

!
!
!

!
!
!

+ ' 6& ; > ' + <)!

!

._%\$5+--\$%L 6>?>--!KOKKZ. %+-+, =N!E+H(%=: +, =!\$5!89&# '! (, '!' (: &# ; !<=> ' &+-I!8\$##+?+\$5!
@+9(A&\$\$(#!(, '!8\$: : >, &=; !<*&+, *+-I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!

!

89(&#!\$5!=9+!E+H(%=: +, =!\$5!89&# '! (, '!' (: &# ; !<=> ' &+-!LE+*+ : W+%!K003Z! 6>?>--!KOKKNI!
)\$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(!X+(#9!V, -=&=>+I!8\$##+?+\$5!@+9(A&\$\$(#!(, '!8\$: : >, &=; !
<*&+, *+-I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!X+!#+(' -!9+!' +H(%=: +, =[-!, +(%# ; !C00!5(*>#; I!-(55I!
(, '!' ->' +, =-!&, !-9+&!+55\$%=-!=\$!& : H%\$A+!-9+!>(&#&=; !5!#&5+!5\$%!5(: &#&+-!(, '!' *9&# '+, !-9%\$>?9!
%+-+ (%*9I!+ (*9&, ?I(, '!' &-+ : &, (=&\$, !5!&, 5\$% : (=&\$, D!G9+!' +H(%=: +, =!&, *#>' +-!J!(*(' + : &*!
?&' (>(+!H%\$?&' (: -!K!(*(' + : &*! : &, \$%!H%\$?&' (: -!I! ?&' (>(+! *+&=5&*(&+-I!(, '!' (A+% (?+-!]30!
: &##&\$, !&, !?&' (=!5>, ' + ' ! (*&A&+&-D!

!

^\$&, =!" (*>#; !6HHS&, = : +, =!L 6>?>--!K00M!Q! . %+-+, =N!E+H(%=: +, =!\$5!<H+*&(!S '>*(=&\$, I!
8\$##+?+\$5!S '>*(=&\$, I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!

!

V, =+%& : !89(&#!\$5!=9+!E+H(%=: +, =!\$5!89&# '! (, '!' (: &# ; !<=> ' &+-!L 6>?>--!K00JZE+*+ : W+%!
K003NI!)\$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(!X+(#9!V, -=&=>+I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!

!

._%\$5+--\$%UE&&+*=\$%!\$5!E&A&-&\$, !5!G%(&, &, ?I! +-+ (%*9I!SA(#>(=&\$, -(, '!' E+ : \$, -=(%=&\$, -!
L 6>?>--!K00PZ!E+*+ : W+%!K003NI!E+H(%=: +, =!\$5!89&# '! (, '!' (: &# ; !<=> ' &+-I!)\$>&-!' +!#(!. (%=+!
"\$%&' (!Y+, =(!X+(#9!V, -=&=>+I!B, &A+%&=; !5!<\$>9!"#\$%&' (D! . %\$A&' +! : (, (?+ : +, =(, '!'
#+('+%&-9&H!5\$%!(' &A&-&\$, !5!30!H%\$5+--&\$, (#(, '!' ->HHS%=!+ : H#\$; ++-D! _+-H\$, -&W&#&=&+-!&, *#>' +!
5&-*(#! : (, (?+ : +, =!H+%-\$, , +#! : (, (?+ : +, =!I(, '!' +-(%*9!' +A+#\$H : +, =D!!

!!

6--\$*&(=+! . %\$5+--\$%UE&&+*=\$%!\$5!E&A&-&\$, !5!G%(&, &, ?I! +-+ (%*9I!SA(#>(=&\$, -(, '!'
E+ : \$, -=(%=&\$, -!L 6>?>--!200M!Q! 6>?>--!K00PNI!E+H(%=: +, =!\$5!89&# '! (, '!' (: &# ; !<=> ' &+-I!
)\$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(!X+(#9!V, -=&=>+I!B, &A+%&=; !5!<\$>9!"#\$%&' (D! . %\$A&' +!
: (, (?+ : +, =(, '!' #+('+%&-9&H!5\$%!(' &A&-&\$, !5!J1!H%\$5+--&\$, (#(, '!' ->HHS%=!+ : H#\$; ++-D!
_+-H\$, -&W&#&=&+-!&, *#>' +!5&-*(#! : (, (?+ : +, =!H+%-\$, , +#! : (, (?+ : +, =!I(, '!' +-(%*9!
' +A+#\$H : +, =D!!

!

^\$&, =!" (*>#; !6HHS&, = : +, =!L 4 *-\$W+%!2003!Q! . %+-+, =N!E+H(%=: +, =!\$5!8\$: : >, &=; ! (, '!'
" (: &# ; !X+(#9I!8\$##+?+\$5! . >W#&*!X+(#9I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!

!

^\$&, =!" (*>#; !6HHS&, = : +, =!L ^>, +!2001!Q! ^>, +!K001NI!E+H(%=: +, =!\$5!<H+*&(!S '>*(=&\$, I!
8\$##+?+\$5!S '>*(=&\$, I!B, &A+%&=; !5!<\$>9!"#\$%&' (D!

!

!
!
!

!
!
!

!
!
!

!
!
!

0 ; < ; \$: ! * < 9 ! * ? * \$ 9 : !

_+*\$?, &=k\$, !5\$%#+(' +%-9&H(, ' !*\$: : &= : +, !=\$!(' A(, *k, ?!=9+!W+9(A&\$%(!9+(#-9!\$5!) (=k, \$-!
L<+H=+ : W+#!K02PND!_+*\$?, &=k\$, !H%+-+, =+ '!(=!9+!c (=k\$, (#!) (=k, \$!@+9(A&\$%(!X+(#-9!
6--\$*k(=k\$, !Y++=k, ?D!

"(*>#-; !_+*&Hk+, !=\$!eK00M!B<"! . _VES!6 F(% ' f!L6H%&#!K00MN!5\$%!*\$, =%&W>=k\$, -! : (' +!=9+!
)+-W&(, !I!g(; !I!@&Z<+R>(!!(, ' !G%(, -?+, ' +%L) g @GN!*\$: : >, &=; D!!

6 F(% ' !5\$%!5\$>, ' &, ?!=9+!5k%-!Xk-H(, &*!"'+ +%(=k\$, !5\$!"(: &#k+-!*9(H=+%L6>?>=-!K001N!k, !=9+!
B, &=+ ' !<=(+I!! "#\$%"&'(")\$*"'&' +, -"* . /OI, %%"&'2'3"4\$)I%/'5"#4"'6"7D!

e. %+-&' +, -h-!6 F(% ' !5\$%!"(*>#-; !SR*+###, *+f!L^(, >(; !K00CN! ?&A+, !5\$%(!*9k+A+ : +, =-(, ' !
*\$, =%&W>=k\$, -!=9+!B, &A+-&-; !5!<\$>=9!"#\$%&'(D!B, &A+-&-; !5!<\$>=9!"#\$%&'(I!G(: H(I!")D!

e4>%!X+(%!=5\$%! ; \$>%!X+(%!=6 F(% ' f!LY(; !K000N!5\$%! ; +(%-!\$5!-+%A&*+!=\$!*9k# ' %+, !5(: &#k+-!
(, ' !*\$: : >, &=; !k, !` +, =>(!8\$>, =; !I86!W; !B, &=+ ' !. (%+, =-!5\$%!"(: &#k+-!Y\$%!. (%i!86D!

V, Ak=+ ' !8\$, =%&W>=\$%LE+*+ : W+%!200MN!=\$!5k%-!<>?+\$, !g+, +%(#h-!_+H\$%=\$, !Y+, =(#!X+(#-9I!
E+H(%= : +, !=\$!X+(#-9I!(, ' !X> : (, !<+%A&*+-I!+?(' &, ?!%(*+I+=9, &*k=; I!(, ' !*\$: : >, &=; I!
_*\$iA&##+I!YED!

.\$H#[!-!89\$&*+!6 F(% ' !7!4>=-=(, ' &, ?!S : H#\$; ++!Lc \$A+ : W+%!2001ND!E+H(%= : +, !=\$!89k# ' !
(, ' !" (: &#; !<=>'&+-I!) \$>k-!' +#!(!. (%=+!"#\$%&'(!Y+, =(#!X+(#-9!V, -&=>=+I!B, &A+-&-; !5!<\$>=9!
"\$%&'(I!G(: H(I!")D!

.\$H#[!-!89\$&*+!6 F(% ' !7!)+(' +%!(, ' !_ \$#+!Y\$ ' +#!L<+H=+ : W+%!200PND!E+H(%= : +, !=\$!89k# ' !
(, ' !" (: &#; !<=>'&+-I!) \$>k-!' +#!(!. (%=+!"#\$%&'(!Y+, =(#!X+(#-9!V, -&=>=+I!B, &A+-&-; !5!<\$>=9!
"\$%&'(I!G(: H(I!")D!

8\$: : +, ' (=k\$, !L"+W%>(; !200CND! ` +, =>(!8\$>, =; !Y+, =(#!X+(#-9I!8 (#&5\$%, &(I!_(, ' (#!
"+#=: (, !IE&%+*=\$%D!

8\$>, =; !_+-\$#>=k\$, !5!8\$: : +, ' (=k\$, !L"+W%>(; !200CND!G9+!@\$(% ' !5!<>H+%A&-\$-!5!
` +, =>(!8\$>, =; !I86I!89(&% : (, !<>- (, !jD!) (*+; D!

<+, (=+_+-\$#>=k\$, !5!8\$: : +, ' (=k\$, !L^(, >(; !200CND!X\$, \$%(W#+!8 (-9k+! k %&'9=I!20=9!
<+, (= \$%&(!E&=-%&*=!86D!

6#@&% " *) % ; < : !

!

@//AB!

!

X+%, (, ' +a!YD! I !X\$ ' ?+-I!<D!LS ' -DND!LK002ND!+, 8, %/4\$*9'/I): /# , '&); " , 9\$, &'\$*'
' : <\$% . ; , * = & / # , *) "' < , "" < D ! @ (# = : \$ % + ! Y E 7 ! . (> # ! 6 D ! @ % \$ \$ i + - ! . > W # & - 9 & , ? ! 8 \$ D !

!

!
!
!

!
!
!

B, &A+% - &= ; ! \$5! < \$> = 9! " # \$ % & ' (!) \$ > & - ! ' + ! # (! . (% = + ! " # \$ % & ' (! Y + , = (# ! X + (# = 9 ! V , - = & = > = + I !
_ + - + (% * 9 ! I ! G % (& , & , ? ! 8 + , = + % ! 5 \$ % ! 8 9 & # ' % + , h - ! Y + , = (# ! X + (# = 9 ! D !

!

" % & + ' : (, I ! _ D I ! @ + - = I ! j D I ! 6 % : - = % \$, ? I ! Y D I ! E > * 9 , \$ F - i & I ! 6 D I ! S A (, - I ! Y D I ! X + % , (, ' + a ! Y D I

!
!
!
!

!
!
!

X+% , (' +a! YDI! 6% : -=%\$, ?! YDI! g%+ , I! 6D) DI! 1 !^\$9 , -\$, I! YDXD! LK023ND! c (=k\$, (#!->A+ ;!\$5!!
-=(+!*9k# ' % + , h-! : + , =(#!9+(#-9! ' &#+*=\$-7! 8>%%+ , !=-(=>-!(, '!5>=>+!' &#+*=\$, -D!T/I ; *"'%
/'6 , <"8\$/ ; "'0 , "") < ' S , ; 8\$: , &""* . ' W , & , " ; : < I! NMI! CQKPD!
' \$&720D2003U-22P2PZ02JZ012PZ ; !!

!

SA(, -! YDI! @%> , -! SDI! 6% : -=%\$, ?! YDI! X\$ ' ?+ -I! < 8! X+% , (' +a! YDI! LS ' -DN! LK02JND! c + F!
5%\$, =k+%-!& , !W>&# ' & , ?! : + , =(#!+ : \$=k\$, (#!(, '!W+9(A&\$% (#9+(#-9!5\$%!*9&# ' % + , !(, '!
; \$>=97!V , =%\$ ' >*=\$, !=\$!-9+!-H+*k(#!-+*=\$, D!A# , ; \$: ""*T/I ; *"'%/'?X ;) < /4&7 : < \$" ; 7D!
VYLKNI'20CZ20MD!'
' \$&d20D20C3U\$%=000021P!

