

B UWK 'A YggYfUhhUW_Y]b 'Gc`]b [Yb . 9fa]hh`i b [Yb `]a `8i b_Y`b

B UWK `Y]bYf`A YggYfUhhUW_Y]b `Gc`]b [Yb `a]h`XfY]`HchYb`]gh`XYf
HÅhYf`Ui Z`XYf`:`i W`h`Dc`]nY]`gi W`h`Xf]b [YbX`bUW
<]bk Y]gYb"

⊕`Gc`]b [Yb `k]fX`X]Y`HfU [ÒX]Y`Y]bYf`A YggYfUhhUW_Y]a a Yf
_cb_fYhYfž`X]Y`g]W`Ua `gd`ÅhYb`:`fY]hU [UVYbX`k Å`fYbX`XYf
*) \$!`⊕`f!:`Y]Yf`XYf`GhUXh`YfY][bYhY" `A]h`XfY]`HchYb`i bX`ZØbZ
gW`k Yf`J Yf`YhnhYb`ghY``h`XYf`J cfZU``b]W`h`bi f`X]Y`Òfh`]W`Yb
6Y`\`ÒfXYb`j cf`Y]bY`Ybcfa Y`< YfUi gZcfXYfi b [ž`gcbXYfb` \`Uh`Ui W`
Y]bY`K Y``Y`XYf`6YghØfni b [`]b`XYf`6Yj Ò`_Yfi b [`Ui g [Y`Ògh" `8Yf
[Ygi W`hY`HÅhYf`]gh`V]g`Ub [`Ui Z`XYf`:`i W`h`ž`k Å`fYbX`X]Y`Dc`]nY]`Ub
XYb`9fa]hh`i b [Yb `UfVY]hYh`i bX`j Yfgi W`h`ž`X]Y`k Yb][Yb
j cf`UbXYbYb`Di nn`YghØW_Y`ni gUa a Ybni ZØ [Yb"

9]b`Dc`]nY]gdYfW`Yf`hY]`hY`a]hž`XUgg`Yg`Ub [Yg]W`Yf`hYb
⊕Zcf`a Uh]cbYb`ØVYf`XYb`ZØW`h][Yb`J YfX`ÅW`h][Yb`a Ub [Y`h" `K]f
\UVYb`XYfnY]h`_Y]bYb`<]bk Y]g`Ui Z`gY]bYb`5i ZYbh`U`hgc`fh ž`gU [hY
Yf`i bX`i bhYfghf]W`ž`XUgg`X]Y`9fa]hh`Yf`a]h`XYf`G]h`Uh]cb`_`Åa dZYbž
XU`X]Y`⊕X]n]Yb`ZØf`X]Y`⊕Ybh]Z]n]Yfi b [`XYg`HÅhYfg`XØfZh][`g]bX" `8]Y
NYi [Ybž`X]Y`XUg`:`YgW`Y`Yb` \`Ui hbU` \`a]hYf`YVh` \`UVYbž`VYZ]bXYb
g]W` `]b`Y]bYa `GW`c`W`_ni ghUbX" `⊕fY`ZUW` `]W`Y`i bX`dgmW`c`c []gW`Y
6YhfYi i b [` \`Uh`ZØf`X]Y`Dc`]nY]`cVYfghY`Df]cf]hÅh"

8]Y`<]b hYf [fØbXY`XYf`A YggYfUhhUW_Y

8]Y`5b [f]Zga Yh`cXY`XYg`HÅhYfg []Vh`5b`Ugg`ni f`6Ygcf [b]g. `8Yf
5b [fY]ZYfž`XYf`gW`bY``]b`XYf`A YbgW`Yba Yb [Y`j YfgW`k UbXž` \`Uh
cZYbVUf` [Yn]Y`h`Ui Z`X]Y`< U`ggW` `U [UXYfb`gY]bYf`C`dZYf
Y]b [Yghc`W`Yb" `D`Øh"]W` `VfUW` `k Å`fYbX`X]Yf`:`Y]Yfž`X]Y`ZØf`X]Y

: Ygh[Ya Y]bgWUZhY]bY [fc»Y : fYi XY`XUfghY`Yb`gc`hYžY]b`7\Ucg
Ui g" 8Ug`k Uf`XYf`A ca Ybhž]b`XYa`g]W`X]Y`DUb]_`Ui gVFY]hYhY ž
gc`Y]b`GdfYWYf`XYg`bcfXf\Y]b!k YghZ`]gWYb`bYba]b]ghYf]i a g"
BUW`X]YgYa`gWfYW_]WYb`J cfZU`ghY\Yb`X]Y`G]WYf\Y]hg_f`AZhY
bi b`i bhYf`8fi W_ž`XYb`H`hYf`ni`ZUggYb"

