

5i hcX]YV`]b`@ØVYW_`[YZUggh.`Dc`nY]`ghY`h HÀhYf`Ui Z`XYf`:`i`W`h

8]Y`bYi`YghYb`B`UW`f]W`hYb`Ui`g`@ØVYW_ž`@Ui`YbVi`f[`i`bX
C`gh\c`ghY]b.`5i`hcX]YVghU\`ž`6UXYj`YfVch`Ua`@UbnYf`GY
Ui`Z[`Y\c`VYb`i`bX`DYbX`YfghUh]gh]_Yb"

⊕`XYf`j`cfUb[`Y[`Ub[`YbYb`B`UW`h\`Uh`g]W`]b`@ØVYW_`Y]b
gdUbbYbXYg`9fY][`b]g`UV[`Ygd]Y`hž`XUg`X]Y`Dc`nY]i`bX`X]Y
5bk`c\`bYf`]b`5hYa` \`Y`h`9]b`a`i`ha`U»`]W`Yf`5i`hcX]YV`k`i`fXY`Ui`Z
Zf]gW`Yf`HUh`YfhUddh`i`bX`ZYgh[`Ybca`a`Ybž`bUW`XYa`Y]bY
Ui`Za`Yf_gUa`Y`6Øf[`Yf]b`XUg`;`YfÀi`gW`Y]bYg`8]YVghU\`g`\`ØfhY`i`bX
gcZcfh`X]Y`Dc`nY]`U`Ufa`]YfhY`"8]YgY`gW`bY`Y`F`YU_h]cb`ZØ\`fhY`ni
Y]bYf`J`YfZc`[`i`b[`g`U[`X`Ui`Z`XYf`5i`hcVU\`b`5%ž`X]Y`ZØf`U`Y
6YhY]`][`hYb`Ui`ZFY[`YbX`k`Uf"

8Yf`J`cfZU`Y`YfY][`bYhY`g]W`b`UW`A`]hYfbUW`hž`U`g`XYf`6Yg]hYf`XYg
[`Yghc`\`YbYb`:`U\`fnYi`[`g`b`UW`Y]bYa`:`YfÀi`gW`Ui`ZgW`fYW_hYž`XUg
]\`b`U`Yfh]YfhY`"9f`]bZcfa`]YfhY`X]Y`Dc`nY]`]b`C`ghghY]bVY_`]a`?`fY]g
Ghcfa`Ufb`"8UfUi`Z`]b`VY[`UbbYb`X]Y`6YUa`hYb`Y]bY`J`YfZc`[`i`b[`XYg
[`Yghc`\`YbYb`5i`hcgž`XUg]f[`YbXk`Ubb`Ub`XYf`5bgW`i`ggghY`Y
@ØVYW_!A`c]g]b[`j`cb`XYf`5i`hcVU\`b`UVZ`\f`"8Yf`ZØW`hYbXY`:`U\`fYf
[`Y`Ub[`hY`]b`Y]b`;`Yk`YfVY[`YV]Yhž`k`c`Yf`ni`b`ÀW`gh`ni`:`i`»
k`Y]hYfZØW`hYhYž`YXcW`VU`X`j`cb`XYb`Dc`nY]VYUa`hYb`[`YZUggh
k`YfXYb`_`cbbhY"

9fZc`[`fY]W`Y`C`dYfUh]cb`XYf`Dc`nY]

6Y]`XYf`:`YghbU\`a`Y`XYg``\$!`À\`f][`Yb`A`UbbYg`ghY`hY`g]W`\`YfUi`gž
XUgg[`Y[`Yb`]b`VYfY]hg`nk`Y]`<`Už`VYZ\`Y`j`cf`U[`Yb`"8]Yg`nY][`hž
k`]Y`k`]W`h][`df`Aj`Ybh]j`Y`A`U»`bU\`a`Yb`i`bX`gW`bY`Y
Dc`nY]fYU_h]cbYb`g]bX`"8]Y`Dc`nY]`_`cbbhY`b]W`h`bi`f`Y]bYb

?f]a]bY`Yb`Ui g`XYa `J Yf_Y`f`n)Y`Ybž`gcbXYfb`a Ò[`]W`Yfk`Y]gY
Ui W`k`Y]hYfY`J YfVfYW`Yb`j Yf\]bXYfb"

