/ 1 6! 23!N529850(!=&!0&0%/&.0#2&.\$! ' 2&3%/%%&K%;!) % -0% 1 J%/! dFE;!
?>?@(!

!

o0&K./&.0#2&!0&L#R#L9.\$#0+;! .&L! ' 2 1 1 9�+! 2&! .!) -#/#09.\$!b29/&%+;! -/(#4/! "#*% ".% ""EM/4/6 ' "(%
-4"&6/&*;! j #/09.\$!0&0%/&.0#2&.\$! ' 2&3%/%%&K%;! = -/#\$! ? \ F < .+!@;! ?>?@!

!

o0&!4/.#6%!23! < 2L%/ .0#2&T! < %L#%R. \$!45#\$262-5%/6!2&!05%! [#&89#60#K!N9/&p!0&R#0%L! [%K09/%!#&!Y. \$\$!
[%K09/%!) /#%6;!N5%!' .052\$#K!M&#R%/6#0+!23! = 1 %/#K. ; ! , %K% 1 J%/!A;! ?>@\!

!

oN5%! 4/2J\$% 1 ! 23! Q.09/%! #&! N52 1 .6! =V9#&.6;p! = 1 %/#K.&! ' .052\$#K! 45#\$262-5#K.\$! =662K#.0#2&!
< %0#&8;!Q2R% 1 J%/! ? ?F?d;! ?>@\ ; ! < #&&% . -2\$#6; ! < Q!

!

oN5%!N/.L#0#2&!23! =33%K0#R%!) -#/#09.\$#0+T!Y/2 1 ! =&6%\$ 1 ¶6!4/.+%/6!02!05%!@? ! ' %&09/+;p! = 1 %/#K.&!
' .052\$#K!45#\$262-5#K.\$! =662K#.0#2&! < %0#&8;!Q2R% 1 J%/! ? ?F?d;! ?>@\ ; ! < #&&% . -2\$#6; ! < Q!

!

o[2R%;!Y/#%&L65#-!.&L! ' 2 1 1 9�+T!Y/2 1 !4.0/#60#K!02! < %L#%R. \$!Q20#2&6;p!0&0%/&.0#2&.\$!
' 2&3%/%%&K%!2&!4.0/#60#K6!)09L#%6;!M&#R%/6#0+!23!PS32/L;! =98960!@\F?d;! ?>@\!

!

o < %L#%R. \$!Q20#2&6!23! j #K%!.&L!) #&T!) 2 1 % ! ' 2&0/.606!* #05!05%!=&K#%&06;p! = 1 %/#K.&!45#\$262-5#K.\$!
) 2K#%0+! ' %&0/.\$! , #R#6#2&! < %0#&8;! , %&R%/;! ' P;!Y%J/9./+! ? ? ; ! ? > @ \ (!

!

o[2R%;!05%!4.66#2&6;!] %\$.0#2&65#-T!N5%!' 2&0/#J90#2&!23!05%! < %L#%R. \$! [.0#&!N/.L#0#2&p!C\$F/6*)
M4*.*\$6"/O\$;!N5%!?B ! a 2/\$L! ' 2&8%/66!23!45#\$262-5+;!7%#k#&8;! ' 5#&. ; ! =98960!@F@B;!
?>@H(!

!

U=&6%\$ 1 !.6!N%.K5%/T!] % .62&#&8!.J290!05%!=33%K0#2&6;U! e % +&20%!\$K09/%! ! =&6%\$ 1 ! ' 2&3%/%%&K%;!
N5%!M&#R%/6#0#6!23! : 29602&!.&L!)0(!N52 1 .6;! < .+!dFE;! ?>@H(!

!

oQ.09/%!.&L! ' 5.20#K! < .00%/!#&!05%!@? ! ' %&09/+;p!0&R#0%L!\$K09/%;!Y/%%!M&#R%/6#0+!23!7/966%\$6;!
7%\$8#9 1 ;!PK02J%/!@> ; ! ? > @ B (!

!

o[#J/%!K52#S!%0!Y#	L%!K5%i! =&6%\$ 1 %;p!0&R#0%L!\$%K09/%;!Y/%!M&#R%/6#0+!23!7/966%\$6;!7%\$8#9 1 ;!
PK02J%/!\;!?>@B(!

!!

oN5%! [#0%/ ./+!=/0!23!)K52\$.60#K#6 1 !.&L!05%' /%.0#2&!23!05%! a 2/\$L;p! , %8/%%!^%/2!23!)29&L!.&L!
0 1 .8%;!K(!@>>>F@H>>>!M&#R%/6#0+!23!_/2&#&8%&!N5!Q%05%/\$.&L6;!PK02J%/!E;!?>@B(!