8]Y`gW`YW`hYb`BYi][_Y]hYb`ØVYf`XUg: Y\`Yb`_cb_fYhYf`<]bk Y]gY
j Yfgh`f`_Yb`X]Y`BYfj cg]h`h]b`XYf`GhUXh"8]Y`A YbgWYbž`X]Y`g]W`]b
XYf`B`A\`Y`XYf`HUhc`fhVY`ZU`b`XYbž`\UhhYb`[YbUi`X]YgYb`5b`Ugg
a]hhY`U`hYf`]WYf: fYi XY`Yfk UfhYhž`bi`fi`a`Y]bYb`i`bYfk UfhYhYb
5`VhfUi`a`ni`Yf`YVYb" ÆW`_Ubb`a`]f`b]W`hj`cfghY`Ybž`k`Ufi`a
Ya`UbX`gc`Yhk`Ug`hi`b`k`ØfXY`ž`Ai`»YfhY`Y]b`NYi`[Y`Gc`W`Y
5i`ggU[Yb`nYi`[Yb`j`cb`XYf`gW`cW_]YfYbXYb`F`YU`]h`hž`X]Y`X]YgYb
J`cfZU`VY[`Y]hYhY"

5i`gk`]f`_i`b`[Yb`i`bX`<`YfUi`gZc`fXYfi`b`[Yb`ZØf`
X]Y`9fa`]hh`Yf`

8]Y`Dc`nY]`g]Y`h`g]W`U`_hi`Y`a`]h`Y]bYf`Ybcfa`Yb`5i`Z[UVY
cb`Zfc`bh]Yfh`b]W`h`bi`f`X]Y: `i`W`h`XYg`H`hYfg`ni``ÀfYbž`gcbXYfb
Ui`W`X]Y`dgmW`c`c`[]gW`Y`5i`ZUfVY]hi`b`[ZØf`X]Y`J`Yfk`i`bXYhYb`i`bX
X]Y`hfUi`a`Uh]g]YfhYb`NYi`[Yb`ni`VYk`À`h][Yb" 8Ug]gh`i`bgYf
F]YgYbdfcV`Ya`"K`]f`\UVYb`bcW`b]W`h`gc`j`]Y`Y`5b[UVYb`ni`a
H`hYfž`Yf`_`ÀfhY`Y]b`Dc`nY]gdYfWYf"8Ygk`Y[Yb`_cb`nYbhf]YfYb
g]W`X]Y`9fa`]hh`Yf`XYfnY]h`XUfUi`Zž`gc`j`]Y`Y`J`Yf\`ØfY`k`]Y`a`Ø[`]W`
Xi`fW`ni`ZØ`fYb`i`bX`U`Y`b`Zcfa`Uh]cbYb`ni`gUa`a`Ybni`hfU[Ybž`i`a
g]W`Y]b`_`UfYfYg`6]`X`ni`a`UW`Yb"

8]Y`dc`h]gW`Y`F`YU`_h]cb`Ui`Z`X]YgYb`J`cfZU`Ä`ggh`b]W`h`Ub[Y`Ui`Z
g]W`k`UfhYb"5b[Y\`Øf][Y`XYf`GhUXh]Yfk`U`hi`b`[i`bX`dc`h]gW`Y
9bhgW`Y]Xi`b`[ghf`À[Yf`Yf`_i`bXYb`X]Y`b`chk`YbX][Y`I`bhYfgh`Ø`hni`b`[ZØf`
X]Y`VYhfc`ZYbYb`i`Ua`]Yb`i`bX`X]Y`C`f[Ub]gUh]cb`j`cb
<]Zga`U»bU`a`Yb`ZØf`X]Y`6`Øf[Yfž`X]Y`Ub`X]YgYa`5VYbX`Ub`XYf`
: Y]Yf`hY]`[Ybca`a`Yb`\UVYb"9]bY`J`Yf`Y`hni`b`[XYf`ØZYb`h]W`Yb
G]W`Yf\Y]h]b`X]YgYf`5fh]ghY]bY`<`YfUi`gZc`fXYfi`b`[ž`X]Y`k`Y]h`ØVYf`
X]Y: fYbnYb`XYf`GhUXh`\]bUi`gfY]W`h`i`bX`k`Y]hfY]W`YbXY: fU[Yb
ØVYf`XYb`i`a`[Ub[`a`]h`XYf`G]W`Yf\Y]h`VY]`[fØ»YfYb
J`YfUbghU`hi`b`[Yb`Ui`Zk`]fZh"

