





!"#\$%&'()\*\$\*+', "-'./0+123+4565+7\*3\$/#+&'"+8,%1#)\$9.3<(3\$1 6+=====  
>"3#(9.3 6+=====  
!"#\$%"+ 6+=====  
!%&'"+ 6+=====  
!)#\*\$")+(+ 6+=====  
!"&-" 6+=====  
!&'()\*+.\$ 7+=====  
:3@.#"#1)\$ 2+=====  
A\$1"/,@1)\$ 2+=====  
B,+;)%'\$ 6+=====  
B,+%2#"3/+<")\$@)<.3%+#\$/+@'(()143\$1% 6+=====  
B,+-"./+1'/#E 6+=====  
!23+\$3-+7\*3\$/#+ 6+=====  
G3#\$%+'&+)(<.3(3\$1#1)\$ 6+=====  
!..' 4<+##\$/+"3;)3- 6+=====  
7+@#..+&'"+#@1)'\$+1'+@2#\$\*3+#+"/ 6+=====  
8,%1#)\$9.3+;3;3.'<(3\$1+K'#.%+#\$/+1#\*34% 6+=====



"#\$\$%&'(#)\*%+!(,#!-(#./0!123!4565!7+3%/\$!(#!8,&1\$\*%\$9,3(<)3%1 !

!            +  
!            ! =#3\$)9.3!

+            !2)%+ 7\*3\$/#+)%+ #+ <.#\$+ '&+ # @1)'\$+ &'#31+316/+<<"%<3")1E=+ A1+ #.%'+ %33Q%+ 1'+  
%1"3\$\*123\$+,);3"%#. +<3# @3+)\$+.#"\*3"+&"33/'(=+Y3+"3@'\*\$)S3+12#1+3"#/) @#1)\$\*+<';3"1E+)\$+#.+)1%  
&"(%+#\$+/)(3\$%)'\$%M+)\$@.,/)\$\*+3Z1"3(3+<';3"1EM+)%+ 123+\*"3#13%1+\*.'9#. + @2#..3\$\*3+ #\$/+ #\$/+  
\$)/)%<3\$%#9.3+"3O,)"3(3\$1+&'#7#9.3+/3;3.'<(3\$1+

+            7..+ @,'\$1")3%+#\$+/+.#..+%1#Q32'./3"%M+# @1)\$\*+)\$+ @'..#9"#1);3+<#"1\$3"%2)<M+-)..+)(<.3(3\$1+  
12)%+<.#\$=+Y3+#"3+"3%'.;3/+1'+&"33+123+2,(#\$+"# @3+&"(+123+1E"#\$\$E+'&+<';3"1E+#\$/+-\$1+#\$/+  
1'+23#.#\$/+/%3@,"3+', "+<.#\$31=+Y3+#"3+/313")(\$3/+1'+1#

+ Y3+#"3+/313"()\$3/+1'+&%13"+<3#@3&,.M+W,%1+#\$+)\$@.,%);3+%')31)3%+-2)@2+#"3+&"33+&'&3#"#\$+;).3\$@3=+!23"3+ @#\$+93+\$'+%,%1#)\$#9.3+/3;3.'<(3\$1+-)12',1+<3#@3+#\$+)\$'+<3#@3+-)12',1+%,%1#)\$#9.3+/3;3.'<(3\$1=

! ! !)\*("\*/,\$ &

+ Y3+#"3+/313"()\$3/+1'+('9.)S3+123#\$%+"3O,)"3/+1'+)(<.3(3\$1+12)%+7\*3\$/#12",\*2+#+ "3;)1#.)S3/+ K.'9#.+ >#"1\$3"%2)<+ &" + 8,%1#)\$#9.3+ :3;3.'<(3\$1M+ 9#%3/+ '\$+ #+ %<)"1+ '&+%1"3\$\*123\$3/+\*.9#.+%.)/#")1EM+&'@,%3/+)\$+<#"1)@,.#"+'\$+123+\$33/%+'&+123+<""3%1+#\$+('\$1+;,\$3"#9.3+#\$+/-)12+123+<#"1)@#\$\*#&+#+..+@','\$1")3%M+#+.%1#Q32'./3"%+#\$+#+..+<3'<.3=

+ !23+)\$13".)Q#\*3%+#\$+)\$13\*"#13/+#\$1,"3+'&+123+8,%1#)\$#9.3+:3;3.'<(3\$1+K'#.%+#"3+'&+@,(@)#.+)(<"1#\$@3+)\$+3\$%,)"\$\*+12#1+123+<,"<'%3+'&+123+\$3-+7\*3\$/#+)%"3#.)S3/=+A&+-3+"3#.)S',"+#(9)1)\$%+#@""%2%+&,...+3Z13\$1+'&+123+7\*3\$/#M+123+.);3%+'&+#+..+..+93+<"&,\$/.E+)(<";3/+#\$+/'+"-"/+..+93+1"#\$\$%&""(3/+&""+123+93+13"=

! ! :3>.\$#\$1\*(%

! + +

#\$/+ 1#"\*31%+(31+ &" + #..+ \$##)\$%3'<.3%+ #\$/+ &" + #..+ %3\*(3\$1%+ '&+ %'@)31E=+ 7\$/+ -3+ -)..+  
3\$/3#;',"+1+"3#@2+123+&,"123%1+932)\$(+&)"%1=

C# !2)%+)%+#\$+7\*3\$/#+&+,\$<"3@3/3\$13/+%@'<3+#\$/+%)\*)\$&@#\$@3=+A1+)%+#@ @3<13/+9E+#..+@  
#\$/+)%+#<.)@#9.3+1'+#..M+1#Q)\$\*+)\$1'+#@ @', \$1+)&&3"3\$1+\$#

!           !           <sup>+</sup>  
              @ ,#!&2\$#3/!<#\*%>\* <.3&!\$%/!>())\*1)3!%1&  
  
<sup>+</sup>  
H5# !23+\$3-+7\*3\$/#+)%)%+\*,)/3/+9E+123+<,"<'%3%+#\$/+<")\$@)<.3%+'&+123+V2#"13"+'&+123+\\$)13/+  
X#1)'\$%M+)\$@.,/)\$\*+&,.."3%<3@1+&"")\$13\$#1)\$%+\*"",\$/3/+) \$+123+\\$);3"%#.+:3@.#"#1)'\$+  
'&+[(#\$+T)\*21%M+)\$13"\$#1)'\$#. +2,(#\$+" )\*21%+1"3#1)3%M+123+G)..3\$\$),(+:3@.#"#1)'\$+ #\$/+123+



#&&3@1)\$\*+ @'#%1#. + #"

HP= Y3+ "3#&&)"(+123+)(<"1# \$ @3+'&+123+\\$);3"%#.+ :3@.##1)'\$+'&+[(#\$+T)\*21%M+#%+-3..+#%+  
'123'+)\$13"#\$1)'\$.+)\$%1", (3\$1%+"3.#1)\$\*+1'+2, (#\$+)"\*21%+#\$/+)\$13"#\$1)'\$.+.-=+Y3+3(<2#%)S3+  
123+ "3%<'(\$%)9).1)3%+'&+#..+81#13%M+)\$+ @ '\$&'"(1E+-)12+ 123+ V2#"13"\$%M+123+\\$)13/+ X#  
"3%<3@1M+ <"13@1+ #\$/+ <"('13+ 2, (#\$+ )" \*21%+ #\$/+ &, #/\$(3\$1#.+ &"33/'(%+ &"'+ #..M+ -)12',1+  
)%1)\$@1)'\$+'&+#E+Q)\$/+ #%+1+'# @3M+ @'.', "M+%3ZM+. #\*\$, #\*3M+ "3.)\*'\$M+<'.1)@#.+ "'+ '123'+<')\$  
\$#1)'\$.+ "'+ %' @)#.+ "'\*)'\$M+<"<3"1EM+9)"12M+ /)%#9).#1E%="+123"+%