!

o45#\$262-5#i#&8!.J290!Q.09/%!0&!05%!@? !' %&09/+;p!0&R#0%L!\$%K09/%;! ' 2\$\$2V9%!45#\$262-5%/!.9!y00%!
)#zK\$%;!' 2\$\$8%!L%!Y/ .&K%;!4./#6;!Y/ .&K%;!< .+!?\FG>;!/?>@B(!

!

o a 5%&!#6!#0! a /2&8s! < 2L%\$6!23! =/89 1 %&0! .&L!0&0%/-/%0.0#2&!3/2 1 !05%!@? !02!05%!@G !' %&09/+;p!
e f\$&%/!<%L#.%R#60%&0.89&8;! ' 2\$28&%;!_%/ 1 .&+;!)% -0% 1 J%/!@?F@E;!/?>@A(!

!

oN5%!) 5#30#&8!] 2\$%!23!05%!4.66#2&6!3/2 1 !PK`5. 1 !02! < 2&0.#8&%;!!!=4=! ' %&0/ .\$. , #R#6#2&!< %%0#&8;!
' 5#K.82;!0 [;!< ./K5;!GFE;!/?>@A(!

!

o=V9#&.6! .6! "K60.0#K! =/#6020%\$#. &T! [#0%/ ./+!] %3%K0#2&6! 2&! 05%! E' ! ! "

U] 28%/!7 .K2&!.&L!=\$J%/0!05%!_/%.0!2&!=/#6020\$%¶6!Q20#2&!23!)K#%&K%;U!)2K#%0v!0&0%/&.0#2&.\$%!-29/!
\$!X09L%!L%!45#\$262-5#%!<%L#%R.\$%;! a 2/\$L! ' 2&8/%66;!Y/%#6#&8;!_%/ 1 .&+;! =98960! ?>F?E;!
?>@?(!

!

U=!45#\$262-5%/!N9/&6!02!42%0/+;U! [#\$\$+!_/.L9.0%!Y%\$\$2 * 6! ' 2&3/%&K%;!72602&! =98960!@G;! ?>@?(!

!

' 2 1 1 %&0!2&! < ./0#&! : c88\$9&L;!oN5!Y.#05!23!] .L#K.\$!=05%#6 1 ;p!X\$; */*F"; (*<%2''&T'*.%>*44/) ""
"\$)%pA*(/#0\$B;!72602&! ' 2\$\$%8%;! = -/#\$!?AF?B;! ?>@?(!

!

o=&6%\$ 1 !2&! : 9 1 .&! Y#	L%T! =! , #.\$289%! * #05! " S#60%&0#.\$#6 1 ;p! N5%!)0(! =&6%\$ 1 ! [%K09/%;!)0(!
=&6%\$ 1 ! ' 2\$\$%8%;! = -/#\$!?E;! ?>@?(!

!

oN5%2\$28+!R6(!4/%.K5#&8!#&! =V9#&.6;p!.0!N5!GE !=&&9.\$!)%* .&%%!<%L#%R.\$!' 2\$\$2V9#9 1 ;!2&!
 , 2 1 #&#K.&6!.&L!Y/.&K#6K.&6;! = -/#\$!>F@@;!?>>H!

!

o , %//#L.!32/! 7%8#&&%/6T!! , %//#L.!2&! =960#&! .&L!) %./\$;p! -/%6%&0.0#2&! .0!05%! , %//#L.! a 2/^ 652-;!
 72602&! ' 2\$\$%8%;!PK02J%/@G;!?>>B!

!

o] % .L#&8! =V9#&.6T!! < +056;! , .&8%/6;! .&L! j #/09%6;p!0&R#0L! =V9#&.6!\$%K09/%)0(! < ./+n6! ' 2\$\$%8%;!
)2905!7%&L;!0&L# .&. ;!PK02J%/@H;!?>>B!

!

o =&6%\$ 1 !#&! , #.\$289%! * #05!05%!P05%/;p!) 2K#0v!0&0%/&.0#2&.\$%! -29/!\$!X09L%!L!45#\$262-5#%!
 < vL#vR.\$%;! a 2/\$L! ' 2&8/%66;!4.\$%/ 1 2;!)% -0% 1 J%/@AF??;!?>>B!

!

' 2 1 1 %&0!2&!4.9\$! [. ' 5.&K%;!o =&.\$28#K.\$!4/%L#K.0#2&!23!N/.&6K%&L%&0.\$6p;!4.0/#60#Kh < %L#%R.\$!
 ' 2&3%/&K%;!72602&! ' 2\$\$%8%;! =98960!@F?;!?>>B!

