

! !  
! !  
" # \$ % ! & ' ( ! ) ! \* + , - - . ! " - / 0 1 2 . 3 0 4 !  
5 6 . ! 7 ! 8 ' 8 9 !  
: , ; 2 2 ! " ; 2 < 3 = ! > - / ; 1 !  
! !

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

! ? 0 1 = ; / + = - ; @ ! A ; B ! C - D D E ! F - - 0 !

! G H 6 3 . ! I < < ; 2 1 1 @ ! H - - 0 J / . H B 2 < / !

! # K K 3 + 2 ! > - / ; 1 @ ! L E ! 6 D D - 3 0 = H 2 0 = !

! C ; 2 K 2 ; ; 2 < ! H - < 2 ! - K ! + - H H / 0 3 + 6 = 3 - 0 ! M 3 = , ! 3 0 1 = ; / + = - ; @ ! 2 H 6 3 . ! 6 0 < ! N - - H !

!

C. 2 6 1 2 ! % - = 2 @ ! I .. ! 1 = / < 2 0 = 1 ! 6 ; 2 !

0 12-&\$,3-/'

C;-4;6H!#S\2+=3P2!;2.6=2<!=-' I "XGC!&B>B!\*+, --.!' - / 012.304!

!

7152#'!\$!F%//!2#\* ) '\$1,01#!

G' ) F/#2&#!,#/0!#2!1)!1-#

(#/\$\*9&\$,"#%:' ; -\$<"8/'

!

=-#!+,%\*0,3!\*#1- )2\$!)A!% '\$1,5(1% )' !A),!1-%\$( )5,\$#!( ) \*#\$!A,) \* !0' !0\$3' (-, )' )5\$!A), \* 0!1-0!  
51%/H#\$!F##G/3!,#( ),2#2!/#(15,#\$!0' 2!0\$\$%&' #2!,#02% '&\$! 6\$3' (-, )' )5\$/34!\$152# ' 1\$!(, #01#!  
,#( ),2#2! .%2#)!(0\$#!2%\$(5\$\$%) '\$!% ' !W/%+&,%2!0' 2!+, ) .%2#!A##2?0(G!1)!( /0\$\$ \* 0!#\$!% ' !5\$% '&!0!  
( ) \* ?%' 01% )' !)A!F,%11# 'X052%)X.%2#)!)\$!I!

?)G\$1),#4!1-#!> ; : ! ; % ? , 0 , 34!0'2!" #&,##! ] ),G\$I!7152# ' 1\$!\$- )5/2!0/\$)!-0.#!0((#\$\$!)!0!b)) \* !  
0(( )5' 1!A),!\$3' (-, )' )5\$! \* ##1% '&\$!0'2!!)!() \* +/#1#!0'3!(/0\$\$!+, )c#(1\$!1-0!10, #!, #(), 2#2!!

!

7152# ' 1\$!0, #!# ' ( )5,0&#2!!)!51%/%H#!1-#!> ; : ! ; % ? , 0 , 3d!\$!8 )5' \$#% ' &!75?c#(!!e5%2#I!!=-%\$!\$!#!  
+, ) %2#\$!% 'A), \* 0!% )' !' !, # \$ # 0, ( - % ' &!0, 1% (/ # \$ ! 0 ' 2!2010?0\$# \$ 4 / ) ( 0!% ' &!#? ) ) G \$ ! 0 ' 2!A% ' 2% ' &! , # / # . 0 ' ! !  
F#? \$ % ! # \$ !

!

7152# ' 1\$!0, #!, # \$ + ) ' \$ % ? / # ! A ) , ! ( - # ( G % ' &!80' . 0\$! , # & 5 / 0 , / 3 ! A ) , ! ( ) 5 , \$ # ! % ' A ) , \* 0!% ) ' 4!\$3//0?%4!  
\$5++/# \* # ' 10! \* 0!# , % 0 / \$ ! 0 2 2 % 1 % ) ' 0 / ! - 0 ' 2 ) 5!\$4! , # ^ 5 % , # 2! , # 0 2 % ' &\$!0'2!0//!(/0\$\$!/#\$) ' \$!!

