! "#"\$%&'()&%\$

!"

 $80e''0\%^{**}D,5A'''11:;08!\#8/;5459!':321780''/\%5N+,B9Ne''N\%''N0e''\%Pe+'**"R+\%A+'>"Se'+5,5A''T9N/\%>e:"B6'',-e5N,06,5A''N0e''&e6''*e'+5,5A:"N\%''Be'''/0,ePe-"B6''-,*,Ae5N''D\%+&'',5"N0,:"/\%9+:e;"''$

- !C U@:/+,B@"NO@"/%5N@5N("*,N@+'+6"-@:,A5("'5-"NO@%*%A6"%("NO@"B%%&"%("V@P@*'N,%5("
- 4C WX\$*',5"NO@"\$+,>'+6">@'5,5A"%0"NO@"N@XN",5",N:"*,N@+'+6"/%5N@XNC""
- = (W > \$*%6"0@+ > @5@9N,/' *"N%*: "(0%+":N9-6"' 5-" > @' 5,5A(9*",5N@+\$+@N' N,%5"%("V@P@*' N,%5Y:" \$+%\$0@/,@: "(0+% > "N0@"KU#"\$@+: \$@/N,P@("""")
- $\label{eq:continuity} \begin{tabular}{ll} $Z:@"NO@"/*"::">'N@+,'*"0%+"$+@'/0,5A"'5-"N@'/0,5AC" \\ \end{tabular}$
- ?C U@P@*%\$"' 5"' B,*,N6"Q%+"%+,A,5' *"NO,5&,5A"' 5-"/+,N,/' *"[9-A>@5NC"

"' C, %@!' K@, K*@<!!

"#\$%&'#(!)*%'+#!, -.#'&-/+!

- V' 5&%"KN@Q' 5%P,/("! ''#''\$%&'()*(+*,''-.-*/01'-&("4 "@-C"EL@++,@5"K\$+,5A:;"#5-+@D:"Z5,P@+:,N6" R+@::("433GHC"NO@"@5N,+@"B%%&",:"N%"B@"+@' -"' 5-"+@\$%+N@-"%5"NO@"\$@' +5,5A] 9B"' :":\$@/,Q,@-",5" NO@"/%9+:@":/0@-9*@C""
- R' 9*,@5("^%5("20''*3''''4*20') 5-*(+*6 (7"E] ' A@+: N%D5(". U;"V@P,@D"' 5-"] @+' *-:("! G<GHCH"7"N%" +@' "NO@"D0%*@"B%%&\"NO@"+@' -,5A">9: N"B@"+@\$%+N@-"%5"NO@"S@' +5,5A] 9B"' //%+-,5A"N%"NO@" ,5: N+9/N,%5"A,P@5"B@*%D"%5"NO@"-' 6": \$@/,0(11544' -,5A"-51TJ 5A] "%5"NO@"-"-3Tc46ET=((11544)1-1(5A(@)(*-0,))