!

o =V9#&.6!2&!4.66#2&! .&L!) #&;p!#&R#0L! - . - %/! .0!N5!Gd !=&&9.\$!)%* .&%%!<%L#%R.\$!' 2\$\$2V9#9 1 ;!
 2&!05%)%R%&! , % .L\$+!)#&6;! < ./K5!G>FG@;!?>>B(!

!

o [#&89#60#K! =&.\$+6#6! .&L! 05%! =&6%\$ 1 #.&! 4/2k#K0;p! .0!) 2K#0+! 32/! =&K#&0! _/%%`! 45#\$262-5+!
 ' 2&3%/&K%!2&! =&K#&0! .&L! < %L#%R.\$!45#\$262-5+;!Q% * ! r 2/^ ! ' #0+;!PK02J%/@E;!?>>A(!

!

o Y/%%! a #\$\$! .&L!05%!Y.\$!23!05%! , %R#!#&! =&6%\$ 1 ;p!4.0/#60#Kh < %L#%R.\$!' 2&3%/&K%;!72602&! ' 2\$\$%8%;!
 =98960!AFB;!?>>A!

!

o N5%! =6+ 1 1 %0/+! J%0*%&! [.&89.8%! .&L! 7%#&8T!N5%! ' .6%!23! =&6%\$ 1 ;p! - \$%&./+!\$%K09/%! .0!05%!
 _/ .L9.0%! ' 2&3%/&K%!#&! 45#\$262-5+! .0! 72602&! ' 2\$\$%8%;! oP&! [.&89.8%;p! = -/#\$!H;!?>>A;!
 72602&! ' 2\$\$%8%!

!

o =\$.&!23! [\$\$%n6!N5%2\$28#K.\$! , #K0#2&./+T!7%0*%&! [#0%/ .09/! .&L!45#\$262-5+;U! < %L#%R.\$!
 =K.L% 1 +! =&&9.\$! < %0#&8;!72602& ;! < ./K5!/?>>A!

!

o 72%05#96n6! [#J%/.0#2&!23!05%!4/#62&%/T!42%0/+! .&L!05%!4%L.828+!23!05%!50\$.0("/6/O\$;p!#&R#0L!
 - \$%&./+!\$%K09/%! .0!05%!) 2K#0+!32/! =&K#&0! _/%%`!45#\$262-5+! ' 2&3%/&K%!2&! =&K#&0! .&L!
 < %L#%R.\$!45#\$262-5+;!Q% * ! r 2/^ ! ' #0+;!PK02J%/@E;!?>>E!

!

o 4%/8/#&.0#2&6!#&! < %L#%R.\$!45#\$262-5+;p!.0!o a #0;!)K52\$./;! < %&02/T! ' %\$%J/.0#&8!05%! [#3%! .&L!
 a 2/^ !23! [29#6! < .K`%+;p!M&#R%/6#0+!23!N\$S.6;! =960#&;!N y;!PK0!@;!?>>E!

!

U N5%!] %\$.0#2&65#-! J%0*%&! 4/.+%/! .&L! =/89 1 %&0! #&! =&6%\$ 1 ;U! #&R#0L! \$%K09/%! .0! , .5296#%!
 M&#R%/6#0+;! : . \$#3.S;!Q2R.!)K20#.;! < ./K5!/?>>G(!

!

U =&6%\$ 1 !6! -40.(0#/O\$T! N5%! , %6#/%! 32/! 05%! a 2/L;U! 72602&! < %L#%R.\$! 45#\$262-5+! ' 2\$\$2V9#9 1 ;!
 b.&9./+!/?>>G(!

!

U =&6%\$ 1 ! .&L! , #.\$289%T! , #60.&K%! .&L!] %K2&K#\$#.0#2&;U! ' 2&3%/&K%!2&! , #.\$289%!#&!05%! < #LL\$%!
 =8%6;!M&#R%/6#0+!23!Y/%#J9/8;! _%/ 1 .&+;! < ./K5!@?;!@ \ \ H(!

!

UP/L%/#&8! , #33%/&K%6T! =V9#&.6! R6(! 05%! <2L%/&6;U! N5%! =V9#&.6! [%K09/%;! " 1 2/+! M&#R%/6#0+;!
)% -0% 1 J%/!@ \ \B(!

!

