



K]`<][\Yf`C]ž9bYf[mDf]Wg' <YfY`hc`GhUmž
UZZYWh`h\Y`a Uf_Yh`W\Ub[Y`]b`W`hcb`V`YbX

K]`<][\Yf`C]ž9bYf[mDf]Wg' <YfY`hc`GhUmž'UZZYWh`h\Y`a Uf_Yh`W\Ub[Y`]
]b`W`hcb`V`YbX3

GhYd\Yb`GWcf_ž\YUX`cZ`H\Y`GWcf_`; fci dž`YI d`U]bYX`h\Y`bYk
bcfa U`Zcf`c]`df]Wg'cb`Hi YgXUm`UZhYf`K Ygh`HYI Ug`b`hYfa YX]UhY`Wfi XY
\]h`U`gYj Yb!mYUf`\][\`h\Y`dfYj]ci g`XUm"

GWcf_`hc`X`J UfbYm/`7c`cb`Hi YgXUm`h\Uh`h\Y`h\]b_g`c]`UbX`YbYf[m
df]Wgž]b`[YbYfU`žk]`W`b]bi Y`hc`a`cj Y`\][\Yf"

Cb`A cbXUmž`K Ygh`HYI Ug`b`hYfa YX]UhY`Wfi XY`gi f[YX`~`%"+`hc`~` , \$") &`U
VUffY`"9Uf`Yf`cb`A cbXUmž`h\Y`YbYf[m`gYW`cf`\]h`U`gYj Yb!mYUf`\][\
UVcj Y`~` , &"`K H`Wfi XY`fcgY`& , `W`bhg`hc`~` , \$" , \$`U`VUffY`cb`Hi YgXUm"

6fYbh`Wfi XY`ZY`~` (`W`bhg`hc`~` , ' `*`%`U`VUffY`Hi YgXUm`a`cfb]b[`UZhYf
\]h]b[`U`\][\`cZ`~` , ("&` `U`VUffY`" `H\Y`[`cVU`VYbW`a Uf_`c]`df]W`\]h
~` , ("*" \$`cb`A cbXUmž`]hg`\][\Ygh`Yj Y`g]bW`C`W`cVYf`&\$% , "

@UhY`Ugh`a`cb`h\ž; c`Xa Ub`GUW`g; fci d`b`W`fU]gYX`]hg`ZcfY`WUgh`Zcf
[`cVU`Wfi XY`c]`df]Wg`hc`~` - \$`U`VUffY`V`m`h\Y`YbX`cZ`h\Y`mYUf`Zfca`~` , \$ž
W]h]b[`gi dd`m`X]gfi dh]cbg]b`h\Y; i`Z`cZ`A`YI]W`UbX`g][bg`cZ`ghfcb[Yf
XYa UbX

C]`\]h]b[~` , \$`U`VUffY`]g`dfY`hm`W`U`Yb[]b[ž`YI !: fcb]Yf`79C`gUm`g

6Ub_`cZ`5a Yf]WU`dfYX]W`YX`]b`ž`bY`h\Uh`6fYbh`Wfi XY`W`i`X`hcd`~` %\$`\$`U
VUffY`b`YI h`mYUf`Ua]X`h\Y`gdFYUX`cZ`7C`J`-8!%- "

DYbh`i`d`XYa UbX`ž`k \]W`W`b]bi Yg`hc`ZUj`cf`df]j UhY`WUfg`cj Yf`di V`]W
hfUb`gd`cf`h`UbX`hY`YW`ca`a`i`h]b[ž`k]`_YY`d`XYa UbX`ghfcb[`UZhYf`%,
a`cb`h`g`cZ`cW`X`ck`b`ž`k \]W`a`Um`YUX`hc`]bW`fYUgYX`Xf]j]b["



5h'h\Y'gUa Y'h]a Yž'gi dd'm'k]''VY'Wc'bgfU]bYX'Vm[cj Yfba Yb'h'dfYggi fY
hc'W'fV'WUd]hU''YI dYbX]hi fY'hUf[YhYX'Vm'h\Y'DUf]g'7'a UhY'5[fYYa Ybhž
U''Yj]UhY'h\Y'bYYX'Zc'f'Ybj]fcb'a YbhU'ž'gc'W]U''UbX'[cj YfbUbW
]bj Ygha Ybhgž'UbX'fYXi W'WUfVcb'Ya]gg]cbg"