- 8%"+@' -"NO@"B%%&"%Q"V@P@*' N,%5"Q+%>"NO@"L,B*@",5"%5@"+@' -,5A\"N%":9B>,N"NO@"+@' -,5A"N%"+@\$%+N"%5" NO@"\$@' +5,5A] 9B"%5"NO@"Q,+:N"-' 6"%Q"NO@"/*' ::C""
- 8%"D' N/0"! ?"0%9+: "%0"P, -@%"*@/N9+@: "+@/%+-@-"B6"N0@",5:N+9/N%+("80@"*@/N9+@: "D, **"B@"\$+%P, -@-"B6" N0@"a5. ,5,:N+6"%00,/@("g, N0%9N"D' N/0,5A"N0,: "P, -@%("N0@": N9 -@5N"D, **"5%N"+@/@,P@"' "\$'::,5A"A+' -@(" 80@"0%**%D,5A"P, -@%"' +@"N"B@"D' N/0@-;"

```
j,-@%"*@/N9+@"! "7"a5N+%-9/N,%5"N%"V@P@*' N,%5"

j,-@%"*@/N9+@"="7"80@"R9+$%:@"
j,-@%"*@/N9+@"?"7"80@"S'>$:N'5-"
j,-@%"*@/N9+@"1"7"80@"S'>$:N'5-"
j,-@%"*@/N9+@"1"7"80@"S'>$:N'5-"
j,-@%"*@/N9+@"1"7"80@"S'A@"
j,-@%"*@/N9+@"!"7"80@"K@'*:"$'+N"!"
j,-@%"*@/N9+@"!"7"80@"K@'*:"$'+N"4"
j,-@%"*@/N9+@"!"1"7"80@"K,*@5/@",5"]@'P@5"
j,-@%"*@/N9+@"!"7"80@"8+9>$@N:"
j,-@%"*@/N9+@"!"7"80@"S':N"R*'A9@:"$'+N"!"
j,-@%"*@/N9+@"4"7"80@"S':N"R*'A9@:"$'+N"!"
j,-@%"*@/N9+@"4?"7"80@"S':N"R*'A9@:"$'+N"!"
j,-@%"*@/N9+@"4?"7"80@"S':N"R*'A9@:"$'+N"!"
j,-@%"*@/N9+@"47"7"80@"S':N"R*'A9@:"$'+N"!"
```

• 8%">'&@"P,-@%":9>>'+,@:;"K"\$'A@"\$@+"' "P,-@%":,5A*@":\$'/@-"EN%N'*"1"K"\$'A@:H("'5"@::'6"0%+>'(::'6)1(")-1(0)-1(%-

)*-@!@\E@")\$)*' (%!+',!)]@!"' C, %@!

C%!";8G43M] 1:;!, 89:./34150"

 $) \% + "@P@+6" : @>@ : N@+"/+@-, N("NO@"#5-+@D : "Z5, P@+ : _, N6"/+@-, N"O%9+"-@0,5, N, %5" + @f9, +@ : "NO' N;" + (No' N) +$

"1: ;080!A1;!>;1A800415/.!7/038;0^!G89;880"V8J9J!*5- 45403;PW;5/*9-@"!?",5:N+9/N%+"/%5N'/N"0%9+:"

'5-"=3"0%9+:"%0",5-@\$@5-@5N"*@'+5,5A"'/N,P,N,@:0"

)?8!2/.2: ./3415!1A!?1: ;0!40!=/08G!15!3?8!03: GP!0_4..0!1A!3?8!/N8;/98! [8..M>;8>/;8G!9;/G: /38!03: G853C" KN9-@5N: "D@' &",5"NO@:@": &,**:;""

 $! + ">'6" + @f9_{,+}e"> %+e"N_{,>}e"'5-":0%9^*-"/%5:_,-@+"N'&,5A"Q@D@+"/*'::@:"@'/0":@>@:N@+\"'5-""$

4H "/' 5"0,5-": &,**"-@P@*%\$>@5N"'::;:N' 5/@"NO+%9AO"NO@"K@>,5'+6"KN9-6"' 5-"V@:@'+/0"K&,**:"`%**%f9,' ("NO@"#Z"Q+,N,5A"`@5N@+("' 5-"#Z"KN9-@5N"K9//@::"%00,/@(""

a5"%+-@+"N%" /O,@P@"NO@"%9N/%>@: "%0"NO,: "/%9+:@("*@' +5,5A"N,>@"D,**"B@"-,:N+,B9N@-"' : "0%**%D:;"

!"#\$\&''(\$)*+!, *'-&#'.!"#\$/#*O'!

X!";8G430!

FC*D@#*(@%!+',!"'C,%@!\$%%*F(-@()%!

n+'-@:"'+@"B':@-"%5"NO@",5-@\$@5-@5N"*@'+5,5A"'/N,P,N,@:"B@*%D"D0,/0"\$+%P,-@"\$+'/N,/@"N%D'+-("'5-"B')

\$B' C)!`' C,!*(%), C")',!

