

;]Zh][Y'; c`XU`[Y`VYXfc\h`X]Y`CXYf.
A U» bU\ a Yb`ni f`F Yhhi b[`XYf':]gWXY

Dc`Yb`gYhnh`K UggYfghcZdYfcl]X`[Y[Yb`X]Y`[]Zh][Y'; c`XU`[Y
Y]bž`i a`':]gWghYfVYb`]b`XYf`CXYf`i bX`BYVYb[Yk`ÀggYfb`ni
ghcddYb"

GhUbX.`%- "\$, "&\$&('%+.&) `l \f

⇒ Dc`Yb`k YfXYb`XYfnY]h`Yf\YV`]WXY`5bghfYb[i b[Yb
i bhYfbca a Ybž`i a`X]Y`5i gVfY]hi b[`XYf'[]Zh][Yb'; c`XU`[Y
Df]a bYg]i a`dUf]i a`Y]bni XÀa a Yb"BUW`XYa
VYgcf[b]gYffY[YbXYb`J cfZU``]b`XYb`BYVYb[Yk`ÀggYfb`XYf`CXYfž
k c`HcbbYb`hc`hYf':]gWXY`Yb`hXYW`h`k i fXYbž`j Yfgi WXYb`X]Y
6Y\`ÖfXYbž`Y]b`À\b`]WXYg':]gWghYfVYb`k]Y`ja``X\`f`&\$&&`ni
j Yf\]bXYfb"

8]Y`dc`b]gWXY`l a k Y`ha]b]ghYf]b`DUi``]bU`<Ybb][!?`cg`U`\Uh]g]W
dYfg`Öb`]W`a]h`XYf`G]hi Uh]cb`VYZUggh`i bX`Ua`K cWXYbYbXY`XYb
; `Y]k]hYf`?UbU`VYgi W`h" <]YfVY]`k i fXYb`YfghY`A U» bU\ a Yb`ni f
6Y_`Àa dZ] b[`XYf`5`[YbV`ØhY`a]h`K UggYfghcZdYfcl]X`Yf[f]ZYbž
Y]bYa`W`Ya]gWYb`A]hY`ž`XUg`VYfY]hg]b`XYf`J Yf[Ub[Yb\Y]h`ni f
GWUXYbgVY_`Àa dZ] b[`Y]b[YgYhnh`k i fXY"

I a k Y`hgW`ØhnYf`Ài » Yfb`6YXYb`_Yb

8]Y`5_h]cb`k]fX`YXcW`j cb`l a k Y`hcf[Ub]gUh]cbYb`k]Y
; fYYbdYUW`g_Ydh]gW`VYhfUW`hYh" ? UhUfnmbU`6]`Yk g_Už`Y]bY
GdfYW`Yf]b`XYf`C f[Ub]gUh]cbž`Ài » YfhYž`XUgg`XYf`9]bgUhn`j cb
K UggYfghcZdYfcl]X`U`g`b]W`hg`k Y]hYf`U`g`Y]b`HfcdZYb`Ui`Z`XYb
\Y]» Yb`GhY]b`gY]"G]Y`VYZØfW`hYhž`XUgg`c\bY`[fi bX`Y[YbXY
J Yf`ÀbXYfi b[Yb`]b`XYf`⇒ Xi ghf]Ydc`h]_`i bX`X]Y`6YYbX][i b[`XYf

9]b`Y]hi b[Yb`j cb`gU`n\U`h][Ya`5V`k UggYf`]b`X]Y` ; Yk`ÀggYf`X]Y`
DfcV`Ya`Y`b]W`h`b`U`W`X`U`h][`i`[Y`Ògh`k`YfXYb`_`ÒbbYb`"

8]Y`K`U`f`Y]h`i]ghž`X`Ugg`X]Y`[]Zh][Y` ; c`XU`[Y`b]W`h`b`i`f`Y]b`c`_U`Y`gž`
gcbXYfb`Y]b`k`Y]hfY]W`YbXYg`i`a`k`Y`h`d`f`c`V`Ya`X`U`f`g`h`Y`h`" `À`f`Y`
5i`g`V`f`Y]h`i`b`[]_Ubb`g]W`X`Ø`V`Yf` : `Ø`gg`Y`i`b`X`G`Y`Y`b`Y`f`g`h`f`Y`W`_`Y`b`i`b`X`U`h`
X]f`Y`_`h`Y`?`cbg`Y`e`i`Y`b`n`Y`b`Z`Ø`f`X]Y`K`Ugg`Y`f`e`i`U`]h`À`h`i`b`X`X]Y`
6]c`X]j`Y`f`g]h`À`h`i]b`X`Y`f`F`Y`[]cb`"