!

**7\$98-#\$'6-\*)"\*+ % # & - ' 53%:9%\$, "#= ! \* , \$ - \* , % '% # 8'6\*' & - 89\* - /!**

!

**! " 9\* / - ' . // , > # + - # \$ / '**

,

**IS- / =! F 2!0K!+1\$Q!f! = # / ! \* # ! 0 ? ) 5!13)5, \$ # / Ag!**

!

**?0k-4;6D,3+! ? 0 = 2;P32M1!M3=, ! \* + , - - . ! " - / 012. - ; 1!0CKK!+1\$IQ\!7152# ' 1\$!F%//!% ' 1# , . % # F!0!<BV!  
0+, % \* 0, 3!1- , ) 5&- ! \$ % @ 1- ! & , 02#Q!( ) 5 ' \$ # / ) , ! 0 ' 2!0!JBCD!0\$# . # ' 1- ! 1- , ) 5&- ! ! F # / A 1- ! & , 02#Q!( ) 5 ' \$ # / ) , I!  
> \$ % ' &!80' . 04!\$152# ' 1\$!F%//!( , # 0!#!% ' A ) & , 0+ - % ( \$ ! ? 0\$ # 2! ) ' ! A ) 5 , ! % ' 1 , % & 5 % ' &!1) + % ( \$ X , # \$ + ) ' \$ # \$ ! A , ) \* !  
# 0 ( - ! % ' 1# , . % # F! ! E 0 ( - ! % ' A ) & , 0+ - % ( ! \$ - ) 5 / 2! ? # ! C B D ! + 0 & # \$ ! % ' ! / # ' & 1- ! 0 ' 2! . % \$ 5 0 / 3! # ' & 0 & % ' & 4!  
- % & - / % & - 1% ' &!G#3!% \$ % & - 1\$!A, ) \* ! 1- # ! % ' 1# , . % # F\$!7152# ' 1\$!F%//!\$5? \* % ! 1!F)!% ' A ) & , 0+ - % ( \$ h ) ' # ! A ) , !  
# 0 ( - ! ( ) 5 ' \$ # / ) , h \$ 0 . # 2!0\$! < " W!A% / # \$ ! = - % \$ ! 0 \$ \$ % & ' \* # ' ! 10% \* \$ ! ! ) # ' - 0 ' ( # ! \$ 152# ' 1\$!15'2#, \$!0'2% ' &! ) A!  
\$ ( - ) ) / ( ) 5 ' \$ # / % ' &! , ) / # \$ ! 0 ' 2! + # , \$ + # ( 1% . # \$ ! 0 ( , ) \$ \$ ! 2 % A A # , # ' ! & , 02# / # . # / \$ !**

!

**" ; 26=2! ^ - / ; ! # M0! I \* " I ! \_ 211-0!C.60!0CKK!+1\$IQ\!>\$% ' &! - # ! 6 7 8 6 ! 9 0 1 % ) ' 0 / ! : ) 2# / ! ; # \$ \$ ) ' !  
< / 0 ' ! = # \* + / 0! # 4! \$ 152# ' 1\$!F%//!2# . # / ) + ! 0! ( ) \* + , # - # ' \$ % . # ! / # \$ \$ ) ' ! + / 0 ' ! 10, & # 1# 2! A ) , ! # 1- # , ! # / # \* # ' 10, 34!  
\* % 22 / # ! \$ ( - ) / 4! ) , ! - % & - ! \$ ( - ) / ! \$ 152# ' 1\$! I M ' ( ) , + ) , 0!% ' &!1- # ! + , % ' ( % + / # \$ ! ) 5! / % # 2! % ' ! 1- # ! 6 7 8 6 !  
9 0 1 % ) ' 0 / ! : ) 2# / 4! \$ 152# ' 1\$!F%//!2# \$ % & ' ! # ' & 0 & % ' &!0'2!#25(01%) ' 0 / 10(1% . % ! # \$ ! 0 / % & ' # 2! F 1- ! \$ + # ( % A ( !  
& , 02# B / # . # / ! ## 2\$! = - % \$ ! 0 \$ \$ % & ' \* # ' ! 1+ , ) . % 2# \$ ! \$ 152# ' 1\$!F%1- ! - 0'2\$B) ' ! # @ + # , # # ' ( # ! % ' ! 0 + + / 3% ' &!**



!