 $V' 5\&\%"KN@Q' 5\%P_{,}/("R+\%Q@::\%+"\%Q"M@D"8@:N' > @5N"$

- . #"#-P@5N,:N"a5N@+5' N,%5' *"a5:N,N9N@"%0"#-P' 5/@-"KN9-,@:"E! GG3H"
- ROU"#5-+@D:"Z5,P@+:,N6"E! GG?H"

. @>B@+:0,\$",5"K/0%*'+*6"K%/,@N,@:;"

- K%/,@N6"%Q"L,B*,/' *"S,N@+' N9+@":,5/@"! GGI"
- `0,/'A%"K%/,@N6"%Q"L,B*,/'*"V@:@'+/0":,5/@"433! \(\)"
- #-P@5N,:N"K%/,@N6"Q%+"V@*,A,%9:"KN9-,@:":,5/@"! GGF"
- #-P@5N::N"80@%*%A./' *"K%/.@N6":.5/@"43!3"

#D'+-::"

- ^C"MC"#5-+@D:". @-'**,%5"7"' D'+-@-"B6"#5-+@D:"Z5,P@+:,N6("43!=C"
- 8e' /0e+"%0"N0e"0e' +"#D' +-e"' D' +-e-"B6"#5-+eD:"Z5,Pe+: .N6"KN9-e5N"#::%/.' N.%5("433=("
- _80@"U' 5,@*"#("#9A: B9+A@+"WX/@**@5/@",5"8@' /0,5A"#D' +-@" D' +-@-"B6"N0@"` %**@A@"%("#+N:"' 5-" K/,@5/@:("#5-+@D:"Z5,P@+:,N6("433=("
- _8@' /0@+"%("N0@". %-9*@e"7"' D' +-"\$+@:@5N@-"B6"N0@"R06:,/' *"80@+' \$6"/*' ::"%("4331("#5-+@D:" Z5,P@+:,N6("(0%+"@X/@**@5/@",5"N@' /0,5A"%("N0@"C,5N@+". %-9*@"%("433!("
- _80@"] @5+6" 5-"] ' ++,@N"^%05:%5"#D' +-"\(\) +-"\(\) +"\(\) \(\)

 $V' 5 \& \%'' K \& @ 0' 5 \% P, /'' 0 \%'' - : "' "ROU", 5"NO@" ' + @ ' "\%0" M@D"8@: N' > @ 5 N"D, NO"' 5"@ > \$0' : , : "\%5"NO@"B \% \& 8"\%0" \\ V@P@*' N, \%5 (""R+, \%+"N\%"[\%, 5, 5 A"NO@"0' /9*N6"' N"#5 - +@D: "Z5, P@+: , N6 ("O@": @ + P@ - "0\%+"e, A0N@@5"6@' +: "' : "' 5" % +--' , 5@ - "KU#" > ,5, : N@+", 5"0, : "0\% > @ '/\%95 N+6"\0"D0' N"9: @ - "N\%"B@"09A\%: *' P,' ("#0N@+"' "/\%5 N+' /N"N@' /0,5 A"0\%+"' "6@' +"' 5 - "' 0' `\0",5"NO@"KU#"80@\%*\A, /' *"K@ > ,5' +6 ("O@" > \%P@ - "N\%" \ 5' - ,' 5"Z5, P@+: , N6" \%*@A@(" ` ' 5' - ' (" D0@+@"0@"N' 9A0N"' 5 - "/0' ,+@ - "N0@"U@$' +N > @ 5 N"\0"V@*, A, \%9: "KN9 - ,@: "0+\% > "! GGF2! GGG(") +\% > "! GGG2433G("0@" N' 9A0N"' N"N0@"U@$' +N > @ 5 N"\0"V@*, A, \%9: "KN9 - ,@: "0+\% > "! GGF2! GGG(") +\% > "! GGG2433G("0@" \% 9A0N"' N"N0@"U@$' +N > @ 5 N"\0"V@*, A, \%9: "KN9 - ,@: "0+\% > "! GGF2! GGG(") +\% > "! GGG2433G("0@" \% 9A0N"' N"N0@"U@$' +N > @ 5 N"\0"V@*, A, \%5 ("#5 - +@D: "Z5, P@+: , N6"D0@+@"0@"' ': \%'/0' ,+@ - "N0@"-@$' +N > @ 5 N", 5"N0@" \% \% \%A, \/' '"K@ > ,5' +6"D0@+@"0@",: "/9++@5 N*6" \% \@' /0,5 A",5"N0@"M@D"8@: N' > @ 5 N"U@$' +N > @ 5 N"U@$' +N > @ 5 N""U$