!

8(##+d(-I!) D YDI! X+% , (' +a! YDI! c+- : (, !GDI! 1 !Y\$F+% ; I! ED! LK02OND! 8%+(=k , ?!(!5%\$, =!H\$%*9!!
& , !- ; -=: -!\$5!*(%+7!V : H%\$A& , ?!(*+--!-\$!W+9(A&\$% (#9+(#-9!-+A&*+-!5\$%!' &A+%-+!
9&# ' % + , !(, '!5(: &#&+D!H8 ""I ") \$/"" . ' > ; /9 ; " # ' > % ""* \$ *9C'ZCC'CKDC1D!
' \$&7!20D202JUd+A(#H%\$?H#(, DK000D01D020!

!

X+% , (' +a! YDI! c+- : (, !GDI! Y\$F+% ; I! EDI! 6*+A+ '\$Z . \$#(i \$A&*9!VD! EDI! 1 !8(##+d(-I!) D! YDI!
LK00ND! 8>#>%(#!*\$: H+ , + , *+7! 6!#k+=%(=>%+!%+A&+F!(, '!*\$, *+H=>(#! : \$ ' +!5\$%!
H- ; *9k(=%&*!(, '! : + , =(#!9+(#-9!-+A&*+-D!>&7 : < \$") ; \$: ' S , ; 8\$: , &C'YOC'20PJZ010D!
' \$&7!20D223JUH-DK000DJODMD20PJ!

!

c+- : (, !GDI! @(-*9+I! 8DI! 1 !X+% , (' +a! YDI! LK003ND! G9+\$% ; ZW(-+ ' !+A(#>=k\$, !\$5!(!
\$: H%+9+ , -&A+!) (=k , \$!+ ' >(=k\$, !k , &=(=kA+7! 6 , !k , +=%(*=kA+!+A(#>=k\$, !(HH%(\$*9D!
H8 ""I ") \$/""* . ' > ; /9 ; " # ' > % ""* \$ *9C'ZOC'KJ3ZKM2D!
' \$&7!20D202JUd+A(#H%\$?H#(, DK003DOPDOOP!

!

X\$ ' ?+ -I! < DI! X+% , (' +a! YDI! . & , =\$I! 6DI! 1 !Baa+##! 8D! LK003ND! G9+!>+!\$5! \>(#k=(=kA+! : +=9\$ ' -!
& , !- ; -=: -!\$5!*(%+!%+-(%*9!m@%&+5!%+H\$%=nD!T/I ; *"'%/'?6 , <"8\$/ ; "'0 , "") < ' S , ; 8\$: , & ' ['
W , & , " ; : < C'ZMLPNI' CJ2ZCJMG'
' \$&7!20D2003U-22P2PZ003ZOOM3ZR!

!

^>#k(, I! ED 6DI! X+% , (' +a! YDI! 1 !X\$ ' ?+ -I! < D! LK00JND! SR+ : H#(% -!\$5!*\$: : > , & ; !H%(*=k*+D!
' A# , ; \$: ""*T/I ; *"'%/'?3 / # # I *\$) 7' > &7 : < /% /97C'ZVC'2P2Z2PKG'
' \$&d\$%?U20D2003U-20PJPZ00JZ003CZO'

!

X+% , (' +a! YDI! 1 !X\$ ' ?+ -I! < D! LK00JND! 6HH# ; & , ?!(!-9+\$% ; !\$5!*9(, ?+!(HH%(\$*9!=\$!
& , +=%(?+ , * ; !H#(, & , ?!& , !*9&# ' ! : + , =(#!9+(#-9D!A# , ; \$: ""*T/I ; *"'%/'?3 / # # I *\$) 7'
>&7 : < /% /97C'ZVC'2J1Z231G' ' \$&7!20D2003U-20PJPZ00JZ003OZ3!

!

k(#k(=9I! 8D YDI! < 9+ +9(, I! 6D j DI! X\$# ' + , I! SD k DI! X+% , (' +a! YDI! 1 !@#(>I! gD! LK00JN!
SA& ' + , *+ZW(-+ ' !=%+(= : + , =-!& , !=9+!5k+# ' 7! 6!W%&+5!%+H\$%=!\$, !H%\$A&' +!i , \$F#+ ' ?+I!
& : H#+ : + , =(=k\$, I!(, '!H%(*=k*+D!T/I ; *"'%/'?6 , <"8\$/ ; "'0 , "") < ' S , ; 8\$: , &""* . ' W , & , " ; : < C'
ZCC'KPPZK1CD! ' \$&7!20D2003U-22P2PZ001ZOOMZOD!

!

!
!
!
X+%, (, ' +a! YD! I ! c+- : (, !GD! LK00PND! V-->+-(, ' !-=% (= +?&+ -!5\$! -=> ' ; &, ?!) (= &, \$! -=> ' +, =!
' \$H\$>=!(= !-9+!# \$*(# !#+A+#D! T/I; *"'/?'3 <\$%. ''* . ' ! "# \$%7'S) I. \$, &C' EZC' P1CZPJMD!
' \$&720D20KCU@7^8 " <D00000PP3K3DOCKJ2D01!
!
/ (: H\$#- i (; (!<DI! c+- : (, !GD! YDI! X+%, (, ' +a! YDI! I ! j \$*9! ED! LK00PND! B- &, ?! *\$, *+H!
: (HH&, ?! = \$! ' +A+#\$H! (!#\$?&*! : \$ ' +#! (, ' ! (% = &* ># (= +! (!H\$?% (: !-9+\$% ; ?! 6! * (- +! +R (: H#+D!
A #, ; \$: " *T/I; *"'/?'H8 " I ") \$/ *C' M \ C' 202ZKOG!
 // . /10.11 /10 21400402 00204!
!
<=+H9+, -I! _D) I! X\$# ' +, !SD k DI! I ! X+%, (, ' +a! YD! LK00PND! <; -+ : Z\$5Z* (% +! H% (* = &* +! % +A& +F!
- *\$% +-(!H% + ' &* = \$% -! \$5! W+9 (A&\$% (#! -; : H= \$: (= \$# \$? ; ! (, ' !5> , * = &\$, (#! & : H (& : + , =D!
T/I; *"'/?'3 <\$%. ''* . ' ! "# \$%7'S) I. \$, &C' EZC' 230Z202D!
' \$&720D20KCU@7^8 " <D000002130JD33P03D*W'
!
X+%, (, ' +a! YD! LS ' ND! LK00CND! V, =% \$ ' >* = &\$, ! = \$! -9+! -H+ * & (#! - + % & + - ! \$, ! * 9 &# ' % + , h- ! : + , = (#!
9+ (#=9D) T/I; *"'/?'H# /) \$/ *"' ''* . ' 6, <" 8\$ /; "' + \$ & /; . , ; &C' EEC' CZPD!
9=H-7UU ' \$&\$% ?U20D2233U20JCPKJJOC02200202!
!
X+%, (, ' +a! YD! I ! X\$ ' ?+ -I! <DI! LK00CND! @> &# ' &, ?! >H\$, ! = 9+ \$% ; ! \$5! * 9 (, ? + ! 5\$% ! - ; - + : - ! \$5! * (% +D!
T/I; *"'/?'H# /) \$/ *"' ''* . ' 6, <" 8\$ /; "' + \$ & /; . , ; &C' EUI! 20ZKJD!
!
X\$ ' ?+ -I! <DI! X+%, (, ' +a! YDI! I ! c+- : (, !GD! LK00CND! 6! ' +A+#\$H : + , = (#! 5% (: + F\$% i 5\$%!
* \$# (W\$ (= &\$, ! &, ! * 9 &# ' Z- + % A& , ?! (?+ , * & + -D! T/I; *"'/?'3 <\$%. ''* . ' ! "# \$%7'S) I. \$, &C' EMI!
K02ZC01D! 9=H-7UU ' \$&\$% ?U20D20KCU6720KCOM3320J22!
!
) \$> % & + ! VD! I ! X+%, (, ' +a! YD! LK00CND! 6! 9 & - = \$% &* (#! H+ % - H+ * = & A+ ! \$, ! , (= &\$, (#! * 9 &# ' ! : + , = (#! 9+ (#=9!
H\$# &* ; D! T/I; *"'/?'H# /) \$/ *"' ''* . ' 6, <" 8\$ /; "' + \$ & /; . , ; &C' \ I! 1ZOD!
9=H-7UU ' \$&\$% ?U20D2233U20JCPKJJOC0220020K!
!
" % & + ' : (, ! _D) I ! X+%, (, ' +a! YD! LK00CND! G9+!, (= &\$, (#! +A (#> (= &\$, ! \$5! -9+! * \$: H% +9+ , - & A+!
* \$: : > , & ; ! : + , = (#! 9+ (#=9! - + % A& * + - ! 5\$% ! * 9 &# ' % + , ! (, ' ! = 9+ & ! 5 (: & # & + - ! H\$?% (: ?! 6!
* \$: : + , = (% ; G' 3 <\$% . ; , * = & ' S , ; 8\$: , & F' S / : \$ "' > / % \$: 7C' W , & , " ; : <C' ''* . ' > ; " :) \$: , C' \ C! J3Z3PD!
' \$&720D2K03U<21CKJ02M8<0102oJ!
!
X+%, (, ' +a! YDI! g \$: +a! 6DI!) &H&+ , I!) DI! g% ++ , W (> : I! . D! SDI! 6% : - = \$, ?I! j DI! I ! g \$, a (#+aI! . D!
LK002ND! B- +! \$5! -9+! - ; - + : ! \$5! * (% +! H% (* = &* +! % +A& +F ! &, ! = 9+! , (= &\$, (#! +A (#> (= &\$, ?!
SA (#> (= &, ?! = 9+! 5 & ' + # & = ; ! \$5! H% (* = &* +! = \$! - ; - + : ! \$5! * (% +! H% & , * & H# + -D T/I; *"'/?'H# /) \$/ *"' ''* . ' 6, <" 8\$ /; "' + \$ & /; . , ; &C' UC! PCZ1KD!
9=H-7UU ' \$&\$% ?U20D2233U20JCPKJJ0200000201!
!
X+%, (, ' +a! YD! LK00OND! B- &, ?! # \$? &* ! : \$ ' + # - ! (, ' ! H\$?% (: ! = 9+ \$% ; ! = \$! W > &# ' ! \$ > = \$: +!
(* \$ > , = (W & # & - ; D! H. I. ") \$/ *"' ''* . ' 5 ; ; ") # , *) / ? ' 3 <\$% . ; , * ! MZC! KPQPOD!
9=H-7UU F F F Dd = \$% D\$% ?U = (W# + UPKMOOJ02!
!
@ (= * 9+ I! 8DI! X+%, (, ' +a! YDI! I ! Y \$, = + , + ? % \$! YD! 8D! L200OND! 8 \$: : > , & ; ! , + + ' - !

!
!
!

!
!
!

(--+-+ : +,=!F&=9!X&-H(, &*I!<H(, &-9Z : \$, \$#&, ?>(#!%+-&' +, =-D!H8""I")\$/**"* . '>:/9;""#'
>%"**\$*9C'MMI!2CZKOD!9=H-7UU '\$&D\$%?U20D202JU<02POZ32MOLOMN000CJZJ!

X\$' ?+-I!<D! I !X+%, (, '+a! YD!L2000ND!X\$F!\$%?(, &a(=&\$, (#!*>#=>%+!&, 5#>+, *+-\$>=\$: +!
&, 5\$% : (=&\$, !>=&#&a(=&\$, D!H8""I")\$/**"* . '>:/9;""# '>%"**\$*9C'MMC!2MCQ203D!!
'\$&7!20D202JU-02POZ32MOLOON00001Z2D!

X+%, (, '+a! YD!LS 'DN!L200MND!<H+*&(#!&->+!+ ' &=\$%7!<; -+ : !(*\$>, =(W&#&=: !&, !*9&# ' %+, h-!
: +, =(#!9+(#-9D!T/I; *""'/?'6, <"8\$/; ""'0, ""')<'S, ;8\$: , &'""* . 'W, &, "; :<C'M\LKND!