=-%\$!( ) \* +, #-# '\$ . #!O\$\$#\$ \* # ' !0% \* \$! )!# . 0/50!#!\$152# ' 1\$!5 ' 2#,\$10 ' 2% ' &! )A!#\$\$# ' 1%0/  
( ) \* +) ' # ' 1\$! )A!\$( - ) /!( ) 5 ' \$#/% ' &!0\$!2#A# ' #2! ?3!1 -#! 6 7 8 6 ! 9 0!%) ' 0! : ) 2# /4!+, #+0, % ' &!1 -# \* !A),!  
A515, #!+, )A#\$\$) ' 0!/( #, 1%A%(01%) ' !#@0 \* \$!0 ' 2!# ' -0 ' (% ' &!1 -#%, !+, )A%(# ' (3! ' !\$( - ) /!( ) 5 ' \$#/% ' &!  
\$10 ' 20, 2\$10 ' 2!+, 0(1%(\$!!!!

!

=-%\$!#@0 \* !F%/!\$#, . #!0\$!1 -#!N#3!<# , A), \* 0 ' (#!M ' 2%(01), !PC!A), !1 -#! 8 6 8 kE<!7( - ) /!8) 5 ' \$#/% ' &!  
7!0 ' 20, 2\$!RISIC4!RISIR4!RISITI!N<M!# . 0/50!%) ' \$!0, #!\$5? \* %11#2!0 ' 2!\$1), #2!% ' !=# . #, 04!0!\$0 \* +/#! )A!  
1 -#!, 5?, %(!% ' !=# . #, 0!%\$!+, ) . %2#2!0!1! -#!# ' 2! )A!1 -#!\$3//0?5\$I!

!

**G]6H@! I DD.E304! : 2]=S - -O!Z0-M.2<42!=-!\*+, - -.!'' - / 012.304!\*3=/6=3-01!0CKK!+!\$!Q\!7152# ' 1\$!**  
F%/!\$( - ) F(0\$#!1 -#%, !0?%/!13!1)!% ' 1#&, 01#!1#@!?) )G!G ' ) F/#2&#% ' 1)!+, 0(1%(0!/\$!150!%) ' \$!( ) \* \* ) ' /3!  
# ' ( ) 5 ' 1# , #2!% ' !\$( - ) /!( ) 5 ' \$#/% ' &!+, 0(1%(#!a3!( ) ' ' # (1% ' &!1 -#), 3!1)!+, 0(1%(#!\$152# ' 1\$!F%/!2##+#!!  
1 -#%, !( ) \* +, #-# '\$ ) ' ! )A!A) 5 ' 20!%) ' 0!+, % ' (%+/#\$!0 ' 2!# ' -0 ' (#!1 -#%, !, #02% ' #\$\$!A), !0++/3% ' &!  
( ) 5 ' \$#/% ' &!\$1, 01#&#%\$!% ' !#25(01%) ' 0!/\$#11% ' &\$!

!

**: 21=! ^ - / ; 12.k!0K!+!\$!Q!f!=#\$! ! ^ ) 5, \$#/A!0//) F\$!3) 5!1)!!0G#!0!1#%1! ) . #, !1 -#!(-0+1#, \$!3) 5! -0 . #!, #02I!!**  
=0G% ' &!1 -#!1#%1!%\$!# ' 1%, #/3!)+1%) ' 0!/0 ' 2!& . #\$(3) 5!K!+) % ' !\$!S ) F# . #, 4!1 -#%#!0, #!^5#%1%) ' \$!3) 5!  
\* %&-!# ' ( ) 5 ' 1#, ! ) ' !1 -#!7( - ) /!8) 5 ' \$#/% , !<, 0@%\$! , ! ) ' ! ) 1 -# , ! ' 01% ) ' 0!/( ) 5 ' \$#/% ' &!#@0 \* \$!I!

!