45= T3#.S)\$\*+\*3\$/3"+3O, #.)1E+#\$/+123+3(<'3"(3\$1+'&+-'(3\$+#\$/+\*)" .%+-)..+ (#Q3+#+@", @)#.+  
@ '\$1")9,1)'\$+1'+ <"\*\*3%"+ #@ "%%"+ #..+ 123+ K#.#%+ #\$/+ 1#"\*31%"+=+123+ # @2)3;3(3\$1+'&+&...+2, (#\$+  
<'13\$1)#.+ #\$/+&+% ,%1#)\$#9.3+/3;3.'<(3\$1+)%+\$'1+<'%)9.3+12, (#\$+ #2+ @ '\$&)\$, 3%+1'+  
93+/3\$)3/+1%+&...+2, (#\$+)"\*21%+#\$/+<<"1,\$)1)3%"+Y'(3\$+#\$/+\*)" .%+ (,%1+3\$W'E+3O, #.+ # @3%"+  
1'+ O, #.)1E+ 3/, @#1)'\$M+ 3@ '\$()@+ "3%', "@3%+ #\$/+ <'.1)@#.+ <#"1)@<#1)'\$+ #%+ -3..+ #%+ 3O, #.  
'<<"1,\$)1)3%+ -)12+ (3\$+ #\$/+ 9'E%+ &"'+ 3(<.E(3\$1M+ 3#/#2+ /3@) )#Q)\$\*+ #1+ #..+  
.3;3.%"+= Y3+-)..+ -"Q+ &"'+ #+ %)\*)\$&)@#\$1+)\$@ "3%#3+)\$+)\$;3%1(3\$1%+1'+ @.'%3+123+ \*3\$/3"+ \*#<+ #  
%1"3\$\*123\$+%, <<"1+&"'+)\$%1)1,1)'\$%+)\$+ "3.#1)'\$+1'+ \*3\$/3"+3O, #.)1E+ #\$/+123+3(<'3"(3\$1+'&+  
-(3\$+ #1+123+ \*. '9#.M+ "3\*)'\$\$.+ #\$/+ #1)'\$.#%3+7..+&"'(%+ &+ /)%@)()#\$1)'\$+ #\$/+;)' .3\$@3+  
##\*)\$%1+-(3\$+#\$/+\*)" .%+-)..+93+3.)()#\$13/M+)\$@.. /)\$\*+12", \*2+123+3\$\*#\*3(3\$1+'&+(3\$+#\$/+  
9'E%"+=!23+%E%13(#1)@+ (#)\$%1"3#()\$\*+ '&+ #+ \*3\$/3"+<3"%<3@1);3+)\$+123+)(<.3(3\$1#1)'\$+'&+123+  
7\*3\$/#+)%)@", @)#.=

4H= !23+\$3-K#.#%+ #\$/+1#"\*31%+-)..+ @'(3+)\$1'+3&&3@1+'\$+H+d#,\$#E+45HD+#\$/+-)..+\*, )/3+123+  
/3@)%)'\$%+ -3+1#Q3+';3"+123+\$3Z1+HC+E3#"%"+=7..+&+,%+-)..+ -"Q+1'+)(<.3(3\$1+123+7\*3\$/#+-)12)\$+  
'+'-\$+@', \$1")3%+ #\$/+ #1+123+"3\*)'\$\$.+ #\$/+ \*. '9#.+.3;3.%M+1#Q)\$\*+)\$1'+ # @#\$#/#&&3"3\$1+\$  
"3#.1)3%M+ @#<# @)1)3%+ #\$/+ .3;3.%+ '&+ /3;3.'<(3\$1+ #\$/+ "3%<3@1)\$\*+ #1)'\$.+ <'.1)@3%+ #\$/+ <")1)3  
Y3+ -)..+ "3%<3@1+ \$#1)'\$.+ <'.1)@E+ %<# @3+ &"'+ %, %1#)\$3/M+ )\$@..,);3+ #\$/+ %, %1#)\$#9.3+ 3@ '\$(  
\*" -12M+ )\$+ <#"1)@, #"+ &"'+ /3;3.'<)\*+ 81#13%M+ -2).3+ "3\$#)\$%18\$Q+ -)12+ "3.3;#1+  
)\$13"#\$1)'\$.+ ., .3%+ #\$/+ @'((1(3\$1%"+=Y3+ # @Q\$'-3/\*3+ #.%+123+)(<"1# \$ @3+'&+123+"3\*)'\$\$.+  
#\$/+ %, 9"3\*)'\$\$.+ /)(3\$%)'\$%M+ "3\*)'\$\$.+ 3@ '\$()@+ )\$13"\*#1)'\$+ #\$/+ )\$13"@ '\$\$3@1);)1E+ )\$+  
, %1#)\$#9.3+/3;3.'<(3\$1="+T3\*)'\$\$.+ #\$/+ %, 9"3\*)'\$\$.+ &"#(3-#Q#&# @).1#13+123+3&&3@1);3+  
1"#%#.1)'\$+'&+ %, %1#)\$#9.3+/3;3.'<(3\$1+<'.1)@3%+)\$1'+ @ '\$@ "313+ # @1)'\$+ #1+123+\$#1)'\$.+ .3;3.=

44= L# @2+ @', \$1"E+ &# @3%+ %<3@)& @+ @2#..3\$\*3%+)\$+ )1%+ <,"%, )1+'&+ %, %1#)\$#9.3+/3;3.'<(3\$1  
(%1+ ;, .3"#\$9.3+ @', \$1")3%+ #\$/+ #1+)\$+ <#"7&@, @#\$# @', \$1")3%M+ .3%#1+ /3;3.'<3+ @', \$1")3%M+  
.#\$/.' @Q3+/3;3.'<)\*+ @', \$1")3%+ #\$/+ % (#..+)% .#\$/+ /3;3.'<)\*+ 81#13%M+ /3%3";3+ %<3@)#.+ #113\$1)'\$M+  
#%+ /' + @', \$1")3%+)\$+ %1, #1)'\$+ '&+ @' \$&.)@ '\$\$#Q+1+ @', \$1")3%"+=!23"3+ # "3+ #.%+ %3')', %+  
@2#..3\$\*3%+-)12)\$+ (#\$

)\$@.,/) \$\* + 12", \*2+% '@) #. + <" 13@1)' \$+% E%13(% =+ Y3+ # 3+ #. %' + /313") (\$3/+ 1'+ 3\$/+ 2, \$\*3" + #\$/+ 1'+  
#@2)3;3+&' /+%3@,") 1E+ #%+ #+ (#113" + '&+ <"") 1E+ #\$/+ 1'+ 3\$/+ #.. + &" (%+ '&+ (#.\$, 1") 1)' \$=+ A\$+ 12)%+ "3\*#" /  
-3+" 3#&&)" (+123+ ) (<" 1#\$13# #\$/+ ) \$@., %); 3+ \$#1, "3+ '&+ 123+ V'((1133+ '\$+ Y" . /+ !' /+ 83@,") 1E+  
#\$/+ -3. @'(3+ 123+ T'(3+ :3@. #"#1)' \$+ '\$+ X, 1") 1)' \$+ #\$/+ 123+ !"#(3- "Q+ &" + 7@1)' \$=+ Y3+ -).. +  
/3; '13+ "3%, "@3%+ 1'+ /3; 3.' <)' \$\*+ ", "#. + # 3#%+ #\$/+ %, %1#) \$#9.3+ #\*)" @., 1, "3+ #\$/+ &)%23") 3%M+