X+%, (, '+a! YD!L200MND!<H+*&(#!&->+!+ ' &=\$%h-!, \$=+D'T/I; *""'/?'6, <"8\$/; ""'0, ""')<'S, ;8\$: , &'
""* . 'W, &, "; :<C'M\!2CKZ2CPD!9=H-7UU '\$&D\$%?U20D2003U@ "OKKM3P3P!

X+%, (, '+a! YDI!X\$' ?+-I!<DI! I !8 (-*(% &I! YD!L200MND!G9+!+*\$#\$?;!\$5!\$>=\$: +-7!<; -+ : !
(*\$>, =(W&#&=: !&, !*9&# ' %+, h-! : +, =(#!9+(#-9D!5<, 'T/I; *""'/?'6, <"8\$/; ""'0, ""')<'
S, ;8\$: , &' / 'W, &, "; :<I!M\C!2CJQ210D!9=H-7UU '\$&D\$%?U20D2003U@ "OKKM3P3J!

V*9&, \$-+I!8D! j DI! j &, ? '\$, I!ED! k DI! I !X+%, (, '+a! YD!L200PND!E+A+#\$H&, ?!*\$: : >, &=: !
(#=#, (=&A+!-\$!?\$%\$>H!9\$: +!H#(*+ : +, =!5\$%!<SE!-H+*&(#!+ '>* (=&\$, !->+ ' +, =-!&, !-9+!
` +, =>%(!8\$>, =; !-; -+ : !5\$!*(+D!T/I; *""'/?'3<\$%. ""* . '!' "#\$%7'S)I. \$, &C'ZC!20CQK20D!
9=H-7UU '\$&D\$%?U20D2003U@ "OKKCP0J3!

^\$%' (, I!ED!ED! I !X+%, (, '+a! YD!L2000ND!G9+!` +, =>%(!H#(, , &, ?! : \$' +#7!6!H#\$H\$-(#15\$!
: +, =(#!9+(#-9!%+5\$% : D!5<, 'T/I; *""'/?'K, *)""'0, ""')<'A. #\$\$*&);))\$/ *C'EJ!KJQP3D!
. YVE7!2020J130!!
'\$&7!20D2003U@ "OK12M13M!

\$1E1-113!, -D.FG1B!.2!C-1BB!

</2!-1E1-113!, -D.FG1B!

Y(%=&, +a! j DI!8(##+d(-I!)D YDI! I !X+%, (, '+a! YD!LKO20ND!8\$: : >, &=: Z'+5&, +'!+A&' +, *+7!6!
eW\$=\$: !>Hf!W+9(A&\$%(#!9+(#-9!(HH%\$(*9!=\$! : +(->%+!eF9(=!F\$%i-f!&,!) (=&, \$!
\$: : >, &=&+D!W, 4/;)'/'H#/)\$/**"' ['6, <"8\$/; ""'+&\$/; . , ;&'\$*'^/I)<C!EOL2NI!22Z2JD!

X\$' ?+-I!<D! I !X+%, (, '+a! YD!LS 'DN!LK003N!H8""I")\$/*'14.), F'(/9\$: '#/. , %&'""* . '
:/## #I*\$)7'4%"**\$*9G'_*\$iA&##+I!YE7'c(=&\$, (#!SA(#>(&\$, !5\$!-9+!8\$: H%+9+, -&A+!
8\$: : >, &=: !Y+, =(#!X+(#-9!<+&A&*+-!5\$%!89&# ' %+, !(, '!-9+&%" (: &#&+-! . %\$?%(: DI!

V-((*-I! YD!_DI!X>(, ?!)DI!X+%, (, '+a! YD! I !S*9\$ZX(F i!X!D!LK001ND'5<, ;/' . ') /', 8\$. , * : , F'
5<, '\$*); & ;)\$/**'/?', 8\$. , * : , P@"&, '4;":)\$: , &'""* . ':I%)I; ""':/#4,), * : , '\$*':<\$% . ; , *R&
#, *)""<, ""')<'G(: H(I!)?B, &A+%-&=: !5!<\$>=9!"#\$%&'(I))\$>&-!'+!#(!. (%=+!"#\$%&'(!
Y+, =(#!X+(#-9!V, -&=>+I!_+-(+*9!(, '!G%(&, &, ?!8+, =+!5\$%!89&# ' %+, h-!Y+, =(#!
X+(#-9D!

!
!
!

!
!
!

X+%, (, '+aI!YD!LK001ND!V '+, =k5; &, ?!(, '! : +(->%&, ?!\$%?(, &a(=k\$, (#!5(*=\$%-!=9(=!)

!
!
!

!
!
!

LK02JND!K"B\$*9':/**, :)\$/*&'?/;'#, *)"'%<, "%<' '*.' '_,%%@\$*9'"#/*9'#, *"'*.'@/7&' \$*')<,'aSF'bI";),;%7',8"%I")\$/*'4;/9;, &&';,4/;)F'>,;\$/.F'A4;\$%'EC'MOEY'2'TI*, 'ZOC' MOEY'Y(i&,?!8\$, ,+*=&\$,-!V,&=&(=&A+!, (=&\$, (#!+A(#>=&\$,!(*=&A&=&+!%+H\$%=->W : &=+'! -\$!-9+!Y\$A+ : W+%!"\$>,' (=&\$,DI!G(: H(I!")7!B, &A+%-&=;!\$5!<\$>=9!"#\$%&'(I!8\$##+?!\$5! @+9(A&\$%(!('!8\$: :>,&=;!<*&+, *+!-I!E+H(%= : +,=!\$5!89&#!('!'!" : &#;!<=>'&+-D!!

!

Y*c+&-9I!_DI!X\$'?+-I!<DI!X+%, (,'+aI!YDI!G&\$=&I!YDI!k(#i+%I!8DI!_&??!I!jDI!I!<& : :\$, -I!8D!

LK02JND!K"B\$*9':/**, :)\$/*&'?/;'#, *)"'%<, "%)29.5-2292Tm/TT6ITf(88)TjETQ@.204.2587., "% -D

!
!
!
!
3/#4";\$&/**".':/*);"&');,4/;)'/?')<, %/9\$: '#/. ,%&'?;/# 'MOOM'"*. 'MOOZD!G(: H(I!
")7!B,&A+%&=;!\$5!<\$>9!"#\$%&'(I!)\$>&-'+'#!(!. (%=+"#\$%&'(!Y+,#(#!X+(#-9!V,-&=>=+I!
E+H(%=: +,=!\$5!89&#!('!'(" : &#;!<=>'&+-D!
!
X\$' ?+-I!<DI!X+% , (' +aI!YDI! 1!)&H&+,I!)D!LKOOCND!6";\$I#'S4;\$*9&'O/#,'?/;'3<\$%. ;,*F'
3/*.:4)'#"44\$*9';,4/;)

!
!
!

!
!
!

9;/1*.F'3/*:,4)'#"44\$*9';,4/;)G(:H(I!")7!B ,&A+%&-&=;!\$5!<\$>=9!"#\$%&'(I!)\$>&-!
'+!#(!.(%="+!"#\$%&'(!Y+,(#!X+(#9!V,-=&=>=+I!_+-(%*9!(,'!G%(&,&?!8+,%+!5\$%!
89&#'%+,h-!Y+,(#!X+(#9D!!!

!

X\$'?+-I!<DI!X+%,(,'+aI!YDI!1!)&H&+,I!)D!LKOOKND!B*\$),. 'f "7/?'g;,"),; '3/%I#@I&F'
3/*:,4)'#"44\$*9';,4/;)D!G(:H(I!")7!B ,&A+%&-&=;!\$5!<\$>=9!"#\$%&'(I!)\$>&-!' +!#(!.(%="+!
"\$%&'(!Y+,(#!X+(#9!V,-=&=>=+I!_+-(%*9!(,'!G%(&,&?!8+,%+!5\$%!89&#'%+,h-!
Y+,(#!X+(#9D!

!

X\$'?+-I!<DI!X+%,(,'+aI!YDI!1!)&H&+,I!)D!LKOOKND!a)"<'^/I)<'D\$%%"9,F'3/*:,4)'#"44\$*9'

!
!
!

!
!
!

g\$: +a!6DI!X+%, (, '+a!YDI! 1!6% : -=%\$, ?! j D!L200MND! O\$9<%\$9<)&'?;/#')<, '?"#%7':, *),, ;, . '
\$*),, ;8\$, _&'\$*'S)";B'3/I*)7F'A'. , @;\$, ?\$*9';, 4/;)G'G(: H(I!")7!B, &A+%-&=; !5!<\$>=9!

!

!

!

!

!

!

!
!
!
X+%, (, '+al!YD! I !@%\$F, I! k D!L200PND! b I ";), ;%7';, 4/;)F'3 "&,'&)I. 7?;"#, _/;BD!G(: H(I!")7!
B, &A+%&-&=;!\$5!<\$>=9!"#\$%&' (I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+,=(#!X+(#-9!V, -&=>=+I!
E+H(%=: +,=!\$5!89&# '!(, '!"(: &#;!<=>'&+-D!

!
X+%, (, '+al!YD! I !@%\$F, I! k D!L200PND! b I ";), ;%7';, 4/;)F'!;"#, _/;B'/?/;')<,'8"8" I ")\$//*' '*.' '
. ,&.:;\$4)\$/*'/?'*,\$9<@/;<///.'9/8,;*"*:,D!G(: H(I!")7!B, &A+%&-&=;!\$5!<\$>=9!"#\$%&' (I!
)\$>&-!' +!#(!. (%=+!"#\$%&' (!Y+,=(#!X+(#-9!V, -&=>=+I!E+H(%=: +,=!\$5!89&# '!(, '!"(: &#;!<=>'&+-D!

!
X+%, (, '+al!YD! I !@%\$F, I! k D!L200PND! b I ";), ;%7';, 4/;)F'X8, ;8\$, _C'&/:\$''\$*\$*. \$: "/);&' '
,)<*/9;"4<7D!G(: H(I!")7!B, &A+%&-&=;!\$5!<\$>=9!"#\$%&' (I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!
Y+,=(#!X+(#-9!V, -&=>=+I!E+H(%=: +,=!\$5!89&# '!(, '!"(: &#;!<=>'&+-D!

!
X+%, (, '+al!YD! I !@%\$F, I! k D!L200PND! b I ";), ;%7';, 4/;)F'S, ;8\$, '&7&), #'.' ""':/%%, :)\$/*' '
?;"#, _/;BF'5<,'#");\$:, &D!G(: H(I!")7!B, &A+%&-&=;!\$5!<\$>=9!"#\$%&' (I!) \$>&-!' +!#(!
. (%=+!"#\$%&' (!Y+,=(#!X+(#-9!V, -&=>=+I!E+H(%=: +,=!\$5!89&# '!(, '!"(: &#;!<=>'&+-D!

!
X+%, (, '+al!YDI! _\$+W>*iI!)DI! _\$??+, W(>: I!<DI!<H\$\$I!YDI! I !@%\$\$i-I. D!L200PND! ^, ";')_/' '
; ,4/;)'/?!'%/;\$.' "R&'&"), _\$. , "%/: ""&7&), #'&);"), 97'\$#4%, #, *)")\$//*'9; ""*)D!G(: H(I!
")7!B, &A+%&-&=;!\$5!<\$>=9!"#\$%&' (I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+,=(#!X+(#-9!V, -&=>=+I!
E+H(%=: +,=!\$5!89&# '!(, '!"(: &#;!<=>'&+-D!

!
V*9&,\$-+I!8D! j DI! j &, ? '\$, I!ED! k DI! j &, ?I!cD!SDI!8#(%iI!(,)0.200.2414.2587. i. 2/ T T21 T f 1 (;!<)-0.2.

!
!
!

!
!
!

.%&,*+!V, &-I!^DI! c+- : (, !GDI! Y\$F+% ; !EDI! 8(##+d(-I!) D)YI! 1 !X+% , (, ' +a! YD! LK00OND!
S, ; 8\$*9', 8, ; 7/*, ''')<, ')''@%, F'S); ''), 9\$, &'?/; ', *<"*:\$*9')<, ''8"\$%@\$%)7'/?': I%)I; ""%7'
:/#4,), *)'#, *)''%<, ''%)<'&, ; 8\$: , &G'G(: H(I!")7!B, &A+% -&=; !5!<\$>=9!"#\$%&' (I! 8\$##+?+!
\$5!@+9(A&\$% (#!(, '!8\$: : >, &=; !<*&+, *+-I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!
V, -=&=>=+I! _+++(%*9! 1 !G% (&, &, ?!8+, =+% !5\$% !89&# ' %+, h-! Y+, =(#!X+(#-9D!
!