Cb'Hi YgXUmž'GWcf_'fYZffYX'hc'dfYX]W]cbg'h\Uh'c]'Wci'X'\]h'' - \$'cf
'%\$\$'U'VUffY''UbX'gU]X'\Y''k ci'X'bch'VYh'U[U]bgh'h"

"6i h'k \Uh'i gi U''m'\UddYbg]g'mci 'WfYUhY'U''ch'cZ'gdYW'Uh]cbž''\Y
Wc'bh]bi YX"

GWcf_'k Ybh'cb'hc'YI d'U]b'h\Uh'YbYf[midf]W'g'XYdYbX'cb'k]bhYf
Wc'bX]h]cbg"

-Z'9i fcdY'UbX'Bcfh\ '5a Yf]WU'YI dYf]YbWX'U'Wc'X'k]bhYfž'c]ž'[Ug'UbX
YbYf[midf]W'g''k]''U''[c'\][\Yfž''\Y'gU]X"

[FYZ\]bYZUVf\]Wg'](#) \Ug'VYYb'gi dd'm]b['U''_]bXg'cZ'Wc'hcb'ZUVf]Wg'Zc'f'cj Yf'%'\$
mYUfg''<]['\ei U']hmž'Xi fUV'Y'UbX'VYUi h]Zi ''Wc'hcb'ZUVf]Wg'Zfca 'FYZ]bY
ZUVf]Wg'ž'h\Y'Wc'a dUbm'a U]b'midfcj]XYg'Z]bY'Wc'hcb'ZUVf]Wg'ž'Wc'hcb'dcd']b
ZUVf]Wg'ž'\][\XYbg]hm'Wc'hcb'ZUVf]Wg'ž'gmb'h\Yh]W'Wc'hcb'ZUVf]Wg'UbX'a cfY"
: YY''ZfYY'hc'gYbX'Ub'Ya U]'hc' [gU'Yg4 fYZ\]bYZUVf\]Wg'Wc'a](#) 'hc'[Yh'U'ei chY
UbX'k Y'k]''fYd'm'k]h]b'(\, '\ci fg"

H\Y'a Uf_Yh'g]nY'cZ'h\Y'Wc'hcb'V'YbX']b'h\Y'['cVU'Wc'hcb'ZUVf]Wg
]bXi ghfm

K]h\h\Y'Wc'bh]bi ci g'XYj Y'cda Ybh'cZ'h\Y'dfcXi W]cb'hY'W'bc'c[m'UbX
dfc'W'gg'cZ'h\Y'Wc'hcb'V'YbX']b'h\Y']bXi ghf]U'Wc'hcb'ZUVf]Wg']bXi ghfmž'h\Y
Udd']WU]cb'g'Wc'dY'cZ'h\Y'Wc'hcb'V'YbX']g'VY'Wc'a]b['a cfY'UbX'a cfY
YI hYbg]j Y'UbX'h\Y'a Uf_Yh'dchYbh]U''g'\i [Y''#g'XYj Y'cda Ybh'Yj Y''\Ug
VY'Wc'a Y'cbY'cZ'h\Y]ja dcfhUb]bX]WUhc'fg'hc'a YUgi fY'h\Y'Wc'a dfY\Ybg]j Y
Wc'a dYh]h]j YbYgg'cZ'U'Wc'i bhfm'Wc'hcb'ZUVf]Wg']bXi ghfm"

-bXi ghf]U'Wc'hcb'ZUVf]Wg'UfY'XYZ]bYX'Ug''dfcXi W'g'i gYX']b'a Ubm'bc'b!
Wc'hcb'ZUVf]Wg']bXi ghf]Yg'']bhYfbUh]cbU''m''7ca dUfYX'k]h\h\Y'hfUX]h]cbU'
Wc'hcb'ZUVf]Wg']bXi ghfm'k]h\''UVcf!]bhYbg]j Y'UbX''ck 'hY'W'bc'c[m
Wc'bhYbhž'h\Y'Wc'hcb'V'YbX']bXi ghfm'\Ug'h\Y'W'UfUW'hYf]gh]Wg'UbX
UXj UbhU[Yg'cZ'WUd]hU'']bhYbg]j Yž'\][\hY'W'bc'c[m'Wc'bhYbh'UbX'\i [Y



a Uf_Yh'XYa UbX'gdUW"