66⇒ Y3+ "3@'\*\$)S3+ 12#1+ %'@)#.+ #\$/+ 3@'\$()@+ /3;3.<(3\$1+ /3<3\$/%+ '\$+ 123+ %, %1#)\$#9.3+  
(#\$\$\*3(3\$1+&+', "+<.#\$30%+\$#1, "#.+ "3%', "@3%=+Y3+#"3+123330,\$34#B1@'\$%3";3+#\$/+  
%, %1#)\$#9.E+, %3+'@3#\$/+ #\$/+ %3#%M+ &"3%2-#13" + "3%', "@3%M+ #%+ -3..+ #%+ &"3%1%M+ (',\$1#/  
/"E.#\$/%+ #\$/+ 1'+ <"13@1+9)/);3%)1EM+ 3@'%E%13(%+ #\$/+ -)./&3=+ Y3+#"3+ #.'+ /313"()\$3/+ 1'+  
<"('13+ %, %1#)\$#9.3+ 1',")%(M+ 1'+ 1#@Q.3+ -#13#\$/+ @#1@)1E+,1)'\$M+ 1'+ %1"3\$\*123\$+  
@"<3"#1)'\$+'\$/+ /3%3"1)&@#1)'\$M+ /, %1+ %1"(%M+.#\$/+ /3\*"#/#1)'\$+ #\$/+ /", \*21+ #\$/+ 1'+ <"('13+  
"3%).)3\$@3+ #\$/+ /)%%%13"+")%Q+ "3/, @1)'\$=+ A\$+ 12)%+ "3\*#" /M+ -3+. "Q+ &"-#"/+ 1'+ 123+ 12)"133\$12+ (331)\$  
'&+ 123+ V'\$&3"3\$@3+ &+ 123+ + #293V\$;B\$1)'\$+ \$+ R).'\*)@#.+:);3%)1E+ 1'+ 93+ 23./+ )\$+ G3Z)@' =

67⇒ Y3+ "3@'\*\$)S3+ 12#1+ %, %1#)\$#9.3+ , "9#\$/+ /3;3.<(3\$1+ #\$/+ (#\$\$\*3(3\$1+ #3+ @", @)#.+ 1'+ 123+  
O, #.)1E+ '&+ .)&3+ '&+', "+<3'<.3=+ Y3+-)..+ -"Q+ -)12+ .'@#. + #, 12")1)3%+ #\$/+ @'((,\$)1)3%+ 1'+ "3\$3+  
#\$/+ <.#\$+', "+ @3%+ #\$/+ 2, (#\$+ %311.3(3\$1+ %' + #%+ 1'+ &%13" + @'((,\$)1E+ @'23%)'\$+ #\$/+ <3"%\$#.+  
%3@,)1E+ #\$/+ 1'+ %1)(, #13+)\$'\$;#1)'\$+ #\$/+ 3(<.'E(3\$1=+ Y3+-)..+ "3/, @3+ 123+ \$3\*#1);3+)(<#@1%+  
'&+ , "9#\$/+ # @1);)1)3%+ #\$/+ '&+ @23()@#. %+ -2)@2+ #3+ 2#S#" /, %+ &" + 2, (#\$+ 23#.12+ #\$/+ 123+  
3\$;)"\$(3\$ 1M+)\$@..)\$\*+ 12", \*2+ 123+ 3\$;)"\$(3\$1#..E+ %', \$/+ (#\$\$\*3(3\$1+ #\$/+ %&3+ , %3+ '&+  
@23()@#. %M+ 123+ "3/, @1)'\$+ #\$/+ "3@E@.)\$\*+ '&+ -#%13+ #\$/+ 123+ ("3+ 3&&)@)3\$1+ , %3+ '&+ -#13" + #  
3\$3\*\$E=+ 7\$/+ -3+-)..+ -"Q+ 1'+ ()\$()S3+ 123+)(<#@1+ '&+ @)1)3%+ '\$+ 123+ \*.'9#.+ @.)(#13+ %E%13(=+ Y3+  
-). .+ #. %' + 1#Q3+ # @ @', \$1+ '&+ <'<, #1)'\$+ 1"3\$/+ #\$/+ <"W3@1)'\$%+ )\$+', "+ \$#1)'\$#.+ , "#.+ #\$/+ , "9#\$/+  
/3;3.<(3\$1+ %1"#13\*)3%+ #\$/+ <.)@)3%=+ Y3+ ."Q+ &"-#"/+ 1'+ 123+ , <@'()\$\*+ \(\$)13/+ X#1)'\$%+  
V'\$&3"3\$@3+ '\$+ [, %)\$\*+ #\$/+ 8, %1#)\$#9.3+ \9#\$/+ :3;3.<(3\$1+ 1'+ 93+ 23./+ )\$+ i,)1' =

6C⇒ 8, %1#)\$#9.3+ /3;3.<(3\$1+ @#\$'\$1+ 93+ "3#.)S3/+ -)12', 1+ <3#@3+ #\$/+ %3@,)1E\_+ #\$/+ <3#@3+ #\$/+

6N= Y3+"3#&&)"(M+) \$+ # @ @ "/# \$ @ 3+-) 12+123+V2#"13"+'&+123+\\$)13/+X#1)'\$%M+123+\$33/+1'+ "3%<3@  
123+13""1""#.#) \$13\*"1E+#\$/+<'.1) @#.#) \$/3<3\$/3\$ @8+'&+81#13%=

! B3\$%&!(!\*)<.3)3%1\$1\*(%

6P= !23+% @#.3+#\$ /+#(9)1)'\$+'&+123+\$3-+7\*3\$/#+"3O,)"3%+#+"3;)1#.)S3/+K.'9#.+>#"1\$3"%2)<+1'+  
3\$%, "3+)1%+)(<.3(3\$1#1)'\$=+Y3+&..E+ @'((1+1'+12)%=+!2)%+>#"1\$3"%2)<+-.+."Q+)\$+#+%<")1+'&+  
\*.'9#.+ %'.)/#")1EM+ )\$+ <#"1) @,.#"+ %'.)/#")1E+ -)12+1128\$/€-"32+ <3'<.3+ )\$+ ;,.\$3"#9.3+  
)1,#1)'\$%=+A1+-)..&# @.)1#13+#\$+) \$13\$%);3+\*.'9#.+3\$\*#\*3(3\$1+)\$+%,<<"1+'&+)(<.3(3\$1#1)'\$+'&+#+..  
123+K'#.%+#\$ /+1#"\*31%M+9")\$\*)\$+1'3123"+K';3"\$ (3\$1%M+123+<");#13+%3@1""M+ @);).+% '@)31EM  
\\$)13/+X#1)'\$%+%E%13(+ # \$ /+ '23"#+ # \$ /+ ('9.)S)\$\*+ #..+ #;#).#9.3+"3%," @3%=