X\$' ?+-I!<DI!" +%%+&% (I! j DI! g &#W+% =Z< : &=9I!GDI! ` (>?9, I!@DI! Y\$F+% ; !EDI!@%&-*\$+I!_DI!!
. %&,*+!V, &-I!^DI! 1 !X+% , (, ' +a! YD! LK00OND!" 6<<G!& : H#+ : +, =(=&\$, !=\$\$#i&=D!
J+, 8, %/4\$*9'I&)"\$*""@%, '\$*?;"&); I:)I; , '\$* '&I44/;)'/?'cI""%)7'?\$, %, P@"&, . '4; " :)\$: , '
&, ; \$, &C'! K O L'd'MNVP\QG!G(: H(I!")7!B, &A+% -&=; !5!<\$>=9!"#\$%&' (I! 8\$##+?+!\$5!
@+9(A&\$% (#!(, '!8\$: : >, &=; !<*&+, *+-I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!
V, -=&=>=+I! E+H(%=: +, !\$5!89&# ' ! (, '!' (: &#; !<=>'&+-D!
!

8(##+d(-I!) D)YDI! c+- : (, !GDI! Y\$F+% ; !EDI! 1 !X+% , (, ' +a! YD! LK00MND! 3; , ")\$*9'""?;/*)'4/; : <F''
S); ''), 9\$, &'?/; '\$#4;/8\$*9'"" : : , &&')/'# , *)''%<, ''%)<'&, ; 8\$: , &G'G(: H(I!")7!B, &A+% -&=; !5!
<\$>=9!"#\$%&' (I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>=+I! _+++(%*9! 1 !
G% (&, &, ?!8+, =+% !5\$% !89&# ' %+, h-! Y+, =(#!X+(#-9D!
!

X(%H+%I! YDI!X+% , (, ' +a! YDI! c+- : (, !GDI! Y\$F+% ; !EDI! k \$%=9&, ?=\$, I!^DI! 1 !V-((*-I! YD!

!
!
!

!
!
!

\$*)/'':)\$/*G'JK "B\$*9':<\$%.;, *=&'#, *)"'<, ""<'&, ;8\$:., &'&I:., &&?I%'&, ;\$, &C'8/%I#, 'EQG!
G(: H(I!")7!B, &A+%-&=;!\$5!<\$>=9!"#\$%&' (I!)\$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#=9!
V, -=&=>=+D! 6A(&#(W#+!\$, #&, +!
9=H7U*5-D5 : 9&D>-5D+'>UG S 6 EU 8 YX-+%&+-UV'+(-&,-\$6*=&\$,UV'+(-&,-\$6*=&\$,. %&, =DH
'5D!

!

X+% , (, '+a!YDI! I!X\$' ?+-I!<DI!LKOOCND!+\$&, i"*./'#/., %/&%j9\$: /&'4"; ""%&'&\$&), #''&'. , '
: I\$. "/FL., "&', *"'': \$j*G'JS, ;\$, %/9; ""*./'&, ;8\$: \$/&', I\$)/&/&'4"; ""%''&'&I. ' #, *)"'%'
. , %''* \$i, `C'8/%I#, *'EQG'G(: H(I!")7!B, &A+%-&' ('!' +#!<>%!' +!#(!"#\$%&' (IV, -=&=>=\$!
. (%(!#(!<(#>'!Y+, =(#!' +!#(!"#\$%&' (!)\$>&-!' +!#(!. (%=+D!E&-H\$, &W#+!+, !+-H(r\$#7!
9=H7U#\$?&* : \$' +#D5 : 9&D>-5D+'>U 8 YX-+%&+-UV'+(-&,-\$6*=&\$, o-H(, &-9D9= : #!

!

k \$%-9&, ?=\$, I!^DI!X+% , (, '+a!YDI!"%&+' : (, !@DI! I!Baa+##I!E!LKO02ND!(, "; *\$*9'?;/#'

!
!
!

!
!
!

<1KBC,C1-!* -D.FG1B!

!

X+%, ('+a!YD!LK02MI!Y(;!2OND!"\$*>-!\$,!i&'-h! :

!
!
!

!
!
!

"#\$%&'(D!eSA(#>(=k\$, !5!=9+!.>+, =+!8\$##(W\$(=kA+!V, k=k(=kA+fD!SA(#>(=k\$, !5!) (=k, \$!k, k=k(=kA+!
5\$*>-+ '\$, !k : H%\$A&, ?!(**+--!=\$! : +, =(#!9+(#!9!-+%A&*+-D!">, ' +'!W;!8+, =+%!5\$!Y+, =(#!
X+(#!9!<+%A&*+-!9%\$>?9!->W*\$, =%(*!=!\$" (: k#; !<+%A&*+!6 --\$*k(=k\$, !5!Xk##-W\$\$>?9!8\$>, =;!
5\$%!\$, +!; +(D!_+5+%++ 'D!6 : \$>, =7!]2KKIKPOD!

!

"/T

!
!
!

6-.2F.C,6!%2M1BD.J,D/ -!

!
!
!

!
!
!

!
!
!

W;!9+!E+H(%=: +,=!\$5!89&#'%+,!(, '!'(: &#&+-!G(##(9(-++I!"#\$%&'(D!c\$,Z%+5+%++'D!6:\$>,=7!
]2K0I000D!

!

**6-.2F.C,G!%2M1BD.J,D/-!NR^^W!Y!R^^^V8!E+H(%=: +,=!\$5!89&#!1!"(: &#;!<=>'&+-I!_+++(%*9!
(, 'G%(&, &, ?!8+, =+%!5\$%!89&#'%+, [-!Y+, =(!X+(#9I!)\$>&-!' +#!(!. (%=+!"#\$%&'(!Y+, =(!X+(#9!
V, -=&=>+I!B, &A+%&-&=;!\$5!<\$>=9!"#\$%&'(D!<=>' ;!&' +, =&5&+'!(, '!+A(#>(=+'!+R+ : H#(%;!)**

!
!
!
!

!
!
!

8\$, ->#=(, =!LY (; !K022ND! 8\$, ->#=(, !=\$!-9+!K022! c (=k\$, (#!.\$#k*; !<> : : k!=!\$!S#k : &, (=+!
@+9(A&\$%(!X+(#9!E&-H(%&=k+-!F&=9&, !X+(#9!_+5\$% : !5\$%!Y+, =(!X+(#9!<+%A&*+-!6 " / 6I!
V, *DI!<(, !E&+?SI! 8 6D!!

8\$, ->#=(, =!LY (%*9!K020ND! 4 , ?\$&, ?!*\$, ->#=(=k\$, !%+?(% ' &, ?!=9+!' +A+#\$H : +, =(, ' !5(*&#k=(=k\$, !
\$5!-9+\$%&+-!\$5!*9(, ?+!(, ' !#\$?&*! : \$ ' +#!-15\$%!Y (%&(!. &, a\$, I(!*\$: : >, &=; !H(%, +%D!X&-H(, &*!
<+%A&*+-!8\$>, *&#I!G(: H(I! ")D!

8\$, ->#=(, =!L^>, +!K020ND! 8\$, ->#=(=k\$, !\$, !=9+!' +A+#\$H : +, !=\$5!(!=9+\$% ; !\$5!*9(, ?+!5\$%!
>#=>%(!\$: H+=+, *+I!&, *#>' &, ?!=+*9, &*(!(-&=(, *+!=\$!->HH\$%=!=9+!8\$>, =; !5\$!_&A+%&-&' +!
E+H(%, = : +, !=\$5!Y+, =(!X+(#9!8>#>%(#!8\$: H+=+, *; !. %\$?%(: !&, !' +A+#\$H&, ?!(!=9+\$% ; !5\$!
*9(, ?+!5\$%!=9+!+, 9(, *+ : +, !=\$5!*>#=>%(!*\$: H+=+, *+!&, !=9+!\$%?(, &a(=k\$, !=9%\$>?9! '\$*> : +, !=
%+A&+F-!(, '!F\$%i!F&=9!(!*\$%+!?\$%>H!\$5!i+; !-(i+9\$#'+%-I!_&A+%&-&' +! 8 6D!

8\$, ->#=(, =!L 6H%&#!K020ND! 8\$, ->#=(=k\$, !=\$!-9+!8\$>, =; !5\$!_&A+%&-&' +!E+H(%, = : +, !=\$5!Y+, =(!X+
X+(#9!8>#>%(#!8\$: H+=+, *; !. %\$?%(: I!_&A+%&-&' +! 8 6D!

8\$, ->#=(, =!L^<, >(; !K020ND! 8\$, ->#=(=k\$, !=\$!-9+!8+, =+%!5\$%!_>%(#!(, '!8\$: : >, &=; !
@+9(A&\$%(!X+(#9!6#W>\>+% \>+! c YD!!

8\$, ->#=(, =!L 6>?>-!K000ND! 8\$, ->#=(=k\$, !=\$!-9+!S#& : &, (=k, ?!Y+, =(!X+(#9!E&-H(%&=k+-!
LS YXEN!)+(' +%-9&H! 6*(' + : ; !=9%\$>?9!g+\$%?+=F, !B, &A+%&-&=; !(, '!6 " / 6I!V, *DI!

!
!
!
!

!
!
!

8\$, ->#=(, =!LE+*+ : W+%I!K00JND!8\$, ->#=(=k\$, !=\$!=9+!6%ka\$, (!E+H(%= : +, =!\$5!X+(#=9!<+%A&*+--!
5\$!' +A+#\$H&, ?!(!*\$: H%+9+, -&A+!\>(#k=;! : \$, k=\$%k, ?!(, ' !H%(*=k*+!k : H%\$A+ : +, =!-; -+= : I!
.9\$+, &RI!6qD!