Ni f`[`Y]W`Yb`NY]h`\Uh`g]W`]b`6UgYXck`]a`?fY]g`<Yfnc[hi a
@Ui YbVi f[`Y]bY`dcg]h]j`Y`B UW`f]W`h`Yf[YVYb.`8 Ug`6UXYj`YfVch`Ua
VY`]YVhYb`@UbnYf`GY`k`i`fXY`Ui`Z[Y`cVYb`"8Yf`; fi`bX`ZØf`XUg
ni`j`cf`Ui`g[Ygd`fcW`YbY`J YfVch`k`UfYb`[YZ`A`f`]W`Y`6`Ui`U`[Ybž`X]Y
bi`b`b]W`h`a`Y`f`]a`K`UggYf`j`cf`_ca`a`Yb`"Hf`ch`X]YgYf`YfZ`fYi` `]W`Yb
K`YbXi`b[`k`Y]gh`XYf`?fY]g`XUfUi`Z`\]bž`XUgg`]b`b`UhØf`]W`Yb
; Yk`ÀggYfb`Ui`W`k`Y]hYf\]b`J`cf]g]W`h[YVchYb`]ghž`XU`X]Y
A Ò[`]W`_Y]h`VYghY`hž`XUgg`YfbYi`h`6`Ui`U`[Yb`cXYf`gW`A`X`]W`Y
NYf`_Uf]Yb`Ui`ZhY`hYb`_ØbbYb`"8]YgY`_ØbbYb`VY]?`cbhU`_h`a`]h`XYf
<Ui`h`ni`F`Y]ni`b[Yb`ZØ`fYb"

ϑ`Y]bYa`k`Y]hYfYb`6Yf]W`h`XYg`6i`bXYg]bgh]hi`hg`ZØf`6Ui`!ž`GhUXh!
i`bX`F`Ui`a`Zc`fgW`i`b[`k`i`fXY`Yb`h\Ø`hž`XUgg`X]Y`DYbX`YfnU`\Yb`b`UW
<Ua`Vi`f[`XfUgh]gW`U`b[Ygh]Y[Yb`g]bX`"ϑ`j`Yf[Ub[YbYb`ϑ]\`f
\UVYb`ZUgh`(\$`\$`\$`\$`A`YbgW`Yb`XYb`K`Y[`ni`f`5fVY]h]b`X]Y
<UbgYghUXh`Ub[YhY`hYb`"8Ufi`bhYf`VYZ]bXYb`g]W`Ui`W`nU`\fY]W`Y
DYbX`Yf`Ui`g`XYa`<Yfnc[hi`a`@Ui`YbVi`f[ž`k`c`X]Y`5fVY]hgk`Y[Y`]a
8i`fW`gW`b]h`h`XYi`h]W`_`Àb[Yf`g]bX`U`g`]b`XYb`i`a`[YVYbXYb
?fY]gYb`"K`À`fYbX`<Ua`Vi`f[Yf`DYbX`Yf`]b`XYf`F`Y[Y`Ui`Z`Yhk`U`%&
?]`ca`YhYf`_ca`a`Ybž`VYhf`À[h`X]Y`Xi`fW`gW`b]h]W`Y`DYbXY`ghfYW`Y
ZØf`A`YbgW`Yb`Ui`g`@Ui`YbVi`f[`fi`bX`&`*`?]`ca`YhYf"

?i`hi`fY`Y`9b`hk`]W`_`i`b[Yb`]b`@ØVYW`_

9]b`k`Y]hYfYg`]bhYfYggUbhYg`l`dXUhY`_ca`a`hj`ca`@ØVYW`Yf`Gh"
5bbYb!A`i`gYi`a`ž`XUg`bi`b`ØVYf`Y]bYb`bYi`Yb`Y;`i`]XY`j`YfZØ[`h`
8]YgY`X][`]hU`Y`ϑbcj`Uh]cb`Yfa`Ò[`]W`h`Yg`XYb`6Ygi`W`Yfbž`X]Y
5i`gghY`i`b[Yb`j`cb`ni`<Ui`gY`Ui`g`ni`Yf`_i`bXYb`"5i`ZXYf`K`YVg]hY
XYg`Gh`5bbYb!A`i`gYi`a`g`g]bX`)`\$`<][`\`][`\hg`XYf`8Ui`YfUi`gghY`i`b[
UVfi`ZVufž`X]Y`ØVYf`Ga`Ufhd`\cbYg`i`bX`HUV`Yhg`VYhfUW`hY`h`k`YfXYb
_ØbbYb`"BYVYb`ϑZcfa`Uh]cbYb`ni`XYb`9l`dcbUhYb`[]Vh`Yg`Ui`W`
5i`X]cXUhY]Ybž`X]Y`XYb`Bi`h`nYfb`X]Y`ϑ\`U`hY`Yf`Ai`hYfb`"8]YgYg
5b[YVch`gc`i`]b`b`U`Yf`Ni`_i`bZi`Ui`W`Ui`Z`UbXYfY`A`i`gYb`]b
@ØVYW`_Ui`g[Yk`Y]hY`h`k`YfXYbž`k`Ug`X]Y`Ni`[Àb[`]W`_Y]h`XYf
_i`hi`fY`Y`5b[YVchY`Yf`YV`]W`Yf`\Ø`Yb`k`]fX"

