



!

!

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

8/' ,09\$/):+%\$\$\$(%)

!

-\*-- L;'7')&! S77:7&%)&!L;(8'77(;!  
! ! = '#%;&B ')&!(!?!;:B:)(4(M@!  
"):C';7:&@!(8!D(6&2!E4(;:\$%!

!

-\*- . L;'7')&! S\$16)0&!0)7&;60&(!;  
! ! D02((4!(8!0)8(;B%&:(!)D@7&'B7!%)\$!N%)%M'B')&!  
"):C';7:&@!(8!D(6&2!E4(;:\$%!

!

-\*-I\-\*--! S77:7&%)&!L;(8'77(;!!  
0)&'44:M')0'!%)\$!G%&:(%)4!D'06;:&@!D&6\$: '7!  
"):C';7:&@!(8!9' ]%7!%&!V4!L%7(!

!

-\*I^ \-\*--! S77(0:%&'! =:;'0&(!;  
VC:\$')0'YT%7'\$!?'@A';7'06;:&@!Z'7'%;02!P;(6#!  
P'(;M:%!D&%&'!"):C';7:&@!

!

-\*I+ \-\*--! S\$16)0&!0)7&;60&(!;  
N/D/!'@A';7'06;:&@!  
"):C';7:&@!(8!D(6&2!E4(;:\$%!

)

;0'/'\$(<)4=>0#0(/0)

)

)  
?;:B:)%4!J%3!%)\$!D(0:%4!L(4:0@  
?;:B:)(4(M:0%4!92'(;@)  
?@A';!\_:0&:B:~%&:(!))  
?@A';0;:B'!)\$!?';:B:)%4!U67&:0'  
=:M:&%4!VC:\$')0'!Z'0(M):&:(!%)\$!?(44'0&:(!))  
0)8(;B%&:(!)D'06;:&@!%)\$!09!Z:7[!N%)%M'B')&!  
0)&(\$60&:(!)&(!=:M:&%4!VC:\$')0'!  
G'&3(;[!E(;')7:07!  
a#')YD(6;0'!0)&'44:M')0'!S)%4@7:7!  
Z'7'%;02!N'&2(\$7!  
9'02)(4(M@!S\$(#&:(!)%\$!?';:B'!

)  
?@A';0;:B'!0)C'7&:M%&:(!)  
?@A';7'06;:&@!  
?@A';!\_:0&:B:~%&:(!))  
=:M:&%4!E(;')7:07)  
W(;7!D'B:)%;!:)!V&2:07!?'@A';7'06;:&@!V&2:07!  
0)&(\$60&:(!)&(!?'@A';0;:B'!  
L%&&';)7!(8!?';:B:)%4!T'2%C:(;!)  
D&%&:7&:07!8(;!D'06;:&@!D&6\$: '7!  
92'(;:'7!(8!?';:B:)%4!T'2%C:(;!)  
!  
!

-\*-\*Y-\*--<! GDE!E6)\$'\$<!9;%:;)M!:)!J%3!V)8(;0'B')&!0)&'44:M')0'!%)\$!VC:\$')0'!(44'0&:(!)!3:&2:!)!  
=;%[)'&!V)C:(;B')&7!

!

-\*- .<! W(B'4%)\$!D'06;:&@YE6)\$'\$<!9;%:;)M!:)! =;%[)'&!0)&'44:M')0'!%)\$!VC:\$')0'!P%&2';;)M!  
)

!


!

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

:00#-60?030,)8#&\$/10%

)

b%B%;H!V/H!



!

!

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

T6;;677H!P/H!2+3011@)!A)\*A@!N%:B()H!=/H!c!f%M!E!d-\*--e/!f'A7:&'!\$'8%0'!;!04%77:8:0%&:(!)<!S!8:):&'!  
 B:]&6;'!B(\$'4!%##;(%02/!  
 2&&#7<,,\$(:/(;M,I\*/IIQQ,\*+^KK.^.-I^K-.-!

!