9f`Y`V`]W`X`Y`A`Y`b`[Y`b`h`c`h`Y`f` :]g`W`X`Y`

G]Y]h`5`b`Z`U`b`[]5i`[]i`gh`k`i`f`X`Y`b`U`Y]b`]a`8`n]Y`f`bc`!`G`h`U`i`g`Y`Y`Ø`V`Y`f`%`\$`\$`
H`c`b`b`Y`b`h`c`h`Y`f` :]g`W`X`Y`[]Y`V`c`f`[Y`b`"8]Y`g`Y`U`U`f`a`]Y`f`Y`b`X`Y`b`N`U`U`Y`b`
n`Y][]Y`b`ž`X`Ugg`X]Y`G]h`i`U`h]c`b`Y`f`b`g`h`]g`h`i`b`X`X`f]b`[]Y`b`X`Y`f`
<`U`b`X`i`b`[]g`V`Y`X`U`f`Z`V`Y`g`h`Y`h`"i`a`k`Y`h`a`]b]g`h`Y`f`F`İ`m`_`V`Y`f]W`X`h`Y`h`Y`ž`
X`Ugg`X`U`g`K`Ugg`Y`f`X`i`f`W`X`i`g`h`f]Y`U`V`k`À`g`g`Y`f`j`Y`f`i`b`f`Y]b][]h`i]ghž`k`U`g`
X]Y`@`Y`V`Y`b`g`V`Y`X]b`[]i`b`[]Y`b`Z`Ø`f`X]Y` :]g`W`X`Y`k`Y`h`Y`f`j`Y`f`g`W`X`Y`W`X`h`Y`f`h`"

H`f`c`h`n`X`Y`f`<`Y`f`U`i`g`Z`c`f`X`Y`f`i`b`[]g`W`X`A`[]h`X]Y`d`c`b]g`W`X`Y`F`Y`[]Y`f`i`b`[
d`f`c`U`_`h]j`Y`A`U`»`b`U`a`Y`b`j`c`f`"9`g`k`]f`X`U`b`[]Y`n`Y][]hž`X`Ugg`X]Y`Y`f`g`h`Y`
H`Y`g`h`g]h`i`U`h]c`b`U`a`?`c`X`b]W`U`!` :]i`g`g`j`]Y`j`Y`f`g`d`f`Y`W`X`Y`b`X`Y`9`f`[]Y`V`b]g`g`Y`
Y`f`n]Y`h`U`V`Y`i`b`X`X]Y`i`a`k`Y`h`g`W`i`h`n`a`U`»`b`U`a`Y`b`U`i`Z`Y`b`X`
Ø`V`Y`f`d`f`Ø`Z`h`k`Y`f`X`Y`b`"K`]f`U`V`Y`b`X`Y`b`N`i`Z`i`g`g`X`Y`g`K`Ugg`Y`f`g`a`]h`
 ; c`X`U`[]Y`b`]b`X]Y`C`X`Y`f`[]Y`g`h`c`d`d`h`ž`g`U`[]h`X]Y`A`]b]g`h`Y`f]b`
c`d`h]a`]g`h]g`W`X`"

8]Y`K`]g`g`Y`b`g`W`X`U`Z`h`Y`f`U`V`Y`b`]a`F`U`a`Y`b`]f`Y`f` : c`f`g`W`X`i`b`[]n`i`X`Y`a`
X`U`g`9`f`V`[]i`h`X`Y`f` ; c`X`U`[]Y`Y`b`h`g`W`X`Ø`gg`Y`hž`k`U`g`Z`Ø`f`n`i`_`Ø`b`Z`h][]Y`
6`Y`_`À`a`d`Z`b`[]g`g`h`f`U`h`Y`[]Y`b`j`cb`6`Y`X`Y`i`h`i`b`[]g`Y]b`_`Ò`b`b`h`Y`"G`c`W`X`Y`
k`]g`g`Y`b`g`W`X`U`Z`h`]W`X`Y`b`8`i`f`W`V`f`Ø`W`X`Y`g]b`X`b`c`h`k`Y`b`X][]ž`i`a`X]Y`
k`]Y`X`Y`f`c`h`Y`b`B`U`h`i`f`_`U`h`U`g`h`f`c`d`Y`b`[]Y`b`U`i`n`i`j`Y`f`g`h`Y`Y`b`i`b`X`[]Y`n]Y`h`
U`b`n`i`[]Y`Y`b`"