5`X]YgY; YgWY\b]ggY`XYf`YfZc`[fY]WY`Dc`nY]Y]bgUhnz`X]Y
FØW`_Y`f`ni a`6UXYj Yf[bØ[Yb`Ua`@UbnYf`GYŽ`X]Y`ghY][YbXYb
DYbX`YfnU`Yb`bUW`<Ua`Vi f[`i bX`X]Y`bYi`Y`_i`hi fY`Y`⊕]h]Uhj`Y
XYg`Gh`5bbYb!A i gYi a`g`gd]Y[Y`b`X]Y`j YfgW]YXYbYb`UW`hhYb
XYg`@VYbg`i bX`XYf`9bhk`]W`i b[Yb`]b`XYf`FY[]cb`k`]XYf`G]Y
nY][Ybž`XUgg`]b`@ØVYW`i bX`i a`[YVi b[`gck`c`
<YfUi`gZc`fXYfi b[Yb`U`g`Ui`W`7`UbW`b`VYghY`Ybž`X]Y`X]Y`8`mbUa`_]`
XYg`5`hU[g`VYY]bZi`ggYb`"

B Yi Yf`X][]hU`Yb`Ni [Ub[`ni`_i`hi fY`Y`Ya`9fVY

8]Y`9]bZØ`fi b[`X][]hU`Yf`Hcc`g`]b`A i gYYb`_ØbbhY`Y]bYb`HfYbX
XUfghY`Ybž`XYf`XYb`Ni [Ub[`ni`_i`hi fY`Y`Ya`9fVY`fYj`c`i`h]cb]Yfh`⊕
Y]bYf`NY]hž`]b`XYf`X][]hU`Y`A`YX]Yb`]a`a`Yf`d`f`Å`gYb`hY`f`k`Yf`XYbž`]gh
XYf`GW`f]h`XYg`Gh`5bbYb!A i gYi a`gž`Y]b`C`b`]bY!Dfc[fUa`a
Ubni`V]YhYbž`Y]b`[i`hYf`K`Y[ži`a`XUg`⊕hYfYggY`Ub`?`i`bgh`i`bX
; YgW]W`hY`ni`ZØf`XYfb`"8]YgYf`5bgUhn`_ØbbhY`XUni`VY]hfU[Ybž
Øb[YfY`6Ygi`W`Yf`ni`[Yk`]bbYb`i`bX`XUg`J`Yfgh`Å`b`Xb]g`ZØf`?`i`bgh
i`bX`?`i`hi`f`ni`j`Yfh]YZYbž`Ui`W`k`Yb`b`g]Y`d`mg]gW`b]W`h`Ub`XYb`C`fh
XYg`; YgWY`Y`Ybg`[Y`Ub[Yb`_ØbbYb`"