⊖ h'Yfa g'cZ'h\Y [`cVU`a Uf_Yh'z'h\Y [`cVU`]bXi ghf]U`Wc'hcb`ZUVf]Wg
a Uf_Yh]bWi X]b [`Wc'hcb`V`YbX`k]`fYUW`i gX`&), " ' `V]`cb`]b`&\$&\$`UbX
]g`YI dYWHYX`hc`fYUW`I G8 " &%"*) `V]`cb`]b`&\$&, "⊖ h\Y`bYI h`ZYk`mYUfgž
h\Y [`cVU`]bXi ghf]U`Wc'hcb`ZUVf]Wg`]bXi ghfm`k]`gh]`a U]bhU]b`U [fck]b [hfYbX"

H\Y`a Uf_Yh'df]W`cZ'h\Y`Wc'hcb`V`YbX`]b`h\Y [`cVU`Wc'hcb`ZUVf]Wg
]bXi ghfm

8Yj Y`cdYX`Wci bhf]Yg`UbX`fY []cbg`gi W`Ug`h\Y`I b]hYX`GhUhYg`UbX`h\Y
9i fcdYUb`I b]cb`cW`dm`h\Y`YUX]b [`d cg]h]cb`]b`Wc'hcb`V`YbX` [`cVU`
]bXi ghf]U`Wc'hcb`ZUVf]Wg`a Uf_Yh`k` \]`Y`Ya Yf []b [`a Uf_Yhg`gi W`Ug`7 \]bU
UbX`⊖X]U`g\ck`U` \] [\ [fck h\`a ca Ybhi`a "

G]bW`h\Y`%- - \$gž`Xi Y`hc`h\Y`Wcbg]XYfUh]cb`cZ`UVcfž`fUk``a UhYf]U`g`UbX
ch\Yf`Wc`gh`ZUW`c`fgž`a Ubi ZUW`hi`fYfg`]b`9i fcdY`UbX`h\Y`I b]hYX`GhUhYg`UbX
ch\Yf`XYj Y`cdYX`Wci bhf]Yg` \Uj`Y`g \]Z`hYX`h\Y]f`ZcW`g`hc`dfcXi`Wh`fYgYUfW
UbX`XYj Y`cda`Ybhž`VfUbX`Vi`]X]b [ž`W`UbbY`YI`dUbg]cb`UbX`ch\Yf
UgdY`Whg`]b`7 \]bUž`gc`h\Uh`h\Y`dfcXi`Wh]cb`UbX`a Ubi ZUW`hi`f]b [`WUdUW]hmc`Z
Wc'hcb`V`YbX` \Ug [fUXi`U`m`g \]Z`hYX`hc`9Ugh`5g]Ub`Wci bhf]Ygž`YgdY`W]U`m
h\Y`a]XX`Y`UbX`ck`!YbX`dfcXi`Whg"

H\Y [`cVU`]bXi ghf]U`Wc'hcb`ZUVf]Wg`Wc'hcb`V`YbX`dfcXi`Wh]cb`VUgYg`UfY
a U]b`m`Wc`bW`bhfUhYX`]b`h\Y`I b]hYX`GhUhYgž`UdUbž`Gci`h\`?`cfYU`UbX
HU]k`Ubž`UbX`h\Y`9i fcdYUb`]bXi ghf]U`Wc'hcb`ZUVf]Wg`]bXi ghfm`]g`g \]Zh]b [hc`5g]U`UbX`h\Y`I b]hYX`GhUhYg`H\Y`5g]U!DUW]Z]WfY []cb`UW`Wci bhYX`Zcf`h\Y
 \] [\Ygh`dfcdcfh]cb`cZ` (\$i` /B`cfh\`5a`Yf]WU`]g`bYI`h`Uh`&) `dYfW`bhž
Zc`ck`YX`Vm`h\Y`A]XX`Y`9Ugh`/`5Z]WUž`9i fcdY`UbX`Gci`h\`5a`Yf]WU"

H\Y`a Uf_Yh`hfYbX`cZ'h\Y`Wc'hcb`V`YbX`]b`h\Y [`cVU`Wc'hcb`ZUVf]Wg
]bXi ghfm

8UhU`]b`&\$&\$`g\ck`h\Uh`7 \]bU`Wc'hcb`ZUVf]Wg`]bXi ghfm`UW`Wci bhg`Zcf`a`cfY
h\Ub`) \$i`cZ`h\Y`k`cf`X`hc`hU`ž`W`Ya]WU`Z]VYf`ci`hdi`h`UW`Wci bhg`Zcf`+\$i`cZ
h\Y`k`cf`X`ž`UbX`hfUXY`UW`Wci bhg`Zcf`cbY!h\]fX`cZ`h\Y`k`cf`X`"7 \]bU` \Ug`h\Y
a`cgh`Wc`a`d`Y`hY`]bXi ghf]U`W`U]bž`UbX`a`cgh`cZ]hg`Wc'hcb`V`YbX`dfcW`gg
a`Ubi ZUW`hi`f]b [`UbX`Yei`]da`Ybh`Y`j`Y` \Ug`fYUW`YX`h\Y`]bhYfbUh]cbU`