**G]=;6!'' ; 2<3=! #DD- ; = / 03=E!0CK!+!\$!I! ) ' !3) 5, !0\$\$&' \* # ' 1! )A!(-) % (#Q!**

E1-%(0/"%/#* *0\$%'!7(-))/!	UKK!	UKL!
8)5 '\$#/%' &!<0,1\$!CBD!		
678 6!901%)'0! : )2#/#!	UKK!	UKL!
<,#!#' 2!<,0@%\$!E@0*!		
6++/3% ' &!1-#!=#@1?)G!	CKK!	RL!
E@0*!		
!	C4KKKB+)%'1!=)10/!	CKKL!

!

**GP6./6-3-0!60<! b ;6<2! I 11340H20=!**

e ,02#\$!A),!#0(-!0\$\$%&' \* #' !'0' 2!!-#!(5\* 5/01% .#!&,02#!F%//!?'#!0\$\$%&' #2!0\$!A)//) F\$\!!

- !
- 6!1!CKKB[KL!!
- a!1!T[!f!TKL!!
- 8!1!J[!fJKL!!
- "!1!V[!f!VKL!!!

—  
!

!  
;(15,#\!E1-%(0!  
710'20,2\$!A),!7(-)!  
8)5'\$#/, \$!



] ##G! J! ! CKXJB CKXCU!	=,0'\$%1%) '% '&! %'1)!7(-))/! 8)5'\$#/% '&!Y! k 6 : <! 7(-))/\$!	;#(15,#\! =,0'\$%1%) '% '&!%'1)! 7(-))/!8)5'\$#/% '&! ! ;#(15,#\!a#() *%' &!0! k 6 : <!7(-))/!	E@0 * \!6++/3%' &!=#@1?)G! N' ) F/#2&#!1)!7(-))/! 8)5'\$#/% '&!7%1501%) '\$!f! CKXCV!	RISIC4!RISIUI! RISIR4!RISIV4! RISIT4! RISICK!
] ##G! T! 0CKXCZB CKBCVQ!	!	!	=#@1?)G!N' ) F/#2&#!	

" -HH3=H20=-!-!A3P2;13=E!60<! I ++-HH-<6=3-01!

=-#!8)5'\$#/%'&!<,)&,0\*!0!>; : !%\$( ) \* \*%11#2!1)!02.0'(%'&!2%.#,\$%134!#^5%134!0'2!%'(/5\$%)'!  
1-,)5&-)51!1-#!(5,,%(5/5\*!0'2!(/%'%(0!#@+#,%#'(#I! ] #!' . %1#!2%.#,\$%13!0'2!A)\$!#,!0!(5/15,#!)A!  
%'(/5\$%)'!1-0!\$5++),!\$!\*5/1%+/#!2%\*#'\$%)'!)A!(5/15,#!1-0!%'(/52#\$!,0(#!#1-'(%134!&# '2#,!  
%2# '1%134!\$#@50/!),%#'101%'4!,#/%&%)5\$!0AA%/01%'4!\$+%,%150/%134!'01%'0/%134!,#&%)'0/%134!2%\$0?%/134!  
0'2!?'#3)'2I!

!

] %1-%'!1-#!8)5'\$#/%'&!<,)&,0\*4!F#!011#\*+!1!)A)\$!#,!0'2!\*0%'10%'!0!\$0A#!' .%,)'\*# '!)A!,#\$+#(1!  
0'2!%'(/5\$%)'!A),!A0(5/134!\$10AA!\$152#'1\$4!0'2!\*#\*?#,\$!)A!1-#!( ) \* \*5'%1%#F#!\$#,.#I! ] #!#25(01#!  
)5,!A0(5/13!0'2!\$152#'1\$!1)!?'#!\$)(%0!c5\$1%(#!02.)(01#)\$!A),!\*0,&% '0/H#2!+)+5/01%)'\$!0'2!2%,#(1!



2%\$,#\$(1A5/!/?#-0.%),!.#.,3!\$#,%)5\$/3!0'2!-5\$!#'( )5,0&#!#.#,3!\$152#'1!!)!#@1# '2!-!#\$0\*#!  
,#\$+#(1!-#3!F%\$-!!)!,#(#% .#!1)!#.#,3)'!#/#\$#!!