9]b`k Y]hYfYf`5i Zfi Z`ni f`K UW\ gUa _Y]h

⊕`5bVYhfUW\h`XYf`[Y[Ybk Åfh][Yb`6YXfc\i b[`Xi fW\ ; Yk U`h`k]fX Ub`X]Y`6Yj Ò`_Yfi b[`UddY``]Yfhž`k UW\ gUa `ni `V`Y]VYb``8]Y`Dc`nY] \Uh]bZcfa Y``Y`?cbhU`_hY`ni f` ; Ya Y]bXY`Yf[YghY`hž`i a `XYb 5i ghUi gW`j cb`⊕Zcfa Uh]cbYb`ni `ZØfXYfb`` K]f`_ØbbYb`X]Y G]hi Uh]cb`bi f`[Ya Y]bgUa `VYk Å`h][Ybž`i bX`k]f`gYhnYb`i bg`XUZØf Y]bž`XUgg`U``Y`6YhY`][hYb`g]W\Yf`g]bX ž`gc`XYf`Dc`nY]gdFYW\Yf`

8]Y`[YgW\cW`_hY` ; Ya Y]bgW\UZh`k]fX`bcW\`Ub[Y`a]h`XYb Ya ch]cbU`Yb`i bX`dgmW\c`c[]gW\Yb`i c`[Yb`X]YgYg` , VYf[f]Zg`YVYb a ØggYb``Gc`b[Yb`]gh`Y]bY`GhUXhž`X]Y`g]W\`bi b`a]h`XYb`i fU[Yb`XYf ÒZZYb`h]W\Yb`G]W\Yf`Y]h`Ui gY]bUbXYfgYhnYb`a i ggž`k Å`fYbX`X]Y 9fa]h`i b[Yb`ZcfhgW\fY]hYb`i bX`<cZbi b[`VYghY`hž`XUgg`XYf`HÅhYf VU`X`[YZUggh`k]fX``6]g`XU\]b`V`Y]Vh`X]Y`5b[gh]c`f`k Y]hYfYb JcfZÅ``Yb`]b`XYf`@ Zhi bX`X]Y`Bchk YbX][_Y]hž`XYb`A YbgW\Yb`]b Gc`b[Yb`Y]b` ; YZØ``XYf`G]W\Yf`Y]h`ni fØW`ni [YVYbž`V`Y]Vh Xf]b[YbX`

8 YhU]`g`ni f`A YggYfUhhUW`_Y`]b`Gc`]b[Yb

8]Y`A YggYfUhhUW`_Y`]b`Gc`]b[Yb`ZUbX`Ua `gdÅhYb`i fY]hU[UVYbX ghUhž`k Å`fYbX`X]Y`GhUXh]`fY`*) \$!⊕\fl: Y]Yf`VY[]b[``NYi [Yb VYf]W\hYhYb`j cb`hi a i `hUfh][Yb`GnYbYbž`X]Y`g]W\`k Å`fYbX`XYg JcfZU``g`UVgd]Y`hYb``J]Y`Y`HY]`bY`a Yf`XYf`i Y]Yf`k UfYb`]b`GW\cW`_ i bX`j YfÅb[gh][hž`U`g`X]Y`5hhUW`_VY[Ubb``9fghY`6Yf]W\hY`XYi hYb XUfUi Z`\]bž`XUgg`XYf`HÅhYf`[Yn]Y`h`Ui Z`YVYbgk]W\h][Y`6YfY]W\Yž]bgVYgcbXYfY`XYb`<U`g`gY]bYf`CdZYfž`Y]bghUW\ž`k Ug`X]Y`8fUa Uh]_ XYg`JcfZU``g`j YfghÅf`_h`

8]Y`Dc`nY]`h`i a [Y`YbX`a]h`XYb`9fa]h`i b[Yb`VY[cbbYbž `YXcW`g]bX`X]Y`⊕Zcfa Uh]cbYb`ØVYf`XYb`ZØW\h][Yb`j YfXÅW\h][Yb V]g`Ub[`gdÅf`]W\``8Yf`GdFYW\Yf`XYf`Dc`nY]`VYghÅh][hYž`XUgg`Yg XYfnY]h`_Y]bY`[Yg]W\YfhYb`9f`_Yb`hb]ggY`ni `5i ggY`Yb`cXYf a Ò[`]W\Yb`5i ZYbh`U`hgcfhYb`XYg`HÅhYfg`[]Vh``8]Yg`YfgW\k Yfh`X]Y : U`bXi b[`Yf`YV`]W\`