UXj UbWYX`Yj Y`"7\]bU`]g`U`gc`h\Y`k`c`f`X`"Uf[Ygh`Wc`hcb`ZUVf]Wg`UbX
UddUfY`"a`Uf`_`Yh`"b`&`\$`&`\$`ž`h\Y`hc`hU`"f`Y`hU`"gU`Y`g`c`Z`Wc`hcb`ZUVf]Wg`UbX
UddUfY`"b`7\]bU`YI`WY`XYX`%ž&`*`"+`V`"cb`mi`Ub"

7CJ`8!%-`"Ug`"UX`U`"i`[`Y`]a`dUW`hcb`h\Y`cj`YfU`"XYj`Y`cda`Ybh`c`Z`hf`UXY
UbX`h\Y`Wc`hcb`ZUVf]Wg`]bXi`ghfm`"9bhY`fd`f]gYg`]b`j`Uf]ci`g`gY[`a`Ybhg`"Uj`Y
fYU`]nYX`h\U`h\Y`mi`UfY`"YUj`]m`XYd`Yb`XY`bh`cb`7\]bYgY`gi`dd`]Yfg`"K`"Yb
7\]bU`k`Ug`i`bUV`Y`hc`gi`dd`m`Wc`hcb`V`YbX`]b`h\Y`YUf`mighU[`Y`c`Z`h\Y
Yd]XYa`]W`Zcf`YI`Ua`d`Y`ž`h\Y`Ui`hca`cV]Y`UbX`Wc`hcb`ZUVf]Wg`]bXi`ghf]Yg
Wci`X`bch`d`fc`Xi`W`bcfa`U`"m`"5Vci`h`-\$`dYf`W`bh`c`Z`a`UhYf]U`g`]a`dcf`h`Y`X`Vm
h\Y`9i`ž`I`G`UbX`"d`Ub`Wc`a`Y`Z`fca`"7\]bU`ž`i`bXY`fg`Wc`f]b[`h\Y`Wci`b`hfm
]a`dcf`h`Ub`W`]b`a`Ub`m`d`fc`Xi`W`h`g`Ub`X`f`Uk`"a`UhYf]U`"gi`dd`m`W`X`U]bg"

H\Y`"[\`!ei`U`]hm[`c`VU`"Wc`hcb`V`Y`b`X`gi`dd`]Yf

[FYZ\]bY ZUVf\]Wg`Wc`a`" \]g`U`d`fc`ZY`gg\]cbU`"cbY`ghcd`"Wc`hcb`ZUVf\]Wg`gc`i`h\]cb`Zcf`
UddUfY`ž`VY`XX\]b\[`ž`Wch`Y`gž`H!`g\\]fhg`UbX`ch`Y`f`ZUg\\]cb`Wch`"b\[
a`Ubi`ZUW`i`fYfg`"](#)

7c`hcb`":`UVf]Wg`Zcf`UddUfY`ž`XfY`ggž`H!`g\]fhgž`VY`XX]b[`ž`W`fhU]b`a`U_]b[
]bXi`ghf]Yg`UbX`a`c`fY`"

F`Y`Z]b`Y`ZUVf]Wg`d`fc`j`]X`Y`g`"[\`"ei`U`]hm`UbX`V`Y`Ui`h]Zi`"Wc`hcb`ZUVf]Wg`
]bWi`X]b[`Z]bY`Wc`hcb`ž`Wc`hcb`d`c`d`]bž`"[\`"X`Y`bg]hm`Wc`hcb`ž`UbX`gmb`h`Y`h]W
Wc`hcb`ZUVf]Wg`k`]h`"X]Z`Y`f`Y`b`h`ghm`Y`g`UbX`d`U`h`Y`f`bg`":`Y`Y`Z`f`Y`Y`hc`g`Y`b`X`Ub
Ya`U]`hc`[gU`Y`g4`fY`Z\]b`Y`ZUVf\]Wg`Wc`a`" \]hc`\[`Y`h`U`ei`chY`UbX`k`Y`k`\]"`f`Y`d`m`
k`\]h`"b`\(`,`"ci`fg`"](#)