;`Y`]k`]h`n`Y`f`?`U`b`U`V`Y`V`h`V`Y`h`f`c`Z`Y`b`i`b`X`_`À`a`d`Z`h`k`Y`h`Y`f`Y`b`a`]h`c`Y`b`
?`c`b`n`Y`b`h`f`U`h]c`b`Y`b`X`Y`f` ; c`X`U`[]Y`ž`k`U`g`b]W`X`h`b`i`f`X]Y` :]g`W`X`Y`g`h`À`b`X`Y`ž`
g`c`b`X`Y`f`b`U`i`W`X`X]Y`[]Y`g`U`a`h`Y`K`Ugg`Y`f`Ø`c`c`[]Y`[]Y`Z`À`f`X`Y`h`"K`]f`
[]Y`Y`b`b`]W`X`h`X`U`j`c`b`U`i`g`ž`X`Ugg`Y`g`n`i`Y]b`Y`a`a`Ugg`Y`b`U`Z`h`Y`b`
 :]g`W`X`g`h`Y`f`V`Y`b`k`]Y`&`\$`&&`_`c`a`a`Y`b`k`]f`X`ž`j`Y`f`g]W`X`Y`f`h`F`İ`m`_`ž`U`V`Y`f`

j]Y`Y`9I dYfhYb`g]bX`g]W`Y]b][žXUgg`X]Yg`_Y]b` ; fi bX`ni f
9bhk Ufbi b[`]gh"

8]Y`8]g_i gg]cb`i a `X]Y`I a k Y`hdc`]h]_`b`Dc`Yb`[Y`h`k Y]hYfž
k Å\fybX`g]W`X]Y`F`Y[]Yfi b[`VYa Ø\hž]a `5b[Yg]W`h`Y]b`Yf
Ò_c`c`[]gW`Yb`?f]gY`k]f_i b[gj`c``Y`A U»bU\`a Yb`ni `Yf[fY]ZYb``A]h
ni bY\`a YbXYa `8fi W`_j cb`I a k Y`hgW`Øh`Yfb`k]fX`_`Ufž`XUgg`b`Yi Y
@Øgi b[Yb`i bX`a Ø[`]W`Yfk Y]gY`Ui W`_`b] Ygh]h]cbYb`]b
bUW`Å`U`h][YfY`A Yh\`cXYb`bchk YbX][`]g]bX"

B Yi Yf`I a [Ub[`a]h`c`_U`Yb

K UggYffYggci fW`b

9g`V`Y]Vh`UVni k UfhYbž`k Y`W`Y`_Ub[Zf]gh][Yb`GhfU`hY[]Yb`X]Y
dc`b]gW`Yb`6Y\`ØfXYb`Yb`hk]W`_Y`b`k YfXYbž`i a `XYb`?Ua`dZ`[Y[Yb
X]Y` ; c`XU`[Y`i bX`]\fY`_UhUghfc`d`U`Yb` ; c`[Yb`ZØf`XUg`^2`_cgmg`h`a
XYf`C`XYf`Ui ZfY`W`h`ni Yf\`U`h`Yb``8 Ug`H`Y`a U`V`Y]Vh`\`ØW`gh`U`_hi`Y``
i bX`]gh]j cb`nYbhfU`Yf`6YXYi hi b[`ZØf`X]Y` ; Ygi bX`\Y]h`XYf
fY[]cbU`Yb` ; Yk ÅggYf`i bX`X]Y`@YVYbgei U`]h`Åh`XYf`5bk`c`\bYf"

<]bhYf[fi bX`XYf`DfcV`Ya Uh]_`a]h`XYf

; c`XU`[Y

8]Y`hcl]gW`Y` ; c`XU`[Y`Df]a bYg]i a `dUfj i a `ghY``h`gY]h`Å\fyb`Y]b
[fUj]YfYbXYg`DfcV`Ya `]b`XYb` ; Yk ÅggYfb`XYf`C`XYf`i bX`]\fYf
Ni ZØggY`XUf``8]YgY`5`[YbV`Øh`Y`k]fX`]b`YfghYf`@]b]Y`Xi fW`Yf\`Ø\`h`Y
B`Å\fg`hc`ZZV`Y`Ughi b[`Ui`g``UbXk]fhgW`UZh]W`Yb`8Øb[Ya]hY`b`i bX
]bXi ghf]Y``Yb`5V`k ÅggYfb`VY[Øbgh][h`6YgcbXYfg`]a `Gca`a`Yfž`VY]
\`c`Yb`HYa`dYfUhi`fYb`i bX`k`Yb][`K`UggYfž`YffY]W`Yb`X]Y`5`[Yb
[YZ`Å\`f`]W`Y`?cbnYbhfUh]cbYbž`X]Y`b]W`h`bi`f`XUg`^2`_cgmg`h`a`ž
gcbXYfb`Ui`W`X]Y` ;]gW`dcdi`Uh]cb`[YZ`Å\`fXYb``&\$&&`_Ua`Yg
VYfY]hg`ni`Y]bYa`a`Ugg]j`Yb` ;]gW`ghYfVYbž`XUg`X]Y`5`Ufa [`c`W`_Yb
gck`c``]b`Dc`Yb`U`g`Ui`W`]b`8Yi`hgW`_UbX``Åi`hYhY``A`U»bU\`a`Yb`ni`f
A`]bXYfi`b[`XYf`B`Å\`fg`hc`ZZ]bhf`Å[Y`k`i`fXYb`V]g\Yf`bi`f
i`bni`fY]W`YbX`i`a [YgYhnhž`k`Ug`X]Y`k`]YXYf`_Y`\fybXYb`DfcV`Ya`Y
Yf`_`Åfh"