F YU_h]c bYb`]b`XYf`; YgY`gWUZh

8]Y`Vfi hU`Ui g[YZØ\fhY`A YggYfUhhUW_Y`\Uh]b`Gc`b[Yb`i bX
XUfØVYf`\]bUi g`ZØf`6YghØfni b[` [Ygc f[h`NU\`fY]WXY`6Øf[Yf`i bX
`c_U`Y` ðgh]hi h]cbYb`gYbXYb`A]h[YZØ\`i bX`6Y]`Y]X`Ub`X]Y`CdZYf
i bX`XYfYb` : Ua `]Yb`" ð`gcn]U`Yb`A YX]Yb`Ài » Yfb`j]Y`Y`A YbgWYb
]\fY`HfUi Yf`i bX`ZcfXYfb`[`Y]W`nY]h][`a`Y\`f`G]WXYf\Y]h`Dc`h]_Yf
\UVYb`g]W`YVYbZU`g`ni `K`cfh[Ya`Y`XYhi bX`VYhcbYb`X]Y
6YXYi hi b[`j`cb`gW`bY`Yb`i bX`YZZY_h]j Yb`A U» bU\`a`Yb`ni f
5i Z_`Àfi b[`XYg`j`YfVfYW`Ybg"

ð`XYb`_ca`a`YbXYb`HU[Yb`g]bX`VY]`XYb`6Y\`ØfXYb
6Øf[Yf[Ygdf`ÅW`Y` [Yd`Ubh`ž`i`a`X]Y`Gcf[Yb`XYf`6Yj`Ø`_Yfi b[`Yfbgh
ni`bY\`a`Yb`i bX`j`jY`Y]W`h`Y]bYb`F`Ui`a`ZØf`Y]bYb`5i`ghUi`gW`ØVYf
G]WXYf\Y]hga`U» bU\`a`Yb`ni`gW`UZZYb`"5b[Yg]W`hg`XYf`HfU[`ØX]Y
[]Vh`Yg`nU\`fY]W`Y`8]g`_i`gg]cbYb`XUfØVYf`ž`k`jY`gc`W`Y`J`cfZ`Å`Y`]b
XYf`Ni`_i`bZhj`Yf\]bXYfh`k`YfXYb`_ØbbYb"

9fa]hh`i b[Yb`i bX`fYW`h`]W`Y`G`W`f]hhY

8]Y`9fa`]hh`i b[gVY\`ØfXYb`ghY\`Yb`j`cf`Y]bYf`_ca`d`n]YfhYb
5i`Z[UVY`"9g`g]bX`GdYn]U`hYUa`g`U_h]j`ž`X]Y`XUfUi`Z`UVn]Y`Yb`ž
<]bk`Y]gY`ni`gUa`a`Y`b`i bX`X]Y` ; YgW`Y\`b]ggY`fi bX`i`a`X]Y
A`YggYfUhhUW_Y`i`a`ZUggYbX`ni`fY`_cbghfi`jYfYb`"8`Ug`B`cfXf\Y]b!
K`YghZ`Å`]gW`Y` ð`bYba`_b]ghYf]i`a` \`Uh`XYb`J`cfZU`"U`g`VYgcbXYfg
Yfbgh`Y]b[Yghi`Zh`9g`k`i`fXY`Y]bY`HUg`ZcfW`Y]b[Yf]W`hYh`ž`i`a`a`]h
<c`W`Xfi`W`_`Ub`XYf`5i`ZZ]bXi b[`XYg`H`Å`hYfg`ni`UfVY]hYb`i bX`XYb
CdZYfb`gck`jY`XYfYb`5b[Y\`Øf][Yb`i`bhYfghØ`hni b[`Ubni`V]YhYb"

9fghY`fYW`h`]W`Y`G`W`f]hhY`ž`X]Y`a`Ø[`]W`Yfk`Y]gY`Y]b[Y`Y]hYh`k`YfXYb`ž
_ØbbhYb`VYfY]hg`]b`XYb`_ca`a`YbXYb`HU[Yb`Zcfa`i`]Yfh`k`YfXYb`ž
k`Ybb`a`Y\`f` ð`Zcfa`Uh]cbYb`ØVYf`X]Y`<]bhYf[fØbXY`XYg`5b[f]ZZg
j`cf`Y]Y`Yb`"8]Y`9fa`]hh`Yf`\UVYb`Ub[Y_ØbX][h`ž`U`Y`YfXYb`_]W`Yb
Gdi`fYb`ni`j`YfZc`[Yb`ž`Y]bgW`Y]Y`»`]W`Y`J]XYcUi`ZbU\`a`Yb`j`cb`XYf
: Y]Yf`ž`i`a`XYb`H`Å`hYf`ni`]XYbh]Z]n]YfYb"