!

**b;6<304!60<!GH63.304@!M '\$1,5(1),!F%/!-0.#!0\$\$&' \* #' !\$!&,02#2!F%1-%' !J!203\$!0A!#,!1-#!25#!  
201#!-0\$!+0\$\$#2!M '\$1,5(1),!F%/!,#\$(+) '2!!)!#\*0%/\$!F%1-%' !ZT!> ; : !)+#,01% ' &! ?5\$% '#\$!(-)5,\$!MA!ZT!  
- )5,\$!-0.#!+0\$\$#2!F%1-' !),#\$(+) '24!,#\$+#(1A5//3!#\*0%/!% '\$1,5(1),!0&0% 'I!**

!

**\$ \_ F! \_ 6=2!C-.3+E\9 )!0\$\$&' \* #' !\$!F%/!/?#!0((#+1#2!0A!#,!1-#!0/\$!203!)A!(/0\$\$! ; 0!#!0\$\$&' \* #' !\$!  
\*03!/?#!0((#+1#2!0!1!-#!2%\$(,#!% )' !)A!1-#!+,)A#\$\$),!F%1-!0!+# '0/13!)A!CKL!2#(, #0\$#!% ' !&,02#!+#,!  
203I!**

!

**A;B! F --0R1! \_ 6=2!C-.3+E!%-3+2!f!MA!3)5!-0.#!0' !\$\$5#!1-0!%!G##+%' &!3)5!A,) \* !() \* +/#1% ' &!  
F),G4!+/#0\$#!' )!%A3! \* #!F%1-%' !)' #!F##GI!M!0 \* !F%//% &!1)!F),G!F%1-!\$152#' !\$!F-)' !##2!  
0\$\$%\$10' (#4!-)F#.#,M!(0' ')!1\*0G#!0(( \* \* )201%)' \$!A!0!\$152#' !!2)#\$!' !)' )!%A3! \* #!% ' !0!1% \* #/3!  
\*0' '#,I!MA!M!0 \* !' )!)' )!%A#2!F%1-%' !)' #!F##G4!1-#!,#&5/0,!/0!#!+)/(3!F%/!0++/3I!**

!

**\*= / <20=!\*2;P3+21\!=-#!> '%.#,\$%13!)A! ; )5%\$0'0!0! : )' ,)#!\$1,% .#\$!1)!\$#, .#!\$152#' !\$!F%1-!\$+#(%0/  
'##2\$!1- ,)5&-!() \* +/%0' (#!F%1-!7#(1%)' \$!RKZ!)A!1-#!k#-0?%/101%)' !6(!!)A!C[ JU!0'2!-#!  
6 \* #,%(0' \$!F%1-! "%0?%/1%#)\$!6(!!=-#\$\$/0F\$! \* 0'201#!-0!+)\$!\$#( )'20,3!% '\$1%151%)' \$!+,) .%2#!  
#^50!/0((#\$\$!)+,)&,0 \* \$!0'2!\$#, .%(\$!A),!\$152#' !\$!F%1-!2%0?%/1%#)\$!F%1- )5!(!, #01% ' &(-0' &#\$!1)!  
1-#!#\$\$#' !%0/!#/# \* #' !\$!)A!1-#!(5,,%(5/5 \* I ] -%/#!\$152#' !\$!F%1-!\$+#(%0/' ##2\$!0,#!#@+#!(1#2!1)! \* ##1!  
)5,!% '\$1%151%)' !\$!0(02# \* %(!\$!0'20,2\$4!1-#3!0,#!&% .#' !1-#!)++),15' %13!1)!A5/A//!/#0, '#,!)5!() \* #\$\$!'!  
0/!#, '01%.#!F03\$I!E@0 \* +/#\$!)A!0(( \* \* )201%)' \$! \* 03!%' (/52#4! ?5!0,#!' )!/% \* %1#2!1)4!1#\$1% ' &!  
0(( \* \* )201%)' \$!0),0/!1#\$1% ' &4!#@1# '2#2!1% \* #!A),!#@0 \* \$Q4!% '1#,+,#1#,\$4!,#/(01%)' !)A!% '0((#\$\$%?/#!  
(/0\$\$,) \* \$4!+#, \* %\$\$)' !1)!052%)10+#!/#(15,\$\$4!')1#B!0G%' &!0\$\$%\$10' (#4!0'2!()5,\$#!\$5?%\$1%151%)' \$I!**

!