5_hi`Y`Y`G]W`Yf`Y]hg`U[Y`]b`@ØVYW`_

8]Y`G]W`Yf`Y]hg`U[Y`]b`@ØVYW`_`U`h`]b`XYb`Y`h`h`Y`b`⊕`Y`f`Y`b
ni`bY`a`Y`b`X`Ub`5i`Za`Yf`_gUa`_Y]h`[Yk`c`b`b`Yb`"@Ui`h`XYb`b`Yi`Y`ghY`b
?`f]a`]bU`]h`Å`hgghU]h]gh]_Yb`XYg`@UbXYg`_f]a`]bU`Ua`hg`GW`Y`gk`][`!
<c`ghY]b`[UV`Yg`&\$`&'`Y]bYb`5bgh]Y[`j`YfgW]YXYbYf`8Y`_]hYž
]bgVYgcbXYfY`]a`6YfY]W`XYg`8]YVghU`g`"8]Yg`U`h`X]Y`Dc`nY]
j`YfUb`Ugghž`j`Yfa`Y`f`hY`?`c`b`h`f`c`Y`b`Xi`f`W`ni`ZØ`f`Y`b`i`b`X
Df`Å`j`Y`b`h]c`b`g`d`f`c[fUa`a`Y`]b`GW`i`Y`b`i`b`X`Gh`UX`h`hY]Y`b`ni`]b]h]Y`f`Y`b`"
8Yf`Øb[ghY`J`cfZU`a`]h`XYa`5i`hcX]YV`j`YfXYi`h]W`h`X]Y
<YfUi`gZc`fXYfi b[Ybž`j`cf`XYbYb`X]Y`Øfh]W`Yb`6Y`Øf`XYb`ghY`Y`bž
i`a`XUg`G]W`Yf`Y]hg[YZØ`X`Yf`6Øf[Yf`ni`gh`Å`_Yb`"

F YU`_h]c`b`Y`b`X`Y`f`6`Y`j`Ø`_Y`fi`b`[

8]Y`F`YU`_h]c`b`XYf`6Yj`Ø`_Yfi`b[`Ui`Z`ghY][YbXY`?`f]a`]bU`]h`Å`hgnU`Y`b
]gh[Ya`]gW`h`K`Å`f`Y`b`X`Y]b][Y`6Øf[Yf`Yf`Ø`hY`Dc`nY]d`f`Å`gY`b`ni`b`X

a Y\f', VYfk UWxi b[g_Ua YfUg]b'gYbg]V`Yb'6YfY]WXYb'ZcfXYfbž
[]Vh'Yg'Ui W'Gh]a a Ybž'X]Y'X]Y'6U'UbW'nk]gWXYb'G]WXYf\Y]hi bX
XYa 'FYW'h'Ui Z'Df]j Uh\Y]h'VYhcbYb""8]Y'GhUXhj Yfk U'hi b['\Uh
Ub[Y_0bX][hž'60f[YfZcfYb'UVni \U'hYbž'i a 'X]Y'5b'Y]Y[Yb'i bX
Gcf[Yb'XYf'9]bk c\byf'X]fY_h'ni '\ÖfYb'i bX'j]b'X]Y
G]WXYf\Y]hg_cbnYdhY'Y]bZ]Y»Yb'ni ''UggYb"

K]fhgW UZh`]WXY'6YXYi hi b['XYg'DYbXY`bg
bUWXY'< Ua Vi f[

8]Y'DYbXY`ghU]gh]_`Z0f'< Ua Vi f['\Uh'b]W'h'bi f'gcn]c`c[]gWYž
gcbXYfb'Ui W'k]fhgW UZh]WXY'FY'Yj Ubn''Fi bX'(\$\$"\$\$\$'DYbX'Yfž
X]Y'hÅ[`]WXY'j]b'X]Y'A Yhfc d c`fY[]cb'< Ua Vi f['fY]gYbž'g]bX'Y]b
k]W'h][Yf'HY]'XYg'fY[]cbU'Yb'5fVY]hga Uf_hYg""8]Y'K]fhgW UZh
GW'Ygk][!<c`ghY]bg'dfcZ]h]Yfhj cb'X]YgYb'DYbX'Yfbž'XU'j]Y'Y
I bhYfbY\ a Yb'Ui Z'X]Y': 'i _hi Uh]cb'j cb'5fVY]hg_fÅZhYb'Ub[Yk]YgYb
g]bX""Ni XYa 'Z0\fh'XYf'DYbXY'j Yf_Y\ f'ni 'Y]bYf'Yf\Ö\hYb'?Ui Z_fUZh
]b'XYb'i a `]Y[YbXYb'; Ya Y]bXYbž'k Ug`c_U'Y'K]fhgW UZhgn]Y'Y
i bhYfgh0hnh"