T6;;677H!P/H!2+3011@)!A)\*A@)

!

!

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

D2%\$B%)8%%&H!D/H!b%A::;H!DA@)N:4'@H!J/H!2+3011@)!A)\*A@!N6):`H! ?/H!c!?(02;% )H!U!d-\*-\*e/L';8(;B%)0!'  
' )2%)0:)M!\$;6M!67'!%B()M!#;(8'77:( )%4!%&24'&'7<!9'7&:)M!&2'!%##4:0%A:4:&@!(8![ '@!&2'(; '&:0%4!

!

!

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

7(&0#('1)D5(,,\$(<)

!

-\*-.! ! 0)&' ;\$;70:#4:)% ;@!Z'7'%;02!P;% )&! S77'77:)M!W%0[ ' ;7X!N (&:C%&:( )7H!N (\$67! a #' ;%) \$:H!%) \$!L%&23%@7!&(! a 88' )\$:)M!! Z(4'<!L;:)0:#%4!0)C'7&:M%&(;;! ") :C' ;7:&@!(8!D(6&2!E4(;:\$%! j-\*#\*\*\*!

!

-\*-.! ! L:( ) ' ' ;!Z'7'%;02!P;% )&!! W(4:7&:0! ?@A' ;7'06;:&@<!92'!S\$C%)0' B' )&!(8!S0!&(!?; '%&'!%D%8' ;! ?@A' ;7#%0'! Z(4'<!L;:)0:#%4!0)C'7&:M%&(;;! ") :C' ;7:&@!(8!D(6&2!E4(;:\$%! j-\*#\*\*\*!

)

7(?\$&0,)!+(%51&'&\$+(%!)

L%70(!D2' ;:88&7! a 88:0' ! ?@A' ;7'06;:&@!D@B#(7:6B!!

V]#';&!L%) '4:7&!d-\*--e!

!

GDE!=Y0DG! f ( ; [72(#<!T6:4\$:)M! ? ( B B 6 ) :&@!&(! " 7'!0)&'44:M' )0'!8; ( B! a )4: ) '!' ) \$' ;M; (6) \$!N%; [ ' &7!!

V]#';&!L%) '4:7&!%) \$! ? ( YE%0:4:&%&(;!d-\*--Ie!

!

92'! ?@A' ;7'06;:&@!Z' C(46&:( )!A@!&2'!W6B%)Y? ' )&;:0! ?@A' ;7'06;:&@!L%;& ) ' ;72:#!

V]#';&!L%) '4:7&!d-\*--I%) \$! - \* -- e!

)

. 0, \$' )! + ? 0# ' < 0)

!

?@A' ;0;:B' (4(M@/!d-\*-.e/!1=% ; [ ] ) '&!W( ) '@#(&7<!0) ) (C%&:)M!Z'7'%;02!:)&(! a )4: ) '!' ? ;:B: )%4!N%; [ ' &7/m!

2&&#7<.,0@A' ;0;:B' (4(M@/0(B, '#:7(\$'7,\$%; [ ] ) '&Y2( ) '@#(&7Y: ) ) (C%&:)MY; '7'%;02Y: )&(Y( )4: ) 'Y

0;:B: )%4YB%; [ ' &7!

!

/!

!

!

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

!

b ? TD!Z%\$:(/!d-\*-.e/!IW(3!S0!?2%&A(&7!%;!0B#;(C:)M!?'@A';7'06;:&@!%M%:)7&! ?2:4\$!L(;) (M;%#2@m!  
2&&#7<.,3 3 3 /%6\$%0@/0(B,#(\$0%7&,[0A7Y;%\$(Y()Y\$'B%)\$Y\*II8K,'#:7(\$'7,2(3 Y%:Y02%&A(&7Y%;'Y  
:B#;(C:)MY0@A';7'06;:&@Y%M%:)7&Y02:4\$Y#(;) (M;%#2@Y+'A^Q!

!