**M' A), \*01%)' !0? )5!> ; : !\$152#' !!\$#, .%(\$!(0' !?#A)5'2!.%0!1-#\$\$!/%' G\$!!**

**7!52#' !!75((#\$\$!8#' !#,!FFFI5/ \* I#25X\$152#' !S5((#\$\$!**

**8)5' \$#/%' &!8#' !#,!FFFI5/ \* I#25X()5' \$#/%' &(#' !#,X!**

**7+#!(0/!9##2\$!0!FFFI5/ \* I#25X\$152#' !0AAO%,X!**

**; %?,0,3!FFFI5/ \* I#25X%?,0,3X,#A#,#' (#I-1 \* /!**

8) \* +51%' &!8#' 1#,!S#/+!" #G!FFFI5/\*I#25X() \* +51%' &(#' 1#,X-#/+2#SG!!

> ; : d\$!+)/%(%#\$!) '\$#, .% '&!\$152#' 1\$!F%1-!2%\$0?%/1%#\$!(0'!?'#)?!0%'#2!) '!!-#!> ; : !F#?\$%1#!\!!

FFFI5/\*I#25X()5'\$#/' &(#' 1#,X!!

!

MA!3)5!'##2!0(( \* \* )201%) '!?#(05\$#!)A!0!G' ) F'!),!\$5\$+#(1#2!2%\$0?%/134!3)5!\$- )5/2!( ) '10(!!-#!

"%,#(1),!A),!" %\$0?/#2!7152#' 1!7#, .% (#\$!0!\

<-) '#\!!UCTBUZDBRDDK!!

WO@\!UCTBUZDBRDDT!!

MA!3)5!,#02!1-%\$!A0,4!# \* 0%/!" ,I! : ) ) ' !A),!0!\$5,+,%\$#I!

] 0/GBM'\!> ; : !8)5'\$#/' &!8#' 1#,4!CCZK!> '%.#,\$%13!6 .# '5#!01-%\$!?5%/2%' &!0'2!,,) \* !0,#!

-0'2%(0++#2!0((#\$%?/#QI!

!

**F 20=6.! d 2..0211!-0!=,2!\$\_ F!" 6HD/1@!**

MA!3)5!0,#!-0.% '&!0'3!# \* )1%) '0/4!?'#-0.%),0/4!),!\$)(%0/!+,) ?/# \* \$!0'2!F)5/2!/%G#!!)!0/G!F%1-!0!

(0,% '&!4!() '(#,'#2!+,)A#\$\$%) '0/4!+/#0\$#!(0/!) '#!)A!1-#!A//)F%' &! '5 \* ?#,\$!

=-#!> ; : !8)5'\$#/' &!8#' 1#,!\!UCTBUZDBRDDK!

!

**: ,2! F 6;;3642! a!56H3.E! : ,2;6DE!60<!" - /012.304!" .303+@!e7TQe98Q&( fT!**

k#\*#\*?#,!1-0!0//!\$#, .% (#\$!0,#!)AA#,#2!A,##!1)!\$152#' 1\$!0'2!0//!0,#!\$1,%(1/3!() 'A%2#' 1%0/I!!

**\*2]/6.!>6;611H20=-;!b20<2;QL612<!A31+;3H306=3-0@!**

=%1/#!Mp!)A!1-#!E25(01%) '!6 \* #' 2 \* #' 1\$!)A!C[JD!+,)-%?%1\$!\$#@!2%\$(,% \* % '01%) '!0&0%' \$!1'0'3!

+0,1%(%+0'1!'!0'!#25(01%) '0/!+,)&,0\*!),!0(1% .%13!1-0!!,#(#% .#\$!A#2#,0/!A5'2\$4!%' (/52%' &!A#2#,0/!