U7 .00\$%! ' /#%6! .&L! [. 1 %&0.0#2&6T!!N5%2\$28+! .&L!42%0/+!#&! =J%\$. /L;U! -/%6%&0%L!02!05%!0&0%/& .0#2& . \$!
' 2&8/%66!23! <%L#%R. \$!45#\$262-5+;! e .\$. 1 . i22;! <#K5#8. &! < .+!@ \ \B! .&L!02!05%! 7 2602&!
=/%.!' 2\$\$2V9#9 1 !#&! <%L#%R. \$!45#\$262-5+;!7 2602&;!)% -0% 1 J%/!@ \ \B(!

!

UN5%! { 9 .//%\$!7%0 *%&!45#\$262-5+! .&L!42%0/+!#&!05%! <#LL\$#! =8%6;U! -/%6%&0%L!02!05%!) 2K#v0v!
0&0%/& .0#2& . \$%! -29/!\$X09L%!L%!45#\$262-5#%! <vL#vR. \$%;! a 2/\$L! ' 2&8/%66;! "/39/0;!
_%/ 1 .&+; =98960!@ \ \B(!

!

U] %60/9K09/#&8! , %6#/%T!! =V9#&.6;! : 2JJ%6! .&L! , %6K. /0%6!2&!05%!4 .66#2&6;U! -/%6%&0%L! .0!05%!
) 2K#v0v!0&0%/& .0#2& . \$%! -29/!\$X09L%!L%!45#\$262-5#%! <vL#vR. \$%!K2&3%/&K%!2&!05%!#&3\$9%&K%!
23! <%L#%R. \$!N529850!2&! " ./\$+! <2L%/&!45#\$262-5+;!7 2602&!;b9&!@ \ \A(!

!

U ' /% .0#R#0+! .&L!N/ .L#0#2&!#&! =J%\$. /L!6! [. 1 %&06;U! -/%6%&0%L!02!05%! <%L#%R. \$!Y2/9 1 ;!7 2602&!
' 2\$\$%8%;! , %K% 1 J%/!@ \ \A(!

!

U ' 2&62\$.0#2&!#6!&20!05%!] % . \$!N5#&8T!05%! ' 2 1 - \$#K. 0#2&! .&L!4260-2&% 1 %&0!23! ' \$269/%!#&!7 2%05#96;U!
7 2602&! ' 2\$\$%8%!0&60#090%!23! <%L#%R. \$!45#\$262-5+! .&L!N5%2\$28+;!)% -0% 1 J%/!@ \ \E(!

!

U =V9#&.6!2&!05%!7 2L+! .&L!0&L#R#L9.0#2&U! e f\$&! <%L# . %R#60%&!N .89&8;!0&L#R#L9.0#2&! .&L!
0&L#R#L9. \$6;!)% -0% 1 J%/!@ \ \d(!

!

U = \$.&!23! [#\$\$%T!N/ .&68/%66#&8! .&L!N/ .&6K%&L#&8!05%! [. * 6!23!Q.09/%! .&L!05%!] 9\$%6!23! [.&89.8%;U!
?H05!0&0%/& .0#2& . \$! ' 2&8/%66!2&! <%L#%R. \$!) 09L#%6;! e .\$. 1 . i22;! <#K5#8. &! < .+!@ \ \G(!

!

UA*.O('6/O!.&L!05!, #.\$%K0#K.\$!)0/9K09/%!23!] % .62&#&8!#&!=V9#&.6;U!4.0/#60#K;! <%L#%R.\$;!.&L!
] %&.#66.&K%!45#\$262-5+!' 2&3%/%%&K%;! j #\$.&2R.!M&#R%/6#0+;!)%-0% 1 J%/!@E;!@\H\(!

!

U] % * /#0#&8!)K/#-09/.\$!Q.//.0#R%T!N5%2\$28+!.6!=&! =K.L% 1 #K! , #6K#-\$#&%!#&!05%! <#LL\$#! =8%6;U!
0&0%/&.0#2&.\$!=662K#.0#2&!32//!45#\$262-5+!.&L! [#0%/ .09/%;! , #.\$%K0#K!.&L!Q.//.0#R%;!" 1 2/+!
M&#R%/6#0+;! < .+!d;@\H\(!

!

UQ2 1 #&.\$#6 1 !R6(!] % . \$#6 1 T! =V9#&.6!2&!M&#R%/6.\$!..&L!Q.09/.\$!)9--26#0#2&;U! ' 2\$\$2V9#9 1 ;!
< ./V9%00%M&#R%/6#0+;! < ./K5!G@;!@\H\(!

!

U_9&L.66.\$#&96!> *%>/F/.O\$*% - ,/(O.O M,/' '*T!=!)0.8% !#&!05%! =/#6020%\$#.&!] %R2\$90#2!#!&!05%!

)