?5= !23+ (3#\$%+ '&+ )(<.3(3\$1#1)'\$+ 1#"\*31%+ ,\$/3"+ K'#.+ HF+ # \$ /+ ,\$/3"+ 3# @2+ 8,%1#)\$#9.3+  
:3;3.'<(3\$1+K'#.#"3+Q3E+1'+ "3#.S)\$\*+', "+7\*3\$/#+#\$ /+#"3+'&+3O,#.#)(<"1#\$ @3+-)12+123+'123"+  
K'#.%+#\$ /+1#"\*31%=+!23+7\*3\$/#M\$)\$ @23+ 8,%1#)\$#9.3+ :3;3.'<(3\$1+K'#.%M+ @#\$+93+(31+  
-)12)\$+ 123+ &"#(3-"Q+ '&+ #+ "3;)1#.)S3/+ K.'9#.+ >#"1\$3"%2)<+ &" + 8,%1#)\$#9.3+ :3;3.'<(3\$1M+  
%,<<"13/+9E+123+@ '\$ @ "313+<'.) @)3%+#\$ /+# @1)'\$%+#+%+',1.)\$3/+)\$+123+',1@'(3+/' @,(3\$1+'&+123+  
12)"/+A\$13"\$#1)'\$#. +V'\$&3"\$ @ \$ \$ @)\$\*+&" +:3;3.'<(3\$1M+23./+)\$+7//)%+79#9#+&"(+H6+1'+  
HD+d,.E+45HC=+Y3+-3. @'(3+123+3\$/"%3(3\$1+9E+123+K3\$3"#.+7% %3(9.E+'&+123+7//)%+79#9#+  
7@1)'\$+7\*3\$/#M+2) @2+)%+#\$) \$13\*"#. +<#"1+'&+123+4565+7\*3\$/#&" +8,%1#)\$#9.3+ :3;3.'<(3\$1=+Y3+  
"3@\*\$)S3+12#1+&23)(<.3(3\$1#1)'\$+'&+123+7//)%+79#9#+7@1)'\$+7\*3\$/#%+ @")1) @#.#&" +123+

@#1#.E%3+ #/1)'\$#.+ "3%',"@3+ ('9).)S#1)'\$+ 23'(H%',"@3%M+ <,9.)@+ #\$/+ <");#13=+ B:7+ <");/3"%+ "3#&&)"(+ 123)" + "3%<3@1);3+ @'(()1(3\$1%M+ )\$@.,/)\$\*+ 123+ @'(()1(3\$1+ 9E+ (#E+ /3;3.'<3/+@','\$1")3%+1'+#@2)3;3+123+1#"\*31+'&+5=F+<3"+@3\$1+'&+\*"%"%+\$#1)'\$#.+)\$@'(3+&"+'&&@); /3;3.'<(3\$1+##%)%1#\$\$@3+eB:7hKXAf+4)'\$3;@','\$1")3%+##\$/+5=HC+<3"+@3\$1+1'+5=4+<3"+@3\$1+ '&+B:7hKXA+1'+.3#%1+/3;3.'<3/+@','\$4")3%=

??=> Y3+#@Q\$'-.3/\*3+123+)(<"1#\$@3+&"+)\$13"\$#1)'\$#.+&)\$#\$@)#.+)%%1)1,1)'\$%+1'+%,<<"1M+)\$+ .)\$3+-)12+123)" +(#\$/#13%M+123+<'.)@E+%<#@3+'&+3#@2+@','\$13EM)\$@<#\$1)@%#"/ Y3+ "3@'(()1+1'+9"#/3\$)\$\*+##\$/+ %1"3\$\*123\$)\$\*+ 123+;')@3+ #\$/+ <#"1)@<#1)'\$+ '&+ /3;3.'<)\$\*+ @','\$1")3%+)\$@.,/)\$\*+ 7&)"@#\$\$+ @','\$1")3%M+ .3#%1+/3;3.'<3/+ @','\$1")3%M+ .#\$/.'@Q3+/3;3.'<)\$\*+ @','\$1")3%M+ %(#..+)%.#\$/+ /3;3.'<)\$\*+ 81#13%+ #\$\$@'(B.@','\$1")3%+)\$+)\$13"\$#1)'\$#.+ 3@'\$()@+/3@)%(#Q)\$\*M+\$"(P#311)\$\*+##\$/+\*.9#.+3@'\$()@+\*';3"\$#\$@3=

?C# Y3+ #@Q\$'-.3/\*3+ #.%'+ 123+ 3%%3\$1)#.+ "'3+ '&+ \$#1)'\$#.+ <#".)#(3\$1%+ 12",\*2+ 123)" + 3\$#@1(3\$1+'&+.3\*)%.#1)'\$+##\$/+##/'<1)'\$+&+9,/\*31%+##\$/+123)"+"'.3+##@3\$%\$1#9).)1E+&"+ 123+3&&3@1);3+)(<.3(3\$1#1)'\$+&+',"+@'(()1(3\$1%+K";3"\$3(3\$1%+##\$/+<,9.)@+)\$%1)1,1)'\$%+-)..+ #.%'+ -"Q+ @.'%3.E+ '\$+ )(<.3(3\$1#1)'\$+ -)12+ "3\*)'\$#.+ #\$/+ .'@#.+ #,12")1)3%M+ %,9"3\*)'\$#.+







8,&1\$\*\$9.3!;3.<)3%1!E(\$-&

K'#. +H=+L\$/+<';3"1E+) \$+#+..)1%+&"(%+3;E-23"3

K'#.+4=+L\$/+2,\$\*3"M+#@2)3;3+&"/+%3@,)1E+#\$+)(<";3/+\$,1")1)'\$+##\$/+<"('13+%,%1 #\*)"@,.1,"3

K'#.+6=+L\$%,"3+23#.12E+.);3%+##\$/+<"('13) \$+&"#+#1+#.#\*3%

K'#.+ ?=+ L\$%,"3+ )\$@.,%);3+ #\$/+ 300,##1E+ 3/, @#1)'\$+ #\$/+ <"('13+ .)&3.'\$\*+ .3#" \$)\*\$. '<<"1,\$)1)3%+&"#+#..

K'#.+C=+7@2)3;3+\*3\$/3"+30,#.1E+#\$/+3(<'3"+#..+'(3\$+##\$/+\*)".%

K'#.+D=+L\$%,"3+#;#.#9.)1E+#\$/+%,%1#)\$#9.3+(##\*3(3\$1+'&+-#13"+##\$/+%#)\$1#1)'\$+&

K'#.+F=+L\$%,"3+#@ @3%%+1'4&8'##9.3M+%,%1#)\$#9.3+##\$/+('/3"\$+3\$3\$E+&"#+#..

K'#.+N=+>"('13+%,%1#)\$3/M+)\$@.,%);3+ #\$/+%,%1#)\$#9.3+3@ '\$()@+ \*"-12M+&,..+ #\$/ 3(<.'E(3\$1+##\$/+3@3\$1+-"Q+&"#+#..

