```
! ''#$%&'#()*+,* - +.+&/0+*/(*1+2.0%&*
                                    3 % 4 / & (5 % ''(*+,*67+''+5 #7'*
 "#$%&! '#()*!+),-*)!
                                           . + / 0!11213!4556(-,!7(8#$-8$*$9-:#(8;<!=5#(*>!?@??!
 A\#()*\&8), -*) B 8\$6\$\#), \$\&-, C!
                                                                            =D66)AC;!)*,!=8E-,C6-!
                                                                 /%%(8-!O$C#;3!7 L!P3@@J?3G@!"7!
FG@GH!2I?JKI@1!
 L - A: (:-3!+)*M):!
                                                                               .8$*$9(8;!?@1Q!$#!
                                                        E::5:3NN8CA$C6.-#&R$$9&C;N9DNA#()*8),-*)!
 E::5:3NN8)*M): &8$6$#).$&-.CN!
                                          "6-);-!C;-!:E(;!6(*S!:$!;8E-,C6-!)!;5-8(%(8!:(9-N6$8):($*3!
                                       E::5:3NN8)6-*.6D&8$9NA#()*J8).-*)N-8$*J1121J$%%(8-JE$C#:!
!
1
                                       - +2&'%*3%'7&#4(#+''8*
=:C,-*:;!TE$!)#-!;C88-;;%C6!(*!:E(;!8$C#;-!T(66!A-!T-66!5#-5)#-,!:$!8$*,C8:!-95(#(8)6!#-;-)#8E!
)8#$;;!)!A#$),!#)*>-!$%!%(-6,;<!)6:E$C>E!:E-!:$$6;!)#-!C;-,!9$;:!%#-UC-*:6D!(*!:E-!)556(-,!
9 (8#$-8$*$ 9 (8;!%(-6,;\!!VE-!8$C#;-!5#$M(,-;!)!WC;-#X;!>C(,-Y!:$! 9 )*D!$\!E-!9$;:!8$ 9 9 $*6D!
C;-,!-8$*$9-:#(8!:-8E*(UC-;<!T(:E!)!E-)MD!\$8C;!$*!(956-9-*:):($*!)*,!(*:-#5#-:):($*\!!L-!T(66!
A->(*!:E-!8$C#;-!T(:E!)!=V4V4!A$$:!8) 95<!UC(8S6D!A-8$9(*>!%) 9(6()#!T(:E!:E-!;$%:T)#-!
5)8S)>-!(*86C,(*>!5#$>#)99(*>!:-8E*(UC-;!)*,!,):)!9)*)>-9-*:!;S(66;&!!L-!T(66!:E-*!9$M-!
:E#$C>E!)!#)*>-!$\\|!-8$*$9-:\||(8!:\$5(8;<!9))$(*>!;C\||-!:\$!5\|)8:(8-!-)8E!:-8E*(UC-!(*!=V4V4\|!)
V$\\$66$T\!8) 95C;\!5$6(8D\\$#\=5#(*>\!?@??<\!T-\!T(66\!A->(*\!:E-\!;-9-;:-#\!(*\#-9\$:-\!:D*8E\#\$*\$C;\!
;:):C;!%$#!:T$!T--S;&! L-!T(66!9--:!M()!Z$$9!):!:E-!*$#9)66D!;8E-,C6-,!86);;!:(9-!C;(*>!:E-!6(*S!
$*!:E-!+)*M);!T-A;(:-&!9'*4%&*7/542'*4+.#7):*(;#'*7+2&'%*<#..*&%$%&(*(+*#''=4%&'+''*#'''(&27(#+''*
< ; %''*7/542'*&%=+4%'''*>72&&%''(.)*'7; %02.%0*,+&*?/''2/&)*@A:*@B@@CD*E:#'*7+2&'%*#'*''+(*
;)F&#00*(;%&%*<#..*''+(*F%*/*H++5*+4(#+''*<;%''*7/542'*4+.#7)*/..+<'*2'*(+*5%%(*#''*4%&'+''D!
                                          I &% &% J 2#'#(%'8*
V$!-*#$66!(*!:E(;!8$C#;-<!D$C!9C;:!E)M-!)!T$#$(*>!$*$T6-,>-!$\\dots!;:):(;:(8;!)*,!-8$*$9-:#(8;!
-UC(M)6-*:!:$!:E):!$A:)(*-,!(*!.+/0!K1P1!)*,!.+/0!K1?1!!!
!
                                        -+2&'%*K/(%&#/.'8*
```

VE-#-!(:!*\$!#-UC(#-,!:-[:A\$\$\$!\\$#!:E(:!8\$C#;-<!)6:E\$C>E!\!T(66!5#\$M(,-!#-\#-*8-;!:\$!)!*C9A-#!\$\!