æa`·ſ\f'&\$&%:Z0\fhY`Y]bY`À\`b`]WXY`5`[YbV`ØhY`ni`Y]bYf
Ö_c`c`[]gWXYb`?UhUghfcd\Y`i bX`Y]bYa`Ybcfa`Yb`JYf`i ghj`cb
@VYk`YgYb`"·<]ghcf]gWXY`8UhYb`nY][Ybž`XUgg`XUg`²`_cgmghYa`XYf
CXYf`ghUf`_i bhYf`XYa`9]bZi`gg`a`YbgW`]WXYf`5`_hj`]h`hYb`Y`XYh`
JYfgW`a`i`hni`b[`Xi`fW`]bXi`ghf]Y`Y`5Vk`ÄggYfž`]bgVYgcbXYfY`j`cb
6Yf[k`Yf`_Ybž`hfÄ[h`ni`f`JYfgU`ni`b[`XYg`K`UggYfg`VY]`i bX`gW`UZh
cdh]a`U`Y`6YX]b[i`b[Yb`Z0f`X]Y`5`[Yb`"8]YgY`<YfUi`gZcfXYfi`b[Yb
YfZcfXYfb`Y]bY`i`a`ZUggYbXY`i`bX`_ccdYfUh]j`Y`GhfUhY`[]Y`XYf
Ub[fYbnYbXYb`GhUUhYbž`i`a`XYb`Ub[Zf]gh][Yb
; Ygi`bX\Y]hgni`ghUbX`XYf`; Yk`ÄggYf`i`bX`]\fYf`6Yk`c\`bYf`ni
g]WXYfb`"

5_hi`Y`Y`A`U»`bU\`a`Yb`i`bX
<`YfUi`gZcfXYfi`b[`Yb

8]Y`dc`b]gWXYb`6Y\ÖfXYb`\UVYb`j`YfgW`]YXYbY`GhfUhY`[]Yb`ni`f
6Y_Äa`dZ`b[`XYf`;`c`XU`[Y`]b`5b[f]Z`[Ybca`a`Yb`"8Yf`9]bgUhn`j`cb
K`UggYfghc`ZdYfcl`]X`ghY`h`Y]bY`_i`fnZf]gh][Y`@Ögi`b[`XUfž`X]Y`j`cf
U`Ya`_]b`XYf`]b]h]U`Yb`D\UgY`XYg`5`[Yba`UbU[Ya`Ybhg`9fZc`[
nY][Yb`gc`""K`Ä\fYbX`X]Y`A`]b]ghYf]b`j`cb`Y]bYa`9fZc`[`gdf]W`hž
gY\Yb`l`a`k`Y`hgW`i`hncf[Ub]gUh]cbYb`k`]Y`;`fYYbdYUW`X]Y
G]hi`Uh]cb`g`_Ydh]gW`"@Ub[Zf]gh][Y`@Ögi`b[Ybž`k`]Y`X]Y`9bhgU`ni`b[
j`cb`X`i`ghf]YUVk`ÄggYfb`i`bX`Y]bY`ghf]_hY`FY[i`]Yfi`b[`XYg
B`Ä`fghc`ZY]bhfU[g`]b`X]Y`;`Yk`ÄggYfž`g]bX`YggYbn]Y`""