!
!
!
8\$, ->#=(, =!LKOOPZ! . %+-+, =ND! c (=k\$, (#!) (=k\$, \$!@+9(Ak\$\$(#IX+(#-9!6--\$*k(=k\$, !Lc) @X6NI!
8\$*9k=k!) (i+I! c YD!
!
8\$, ->#=(, =!LKOOCZ. %+-+, =ND! 4, ?\$k, ?!*\$, ->#=(=k\$, !%+?(% 'k, ?!-9+!*%+(=k\$, !5!-9+\$%k+-!5!
9(, ?+!(, '!#?k! : \$'+#-!5\$!*\$: : >, k=k+-!-+%A&, ?! ; \$>=9!k, !=(, -k=k\$, !=!('>#-9\$\$ 'D!
. (%=, +% -9&H-!5\$! / \$>=9!G%(, -k=k\$, !c (=k\$, (#!G+*9, k*(#!6--k=(, *+!8+, =+!I!) \$>k-!'+!#(!. (%=+!
"#\$\$k' (!Y+, =(#!X+(#-9!V, -k=>=+!G(: H(I! ")D!
!
8\$, ->#=(, =!G%(k, +%!L^>#; !KOOOND! 8\$, ->#=(=k\$, !%+?(% 'k, ?!5% (: +F\$%i -!5\$%!SA(>=(k\$, !5!
. %\$: k-k, ?!k, =+!A+, =k\$, -!5\$%!6-k(, !6 : +%k*(, U. (*k5k*!V-#(, '+%-!H\$A&'+'!5\$%!8+, =+!5\$%!
Y+, =(#!X+(#-9!<+%A&*+-(, '!8+, =+!5\$%!89k#!'IX+(#-9!(, '!Y+, =(#!X+(#-9! . \$#k*; !g+\$%?+=F\$, !
B, &A+% -k=; !89k#!'E+A+\$H : +, =!8+, =+!I! k (-9k, ?-\$, !E 8D!
!
8\$, ->#=(, =!G%(k, +%!L^>#; !KOOOND! 8\$, ->#=(=k\$, !\$, !5% (: +F\$%i -!5\$%!+A(>=(k\$, !5!H\$: k-k, ?!
k, =+!A+, =k\$, !=(k, k, ?!H\$A&'+'!5\$%!E+A+%>R!V, -k=>=+!5\$!8#k, k*(#!G%(k, k, ?!(, '!_+-(%*9!
' k##(, \$A(I! . 6D!
!
8\$, ->#=(, =!LY (; !200OND! 8\$, ->#=(=k\$, !H\$A&'+'!-\$!-9+!c (=k\$, (#!G+*9, k*(#!6--k=(, *+!
8+, =+!%!%+?(% 'k, ?!(--+-k, ?!(, '! : (ik, ?!%+*\$: : +, '(=k\$, -!5\$%! .>+=\$!_k*\$h-!89k#!'+, h-!
Y+, =(#!X+(#-9!@#\$*i!g%(, =!<(, !^>(, !! .>+=\$!_k*\$D!
!
8\$, ->#=(, =!G%(k, +%!L"+W%>(; !200OND! 8\$, ->#=(=k\$, !%+?(% 'k, ?!*>#->%(#!*\$: H+ +=, *+!5\$%!
*9k#!'+, h-! : +, =(#!9+(#-9!5\$%!c \$%=-9!8 (%\$k, (!E+H(= : +, =!5\$!Y+, =(#!X+(#-9!(!c \$%=-9!8 (%\$k, (!
8>#>%(#!8\$: H+ +=, *+!V, k=k(=kA+I!_ (#+k?9!c 8D!
!
8\$, ->#=(, =!L^(> ; !200OND!G+*9, k*(#!SRH+=! k \$%i ?%\$>H!Y++=k, ?!(, '!6, (#; -+!-!5\$%!
V : H\$A+!V, 5\$% : (=k\$, !k, !Y(, (?+!8 (%+!I!@+9+- '(I!YED!
!
8\$, ->#=(, =!L4*=\$W+%I!2OMON! 4, ?\$k, ?!k, AS#A+ : +, =!Fk-9!g+\$%?+=F\$, !B, &A+% -k=; h-!G+*9, k*(#!
6--k=(, *+!8+, =+![-!8>#>%(#!8\$: H+ +=, *+!_+-\$>*+!8\$: : k=++D!g+\$%?+=F\$, !B, &A+% -k=; !
89k#!'E+A+\$H : +, =!8+, =+!I! k (-9k, ?-\$, !E 8D!
!
SRH+%=!. (, +#!L 6H%&#I!2003ND! 8\$, ->#=(=k\$, !%+?(% 'k, ?!W+9(Ak\$\$(#!9+(#-9!(, '!F+#5(#+!-; -+ : !
H\$?%(: !%+5\$% : !5\$%!V##k, \$&-I!B, &A+% -k=; !5\$!V##k, \$&-!(=!89k*(?!E+H(= : +, =!5\$!. -; *9k(= ; I!
89k*(?!V)D!
!
SRH+%=!. (, +#!L 6H%&#I!2003ND!E+-k?, !SH=k\$, -(, '! : +(->+!-!5\$%!*9k#!'F+#5(#+!+-(%*9!
_+-(%*9!G%k(, ?#!V, -k=>=+!5\$%!BD<D!E+H(= : +, =!5\$!X+(#-9!(, '!X> : (, !<+%A&*+I!
6' : k, k-=(=k\$, !\$, !89k#!'+, I! / \$>=9!(, '! "(: k=k+-I! k (-9k, ?-\$, !E 8D!
!
SRH+%=!. (, +#!L 6H%&#I!2003ND!V, =+?%(=k, ?!-+%A&*+!-!5\$%!*9k#!'+, !>, '+%! : (, (?+!*(%+!6@G!
6--\$*k(=+-!V, *DI!5\$%!-9+!8+, =+!5\$%!Y+, =(#!X+(#-9!<+%A&*+I!8(: W%k' ?+!Y 6D!
!
8\$, ->#=(, =!L"+W%>(; !2003ND!. %\$A&'+'!*\$, ->#=(=k\$, !k, !-9+!'A+\$H : +, =!5\$!\$>-\$: +!
(**\$>, =(W%k=& ; !-\$!' +#!+?(=k\$, -!5\$% : !Y(k, +!I! k +-=!` k%?k, k!(, '!<\$>=9!8 (%\$k, (D!Y(, (?+ !

!
!
!

!
!
!

8(%+!Y++=k, ?7!V : H#&* (=k\$, -!5\$%!89&#' %+, h-!Y+, =(#!X+(#-9!<+%A&*-!(, '!<; -+= : -!\$5!8(%+C!
g+\$%?+=\$F, !B, &A+%&-k=; !89&#' !E+A+#\$H : +, =!8+, =+%I! k (-9&, ?=\$, !E8D!!

!

8\$, ->#=(, =!Lc \$A+ : W+%I!200JND! 6--&-+= '!F&-9!' +A+#\$H : +, =!\$5!(, !(*\$>, =(W&#&=; !(HH%\$(*9!
(HH#&+ '!(=9+!#\$*(#!#+A+#D) 4%+?\$, !8\$: : &--&\$, !\$, !89&#' %+, !(, '!" (: &#&+-I!<(#+ : I!4 _D!!

!

8\$, ->#=(, =!L<+H=+ : W+%I!2001N!

!
!
!

!
!
!

"*. '&')', '4, ;&4, :)\$8, G'
A&\$%(!X+(#-9!G(: H(I!")D

!

!

X+%, (, '+al!YD!LK02PI!E+*+ : W+%ND!6;\$*9\$*9':I%)I;''%:/#4,), *:, ')/%\$?, ';;, ")\$*9''*.'
\$#4%, #, *)\$*9':I%)I;''%7''*.'%\$*9I\$&):''%7':/#4,), *)'&, ;8\$:, &G'8>#>%(#!8\$: H+=+, *+!
<+ : &, (%D!B, &A+%&=;!\$5!<\$>=9!#\$%&' (I!G(: H(I!")D!

!

X+%, (, '+al!YD!LK02KI!6>?>=-ND!h, _'. \$:, :)\$/*&'\$*',)<*\$:'#\$*/;)\$7';, &, "':<G'E&-*>--(, =!5\$%!
-9+!6 . 6!Y&, \$%&=;!"+##\$F-9&H!.\$%?%(: !<; : H\$&> : \$, '=!-9+!K02K!6 : +%&*(, !
. -; *9\$#\$?&*, '#!6--\$*&(=&\$, !6, ,>(#!8\$, A+, =&\$, I!4%#(, '\$I!")D!!

!

X+%, (, '+al!YD!LK022I!<+H+= : W+%ND!H%\$#\$*")\$*9'. \$&4";)\$, &F'L)'B, &'#/;, ')<"*&, ;8\$:, &G''

!
!
!

!
!
!

8+, =+%I!9\$-+= '!(=9+) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>=+I!B, &A+%&=; !5!
<\$>=9!"#\$%&' (I!G(: H(I!")D!

!

X+%, (, '+a!Y! I!X\$' ?+-I!<D!LK000I!Y (;ND!3; , ")\$*9%/ : "%&7&), #&'/?' : "; , F'a&\$*9%/9\$: '
'#/. , %&D! . %+-+, =+ '!(=8 YX<! c (=&\$, (#!SA(#>(=&\$, !G%(&, &, ?I!4_8!Y (%\$!6=#(, =(I!
g 6D!

!

X+%, (, '+a!Y!D!LK000I!Y (;ND!6!3':I%)I; "'%':/#4,), *.: , '); "\$*\$*9D!G%(&, &, ?!H%+-+, =+ '!(=9+!
@%&' ?&, ?!" (: &#&+-!(, '!8\$: : >, &=&+-U 6 'A\$*(=+! . %\$?%(: I!V, *D!Y&(: &I!")D!

!

X+%, (, '+a!Y!D!LK000I!Y (%*9ND!3<\$% . ; , *=&' #, *)"'%<, ""<'""* . '&7&), #&'/?' : "; , '&I;8, 7G'
. %+-+, =(=&\$, !=\$!9+!_G8!6 'A&-\$%; !@\$(' !(=9+!_++(%*9!(, '!G%(&, &, ?!8+, =+%!5\$%!
89&# ' %+, h-!Y+, =(#!X+(#-9!(=9+!B, &A+%&=; !5!<\$>=9!"#\$%&' (I(, '!9+!c (=&\$, (#!
G+*9, &*(#!6--&-=(, *+!8+, =+%!5\$%!89&# ' %+, h-!Y+, =(#!X+(#-9!(=9+!g+\$%?+=F, !
B, &A+%&=; !G(: H(I!")D!

!

X+%, (, '+a!Y!D!LK000I!Y (%*9ND! !; "#\$*9'&7&), #&'<:"*9, F'W, %")\$*9'<, '4";&')/<, '_</%, G'
<; : H\$-&> : !H%+-+, =+ '!(=9+ 'KK, '!6, , >(#!8\$, 5+%, +!\$5!9+!_++(%*9!(, '!G%(&, &, ?!
8+, =+%!5\$%!89&# ' %+, h-!Y+, =(#!X+(#-9!G(: H(I!")D'

!

X+%, (, '+a!Y!D! I!X\$' ?+-I!<D!LK000I!" +W%>(;ND!X; \$, *)"\$/*')/%/9\$: '#/. , %&'/?;')<, ''
:/#4; , <, *&\$8, ':/# #I*\$)7'#, *)"'%<, ""<'&, ;8\$: , &'/?;':<\$% . ; , *''* . '<, \$;?' "#\$%& '&
4;/9; "#G' . %+-+, =+ '!=9+!c (=&\$, (#!SA(#>(=&\$, !G+(: !&, !=9+!E+H(= : +, =!\$5!89&# ' !
(, '!"(: &#; !<=>'&+-!(=9+) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>=+!(=9+!
B, &A+%&=; !5!<\$>=9!"#\$%&' (I!G(: H(I!")D''

!

X+%, (, '+a!Y!D!LK000I!<+H=+ : W+%ND!3; , ")\$*9'""* . '&I&)"\$*\$*9'/;9""\$`")\$/*&'""* . '&7&), #&'<")'
&I44/;): I%)I; ""%7e%\$*9I\$&): ""%7':/#4,), *)&, ;8\$: , &D! . %+-+, =(=&\$, !(=9+!X+(#-9!
E&-H(%&=&+-!<=%(=+?&*! . # (, , &, ?!_+=%+(=I!@\$=-\$, I!Y 6D!

!

X+%, (, '+a!Y!D!LK000I!6>?>=ND!X; 9""\$`")\$/*&); ", 9\$, &'/?; '\$*.: , "\$*\$*9'&, ;8\$: , '": : , &&'""* . '
I)\$`")\$/*?/?; . \$8, ;&, '4/4I'")\$/*&D! . %+-+, =+ '!(=9+!<; : H\$-&> : 7!S=9, &*!E&-H(%&=&+-!

!
!
!
X+%, (, |+aI!YDI!"#>i+I!^D! 1 !X(%?+=I!@D!LKOOI!^>#;ND!A...; &&\$*9'. \$&4;/4/;)\$/*'"%)7'\$*':<\$%.'
_,%?"';, '"*.' '#, *)"'% '<, '"%<' . \$&4";)\$, &G' k \$% i -9\$H!H%+-+, =+ '!(=!KOOI! g+\$%?+=F \$, !
B, &A+% -&=; !G% (&, &, ?!V, -=&=>=-I! c (-9A&##+I!G cD!!!

!
X+%, (, '+aI!YD! 1 !^(*i-\$, I!` D!LKOOI!^>#;ND!K "B\$*9': <"*9, '<"44, *F'3;, ")\$*9'"*.'
&I&)"\$*\$*9': I%)I; "%%7'"* . %\$*9I\$&)\$: "%%7': /#4,) , *)' /; 9"*\$` ")\$/*&' '* . '&7&), #&G' . %Z
V, -=&=>=+!G% (&, &, ?!(=!KOOI! g+\$%?+=F \$, !B, &A+% -&=; !G% (&, &, ?!V, -=&=>=-I! c (-9A&##+I!
G cD!

!
X+%, (, '+aI!YD! 1 !Y (; \$I!^D!LKOOI! 6H%&#ND! +, 8, %/4\$*9'"': /# # I*\$)7'/?'4; "':)\$: , G' . %+-+, =+ '!(=!
=9+!89&# '!(, ' ! / \$>=9!Y+, =(#!

!
!
!

!
!
!