! E(\$!FG!H%!<(<3#1A!\*%!\$..!\*1&!('#)&!3;3#A!23#3

+  
H=#H

/);3"%)&)3/+ %33/+ #\$/+ <.#\$1+ 9#\$Q%+ #1+ 123+ \$#1)'\$#.M+ "3\*')\$



)\$&'(#1)'\$+ #\$/+ @'((,\$@#1)'\$%+ 13@2\$!'\*EM+ 13@2\$)@#.M+ 3\$\*)\$33"\$\*\$+ #\$/+ %@)3\$1)&.)@+  
<"\*"#((3%M+)\$+/3;3.'<3/+@','\$1")3%+#\$/'123"+/3;3.'<)\$\*+@','\$1")3%

D=7 RE+ 4565M+ %,9%1#1\$)@"3#%3+ J#13+ 3&&@)3\$@E+ #@"%"+ #..+ %3@1""+ #\$/+ 3\$, "3+  
%,%1#)\$#9.3+-)12/"#-#. %+#\$/+%,<.E+'&+&"3%2-#13"+1'+#/"3%"+-#13"+%@"@)1E+#\$/+%,9%1#1\$)#  
"3/,@3+123+\$,(93+'&+<3'<.3+%,&&3")\$\*+&"(+ #13"+%@"@)1E+

D=€ RE+ 4565M+)(<.3(3\$1+)\$13\*"#13/++"818"@"3%+ (#\$#\*3(3\$1+#1+#..+ .3;3.%M+)\$@.,/)\$\*+  
12",\*2+1"#\$\$9',\$/#"E+@"<3"#1)'\$+#+#<<"<")#13+

D=Đ RE+4545M+<"13@1+#\$/+"3%1"J3+#13"3@'%E%13(%M+)\$@.,/)\$\*+(', \$1#)\$%M+&"3%1%M+  
-31.#\$/%M+");3"%M+#O,&3"%+##\$/+.#Q3%

D=# RE+4565M+3Z<#\$/+)\$13"\$#1)\$#\$/+@#<#Q)1/\$\*+%,<<"1+1'+/3;3.'<)\$\*+  
@', \$1")3%+ )\$+ -#13\$/+ %#\$)1#1J\$.#13/+ # @1);)1)3%+ #\$/+ <"#((3%M+ )\$@.,/)\$\*+ -#13"+  
2#";3%1)\$\*M+ /3%#.)\$#1)'M+ -#13" 3&&@)3\$@EM+ -%13-#13" 1"3#1(3\$1M+ "3@E@.)\$\*+ #\$/+ "3  
13@2\$'.\*)3%+

D=9

$N=?$



13@2\$!'\*)3%+#\$/(%)#,%1"#. +<"@3%%3%M+-)12+#..+@,'\$1")3%+1#Q)\$\*+ # @ 1)'\$+) \$+ # @ @ "/# \$ @ 3+-)12+  
"3%<3@1);3+ @ #<#9).)1)3%+

P=6 L\$2#\$@3+%@)3\$1)& @ + "3%#/#@2M+13@2\$.'\*)@#. + @ #<#9).)1)3%+'&+) \$/, %1"#. + %3@1""%+  
)\$+ #..+ @,'\$1")3%M+) \$+ <# "1) @ ,.#"+/3;3.<)\$\*+ @,'\$1")3%M+) \$ @ ,./)\$\*M+9E+4565M+3\$ @,'#\*)\$\*+)\$\$;#1)'\$+  
#\$/+%,9%1#\$1)#..E+) \$ @ "3#%)\$\*+123+\$,(93+'&+"3%3#" @ 2+#\$+/3;3.'<(3\$1+-"Q3"%+<3"+H+(..)'\$+  
<3'<.3+#\$/€ ,9.) @ + # \$ / + < " ) ; # 1 3 + " 3 % 3 # " @ 2 + # \$ / + / 3 ; 3 . ' < ( 3 \$ 1 + % < 3 \$ / ) \$ \*

P=# I#@.)1#13+%,%1#)\$#9.3+#\$/+ "3%).)3\$1+) \$ & "#%1", @ 1, "3+ / 3 ; 3 . ' < ( 3 \$ 1 + ) \$ + / 3 ; 3 . ' < ) \$ \* + @ , ' \$ 1 " ) 3 % +  
12", \*2+ 3\$2#\$@3/+ & ) \$ # \$ @ ) # . M + 13 @ 2 \$ . ' \* ) @ # . + # \$ / + 13 @ 2 \$ ) @ # . + % , < < " 1 + 1 ' + 7 & " ) @ # \$ + @ , ' \$ 1 " ) 3 % M + . 3  
/3;3.'<3/+ @,'\$1")3%M+.#\$/. '@Q3/+ /3;3.'<)\$\*+ @,'\$1")3%+#\$ / + % ( # .. ) % . # \$ / + / 3 ; 3 . ' < ) \$ \* + 81 # 13 % +

P=9

7&")@#\$+ @', \$1")3%M+ %(#..+)%.\$\$/+ /3;3.<)\$\*+ 81#13%+ #\$/+ .#\$/.'@Q3/+ /3;3.<)\$\*+ @', \$1")3%M+ )\$+  
#@ @'"/#\$@3+-)12+123)"#\$1)"#\$.+<.#\$%+ #\$/+<"#((3%+

H5=CRE+4565M+"3/, @3%1%+12#\$+6+<3"+@3\$1+123+1"\$%# @1)'\$+@'1%+&+()#"#\$1+"3(11#\$@3%+  
3.)()\$#13+"3(11#\$@3+@'"/"%"%+-)12+@'1%+2)\*23"+12#\$+C+<3"+@3\$1+

! E(\$.!FFG!B\$P3!>\*1\*3&!\$%/!2,)%)!&311.3)3%1&!\*>.,&\*;3!&\$'3!#3&,&3%\*%\$%3

HH=CRE+4565M+ 3\$%, "3+ # @' @3%1%+ &/30, #13M+ % #&3+ #\$/+ #&&"/#9.3+ 2', %) \$\*+ #\$/+ 9#%) @+  
%3";) @3%+ #\$/+ ,<"# /3+ %., (%+

HH=CRE+ 4565M+ <";) /3+ # @ @3%+ 1' + % #&3M+ #&&"/#9.3M+ # @ @3%+ )9.3+ #\$/+ %, %1#) \$#9.3+ 1' /  
%E%13(%+&"+"..M+)(<";) \$\*+ "#/+ % #&31EM+ \$'1#9.E+9E+3Z<#\$/) \$\*+ <, 9.) @ <3' @3%+ "1M+-)12+  
#113\$1)' \$+ 1'+ 123+ \$33/%+ '&+ 12' %3+ ) \$+ ;, . \$3#9.3+ %) 1, #1)' \$%M+ -(3\$M+ @2) . /"3\$M+ <3" % \$%+ -)12+  
/)%#9.) 1)3%+ #\$/+ . /3"+<3" % \$%+

HH=CRE+4565M+3\$2#\$ @3+) \$@., %); 3+ #\$/+ %, %1#) \$#9.3+, "9#\$) S#1)' \$+ #\$/+ @ #<# @) 1E+&" +<"1) @) <#1'  
) \$13\*" #13/+ #\$/+ %, %1#) \$#9.3+ 2, (# \$+ %311.3(3\$1+<.#\$) \$\*+ #\$/+ (# \$\*3(3\$1+) + #. . + @', \$1") 3%+