 $$$ T(66!C; -!=:):], C\#(*>!; $9-!6-8:C\#-; !: $!, -9 $*; :\#):-!9-:E\$, ; !:E): !T-!8\$M-\#!! \\ (*;:)66-,!\$*!D\$C#!8\$95C:-\#:!D\$C!9)D!\%(*,!(:!C;-\%C6!:\$!) $$$

```
:E-!, -5)#: 9-*:X;!)8), -9(8!(*:->#(:D!8$M-#!;E--:!\$#!:E-!);;(>*9-*:\lambda!)
E::5;3NNTTT\&8$6$#), $\&-, CN-8$*$9(8;N;(:-;N,-%)C6:N%(6-;N)::)8E-,J
\%(6-;\mathbb{N})8), -9(8(*:->\#(:\mathbb{D})>\#--9-*:\&5,\%!
E: %*\#\&'(*\K\#0(%\&5\*T(66!8\$M-\#!9):-\#()6!\#\$9!:E-!A->(**(*>!\$\%!:E-!\$\$C\#:-!:E\#\$C>E!6-8:C\#-!\$*!
7 )#8E!K&!!VE-!-[) 9!T(66!:)S-!56)8-!,C#(*>!)!*$#9)6!86);;!9--:(*>!)*,!(;!:-*:):(M-6D!;8E-,C6-,!
%$#! 7 )#8E!P2&!! 1 $C!
                          !E)M-!:\$!,\$!)*D!=V4V4!5\#\$>\#)99(*>!\\$\#!:E-!9(,:-\#9\!!\*;:-),\<!:E-!
VE-!UC-;:($*;!T(66!:EC;!A-!M-#D!;(9(6)#!:$!:E-!(*:-#5#-:):($*!UC-;:($*;!);S-,!$*!:E-!5#$A6-9!;-::&!
]$C!9)D!)6;$!A-!);$-,!UC-;:($*;!)A$C:!:E-!5)5-#;!:E):!T-!#-),&!
E; **0%7+''0*K#0(%&5!T(66!A-!*$9(*)66D!8C9C6):(M-<!AC:!(:!T(66!%$8C;!E-)M(6D!$*!9):-#()6!
8$M-#-,!)%:-#!:E-!%(#;:!9(,:-#9&!\:!T(66!A-!;(9(6)#!(*!%$#9):!:$!:E-!%(#;:!9(,:-#9<!)*,!(:!T(66!:)$-!
56)8-!, C#(*>!$C#!*$#9)6!6-8:C#-!:(9-!(*!:E-!5-*C6:(9):-!T--S!$\\!86);;-;\&!
W#''/.*X%((%&*M&/0%'!T(66!A-!)!T-(>E:-,!)M-#)>-!$\\!-)8E!$\\!:E-!8$95$\*-\*:;\!6(;:-,!)A$\\-\!!\"\#($\\#!
:$!)M-#)>(*>!\!T(66!);;(>*!6-::-#!>#),-;!:$!-)8E!8$95$*-*:!A);-,!$*!:E-!;8$#-;!)!>$$,!;:C,-*:!):!
:E(;!6-M-6!8$C6,!#-);$*)A6D!A-!-[5-8:-,!:$!)::)(*&!
Y &#(#"N8!"6-);-!*$:-!:E):!:E(;!8$C#;-!#-UC(#-;!)!>#-):!,-)6!$\\!T#(:(*>\\!VE-!>\$)6!\\\!:E-!8\$C#;-!(;!:\$!
5#-5)#-!D$C!:$!8$*,C8:!)*,!
                                                 !$#(>(*)6!#-;-)#8E!(*!)556(-,!9(8#$-8$*$9(8;\!
4; ID$C!T(66!;$$*!\(*,<!:E-!T\(:(*>!)\*,!8\$99C\(8):(\$\*!8\$95\\*-\*:;!\\\!)556(-,!-8\\\$9-:\(8;!)\\\-!
):!6-);!!);!(95$#:)*:!);!:E-!)8:C)6!-8$*$9-:#(8!;S(66;&!\*!>#),(*>!5)5-#;<!-[)9;<!)*,!5#$A6-9!;-:;<!
\!56)8-!;CA;:)*:()6!T-(>E:!$*!;:C,-*:;X!)A(6(:D!:$!8$*M-D!:E-(#!C*,-#;:)*,(*>!)*,!(*:-#5#-:):($*!$%!
:E-!9-:E$,$6$>(-;!)*,!#-;C6:;&!\!,$!;$!(*!$#,-#!:$!9(##$#!:E-!,->#--!:$!TE(8E!:E-!,(;8(56(*-!
#-T)#,;!:E-;-!;S(66;<!-;5-8()66D!(*!:E-!d$A!9)#S-:!5#$8-;;&!
0%5#''/&*0%&#%'8**]$C!)#-!;;#$*>6D!-*8$C#)>-,!:$!)::-*,!:E-!.8$*$9(8;!,-5)#:9-*:!;-9(*)#!
;-#(-;<!-;5-8()66D!TE-*!:E-!;5-)S-#!5#-;-*:;!$*!)*!-95(#(8)6!)556(-,!9(8#$!:$5(8\! f-)#*(*>!:$!
8$*, C8:!)*, !5#-;-*:!$#(>(*)6!#-;-)#8E!(:!:E-!S-D!:$!D$C#!:C88-::!(*!:E-!,(:8(56(*-&!VE-;-!:-9(*)#;!
)#-!)*!-[8-66-*:!#-;$C#8-!\\$#!D\$C!(*!:E):!-*,-)\\$\\!]\$C!)\#-!)6;\$!;:\#\$*>6D!-*\\$C\#)>-,!:\$!)::-*,!:E-!
)556(-,!9(8#$!A#$T*!A)>!;-#(-;!TE-#-!;:C,-*:;!T(66!5#-;-*:!$*>$(*>!#-;-)#8E!:E):!$%:-*!C;-;!:E-!
:-8E*(UC-;!T-!T(66!A-!,(;8C;;(*>\emptyset)))
```