N '\$:6B/!d-\*-.e/!IS;:&:04'!(8!&2'!=%<!9;%0[:)M!&2'!?'%;';;!(!8! f 'A7:&'!W%0[ ';7/m!  
2&&#7<.,B '\$:6B/0(B,2@A::Y%) %4@7&,%&:04'Y(8Y&2'Y\$%@Y&:%0[:)MY&2'Y0%;';;Y(8Y3 'A7:&'Y2%0[ ';7Y  
F%Q'^0IF+KRI!

!

Gg!L(7&!d-\*-.e/!IL; '\$%&( ;7! "7:)M!L(#64%;!\_:\$'(!N' '&:)M!L4%&8(;B!&(!J6;'!b:\$7<!Z'#(;&/m!  
2&&#7<.,)@#(7&/0(B,-\*-.;\*,IQ,#; '\$%&( ;7Y67:)MYC:\$'(Y0()8';')0'Y#4%&8(;B!Y&(Y46;'Y[:\$7Y;'#(;&.!)

!

92'!?' ;:B:) (4(M@!S0\$'B@/!d-\*-.e/!IV#;7(\$'!QI!?'@A';0;:B'!)\$!=%;[ ] '&!N%;[ '&7!3 :&2!?'/U(;\$%)!  
W(3'44/m!2&&#7<.,&2'0;:B:) (4(M@%0\$'B@/0(B,'#:7(\$'YQIY2(3'44.!

!

92'!G%&:( )%4!= '7[/!d-\*-.e/!I a4:)'!L; '\$%&( ;7! ?%)!9% [ '! ? ( )&;(4(!8!g(6;! ?2:4\$!7! f 'A0%B!V]#';&7!  
f %;)/m!2&&#7<.,&2')%&:( )%4\$'7[/0(B,)' 37,%B'::0%7Y)' 37Y)(3,( )4:)'Y#;' \$%&( ;7Y0%)Y&[ 'Y0()&;(4Y  
(8Y@(6;Y02:4\$7Y3 'A0BY' ]#';&7Y3%;)Y&' )7Y[:\$7Y02:4\$;')Y8%B:4:'7Y0@A';0;:B'Y0@A';7'06;:&@Y  
7' ]6%4Y%A67'Y' ]#4(:&%&:( )Y:)&' ;)' &Y7%8'&@!

)

!+(E0#0(/0):#0#0(&'&\$+(%!)

**2+3011@!**!)\*)=%;[ ] '&! '0(7@7&'B<!D'44:)M!7&(4')!:\$')&:&:'7!( )4:)'/!L;'7')&' \$!%&!&2'!S))6%4!?'@A';!E4(;\$%!  
?( )8';')0' /!9%B#%#!EJ/!

L(6;A'2`%\$;!N/H!U%C:\$!P/H!D2'@A%):H!V/H!c!**2+3011@!**!)\*)d-\*--e/)0B#4'B')&:)M!S0!;!8(;'0%7&:)M!  
0@A';7'06;:&@!&2;' %&7!/L;'7')&' \$!%&!&0)8(;B7!?( )8';')0'!( )!D'06;:&@/!S;4:)M&(!H!\_S!)

)

**2+3011@!**!)\*)&!E:72';H!9/H!T6;;677H!P/H!c!N6):`H!?'/!d-\*--e/!0\$')&:&@!&2'8&!#;'C')&:( )<!S)! ]#';:B')&%4!  
'C%46%&:( )!(8!#;(7# '0&!&2'(;@/!L;'7')&' \$!%&!&2'!S))6%4!?( )8';')0'!( )!&2'!W6B%)!E%0&(;;! )!  
?'@A';0;:B' /! ?4'%;3 %&';H!EJ/!

!

**2+3011@!**!)\*)&!N6):`H!?'/!H!E:72';H!9/H!c!Z(&`)M';H!g/!d-\*--e/!'@A';!2@M:')'!)%\$!( )4:)'!C:0&:B`%&:( )!  
%C(;\$%)0'<!E:)\$)M7!8;(B!;!7:B64%&' \$!7B:72:)M!%&&&0[/!L;'7')&' \$!%&!&2'!S))6%4!SB';;0%)!D(0:'&@!  
(8!?' ;:B:) (4(M@!?'( )8';')0' /!S&4%)&%#!PS/!