HH=81"3\$\*123\$+3&&"1%+1'+<"13 @1+ #\$/+ % #&3\* , #0+123+1" #. + #\$/+ \$ #23#1#\*3+

HH=CRE+4565M+%)\*\$) @#\$1.E+"3/, @3+123+\$, (93+'&+ /3#12%+ #\$/+ 123+\$, (93+'&+<3'<.3+ #&&3 @13/+  
#\$/+ %, 9%1# \$1)#..E+ /3 @ "3#%3+ 123+ /) "3 @1+ 3 @ '\$() @+ . '%%3%+ "3.#1); 3+ 1' + \*. '9#.+ \*"%%+ /'(3%1) @  
<"/, @1+ @ #, %3/+9E+ /) % # %13" %M+) \$ @ 1) \$ 13 # 1) % # %13" %M+ 8' @, %+ '\$+<"13 @1) \$\*+ 123+  
<" + #\$/+ <3'<.3+) \$+ ;, . \$3#9.3+ %) 1, #1) \$%

HH=CRE+4565M+ "3/, @3+ 123+ #/; 3"%3+<3"+ @ #<) 1#+ 3\$;)" \$(3\$1#.+)(<# @1+'&+ @) 1)3%M+ ) \$@., /) \$\*+ 9!  
<#E) \$\*+ %<3 @) #. + #113\$1)' \$+ 1'+ #)" + O, #. 1E+ #\$/+ (, \$) @) <# . + #\$/+ '123" + - # % 13+ (# \$\*3(3\$1+

HH=CRE+4565M+ )3+ , \$); 3"%# . + # @ @3%+ 1' + % #&3M+ ) \$@., %); 3+ #\$/+ # @ @3%+ ) 9.3M+ \* "33\$+ #\$/+ <, \$  
%<# @3%M+ ) \$+ <# "1) @, . # + &' + -(3\$+ #\$/+ @2) . /"3\$M+ . /3"+<3" % \$%+ #\$/+ <3" % \$%+ -)12+ /)%#9.) 1)3%+

HH=8, <<"1+<%1); 3+3 @ '\$() @M+ % @) #. + #\$/+ 3\$;)" \$(3\$1#.+.) \$Q%+931-33\$+9#8\$M+<3")

H4=6

H6=0>"('13+(3@2#\$)%(%+&"+"#)%)\$\*+@#<#@)1E+&"3&&3@1);3K@#)(3/13+@)\$\*3  
#\$/+(\$#\$\*3(3\$1+)\$+.3#%1+/3;3.'<3/+@','\$1")3%+#\$/+%(#..+)%.#\$/+/3;3.'<)\$\*+81#13%M+)\$@.,/)\$\*+  
&'@,%)\$\*+'\$+-(3\$M+E',12+#\$/+.'@#.+#\$/+(#"\$)\$#.S3/+@'(\$1)3%+

! ! +

123+83#M+-2)@2+<";/3%+123+.3\*#+&"#(3-"Q+&"123+@'\$%3";#1)'\$+##\$%9%;&1#)\$#9.3+ ,  
'@3#\$%+##\$/+123)"+"3%',"@3%M+##%+"3@#..3/+) \$+<#"#"#<2+HCN+'&+

! E(\$.!FMG!=#())(13!<3\$>3!,!\$%!/!\*%>.,&\*;3!&(>\*31\*3&!(!&,&1\$\*\$%\$9.3!/3;3.<)3%1!!<#(,\*/3!  
\$>>3&&!1(!V,&1\*>3!(#!\$..!\$%/!9,\*./!3"3>1\*;3!\$>>(<,%1\$9.3!\$%!/!\*%>.,&\*;3!\*%&1\*1,1\*(%&!\$1!\$..!  
.3;3.&  
+  
HD=>+8)\*\$)&@#\$1/E@3+#..+&'(%+'&+;)' .3\$@3+#\$/'3.#13/+3#12+"#13%+&3;3"E-23"3+  
HD=>4L\$/+ #9,%3M+ 3Z<.)1#1)'\$M+ 1"#&&@Q)\$\*+ #\$/+ #..+ &'(%+'&+;)' .3\$@3+##)\$%1+ #\$/+ 1"1,"3+ '&+  
@2)./"3\$+  
HD=>6"'13+123+" ,3+'&+.#-+#1+123+\$#1)'\$#.#\$/+)\$13"\$#1)'\$#.#3;3.%+#\$/+3\$%, 'Z+#3O,#.#@ @3%  
1'+W,%1)@3+&"#.#.+  
HD=>7RE+4565M+%)\*\$)&@#\$1.E+"3/, @3+..)@)1+&)\$#\$@)#.#\$/+#"(%+&.'-%M+%1"3\$\*123\$+123+"3@';3  
"31,"\$+'&+%1'.3\$+#%31%+#\$/+@'(9#1+#..+&'(%+'&+"\*#\$)S3/+@")3+  
HD=>8,9%1#1)\$#..E+"3/, @3+@""<1)'\$+\$/+9")93"E+)\$+ #..+423)"&'"(%+  
HD=>D3;3.'<+3&&3@1);3M+# @ @', \$1#9.3+#\$/+1"#%<#"3\$1+)\$%1)1,1)'\$%+#1+#..+3;3.%+  
HD=>FL\$, "3+ "3%<\$%);3M+) \$@.,%);3M+ <#"1)@<#"1"E+ #\$/+ "3<"3%3(Q)\$;3#13@,%)'\$  
.3;3.%+  
HD=>NR"#/3\$+ #\$/+ %1"3\$\*123\$+123+<#"1)@<#"1)'\$+'&+/3;3.'<)\$\*+ @', \$1)\$9%1)1,1)'\$23+'&+  
\*.'9#.#+';3"\$#\$@3+  
HD=>FRE+4565M+<";)/3+.3\*#.#)/3\$1)1E+&'#.#.M+)\$@.,/)\$\*+9)"12+"3")%1"#1)'\$+  
HD=>HL\$, "3+<,9.)@+## @3%+%1+')\$&'(#1)'\$+\$/+<"13@1+&,\$/#(3\$1#.#+&"33/'(%M+)\$+## @ @"/#\$@3+  
- )12+\$#1)'\$#.#.3\*)#1)'\$+\$/+)\$13"\$#1)'\$#.#\*33(3\$1%+  
HD=>#81"3\$\*123\$+"3.3;#1+\$#1)'\$#.#)\$%1)1,1)'\$%M+)\$@.,/)\$\*+12",\*2+)\$13"\$#1)'\$#.#@<"#1)'\$M+  
&"9,./)\$\*+@#<#@)1E+#1+#..+3;3.%M+)\$+<#"1)@,.#")\$+/3;3.'<)\$\*+@', \$1")3%M+1'+<"3;3\$1+;)' .3\$@3+#  
@'(9#1+13"")% (+#\$/+ @)"3+  
HD=>9"'13+ #\$/+ 3\$&" @3+\$)\$% @)"#1"E+.#-+%#\$/+<'.)@)3%+&"%+, %1#)\$#9.3+/3;3;8.'<(3\$1+  
+  
! E(\$.!FNG!81#3%+123%!123!)3\$%&!(!\*)<.3)3%1\$1\*(%!\$%!/!#3;\*1\$.\*S3!123!E.(9\$.!=\$#1%3#&2\* <!  
'(#!8,&1\$\*\$%\$9.3!;3;3.<)3%!  
+  
! C\*%\$%d>3  
+  
HF=>+B1"3\$\*123\$+/'(3%1)@+"3%',"@3+('9.)S#1)'\$M+)\$@.,/)\$\*+12"\$#2)\$#18%,<<"1+1'+  
/3;3.'<)\$\*+@', \$1")3%M+1'+)(<"3+/'(3%1)@+@#<#@)1E+&"1#Z+#\$/+123+"3;3\$;3+@'..3@1)'\$+  
HF=4