KN@()' 5%P,/"O': "\$+@:@5N@-":/O%*'+*6"\$'\$@+:"'N"\$+%\@::,%5'*": %/,@N,@:",5/*9-,5A"K%/,@N6"%("L,B*,/'*"

C08!1A!@.823;15420!!

M%"+@/%+-.5A"%+":N+@'>.5A",:"\$@+>.NN@-".5":@>.5'+6"/%9+:@:""

"177:542/34150!/5G!C>G/380!*

#8/:54591: =!\$22800!

#5-+@D:"Z5,P@+:,N6"S@'+5,5A"] 9B"O%:N:"NO,:"/%9+:@"%5*,5@("0%9+"S@'+5,5A"] 9B"9:@+5'>@"'5-" \$'::D%+-"'+@"NO@":'>@"':"6%9+"#5-+@D:"9:@+5'>@"'5-"\$'::D%+-("Z:@"NO@"0%**%D,5A"/%5N'/N",50%+>'N,%5",0"6%9"5@@-"N@/05,/'*"'::;:N'5/@"'N"'56"N,>@"-9+,5A"NO@"/%9+:@("%+"N%"+@\$%+N"'" \$+%B*@>"D,N0"S@'+5,5A] 9B("

Z:@+5'>@"'5-"\$'::D%+-"'::,:N'5/@"

0@*\$-@:&J '5-+@D:(@-9"

E4FGH"I 1! 2F3! F"

\$EE@(D*\|Q6|*()@, E, @)*(F!#@))@, !F, \$D@%!

#8338:!F:/G80!/5G!E8:2853/980J!

"G?2! 330""""#"	<32<1 O""""""L""""	F?2FGo"""""" "	"
"G32GI O""""#2"	1?21Go""""L2"	F32F1 O""""" "	II
" 2<Go""""Lr"</th <th>13211 o""""" r"</th> <th>??2?Go""""""""""""""""""""""""""""""""""</th> <th></th>	13211 o""""" r"	??2?Go""""""""""""""""""""""""""""""""""	

II

7! "#D#E\$%&"#!

#5"#"A+' -@",:"A,P@5"%5*6"D0@5"' ":N9-@5N"5%N"%5*6"Q9*Q,**:"N0@"/+,N@+,' "0%+"' "L"A+' -@("B9N",5"-%,5A":%" -@>%5:N+' N@:"' 5"' -P' 5/@-"' /' -@>,/"' \$N,N9-@"0%+"/%5N@5N"&5%D*@-A@("/+,N,f9@(":65N0@:,:"' 5-" ,5-@\$@5-@5N",5:,A0N("D0,*@"@X0,B,N,5A"0,A0*6"-@P@*%\$@-"/%>>95,/' N,%5":&,**:"' 5-"\$+%\@::,%5' *" \$9B*,/' N,%5":N' 5-' +-:"N0' N"D%9*-"' **%D"N0@>"N%"\$9+:9@"' "0,A0*6"/%>\$@\,N,P@"' /' -@>,/"/' +@@+C*

7! "#F#E\$%&"#!

 $800^{\circ}\text{L"A+'} - 0^{\circ}\text{L"A+'} - 0^{\circ}\text{LA+'} -$

7! "#)#E\$%&"!