X+% , (, ' +aI!YD! 1 !X\$ ' ?+-I!<D!LK003I!6H%&#ND!X;\$, *) '\$ / * ') / % / 9\$: ' # / . , % & G ' k \$ % i - 9\$ H!
H% + - + , = + ' ! = \$! - & = + ! # & (& - \$, - ! 5\$ % ! = 9 + ! c (= & \$, (# ! S A (# > (= & \$, ! \$ 5 ! = 9 + ! 8\$: H% + 9 + , - & A + !

!
!
!

!
!
!

H%+-+, =+ '!(=9+!K0 !6 , , > (#!_+--+ (%*9!(, '!G%(&, &, ?!8+, =+%!8\$, 5+%+, *+!\$, !(!<; -+ : !
\$5!8 (%+!

!
!
!

!
!
!

?":\$%)\$/*G'.%+-+,=+'!(=9+!j+,=>*i;!E+H(%=:+,=!5\$!Y+,#!X+(#=9!1!Y+,#!
_+=(%'(&\$,!<+%A&*+-I!"%(,i5\$=I!j /D!

!

X+%,(,'+aI!YI!X\$'?+-I!<DI!1!c+-:(,I!GD!LK001I!6H%&#ND!

!

!

!

!

!

!

!
!
!
X+%, (, '+a!YD! I !. %&*+I!^D!LK000I!^>, +ND! b I ""%)7'\$ #4;/8, #, *)'""*. ', 8""I ")\$/*D! k \$% i -9\$H!
H%+-+, =+ '!(= !. %+ZV, -=&=>+!G%(&, &, ?!K000I! c +F!4%#+(, -!)) 6D!
!
X+%, (, '+a!YD!LK000I! 6H%&#ND! 3 I%)I; ""'. \$8, ;&\$)7""*.'. ;, &, "; :<'\$*':<\$\$. ;, *=&'#, *)'""<, ""<D!
. (, +#&-!(= !H#+, (% ; !-+--&\$, I!@>&# ' &, ?!\$, !" (: &# ; !<=%+, ?-9-!8\$, 5+%, *+! !. \$%#(, 'I!
4 _D!
!
X+%, (, '+a!YDI!X\$ ' ?+-I!<DI! I !^\$-+H9I! _D!LK000I! Y (%*9ND! !/:I&\$*9', 8""I ")\$/*F'3</\$. ; &C'
/4)\$/*&C""*.'. ;, :\$&\$/*&'?/; ', I, :I)\$8, &D! . %+-+, =+ '!(= !SA(#>(&\$, ! k \$% i -9\$H!
B, &A+%&-&=; !5!<\$>=9!"#\$%&' (!E\$F, =F, !8+, =+%I!G(: H(I!")D!
!
E\$##('!cDI! . + '%(a(I!)DI! . +=%&#(I! 6DI! I !X+%, (, '+a!YD!LK000I! Y (%*9ND! 3 /%""@/; ")\$8, '
. , &\$9*C'\$ #4%, #, *)'")\$/*""*.'. ', 8""I ")\$/*'/?'; ; &4\$), '\$*'O\$%&&/;/19<'3/I*)7C'!%/;\$. "D!
G\$H&*(#!' &-*->--&\$, !(= !9+!2C !6, , >(#!_+-(%*9!8\$, 5+%, *+I!) \$>&-!' +!#(!. (%=+!
"\$%&' (!Y+, =(#!X+(#-9!V, -=&=>+I!8#+(%F(=+%!@+(*9I!")D!
!
X+%, (, '+a!YD! I !g \$: +a! 6D!LK000I! Y (%*9ND! ! "#\$7':, *), ;, . '\$*), ;8\$, _&'""*.'.)<*/9; "4<\$, &
\$*')<, '(/ *9\$)I. \$*"'"'3 / #4"; \$&/ *S)I. 7D!<; : H\$-&> : !H%+-+, =+ '!(= !9+!2C !6, , >(#!
_+-(%*9!8\$, 5+%, *+I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>+I!8#+(%F(=+%!
@+(*9I!")D!
!
X+%, (, '+a!YDI!g >=&+%%+aZY (; i (I!YDI! I !^\$-+H9I! _D!LK000I! Y (%*9ND! (, &&/ *% %, ", *; . '?; / #'
)<, '#, *)'""<, ""<'<\$*\$"\$)8\$, '?/; 'I; @ ""*':<\$\$. ;, *D!. (H+%!H%+-+, =(&\$, !(= !9+!2C !6, , >(#!
_+-(%*9!8\$, 5+%, *+I!) \$>&-!' +!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>+I!8#+(%F(=+%!
@+(*9I!")D!
!
X+%, (, '+a!YD! I !X\$ ' ?+-I!<D!LK000I! Y (%*9ND! 3 / # # I *)7P@ "&, . ')<, /; \$, &'/?':<"*9, D!
<; : H\$-&> : !H%+-+, =+ '!(= !9+!2C !6, , >(#!_+-(%*9!8\$, 5+%, *+I!) \$>&-!' +!#(!. (%=+!
"\$%&' (!Y+, =(#!X+(#-9!V, -=&=>+I!8#+(%F(=+%!@+(*9I!")D!
!
X+%, (, '+a!YD! I !X\$ ' ?+-I!<D!LK000I! Y (%*9ND! L #4%, #, *)\$*9': / # # I *)7P@ "&, . '. , &\$9*F'
a &\$*9%/9\$: '#/ . , %&'/?%/: ""')<, /; \$, &'/?':<"*9, D! k \$% i -9\$H!H%+-+, =+ '!(= !G9+!
SA(#>(&\$, !5!89&# ' %+, h-! Y+, =(#!X+(#-9!<+%A&*+-!F&-9&, !<; -+ : -!5!8 (%+!
@(#=& : \$%+I!YED!
!
X+%, (, '+a!YD!L2000I!E+*+ : W+%ND!H8""I ")\$/*F'H&&, *)\$""')/'@I\$. \$*9""*.'. '&I&)"\$*\$*9""'
&7&), #'/?': "; ; D!. #+, (% ; !-+--&\$, !(= !9+!8\$: H%+9+, -&A+!8\$: : >, &=; !Y+, =(#!X+(#-9!
<+%A&*+-!5\$!189&# ' %+, !(, '!G9+&%" (: &#&+-! . %\$?%(: !" (##! g (, =+!Y++=&, ?I!) &=#+!
_ \$* i! 6 _D!
!
X+%, (, '+a!YD! I !X\$ ' ?+-I!<D!L2000I!E+*+ : W+%ND!L #4; /8\$*9'4; /9; " # &'""*.'. '&I44/;)\$*9'
\$*), ; *""', 8""I ")\$/*F'a &\$*9%/9\$: '#/ . , %&'""&'""')/'@D! k \$% i -9\$H!H%+-+, =+ '!(= !9+!<&R-9!
6, , >(#! "\$%&' (!8\$, 5+%, *+!\$, !@+9(A&\$% (#!X+(#-9*(%+!SA(#>(&\$, I!4%#(, ' \$I!")D!
!
!

!
!
!
X+%, (, ' +al! YD!L2000I! 4 *=\$W+%ND! a&\$*9%/9\$: '#/., %&')/'@I\$. ' /I): /# , '' : : /I*)''@(\$%)7D!
<H+(i+%!(=!<>=-(&, &, ?!V, , \$A(=kA+!89(, ?+! k \$%# '!8\$, 5+%, +, *+!\$, !89&# ' %+, h-!
<+%A&*+-!_+5\$% : -I!) &-W\$, I! . \$%->?(#D!
!
X+%, (, ' +al! YD! 1 !X\$ ' ?+-I!<D!L Y (;I!2000ND! ! \$))\$*9')<, '4\$, .:, &')/9,)<, ;F'6I\$%. \$*9'
'' : : /I*)''@(\$%)7'\$*': <\$%. '<, ''%)<''*.' :<\$%. ' _ , %?";, '&7&), #&D!E&-*>--&\$, !)+('+%!(=!
. %\$: &-&, ?! . % (*=&*+-!V, -=&=>=+-I! 6%#&, ?=\$, I! ` 6D!
!
X\$ ' ?+-I!<D! 1 !X+%, (, ' +al! YD!L2000I! Y (;ND!6I\$%. \$*9': /%%''@/;')\$/*'\$*&7&), #&'/?'': ;, D!
k \$% i-9\$H!H%+-+, =+ '!(=!. %\$: &-&, ?! . % (*=&*+-!V, -=&=>=+-I! 6%#&, ?=\$, I! ` 6D!
!
X+%, (, ' +al! YD!L2000I!"+W%>(%;ND!S)'), _\$. , '\$*\$)\$')\$8, &'?: '@I\$%. \$*9'' : : /I*)''@(\$%)7C' /I): /# , C'
/ *\$) / ; \$*9C''*.' ;, & / I ; : , '#''*''9, #, *)D!E&-*>--(, =!(=!<; : H\$-&> : !(=!-9+!2K !
6, , >(#!_+++(%*9!8\$, 5+%, +, *+!5\$%!89&# ' %+, h-! Y+, =(#!X+(#-9I!) \$>&-!'+!#(!. (%=+!
"#\$\$&' (!Y+, =(#!X+(#-9!V, -=&=>=+I! 8#+(%F(=+%!@+(*9I!"))D!
!
X+%, (, ' +al! YD!L2000I!"+W%>(%;IND! a&\$*9%/9\$: '#/., %&')/'@I\$. ' l)<, /; \$, &'/?': <"*9, m''*.' '
/I): /# , '' : : /I*)''@(\$%)7D! k \$% i-9\$H!H%+-+, =+ '!(=!-9+!2K !6, , >(#!_+++(%*9!
8\$, 5+%, +, *+!5\$%!89&# ' %+, h-! Y+, =(#!X+(#-9I!) \$>&-!'+!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!
V, -=&=>=+I! 8#+(%F(=+%!@+(*9I!"))D!
!
X+%, (, ' +al! YDI!@(>+##I!8DI! j \$*9I!^D!_DI! 1 !E\$>*++Zg(=+-I!6D!L2000I!"+W%>(%;ND!6I\$%. \$*9'
/I): /# , '' : : /I*)''@(\$%)7'\$*': <\$%. '#, *)''<, ''%)<''*.' :<\$%. ' _ , %?";, D!@%\$F, !@(!?
<+--&\$, !(=!-9+!2K !6, , >(#!_+++(%*9!8\$, 5+%, +, *+!5\$%!89&# ' %+, h-! Y+, =(#!X+(#-9I!
)\$>&-!'+!#(!. (%=+!"#\$%&' (!Y+, =(#!X+(#-9!V, -=&=>=+I! 8#+(%F(=+%!@+(*9I!"))D!
!
X+%, (, ' +al! YD! 1 !@% (, , (, I!6D! YD!L2000I!"+W%>(%;ND!H8''I'')\$*9'&, ;8\$: , '&7&), #&' '*.' '
?'#\$%\$, &=, I4, ;\$, *.: , &D!<; : H\$-&> : !H%+-+, =+ '!(=!-9+!2K !6, , >(#!_+++(%*9!
8\$, 5+%, +, *+!5\$%!89&# ' %+, h-! Y+, =(#!X+(#-9I!) \$>&-!'+!#(!. (%=+!"#\$%&' (!X+(#%*% ;

!
!
!
X+%, (, ' +al! YD!L200MI!4 *=\$W+%ND!XI):/#, &'#, "&I;, #, *)'\$*''':)\$/*F'3/;;, ':/*:, 4)&' '*.' :I;;, *)', I4, ;\$, *: , '\$*':<\$%.;, *=&'&, ;8\$:, '&,))\$*9&D!. %+-+, =(=&\$, !(=9+!89&# ' %+ ,h-! <+%A&*+-!4>=\$: +-!Y (, (?+ : +, =!8\$, 5+%+, *+I! . 9\$+, &RI!6qD!
!
X+%, (, ' +al! YD! I!@%\$F, I!SD!L200MI!<+H=+ : W+%ND!A'4;/?\$%, '/?'!%/;\$. ''=&':<\$%. '4;/), :)\$8, ' &7&), #D! . \$-+%!H%+-+, =(=&\$, !(=H#(, , &, ?!5\$%> : !@>&# ' &, ?!(!@+==+!89&#! !.%\$=+*=&\$, ! <;-+ : !G(: H(I!")D!
!
X+%, (, ' +al! YD!L200MI!^>#;ND!XI):/#, &' '*.' ''':/I*)"@\$\$)7FL#4%\$:")\$/*&'?/;':I%)I;''%7' :/#4,) , *)'&, ;8\$:, &D! . %+-+, =(=&\$, !\$5!(!F\$%i-9\$H!-H\$, -\$%+' !W;!Y(=+% , (#!(, '!89&#! X+(#9!c (=&\$, (#!8+, =+%!5\$%!8>#>%(#!8\$: H+=+, *+I!8+, =+%!5\$%!89&#!X+(#9!(, '! Y+, =(#!X+(#9!. \$#&*;!g+\$%?+=F, !B, &A+%-&=;!89&#!E+A+#\$H : +, =!8+, =+%I!_&\$! g%(, '+I! . _D!
!
X+%, (, ' +al! YD!L200MI!^>, +ND!