<]ghc f]gW`Y`?`c`b`hYI`hY`i`b`X`J`Yf[`Y]W`

⊕·XYf'J Yf[Ub[Yb\Y]h[UV·Yg'a Y\fyfY'J cfZÀ`Y`]b'8Yi hgW`UbXž
X]Y`À\b`]WY`A i ghYf'Ui Zk]YgYb"Ni a `6Y]gd]Y`X]Y
A YggYfghYWYfY]`b`<Ua Vi f[ž'VY]·XYf'a Y\fyfY`A YbgWYb`j Yf`Yhnh
k i fXYb"·Gc`WY`5b[f]ZZY`k YfZYb`ja a Yf`k]YXYf`[fi bX`Y[YbXY
: fU[Yb`ni f`G]WYf\Y]h`VY]·ÖZZYbh]WYb`J YfUbgU`hi b[Yb`Ui Z`
l bhYfgW]YX`]WY`FYU_h]cbYb`gY]hYbg`XYf`FY[]Yfi b[`i bX
G]WYf\Y]hgVY\ÖfXYb`k UfYb`XUVY]`ghYhg`H\Ya U"

9]b`a Uf_UbhYg`6Y]gd]Y`k Uf`XYf`5bgW`U[`]b`5bgVUW`&\$%* ž'XYf
ni a `HY]`Xi fW`[YgY`gW`UZh]WY`GdUbbi b[Yb`i bX`Y]b
ni bY`a YbXYg`; YZØ\`XYf`i bg]WYf\Y]h`a ch]j]Yfh`k Uf"·K À\fybX
X]Y`U`hi Y`Y`A YggYfUhhUW`Y`]b`Gc`]b[Yb`Y]bY`UbXYfY`G]hi Uh]cb
XUfghY`hž`nY][Yb`VY]XY`J cfZÀ`Y`ž`k]Y`hfU[]gW`XUg`; Yk]W`h`j`cb
5[[fYgg]cb`]b`ÖZZYbh]WYb`F`Ài a Yb`gY]b`_Ubb`i bX`k Y`WY
<YfUi gZcfXYfi b[Yb`X]Y`; YgY`gW`UZh`X]YgVYnØ[`]W`VYk`À`h][Yb
a i gg"

G]WYf\Y]hg`U[Y`i bX`Df`Àj`Yb`h]c`b

⊕`5bVYhfUW`h`XYf`G]WYf\Y]hg`h\Ya Ybž`X]Y`Xi fW`X]YgYb`J cfZU`
Ui Z[Yk cfZYb`k YfXYbž`k]fX`Y]bY`i a ZUggYbXY`, VYfdfØZ b[`XYf
G]WYf\Y]hgj cf_Y\fi b[Yb`VY]·ÖZZYbh]WYb`J YfUbgU`hi b[Yb
bchk YbX][`gY]b"·9l dYfhYb`i bX`G]WYf\Y]hg`f`ÀZhY`ZcfXYfb`Ài Z[
Y]bY`VYggYfY`GW`i`i b[`XYg`DYfgcbU`g]b`XYf`gW`bY`Yb`FYU_h]cb
Ui Z`BchZÀ`Y`gck]Y`df`Àj`Yb`h]j Y`A U» bU`a Ybž`i a `X]Y
K U\fgWY]b`]W`_Y]h`gc`WYf`J cfZÀ`Y`ni `j Yff]b[Yfb"

9g`]gh`k]W`h][ž`XUgg`X]Y`6Y\ÖfXYb`bUW`gc`WYb`hfU[]gW`Yb
9fY][b]ggYb`X]Y`G]WYf\Y]hgdfchc`_c`Y`ØVYfdfØZYb`i bX`UbdUggYbž
i a `XYb`6Øf[Yfb`XUg`; YZØ\`j`cb`G]WYf\Y]h`ini fØW`ni [YVYb"
@Ub[Zf]gh][Y`GhfUH]Y[]Yb`ni f`⊕hY[fUh]cb`i bX`5i Z`Àfi b[`ÖbbhYb
YVYbZU`g`Y]bY`F`c`Y`XUVY]`gd]Y`Ybž`; Yk U`h]b`XYf`; YgY`gW`UZh
Ybh[Y[Ybni k]f`_Yb"

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