8]Y`gW`Y]WXYbXYž`UVYf`_cbh]bi`]Yf`]WXY`JYfgW`a`i`hni`b[`Xi`fW
gU`n\U`h][Y`5Vk`ÄggYf`]gh`Y]bY`XYf`<`Ui`dhi`fgUWXYb`Z0f`XUg
Zcfhk`Ä\fYbXY`5`[Ybk`UW`ghi`a`""Hfch`XYf`Yl`dYf]a`YbhY`Yb
A`U»`bU\`a`Yb`V`Y]Vh`X]Y`;`fU[Y`c`ZYbž`k`]Y`Y`ZY`_hj`X]YgY`GhfUhY`[]Yb
]a`·<]bV`]W`_Ui`ZX]Y`6Y_Äa`dZ`b[`XYf`l`fgUWXYb`i`bX`b]W`h`bi`f`XYf
Gma`dhca`Y`g]bX`"9]b][Y`9l`dYfhYb`d`ÄX]YfYb`XUZ0fž`XUgg`X]Y
DUfhY]Yb`ni`f`FYbUhi`f]Yfi`b[`XYf`Ni`Z0ggY`i`bX`ni`f`FYXi`n]Yfi`b[
XYf`]bXi`ghf]Y`Yb`9]b`Y]hi`b[Yb`[Ya`Y]bgUa`Ub`Y]bYa`GhfUb[
n]Y\Yb`a`ØggYb`"

F`Y`Yj`Ub`hY`GhUh]gh]_Yb`i`bX`8UhYb`ni`f
5`[YbV`ØhY

NU\`fY]W\Y`k]ggYbgW\UZh]W\Y`Ghi X]Yb`VY`Y[Yb`Y]bYb
g][b]Z]_UbhYb`5bgh]Y[`XYf`5`[YbV`ØhYb`]b`XYb`YhnhYb`Ź\`fYb"
=bgVYgcbXYfY`VY]`HYa dYfUhi fYb`ØVYf`&\$`; fUX`7Y`g]i gi bX`Y]bYf
ØVYfa`À»][Yb`8Øb[i b[`nY][h'g]W\`Y]b`YI dcbYbh]Y`Yg`K UW\ghi a
j cb`; c`XU`[Yb`"BUW\`5b[UVYb`XYf`=hYfbUh]cbU`Yb`?ca a]gg]cb
ni a`GW\i hm`XYf`CXYf`\Uh'g]W\`X]Y`NU\`XYf`5`[YbV`ØhYb`]b`XYb
`YhnhYb`ZØbZ`Ź\`fYb`j YfXcddY`h"

9]bY`I a ZFU[Y`i bhYf`5bk c`bYfb`i bX`i:]gW\Yfb`]b`XYf`FY[]cb
Yf[UVž`XUgg`a Y`f`U`g`+\$i` `XYf`6YZFU[hYb`Y]bY`J YfgW\`YW\hYfi b[
XYf`K UggYfei U`]h`h`VYcVUW\hYb`"8]Y`E i U`]h`h`XYg`GØ» k UggYfg`]gh
b]W\h`bi f`YbhgW\Y]XYbX`ZØf`X]Y`fY[]cbU`Y`6]cX]j Yfg]h`h`ž`gcbXYfb
Ui W\`ZØf`X]Y`a YbgW\`]W\Y`; Ygi bX`Y]hž`XU`j]Y`Y`; Ya Y]bXYb`Ui Z
X]Y`CXYf`U`g`Hf]b_k UggYfei Y`Y`Ub[Yk`]YgYb`g]bX`"8]Y
ØVYfa`À»][Y`5`[YbV`ØhY`\Uh`VYfY]hg`XUni`[YZØ`fhž`XUgg`]b
VYgh]a a hYb`; YV]YhYb`XUg`i:]gW\Yb`i bX`GW\k]a a Yb`j YfVchYb
k i fXYž`i a`[Ygi bX`Y]h]W\Y`F]g]_Yb`ni`a`]b]a]YfYb`"

8]Y`<YfUi gZcfXYfi b[Yb`fi bX`i a`X]Y`; c`XU`[Y`i bhYfghfY]W\Yb`X]Y
Bchk YbX][_Y]h`Y]bYg`]bhY[f]YfhYb`K UggYfa UbU[Ya Ybhg`i bX
Y]bYg`bUW\`U`h][Yb`I a [Ub[g`a]h`XYb`FYggci fW`bž`b]W\h`bi f`]b
Dc`Ybž`gcbXYfb`Ui W\`]b`XYb`Ub[fYbnYbXYb`@`ÀbXYfb`"8]Yg`VYXUfZ
Y]bYf`fcVi ghYb`Ni gUa a YbUfVY]h`Ui Z`Yi fcd`À]gW\Yf`9VYbYž`i a
[Ya Y]bgUa Y`GhUbXUfXg`i bX`YZZY`_h]j Y`A U» bU`a Yb`ni
Ybhk]W`_Y`b"

8YhU]`g

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