!
!
!

!
!
!

:<"% , *9, &'/?' . . . ; , &&\$*9'. \$&4"; \$) \$, &F'6I\$. \$*9': /##/*9; /I*. G! . %+-+ , =+'!(=9+!
g+\$%?+=F, !B, &A+%&=;!) + ('+%&H!6*('+ : ;I!<(, =(!"+I! c YD!

!

X+% , (, '+aI!YD!LK002I!Y (;ND!H%\$#\$*\$")\$*9'. \$&4"; \$) \$, &F'L)'B, &'#/; , ')<"* '& , ;8\$: , &G''
. %+-+ , =+'!(=9+!K022!c (=k\$, (#! . \$#&* ; !<> : : &!= \$!6 ' '%+--!@+9(A&\$%(!X+(#-9!
E&-H(%&=k+-!F&=9& , !X+(#-9!

!
!
!
!

!
!
!
!

!
!
!
X+%, (, ' +a! YD!LK002I!^(>(%;ND! f "7&')/' , 8""I"), '4;/9; , &&'\$*' . , 8, %/4\$*9', ??, :)\$8, '
&, ;8\$: , &D! . %+-+ , =+ '!(=!@+-=! . %(*=k*+-!& , !X(F(&&7!89\$\$-& , ?!S55+*=&A+!<=(=+?&+-!5\$%!
<+%A& , ?!(, '!<>HH\$%=& , ?!89&#'%+ , !(, '!"(: &#k+-I! k (&i&i&I!XVD!
!
X+%, (, ' +a! YD! I !X\$' ?+-I!<D!LK000I!4*=\$W+%ND! a&\$*9')< , /;7'@"& , . ?; " # , _/;B&')/'@I\$% . '
": : /I*)"@(\$)\$7D! . %+-+ , =+ '!(=! c \$=9& , h!8\$># ' !@+!"& , +%!G9(, !4>=\$: +-!& , !=9+!
8(%\$#& , (- u 6 , !V , -=&=>+!=\$!6 ' '%+-!9+! k 9; ! k 9(=! (, '!X\$F!\$5!4>=\$: +-I!
k & , -= \$, Z<(#+ : I! c 8D!
!
X+%, (, ' +a! YD!LK000I!6H%&#ND! K "B\$*9'& , * & , '/?'\$)''%'F'a&\$*9%/9\$: '#/ . , %&')/' . , 8, %/4''''
)< , /;7'/' : <"*9, D! . #+ , (% ; !+-&\$, !(=!G9+!SA(#>(&\$, !5!89&#'%+ , h-! Y+ , =(#!X+(#9!
<+%A&*+-!F&=9& , !< ; -+ : -!\$!8 (%+I!@(#& : \$%+I! YED!
!
X+%, (, ' +a! YD!L2000I!4*=\$W+%ND!> ; /9; " #')< , /;7''* . ''44\$, . , 8""I")\$/ *F'5 _/ _ "7&')/'&B\$*'
'' : "D! j + ; , \$=+!(' '%+-!(!<+*\$, '!6 , >(#!8 (#&5\$, &(!SA(#>(\$=-!8\$, 5+ , + , *+I!< (, !
" (, *k-*\$!8 6D!
!
X+%, (, ' +a! YD! I !X\$' ?+-I!<D!L2000I!<+H+= : W+%ND! a&\$*9%/9\$: '#/ . , %&')/'@I\$% . '/I) : /# , '
": : /I*)"@(\$)\$7D! . %+Z*\$, 5+ , + , *+!-H+(i + %!(=!<>-(& , & , ?!V , , \$A(=&A+!89(, ?+I! k \$%# ' !
8\$, 5+ , + , *+!\$, !89&#'%+ , h-!<+%A&*+-!_+5\$% : -I!) &-W\$, I! . \$%=>?(#D!
!
X+%, (, ' +a! YD!L2000I!^(>(%;ND!L* , ; "9 , * : 7' : /%%"@/; ")\$/ *D! . (, +#!H%+-+ , =(=&\$, !(=!G9+!
V , =+ , (=&\$, (#!< ; : H\$-&> : !\$, !89&#'%+ , h-! Y+ , =(#!X+(#9!B-& , ?!(!< ; -+ : !5!8 (%+!
6HH%\$(*9I!_ \$* iA&##+I! YED!
!
X+%, (, ' +a! YD!L2003I!4*=\$W+%ND!XI) : /# , &'# , " &I ; , # , *)'\$*'' :)\$/ *F'3 / ; , ' : / * : , 4) &'''* . '
: I ; , ; *) , I4 , ; \$, * : , '\$*': <\$% . ; , *=& & , ; 8\$: , &'& ,)\$*9D! . %+Z*\$, 5+ , + , *+!V , -=&=>+!H%+-+ , =+ ' !
(=!89&#'%+ , h-!<+%A&*+-!4>=\$: +!Y (, (?+ : + , =! . %\$?% (: I! . &=-W>?9I! . 6D!
!
X+%, (, ' +a! YD!L2003I!<+H+= : W+%ND! O / _)/'# , " &I ; , ''* . '\$#4 ; /8 , ' : %\$* : ''''* . ?I* :)\$/ *'''
/I) : /# , &'\$*': <\$% . ''* . ?''# \$%7'& , ; 8\$: , &D!< ; : H\$-&> : !H%+-+ , =+ ' !(=!9+! c & , =9!6 , , >(#!
@+9(A&\$% (#!X+(#9*(%+!G\$: \$%%\$F!8\$, 5+ , + , *+I! k (-9& , ?=\$, !E 8D!
!
X+%, (, ' +a! YD!L2003I!6H%&#ND! + , &\$9*\$*9'cI ""\$)7''* . '/I) : /# , '# , " &I ; , # , *)'\$*')/'
: /# #I*\$)7P@"& , . '#\$*'/; \$)7'< , ""<'4 ; /9; " #&D! g >+ = !<H+(i + %!(=!8>#>%(#! . %&- : !
< ; : H\$-&> : I!8\$#> : W>-I!4 XD!
!
)+ * " 0 < L!
!
YX<!J000!(, '! . X8!JKP0!LK02JI!<H%& , ?ND! g ('>(+!8\$>%-+I!8%+(=& , ?!8>#>%(#!8\$: H+=+ , *+!
& , !@+9(A&\$% (#!X+(#9!4%?(, &a(=&\$, -D!B , &A+%-&= ; !5!<\$>9!"#\$%&' (D!
!
YX<!J000!(, '! . X8!JKP0!LK02II!<H%& , ?ND! g ('>(+!8\$>%-+I!8>#>%(#!8\$: H+=+ , * ; !& , !
89&#'%+ , h-! Y+ , =(#!X+(#9D!B , &A+%-&= ; !5!<\$>9!"#\$%&' (D!
!
!

!

!

!

!

!

!

!
!
!

!
!
!

!
!
!

!
!
!

E\$, (#'!E&R\$, !L4*=\$W+%I!K00MND!8\$: : &=++!Y+ : W+%D!<*9\$\$#!\$5!<\$*&(! k \$% iI!B , &A+%-&=; ! \$5!
<\$>=9!"#\$%&'(D!e89&# ' %+, !F9\$!' &+!\$5!(W>-+7!6 , !+R(: & , (=&\$, !\$5!=9+!+55+*=-!\$5!=9+!& , =+%(*=&\$, !
\$5!H+%H+=%(-\$)!*9(%(*=+%&=&*-(, ' !9\$>-+9\$#!*\$: H\$-&=&\$, !\$, !5(=#!A+%>-!, \$, Z5(=#!*9&#!

(W>-+Df!

<>*+--5>##;!' +5+, ' + '!c \$A+ : W+%I!K022!

!

V%(&'(!8(%&\$, !L6H%&#I!K003ND!8\$: : &=++!Y+ : W+%D!E+H(%= : +, =!\$5!6 , =9%\$H\$#\$?;!B , &A+%-&=;!

!
!
!
!<>*+--5>##;!'+5+, '+ '!K00C!(, '!H%+-,=#;!F\$%i&,?!(!"#\$\$%'(!<=(+!X\$-H&=(#I!Y+,=(##;!_+=(%'+ '!E+5+, '(,=!.\$%?(:D!
!

' * :) + \$ _ : !) 0 + : % : ! " ; ' ' %)) + + : !

!
6-9#+;!j, \$*9+#!L4*=\$W+%I!K023ND!8\$: : &=+++! : + : W+%I!E+H(%= : +,=!\$5!89&#!!(, '!"(: &#;!<=>'&-I!8\$##+?+\$5!@+9(A&\$%#!(, '!8\$: : >, &=;!<*&+, *+-I!B, &A+%&=;!\$5!<\$>=9!"#\$%&'(D!!e@%&'?&,?!=9+!(*9&+A+ : +,=!?(H7!.\$% : \$=&,?!+\>&=;!&,!=+(*9+%&-h!>-+!\$5!W+9(A&\$%Z-H+*&5&*!H%(&-+!F&=9!-+5Z : \$, &=\$%&,?!(, '!H+%5\$% : (, *+!5++ 'W(*iDf!
<>*+--5>##;!'+5+, '+ '!^>, +I!K020D!
!

8(--&+! . +=!L4*=\$W+%I!K02JND!8\$: : &=+++! : + : W+%I!<*9\$#\$! . - ; *9\$#\$?;D!B, &A+%&=;!\$5!<\$>=9!"#\$%&'(D!!eG+(*9+%!H+%*+H=&\$, -!\$5!-=>' +, =-!F&=9!*\$, '>*=!H%\$W#+ : -!F&=9!(, '!F&=9!\$!F&=9\$>=!*(\$#\$>-!>, + : \$=&\$, (#!-%(&=-Df!
<>*+--5>##;!'+5+, '+ '!"+W%>(;I!K023D!
!

^+--&*(!Y(aa(!L^(>(%;I!K003ND!8\$: : &=+++! : + : W+%I!E+H(%= : +,=!\$5!8\$: : >, &=;!(&=;!&#;!&#;!X+(#9I!8\$##+?+\$5! . >W#&*!X+(#9I!B, &A+%&=;!\$5!<\$>=9!"#\$%&'(D!!e4%?(, &a(=&\$, (#!*>#=>%+!&,!*9&# ' %+, h-! : +,=(#19+(#9I!-; -+ : -Df!
<>*+--5>##;!'+5+, '+ '!6H%&#I!K00MD!
!

j(%+,!@(??+=!LY(%*9I!K001ND!8\$: : &=+++! : + : W+%D!E+H(%= : +,=!\$5!8\$: : >, &=;!(&=;!&#;!X+(#9I!8\$##+?+\$5! . >W#&*!X+(#9I!B, &A+%&=;!\$5!<\$>=9!"#\$%&'(D!!eG9+!+55+*=-!\$5!*>#=>%(#! : (= *9!\$, '!%\$HZ\$>!%(=-!(&=,?!#+, ?=9!\$5!-+%=(: +,=!&,!\$>-H(=&+,=! : +,=(#19+(#9I!*+, =+%&-Df!
<>*+--5>##;!'+5+, '+ '!Y(%*9I!K001D!
!

!
!
!

!
!
!
: + \$ (% ' + !

!

: 1-M.F1!D!/D71!#2.M1-B.D[!

!

B<"!8\$, -\$#& ' (=d\$, !V : H#+ : +, =(=d\$, !8\$: : &=+++! ! ! !!

!

"#\$%&' (!j VE<!8 4 B c G!6 'A&-\$%;!8\$>, *k#! ! ! ! !

"\$>, ' &, ?!89(&#!