!

**2+3011@!**!)\*)&!N%:B( )H!=/!a6'44'&H!N/H!c!N6):`H!?'/!

!

!

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

E:72';H!9/H!2+3011!)!)\*A@c!N%:B()H!=/!d-\*--e!/=%;[]'&!B%;['&!02%;%0&;:7&:07<!S)!' ]%B:)%&:()!(8!  
4()M:&6\$:%4!&;')\$7!:)!&2'!:44:0:&!(4:)'!'0(7@7&'B!/L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8!  
?;:B:)(4(M@!?( )8';')0'!/!S&4%)&%H!PS/!

)

2+3011!)!)\*A!d-\* -Ie!/W%0[:)M!%;02:C'7!7!%7!(6;0'!(8!0@A';0;:B '\$%&&<!S!C%4:\$:&@!02'0[/!L;'7')&'\$!%&!&2'  
S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/! ?2:0%M(H!0J/!

!

T6;;677H!P/H!c!2+3011!)!)\*A)d-\* -Ie!/N '%76;:M!&2'!26B%)!8%0&( ;!:)!0@A';0;:B '!7&6\$:'7!/L;'7')&'\$!%&!&2'  
S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/! ?2:0%M(H!0J/!

!

L';[:)7H!Z/H!a6'44'&H!N/H!2+3011!)!)\*A@c!N%:B()H!=/!d-\* -Ie!/92'!7(0:%4!\$@)%B:07!(8!3'A7:&'!\$'8%0';7!  
L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/! ?2:0%M(H!0J/!

!

W(88B%)/! ?/H!L';[:)7H!Z/H!2+3011!)!)\*A!S)&() %00&:(H!a/H!c!N%:B()H!=/!d-\* -Ie!/92'!%&&&0[!&%1'0&( ;:'7!  
(8!3'A7:&'!\$'8%0';7<!S!M;(6#YA%7'\$!%)%4@7:7!/L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8!  
?;:B:)(4(M@!?( )8';')0'!/! ?2:0%M(H!0J/!

!

f 6!/g/H!a6'44'&H!N/H!N%:B()H!=/!H)c)2+3011!)!)\*A!d-\* -Ie!/92'!B(A:4:&@!(8!()4:)'!7&(4')!\$%&&!B%;['&7<!  
W(3!C')\$(;!84(37!72%# '!&2'!\$M:&%4!B%;['&#40'!7&60&6;'!L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!  
D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/! ?2:0%M(H!0J/!

!

T';)A46B!9/H!N%:B()H!=/!H!N6):`H! ?/H!L';[:)7H!Z/H!c!2+3011!)!)\*A)d-\* -Ie!/L2:72;)M!&2'!6):C';7:&<!  
E:)\$:)M7!8;(B!&3(!7:B64%&' \$!%&&&0[7!/L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!  
?( )8';')0'!/! ?2:0%M(H!0J/!

!

f %)MH!E/H!2+3011!)!)\*A@)N%:B()H!=/!H!c!U%0h6'7H!D!/d-\* -\*e!/92'!;'7&;:0&C'!\$'&';;)'&!88'O&!(8!3%;: )M!  
B'77%M'7!7')&!&(!%0&:C'!;(B%)0'!8;%6\$7&'7<!S)!' ]#';:B')&%4!##;( %02!/L;'7')&'\$!%&!&2'!S))6%4!  
V6;( #'%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/! \_::&6%4/!

2+3011!)!)\*A@)T6;;677H!P/H!W(4&H!9/H!c!T(774';H!S!/d-\*I^e!/S;'!&2';'!0@A';0(#7<!S!4%&' )&!04%77!%)%4@7:7!(8!  
T;:&:72!#(4:0'!)\$!&2'!;'7#( )7'!&!0@A';0;:B '/!L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8!  
?;:B:)(4(M@!?( )8';')0'!/!D%)!E;)%0:70(H! ?S/!