 $80e^{"`"A+'-e"-,00e+:"\%5^*6"0+\%>"""L"A+'-e",5"NO'N"NOe"N+',N:"\%9N^,5e-",5"NOe"L"A+'-e"'B\%Pe"'+e"5\%N"}\\ /\%5:;:Ne5N^*6"'$$^*,e-C""]\%DePe+("D,NO"-,^*,Ae5/e"'5-"B6"'$$^*6,5A"0ee-B'/&"0+%>"6\%9+"^e/N9+e+("NOe"'-'-e>,/"$+\%/e::"/'5"$+\%P,-e"\%$$\%+N95,N6"0\%+"'":N9-e5N"N\%",>$+\%Pe"NOe,+"/\%5:;:Ne5/6("'5-"0e5/e("NOe,+"A+'-e0."'))\\ /**A+'-e0.**$

7! "#C#E\$%&"!

 $80e"U"A+'-e"\$\%,5N:"N\%"'"*,>,Ne-"*ePe*"\%0"\&5\%D*e-Ae(",5:,AON("'5-"/+,N,f9e("':"De**"':"N\%",5'-ef9'Ne"f9'*,N6" \%0"D+,NNe5"D\%+&C""80,:">'6"Be"Be/'9:e"\%0"'"*''/&"\%0"N,>e">'5'Ae>e5N"\%5"NOe"\$'+\"\%0"NOe"\$'+\"\%0"NOe":N9-e5N("-,00,/9*\6"A+':$,5A"NOe"/\%5/e\$N:"Be,5A"N'9AON("9:e"\%0"\%5A*,:O"':"'":e/\%5-"*'5A9'Ae("*+"'"\$e+:\%5'*",::9e" NO'N",:"'0\e/N,5A"\%5e\!''\%5/e5N+'N,\%5"'5-">\%N,P'N,\%5"*ePe*:\%"#A',5("D,NO"-,*,Ae5/e("'\$*6,5A"\0e-B'/\%" 0+\%>"6\%9+"*e/N9+e+("'\5-":ee\&,5A":\e+P,/e:"\%00e+e-"B6"NOe"\Z5,Pe+:,N6"\&e"NOe"D+,N,5A"*'B"\%+"NOe"/\%95:e*,5A"/e5Ne+("NOe"'/'-e>,/"\$+\%/e::"/'5"\$+\%P,-e"'5"\%\$\%\$+\N95,N6"\%+"'":\N9-e5N"\\%":,A5,0,/'5N*6",>\$+\%Pe"NOe,+"\$\e\$\%+>'5/e\%''$

7! "#G#E\$%&"!

\$EE@(D*\!I6!E, 'F, \$-!#@\$, (*(F!'C)"'-@%!

```
- $%)@, %!E, 'F, $- %!
!

OJ - $!45!E/031;/.!- 45403;P!V- $E- W!
!
!H U@*,P@+"@QQ@/N,P@"B,B*,/'**62B':@-":@+>%5:"
4H U@>%5:N+'N@"$+%$@+"B,B*,/'*",5N@+$+@N'N,%5":&,**:"
=H Z5-@+:N'5-"NO@"O,:N%+,/'*2NO@%*%A,/'*"-@P@*%$>@5N"%Q"NO@"K@P@5NO2-'6"#-P@5N,:N"`O9+/O"
IH WXO,B,N"/'$'B,*,N6"Q%+"N+',5,5A"/O9+/O">@>B@+:"Q%+"@P'5A@*,:>"
?H U@>%5:N+'N@"'5"95-@+:N'5-,5A"%Q"O%D"N%"@>$%D@+"/O9+/O">@>B@+:"Q%+"*@'-@+:O,$"
FH WXO,B,N"/'$'B,*,N6"Q%+"+@'/O,5A":$@/,Q,/":%/,'*"A+%9$:"
!
!

IJ -/038;!1A!D4N4543P!V-D4NW!
!
!H "E`O'+'/N@+H"_ %-@*:":$,+,N9'*"O9>,*,N6(">'N9+,N6"'5-",5N@A+,N6"A+%95-@-",5"'"*,P,5A"@X$@+,@5/@"
```