!

8@8<!E\$*-\$%(!. %\$?%(: h-! . %\$?%(: !Y(, (?+ : +, =!8\$: : &=+++!

!

8@8<!E\$*-\$%(!. %\$?%(: !6 'A&-\$%;U)\$, ?ZG+% : !.#(, , &, ?!8\$: : &=+++!

!

8@8<!E\$*-\$%(!. %\$?%(: !.#(, , &, ?!1!6' : &--&\$, -!8\$: : &=+++!

!

8 "<!Y<!6' : &--&\$, -!1! . # (, , &, ?!8\$: : &=+++!

!

_+9(W&#&=(=d\$, !(, '!Y+, =(#!X+(#-9!8\$>, -+&#, ?!. %\$5+--&\$, (#!6 'A&-\$%;!8\$: : &=+++!

!

<>#H9>%!<H%&, ?-! j ZM!8\$: : >, &=; !<*9\$\$#! . # (, , &, ?!G+(: !

!

89(&%-!8\$>, *k#!<=++&&, ?!8\$: : &=+++!

!

B<"! k \$%# ' ! k \$% i ?%\$>H7!V, *+, =dA&ak, ?!_+*\$?, &ak, ?!(, '!_+F(%' &, ?!V, =+%, (=d\$, (#!!

S, ?(?+ : +, =!

!

B<"!<>&*k' +! . %+A+, =d\$, !V : H#+ : +, =(=d\$, !. %\$?%(: !6 'A&-\$%;!8\$: : &=+++!

!

!"(*>#;!)&(k-\$, !5\$!=9+!X+(#-9!<*k+, *+-(, '!_+-(%*9! k \$% i ?%\$>H!-9\$>?9!-9+!B<"!@\$(%'!

!\$5!G%>=+++!

!

" YXVh-!89(&%!\$5!-9+!E+H(=% : +, =!\$5!89&# '!(, '!"(: &#; !<=>' &+-!

!

" YXVh-!V, =+&& : !89(&%!\$5!-9+!E+H(=% : +, =!\$5!89&# '!(, '!"(: &#; !<=>' &+-!

!

" YXVh-!E&A&-&\$, !\$5!G%(&, &, ?!_+-(%*9!SA(#>=(=d\$, !(, '!E+ : \$, --(=d\$, !LG_S(EN!

E&A&-&\$, !E&%+*-\$%!

!

" YXV!X&-H(, &*!X+%&=(?+! . # (, , &, ?!8\$: : &=+++! Y+ : W+%!

!

G9+!V, =+%Z6 : +%&*(!, !8\$, -\$%&> : !5\$!6HH#&+ '!_+-(%*9!\$, !89&# '%+, !(, '!8\$: : >, &=+-!

LV 6 8NZE&%+*-\$%U"\$>, '+%!

!

" YXVh-! . - ; *9\$#\$? ; !V, =+%, -9&H!8\$: : &=+++! . \$#k* ; !Y+, =-\$%!

!

!
!
!
!

!
!
!
!

6*('+ : &*!8\$: : &==+I!" YXV!LK000Z! .%+--+ ,=NI! : + : W+%!%+H%+--+ ,=& , ?!E+H(%= : + ,=!\$5!89&# ' !
(, '!" (: &# ; !<=> ' &+-!

!!
V , =+% , (= &\$, (#!655(&%-I!8\$, ->#=(, =!& , !*%+(= & , ?!#\$?&*! : \$ ' +#-I!B , &A+% -&= ; ! \$5!<\$>=9! "#\$%&' (!

!
" YXVh-!_+\$%?(, &a(= &\$, !8\$: : &==+!5\$%!E+H(%= : + ,=!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-!

8\$: : &==+!Y+ : W+%!
!

V : H(*=! .#(, , & , ?!g%\$>HI!E+H(%= : + ,=!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-!

!
8+ , =+%!V , =+%?(= &\$, !G+(: !L8VGN!E+H(%= : + ,=!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-!

!
!
:1-M.F1D!/D71!C-/E1BB./2!

!
8\$, , !Y+ : \$%&(#!"\$> , '(= &\$, ! ! ! ! ! KOKKZ . %+--+ , =!
8\$Z89(&%!

!
c (= &\$, (#!6 'A&-\$% ; !. (, +#!5\$%!=9+! ! ! ! !!!c \$A+ : W+%!KOK2!
S*\$, \$: &*!@>% ' + , ! \$5! Y+ , =(#!
X+(#-9!V , + \>&= ; !LS@ YXcN!<=> ' ; !
Y+ : W+%!

!
8\$, , !Y+ : \$%&(#!"\$> , '(= &\$, ! ! ! ! ! KOKOZKOKK!
8\$Z89(&%!

!
!
^\$>% , (#!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-! ! ! ! Y (; !K020!
^8 "<ZE!2MZ00JJO_2!
_+A&+F+%!

!
c)@X6h-!c (= &\$, (#!X&-H(, &*!(, '!) (= & , \$!! ! ! ! ^ (, >(; !K020!
6 ' ' &*=&\$, !G+*9 , \$#\$? ; !G% (, -5+%!8+ , =+%!!
Lc (= &\$, (#!X&-H(, &*!(, '!) (= & , \$!6GG8ND!
Y+ : W+%!

!
^\$>% , (#!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-! ! ! ! E+*+ : W+%!K02M!
^8 "<ZE!2MZ00JJO!
_+A&+F+%!

!
^\$>% , (#!\$5!89&# ' ! (, '!" (: &# ; !<=> ' &+-! ! ! ! ^># ; !K02M!
^8 "<ZE!2MZ00KJO!
_+A&+F+%!

!
!

!
!
!
8\$, ,!Y+ : \$%&(#!"\$>, '(=&\$, ! ! ! ! ! K02MZKOKO!
@\$(%'!Y+ : W+%!
!
^\$>%, (#!\$5!89&#!'(, '!'(: &#!<=>'&+--! ! ! ! Y(;!K023!
^8 "<ZE!23Z0023C!
!
6 : +%&*(!^\$>%, (#!\$5!4%-9\$H- ; *9&(=%; ! ! ! ! ^(>,>(%;!K023!
_+A&+F+% !
!
455&*+!\$5!Y&, \$%&=;!X+(#-9!! ! ! ! ! ^>, +!K02J!
c(=&\$, (#!.\$d+*=!6 'A&- \$%; !8\$: : &=++!Lc . 6 8N! ! ! !
Y+ : W+%!
!
^\$>%, (#!\$5!89&#!'(, '!'(: &#!<=>'&+--! ! ! ! ! ^>, +!K02J!
^8 "<ZEZ21Z00P31_2!
_+A&+F+%!
!
^\$>%, (#!\$5!89&#!'(, '!'(: &#!<=>'&+--! ! ! ! ! Y(;!K02J!
^8 "<ZEZ2JZ00J23!
_+A&+F+%!
!
"(: &#!&+--!&, !<\$*&+=;! ! ! ! ! ! Y(;!K021!
S ' &-\$%&(#!@\$(%'!Y+ : W+%!
!
6 'A(, *+--!&, !89&#!'(, '!'(: &#!.\$#&*;!(&, '!.%(*=&*+! ! ! ! 6H%&#!K021!
S ' &-\$%&(#!@\$(%'!
!
^\$>%, (#!\$5!89&#!!1!6 '\$#+--*+, =!.-; *9&(=%; ! ! ! ! 6H%&#!K021!
^6 6 8 6 .ZEZ21Z00211!
_+A&+F+%!
!
^\$>%, (#!\$5!89&#!'(, '!'(: &#!<=>'&+--! ! ! ! !

!
!
!
_+A&+F+%!
!

!
!
!

<\$*k(#!k \$%i!k,!Y+,#!X+(#-9

!
!
!
6 'A&-\$%! ! ! ! ! ! ! !
!
6 : +%&*(!, !SA(>(&=\$, !6--\$*&(&=\$, ! ! ! ! ! ! <+H=+ : W+%I!K000!
Y+ : W+%!
!
X\$, \$%&, ?!SR*+###, *+!&, !SA(>(&=\$, !_+*\$?, &=\$, !.%\$?%(: ! ! Y(;I!K000!
_+A&+F+%!
!
g+\$%?+=F\$, !B, &A+%-&=;!)('+%-9&H!6*('+ : ;! ! ! ^(>(&=I!K000!
"(>#-;!Y+ : W+%!
!
c (&=\$, (#!6##&(&=\$, *+!\$5!Y>#&ZS=9, &*!@+9(A&\$%(!X+(#-9! ! ! 6H&#!I!K00MZ Y(;I!K000!
6--\$*&(&=\$, !Lc 6 Y@X 6N! !
. %+-&' +, =!
!
X\$, \$%&, ?!SR*+###, *+!&, !SA(>(&=\$, !_+*\$?, &=\$, !.%\$?%(: ! ! Y(;I!K00M!
_+A&+F+%!
!
"(: &#!; !_+##(&=\$, -! ! ! ! ! ! ! ! ^(>(&=I!K00M!
V, =+% ' &-*&H#&, (%;!^\$>%, (#!\$5!6HH#&+'!'"(: &#!; !<=>' &+-!
g>+-=!_+A&+F+%!
!
<>W=(, *+!6W>-+!(, '!Y+, =(#!X+(#-9!<+%A&*+!-!! ! ! K003ZK02K!
6' : &, &-=(&=\$, !L<6 YX<6N!c (&=\$, (#!c +=F\$%i!5\$%!!
S#& : &, (&=\$, ?!E&-H(%&=&+-! ! ! !
"\$>, ' &, ?!Y+ : W+%!!
!
<+%A&*+!-!SA(>(&=\$, !8\$: : &=++!L<S 8N! ! ! ! Y(%*9I!K003!
Y+ : W+%!
!
S#& : &, (&=\$, !\$5!Y+, =(#!X+(#-9!E&-H(%&=&+-!SR=+%, (#!! ! ! Y(%*9I!K003ZK020!
k \$%i ?%\$>HU<6 YX<6Z8 YX<!
Y+ : W+%! ! !
!
<H+*&(!V--E T Qq0(-) -0136(41 T 20050 T 21 T f[(Y T f587.96 cm7.96 cm7-) -0.2(87.96 cm500f(!) T j E T

! !
 ! !
 ! !
 8>#>%(!8\$: H+=+, *+!_+-\$>%*+!<+, &\$%!6 'A&-\$%!! ! !
 !
 c (=k\$, (#!6##k(, *+!\$5!Y>#-kZS=9, &*!@+9(A&\$\$(#! ! ! KOOPZK00M!
 X+(#-9!6--\$*k(=k\$, !Lc 6 Y@X6N! ! ! ! ! ! ! !
 @\$(% '!Y+ : W+%!
 !
 G9+!c (=k\$, (#!) (=k\$, \$!@+9(A&\$\$(#!X+(#-9! ! ! ! KOOPZK02P!
 6--\$*k(=k\$, !Lc)@X6N!
 @\$(% '!Y+ : W+%!
 89(k%!\$5!.\$#k*;!(!, '!.#(, , &, ?!8\$: : k==+!! ! ! ! KO03ZK02P!
 Y+ : W+%!\$5!_+*%>k= : +, =!8\$: : k==+!!! ! ! ! KO03ZK02P!
 !
 6 : +%k*(, !. - ; *9\$#\$?k*(#!6--\$*k(=k\$, !! ! ! ! KO01ZK003!
 E&A&-k\$, !C3!
 .%\$?%(: !89(k%!!
 !
 6 : +%k*(, !. - ; *9\$#\$?k*(#!6--\$*k(=k\$, !Y+ : W+%! ! ! KO01!
 8\$: : k==+!\$5%! / \$>-9!(, '!"(: k&+!
 !
 6 : +%k*(, !. - ; *9\$#\$?k*(#!6--\$*k(=k\$, !! ! ! ! KOOP!
 E&A&-k\$, !C3!
 Y+ : W+%!
 !
 X\$??!"\$>, '(=k\$, !5\$%!Y+, =(#!X+(#-9! ! ! ! ! KOOPZK00J!
 G9+!B, &A+%&-k=; !\$5!G+R(-!(=!6>-k, !
 c (=k\$, (#!6 'A&-k\$; !@\$(% '!
 !
 G9+!c (=k\$, (#!) (=k\$, \$!@

!

!