)

2+3011!)!)\*A@)T6;;677H!P/H!c!E:7[H!G!/d-\*I^e/! " )\$';7&%)\$:)M!0@A';0;:B '<!S!&2'(; '&:0%4!##;( %02/!  
L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/!D%)!E;)%0:70(H! ?S/!

)

E()&%)'H!V/H!D2\$B%)8%&H!D/H! ?(02;%)H!U/H!b%A::;H!D@)2+3011!)!)\*A@c!N6):`H! ?/!d-\*I^e!/S)! 'B#::;0%4!  
' ]%B:)%&:()!(8!7(0:%4!4'%;: )M!&2'(;@X7!6&4:&@!:)!' ]#4:):)M!0@A';A644@:)M!#';# '&%;&:()!:)!%10;(77Y  
064&6;%4!7%B#4'!/L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8! ?;:B:)(4(M@!?( )8';')0'!/!D%)!  
E;)%0:70(



!

!

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

T6;;677H!P/H! 2+3011@)!A)\*A@!c!N%:B()H!=/!d-\*I^e!/ f 'A7:&'!\$'8%0';!04%77:8:0%&:(!<!S!8:):&'!B:]&6;'!B(\$'4!  
%##;(%02!/L;'7')&'\$!%&!&2'!S))6%4!?( )8';')0'!( )!&2'!W6B%)!E%0&( ;!:)! ?@A';0::B'!/SB7&';\$%B#H!  
92!'G'&2';4%)\$7/!

)

2+3011@)!A)\*A@!T6;;677H!P/H!c!N%:B()H!=/!d-\*I^e!/N(&:C%&:( )!B%&&';7<!92'!#;'\$:0&:C'!%A:4:&@!(8!;(6&:)'!  
%0&:C:&@!&2'(;@!( )!B(&:C%&:( )!7#'0:8:0!8(;B7!(8!3 'A7:&'!\$'8%0' B')&!L;'7')&'\$!%&!&2'!S))6%4!  
?@A';!E4(;:\$%?!?( )8';')0'!/9%B#%H!EJ/!

!

L';[:)7H!Z/H!=( \$M'H! ?/H! 2+3011@)!A)\*A@!c!T6;;677H!P/d-\*I^e!/S77'77:)M!&2'!B%0;(Y4'C'4!0(;;'4%&'7!(8!  
7#%B!\$:7&;A6&:( )!67:)M!%!(6&:)'!%0&:C:&:'7!8;%B'3(;[/!L;'7')&'\$!%&!&2'!S))6%4! ?@A';!E4(;:\$%!  
?( )8';')0'!/9%B#%H!EJ/!

2+3011@)!A)\*A@!T6;;677H!P/H!N%:B()H!=/H!D%2%):H!D/H!c!D2%2H!S!/d-\*I+e!/92'!: )846')0'!(8!0@A';Y&2;'%&7!( )!  
3 'A7:&'!\$'8%0' B')&!L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8!?' ;:B:)(4(M@!?'( )8';')0'!  
S&4%)&%H!PS/!

!

T6;;677H!P/H!N%:B()H!=/H!D%2%):H!D/H!D2%2H!S/H!c! 2+3011@)!A)\*A@d-\*I+e!='&' ;;;)M!3 'A7:&'!\$'8%0' B')&<!  
L;'4:B:)%@!8:)\$:)M7!8;(B!%!8:'4\$' ]#';:B')&!L;'7')&'\$!%&!&2'!S))6%4!SB';:0%)!D(0:'&@!(8!  
? ;:B:)(4(M@!?'( )8';')0'!/S&4%)&%H!PS/!

!

D%2%):H!D/H!

!

!

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

=( \$M 'H! ?/H! 2+30110 )! A)\*A@! c !