=bZfUghfi _hi f'i bX'J Yf_Y\fgd`Ubi b[

8]Y'ghY][YbXYb'DYbX'YfnU\Yb'ghY`Yb'Y]bY'<YfUi gZcfXYfi b['Z0f
X]Y' =bZfUghfi _hi f'XUf""9b[dÅggY'Ui Z'XYb'5i hcVU\ bYbž
]bgVYgcbXYfY'XYf'5%ž'i bX'X]Y', VYf'Ughi b['XYg'ÖZYbh]WXYb
BU\j Yf_Y\fg'g]bX'fY[Y'a Å»][Y'DfcV`Ya Yž'bUW'XYbYb'60f[Yf
i bX'DYbX'Yf'I bUbbY\ a `]WXY'j]hYb'YfZU\ fYb""8]Y'GhUXh'< Ua Vi f[
i bX'X]Y'i a `]Y[YbXYb'?fY]gY'UfVY]hYb'Ub'bYi Yb
J Yf_Y\fgd'c`Y_hYbž'i a 'X]Y'9ffY]WVUf_Y]h'ni 'j YfVYggYfb'i bX'XYb
DYbXY'j Yf_Y\ f'YZZY_h]j Yf'ni '[YghU'hYb""Dfc`Y_hY'k]Y'XUg
Ub[Y_0bX][hY'G!6U\ b!BYhn'_0b bhYb'\]Yf'Y]bY'9bh'Ughi b['V]YhYb"

?i `hi fY`Y'9bhk]W`i b['XYg'Gh""5bbYb!

A i gYi a g

8 Ug'Gh""5bbYb!A i gYi a `]b '@VYW_]gh'b]W'h'bi f'Y]b'k]W'h][Yf
5bn]Y\i b[gdi b_h'Z0f'?i `hi f]bhYfYgg]YfhYž'gcbXYfb'Ui WXY]b

: YbghYf`]b`X]Y` ; YgWk]Wk hY`XYf`< UbgyghUXh"8 Yf`bYi` Y` Y; i`]XY
ni`f`C`b`]bY!6Yg]Wk h][i` b[`ghY`h`Y]bYb`]bbcj` Uh]j` Yb`GWk f]hh`XUfz`XYf
X]Y`Ni` [`Ab[`]Wk _Y]h`XYf`?i` bghi` bX`?i` `hi`f`Yf\`O`h" `b`NY]hYb`XYf
8][]hU`]g]Yfi` b[`]gh`Yg`Yb`hgWk Y]XYbXz`X]Y`5b[YVchY`nY]h[Ya` `A»`ni
[YghU`hYb`zi` a` `Øb[YfY`6Ygi` Wk Yf`Ubni` gdfYWk Yb`i` bX`Y]b`VfY]hYfYg
Di`V`_]i` a`ni` YffY]Wk Yb"8 Ug`A`i`gYi` a`d`Ubhž]b`Ni`_]i` bZ]j` Yfgh`Af`h
gc`Wk Y`X][]hU`Yb`5b[YVchY`Ui`gni` VUi`Yb`i` bX`]b`hYfU`_h]j` Y` : cfa` UhY
ni` Yb`hk`]W`_Y`b`z`X]Y`X]Y`6Ygi` Wk Yf`]bgd]f]YfYb"

6Ygi` Wk YfnU`_Yb`i` bX`k`]fhgWk UZh`]Wk Y
5i`gk`]f`_i` b[Yb

8]Y`6Ygi` Wk YfnU`_Yb`XYg`Gh"5bbYb!A`i`gYi` a`g`\UhhYb`&\$\$&`Y]bYb
FY`_cfXUbgh]Y[ž`k` Ug`g]Wk `d`cg]h]j` `Ui`Z`X]Y`c`_U`Y`K`]fhgWk UZh
Ui`gk`]f`_hY" `<`chY`gž`F`YghUi`f`Ubhg`i` bX`9]bnY`\`AbX`Yf`d`fc`Z]h]YfhYb
j`cb`XYb`ni`g`À`hn`]Wk Yb`Hci`f]ghYb" `HfYbXg]b`XYf`Bi`hni`b[`]j`cb
Y;`i`]XYg`XYi`hYb`XUfUi`Z`\]b`z`XUgg`X]YgY`X][]hU`]g]YfhYb`5b[YVchY
X]Y`6Ygi` Wk YfnU`_Yb`Ub[Z]f]gh][`Z`O`f`XYfb`_`O`bb`hYb" `Ni`_`Ø`b`Zh][Y
`b`j`Ygh]h]cbYb`]b`X][]hU`Y`HYWk bc`c[]Yb`_`O`bb`hYb`X]Y`5`hfU`_h]j`]h`h
XYf`FY[]cb`U`g`_]i` `hi`fY`Yg`N]Y`k`Y]hYf`Yf\`O`Yb"

8YhU]`g

6Ygi` Wk Yb`G]Y`i` bg`Ui`Z`b!U["XY