!!

V\$5(8!

V-*:):(M-!Q):-;!

:#\$,C8:(\$!)*,!=V4V4!');(8;!

 $900\#(\#+'''/.*I+.\#7\#\%'8*VE(;!8$C\#;-!(;!>$M-\#*-,!AD!),,(:($*)6!5$6(8(-;!8$M-\#(*>!)66!8$C\#;-;!):!+c!'\\ `$C6,-\#\&!VE-D!)\#-!6(;:-,!A-6$T!\$\#!D$C\#!#-\$-#-*8-\&!$

'\$:E!;:C,-*:;!)*,!%)8C6:D!)#-!#-;5\$*;(A6-!%\$#!9)(*:)(*(*>!)*!)55#\$5#():-!6-)#*(*>!-*M(#\$*9-*:!(*!)66!(*;:#C8:(\$*)6!;-::(*>;<!TE-:E-#!(*!5-#;\$*<!#-9\$:-!\$#!\$*6(*-\d!VE\$;-!TE\$!\%)(6!:\$!),E-#-!:\$!;C8E!
A-E)M(\$#)6!;:)*,)#,;!9)D!A-!;CAd-8:!:\$!,(;8(56(*-\d!"#\$\%-;;(\$*)6!8\$C#:-;D!)*,!;-*;(:(M(:D!)#-!-;5-8()66D!(95\$#:)*:!T(:E!#-;5-8:!:\$!(*,(M(,C)6;!)*,!:\$5(8;!,-)6(*>!T(:E!#)8-<!8\$6\$#<!*):(\$*)6!

 $+ / j \QJPIK!6-:!9-!S*$T!)*, !T-!8)*!T$\#S!$C:!)!T)D!\%$\#!D$C!:$!8):8E!C5!$*!:E-!9):-\#()6!D$C!9(;;\&!)$

\%!D\$C!UC)6(\%D!\%\$#!)88\$99\$,):(\\$*;!A-8)C;-!\\$\%!)!,(;)A(6(:D\\$!56-);-!;CA9(:!D\\$C\#!)88\\$99\\$,):(\\$*!
6-::-\#!\\#\\$9!Q(;)A(6(:D!=-\#M(8-;!:\\$!D\\$C\#!\\$)8C6:D!9-9A-\#!(*!)!:(9-6D!9)**-\#!;\\$!:E

```
?P?K!$#!-9)(6!8C#-5$#: B 8$6$#),$&-,C&!\*\$#9):($*!)A$C:!C*(M-#;(:D!5$6(8(-;<!#-5$#:(*>!$5:($*;<!)*,!:E-!;C55$#:!#-;$C#8-;!8)*!A-!\$C*,!$*!:E-!/\.+!T-A;(:-&!
"6-);-!S*$T!:E):!\$)8C6:D!)*,!>#),C):-!(*;:#C8:$#;|E)M-!)!#-;5$*;(A(6(:D!:$!(*\$#9!/\.+!TE-*!:E-D!)#-!9),-!)T)#-!$\%!(*8(,-*:;!$\%!;-[C)6!9(;8\$*,C8:<!,):(*>!)*,!,$9-;:(8!M($6-*8-<!;:)6S(*><!,(;8#(9(*):($*<!E)#);;9-*:!)*,\$\$#!#-6):-,!#-:)6():($*<!:$!-*;C#-!:E):!(*,(M(,C)6;!(95)8:-,!#-8-(M-!(*\$#9):($*!)A$C:!:E-(#!#(>E:;<!;C55$#:!#-;$C#8-;<!)*,!#-5$#:(*>!$5:($*;\%!V$!6-)#*!9$#-!)A$C:!#-5$#:(*>!)*,!;C55$#:!$5:($*;\%$#!)!M)#(-:D!$\%!8$*8-#*;<!M(;(:!\Q$*\X:!\>*$#-!\:\&!
```