HF=87%%)%1+ /3;3.<)\$\*+ @,'\$1")3%+ )\$+ #11#)1\$(\$+ /\$91+ %, %1#)\$#9.)1E+ 12",\*2+  
@"/)\$#13/+<'.)@)3%+)(3/+#1+&'%13")\$\*+/391+&)\$#\$@)\$\*M+/391+"3.)3&+##\$/+/391+"3%1",@1,")\$\*M+#%  
#<<"<")#13M+#\$/+##/"3%%+123+3Z13"\$#.+/391+&+2)\*2.E+)\$/3913/+<""+@,'\$1")3%+1'+"/3/,@3+/391+  
/)%1"3%%+</>

HF=67/'<1+#\$/+)(.3(3\$1+)\$;3%1(3\$1+<"('1)'\$+"3\*)(3%+&"#%31+/3;3.<3/+@,'\$1")6%

! ! "3>2%(.(+A

HF=EL\$2#\$@3+ X"12,12M+ 8',12B',12+ #\$/+ 1")#\$\*,.#+ "3\*)\$#. + #\$/+ )\$13"\$#1)'\$#. +  
@"<3"#1)'\$+'\$+#\$/+##@ @3%%+1'+%@)3\$@3M+ 13@2\$!'\*E+#\$/+)\$#\$;#1)'\$+#\$/+3\$2#\$@3+Q\$'-.3/\*3+  
%2#)"\$+'\$+(,1,#.E+#\*"33/+13"(%M+)\$@.,/)\$\*+12<"#;3/+@""/)\$#1)'\$+#('\$\*+3Z)%1)\$\*+  
(3@2#\$)%(%M+)\$+ <#"1)@,.#+ #1+ 123+ \)\$13/+ X#1)'\$%+ .3;3.M+ #\$/+ 12",\*2+ #+ \*.9#. + 13@2\$!'\*E+  
&#.@).1#1)'\$+(3@2#\$)%(</>

HF=F>"('13+ 123+ /3;3.<(3\$1M+ 1"#\$\$&3"M+ /)%%3()\$#1)'\$+ #\$/+ /)&&,%)'\$+ '&+ 3\$;)"\$(3\$1#..E+  
%,'\$+/13@2\$!'\*)3%+1B;3.<)\$\*+ @,'\$1")3%+ '\$+ &#;' ,#9.3+ 13"(%M+)\$@.,/)\$\*+ '\$+ @'\$@3%%)'\$.+  
#\$/+<"3&3"3\$1)#.+13"(%M+##+(,1,#.E+#\*"33/+</>

HF=N,..E+ '<3"#1)'\$#.S3+ 123+ 13@2\$!'\*E+ 9#\$Q+ #\$/+ %@)3\$@3M+ 13@2\$!'\*E+ #\$/+ )\$#\$;#1)'\$+  
@#<#@M/E)\$\*+(3@2#\$)%(+&"+.3%#1+/3;3.<3/+@,'\$1")3\$E)B#HF+##\$/+3\$2#\$@3+123+,%3+&+  
3\$#9.)\$\*+13@2\$!'\*EM+)\$+<#"1)@,.#+)\$&"(#1)'\$+#\$/+@'((,\$)@#1)'\$%+13@2\$!'\*E</>

! ! U\$<\$>\*1A\*./\*%+</>

HF=PL\$2#\$@3+ )\$13"\$#1)'\$#. + %, <<"1+ &"")(<.3(3\$1)\$\*+ 3&&3@1);3+ #\$/+ 1#""313/+ @#<#@)1E  
9,.)\$\*+)\$+/3;3.<)\$\*+ @,'\$1")3%+1'+%1<3"#1)'\$#. +<.#\$%+1'+)(<.3(3\$1+##..+123+8,%1#)\$#9.3+  
:3;3.<(3\$1+K#.%M+)\$@.,/)\$\*+12",\*2+X"12,12M+8',12B',12+##\$/+1")#\$\*,.#+@<3"#1)'\$</>

! ! "#\$3!

HF=H5>"('13+##,,\$);3"%#.M+",J9%3/M+<3\$M+)\$#\$@")(\$#1"#\$+##\$/+3O,)1#9.3+(,1).#13"#.+  
1"#/)\$\*+%E%1\$/\$"+ 123+ Y"/.+!"#3+ B"\*#\$)S#1)'M+)\$@.,/)\$\*+ 12",\*2+ 123+ @'\$@.,%)'\$+ '&+  
\$3\*1)#1)'\$%+,\$/3+)1%+:'2#+:3;3.<(3\$1+7\*3\$#</>

HF=HB)\$&@)#\$1.E+)\$@ "3%#3+123+3Z<"1%+ '&+/3;3.<)\$\*+ @,'\$1")3%M+)\$+<#"1)@,.#+)-)12+##+;)3+1  
/,'9.)\$\*+123+.3%#1+/3;3.<3/+@,'\$1")3\$E)B#3+&+\*.9#. +3Z<"1%+9E#4545+</>

HF=H4</>

HF=H?L\$2#\$\$@3+<'.)@E+@'23"3\$@3+&'"+%,%1#)\$#9.3+;3;3.'<(3\$1+

HF=HCT3%<3@1+ 3#@2+ @%,\$1'f@E+ %<#@3+ #\$/+ .3#/3"%2)<+ 1'+ 3%1#9.)%2+ #\$/+ )(<.3(3\$1+  
<'.)@)3%+&'"+<';3"1E+3"#/)@#1)'\$+#\$/+%,%1#)\$#9.3+;3;3.'<(3\$1+

/ 21%(&("&#%0")/\$&(")\*.+\$\*

+  
HF=HDL\$2#\$\$@3+ 123+ K.'9#. + >#"1\$3"%2)<+ &'"+ 8,%1#)\$#9.3+ :3;3.'<(3\$1M+ @'(<.3(3\$13/+ 9E+  
(,.) J%1#Q32'./3"+<#"1\$3"%2)<%+12#1+('9.)S3+#\$/+%2#"3+Q\$'-.3/\*3M+3Z<3"1)%3M+13@2\$'.\*E+#\$/+  
&)\$#\$@)#.+ "3%',"@3%M+1'+%,<<"1+123+#@2)33(3\$1#)\$#9.3+;3;3.'<(3\$1+K#.#%+)\$+#..+  
@', \$1")3%M+)\$+<#"1)@,.#"+/3;3.'<)\*+@', \$1")3%+

HF=HFL\$@',"#\*3+#\$/+<('13+3&&3@1);3+<,9.)@M+;#1.3@#\$/+@);).+%')31E+<#"1\$3"%2)<%M+  
9,.)/\$\*+'\$+123+3Z<3")3\$@3+##\$/+





:3;3:'<(3\$1+K'#.%+=Y3+"3@'\*\$)S3+12#1+'/'@%13%',"@3%+#"3+&)"%1+#\$/+&"3('01+\*3\$3"#13/+  
9E+3@'\$()'@+\*"1-12M+%,<<"13/+9E+#\$+3\$#9.)\$\*+3\$;)"\$(3\$1+#1+#..+3;3.%=

DF# >");#13+9,%)\$3%%+#@1);1EM+)\$;3%1(3\$1+#\$+/)\$;\$#1)'\$+#"3+(#W"+/");3"%+'&+<"/,@1);1EM+  
)\$@.,%);3+3@'\$()'@+\*"1-12+#\$/+W'9+@"3#1#9Q\$33/\*3+123+);3"%1E+'&+123+<");#13+  
%3@1"M+"#\$\*)\$\*+&"(+D@13"<)"%3%+1'+@<"3#1);3%+1'+(,1)\$#1)'\$#.%+=Y3+@#..+,<'\$+#..+  
9,%)\$3%%3%+1'+#<.E+123)"@3#1);1E+#\$/+)\$;\$#1)'\$+1'+%'.);\$\*+%,%1#)\$#9.3+/3;3.'<(3\$1+  
@2#..3\$\*3%+=Y3+-)..+&%13"+#+#\$#(3@&,\$@1)'\$)\*+9,%)\$3%%+%3@1"M+-2).3+<"13@1)\$\*+  
.9',"+"\*21%+ #\$/+ 3\$;)"\$(3\$1#.+ #\$/+ 23#.12+ %1#\$/#"/%+ )\$+ #@@"/#@\$+ -)12+ "3.3;#\$1+  
)\$13"\$#1)'\$#.+%1#\$/#"/%+ #\$/+ #\*"33(3\$1%+#\$/'123+'\$\*)\$\*+)\$1)#1);3%+)\$+12)%+"3\*#"/M+%,@2+#%+  
123+K,)/)\$\*+>)"\$@)<.3%+%)\$B%%+ #\$/+ [(#\$+T)\*21%+ #\$/+ 123+ .9',"+%1#\$/#"/%+ '&+ 123+  
A\$13"\$#1)'\$#.+`9',"+B"\*#\$)S#1)'\$M+123+V'\$;3\$1)'\$+'\$+123+T)\*21%+ '&+ 123+V2)./+ #\$/+ Q3E+  
(,1).#13"#.+3\$;)"\$(3\$1#.+#"33(3\$1%M+&"<#"1)3%+1'+12'%3+#\*33(3\$1%+=

DN=







3Z)%1)\$\*+\$31-"Q&&'&+ J<+#\$/"3;)3-+)\$%1)1,1)'\$%+#\$/(3@2#\$)%(%=+X#1)'\$#.+ "3<"1%+-)..+  
#..'++%3%3%(3\$1%+'&+<"\*3%"+#\$/)/3\$1)&E+@2#..3\$\*3%+#1+123+"3\*)'\$#.+#\$/+\*.'9#.+3;3.=+7.'\$\*+  
-)12+"3\*)'\$#.+/#.'\* ,3%+#\$/+\*.'9#.+ "3;)3-%M+123E+-)..+)\$&'(+ "3@'((3\$/#1)'\$%+&J'←&'..-  
#1+;#")',%+.3;3#%=

! W\$1\*(%\$.!.3;B.

FN# Y3+3\$@', "#\*3+#..+G3(93"+81#13%+1'+/3;3.'<+#%+% "\$+#%+<"#@1)@#9.3+#(9)1)',%+\$#1)'\$#.+  
"3%<'\$%3%+1'+123+';3"#..+)(<.3(3\$1#1)'\$+'&+12)%+7\*3\$/#=#+!23%3+@#\$+%,<<"1+123+1"#%)1)'\$+1'+  
123+ 8,%1#)\$#9.3+ :3;3.'<(3\$1+K'#.%+9;\$/+'\$+ 3Z)%1)\$\*+<.#\$\$)\$\*+ )\$%1", (3\$1%M+ %, @2+ #%+  
\$#1)'\$#.+/3;3.'<(3\$1+#\$/+%,%1#)\$#9.3+3;3.'<(3\$1+%1"#13\*)3%M+#%+#<<"<")#13=

FP# Y3+#.%+3\$@', "#\*3+G3(93"+81#13%+1'+@'\$/, @1+"3\*.,#" +#\$/+) \$@.,,);3+"3;)3-%+'&+<"\*3%"+  
#1+123+\$#1)'\$#.+#\$/+%,9\$#1)'\$#.+3;)@Z##23+@', \$B/E#\$/+@', \$1'E);3\$=+8, @2+"3;)3-%+  
%2',./+/"#-+'\$+ @\$'1")9,1)'\$%+&"(+)\$/\*3\$,%+<3<.3%M+ @);).+%')@)31EM+123+<");#13+%3@1"+#\$/+  
'123'+ %1#Q32'./3"%M+ )\$+ .)\$3+ -)12+ \$#1)'\$#.+ @)"@,(%1#\$@3%M+ <.)@)3%+ #\$/+ <)"1)3%=+ X#1'  
<#.)#(3\$1%+#+-3..+

N6# I'..- J<+#\$/"3;)3-+#1+123+232.+<'.)1)@#.+"&"(+.)93+)\$&"(3/+9E+#\$+#\$\$,#.+  
<"\*3%%+"3<"1+'\$+123+8,%1#)\$#9.3+:3;3.'<(3\$1+K'#.%+1'+93+<"3<#"3/+9E+123+83@"31#"E  
K3\$3"#.+)\$+ @<"3"#1)'\$+ -)12+123+\\$)13/+X#1)'\$%+%E%13(M+9#%3/+ '\$+123+\*.!9#.+)\$/)@#1"+  
&"#(3-"Q+#\$/"#1#<"',@3/+9E+\$#1)'\$#.+%1#1)%1)@#.#\$E\$&3(#1)'\$+@'.3@13/+#1+123+  
"3\*)'\$#.+3;3.=+!23+2)2;3.+<'.)1)@#.+"&"(+)..+#.%'+93+)\$&"(3/+9E+#93%/'1\*(&+&9%/  
5"<"%#\$7"(/="\$#)(M+-2)@2+%2#..+%1"3\$\*123\$+123+@E)E\$103#@3+#\$/"@',./+<"");/3+#+  
%1"\$\*+3;)/3\$@3#%3/+\$%1", (3\$1+1, <<"1+<'.)@E(#Q3"%+)\$+<"('1)\$\*+<';3"1E+3"#/)@#1)'\$+  
#\$/+%,%1#)\$#9.3+/3;3.'<(3\$1=+Y3+)\$;13+123+>"3%)/3\$1+'&+123+L@\$'()@+#\$/"8'@)#.+V',@\$).+1'+  
@\$'/,@1+#+<"@3%%+'&+@\$%1 (;)1(\$)-2(%1 (;)1)12@\$',

.\$\*3" J13"(+<'%)1)'\$)\$\*+'&+123+\\$)13/+X#1)'\$%+/3;3.'<(3\$1+%E%13(+##\$/. 'Q+&'-'#/'1'+1#Q)\$\*+  
#@1)'\$+'\$+123%3+)%%,3%M+#%##<<"<")#13=

NP# !23+ 2)\*2l3;3.+ <'.)1)@#. + &"',(+ -)..+ %, <<"1+ <#"1)@<#1)'\$+ )\$+&#\$/+ "3;)3+  
<"@3%%3%+9E+123+(#W"+\*"'<,+##\$/+'123"+"3.3;#1+%1#Q32'./3"%+)\$+.)\$3+-)12+"3%'.,1)'\$+DFh4P5=  
Y3+ @#..+ ,<'\$+ 12'%3+##@1'"%+ 1'+ "3<"1+'\$+ 123)" + @\$'1")9,1)'\$+ 1'+ 123+)(<.3(3\$1#1)'\$+ '&+ 123+  
7\*3\$/#=#+

P5# Y3+"3O,3%1+123+83@K3\$E#.M+)\$+ @\$%,.1#1)'\$+-)12+G3(93"



