

J i ` _UbUi gVfi W`Ui Z`g`UbX. `@Uj U
gd fi XY`h`YfbYi h`Ui g`XYf`F Ym_`^UbYg!
< U`V]bgY`

BYi Yf`J i ` _UbUi gVfi W`Ui Z`g`UbX. `@Uj U`gd fi XY`h`Ui ZXYf
F Ym_`^UbYg! < U`V]bgY`ž`bUW`9fXVYVYb`k YfXYb`5bk c`bYf
Yj U_i]Yfh"

F Ym_`Uj]_`fKdUŁ` `9]b`Y]bXfi W_gj c``Yg`GWUi gd]Y``V]YhYh'g]W
XYfnY]h`Ui Z`XYf`]g`AbX]gWYb`F Ym_`^UbYg! < U`V]bgY`. `BUW`Y]bYa
_fÄZh][Yb`9fXVYVYb`Ua` `8cbbYfghU[UVYbX`VfUW`Y]b`bYi Yf
J i ` _UbUi gVfi W`Ui gž`XYf`VYfY]hg`XYf`gYW`ghY`]b`bi`f`bYi b
A cbUhYb`]gh" `@j Y!6]`XYf`XYg`]g`AbX]gWYb`F i`bXZ`b_gYbXYfg`F ¶J
nY][Yb`Y]bXfi W_gj c``ž`k]Y`@Uj U`Ui g`Y]bYa` ``Ub[Yb`F]gg`]a
9fXVcXYb`gd fi XY`h`i bX`X]Y`i`a` `]Y[YbXY`@UbXgW`UZh`]b`Y]b
ZUgn]b]YfYbXYgž`UVYf`dc`hYbn]Y`` [YZ`Ä`f`]W`Yg`GnYbUf]c`j Yfk UbXY`h"

8]YgY`k]YXYf`c`hYb`J i ` _UbUi gVfØW`Y`Ui Z`XYf`< U`V]bgY`ghY``Yb
b]W`h`bi`f`Y]b`BUhi`fYfY][b]g`XUfž`gcbXYfb`g]bX`Ui W`HY`]`Y]bYf
[fØ» YfYb` [Yc`c []gW`Yb`5_hj]]hÄ`hž`X]Y`X]Y`F Y []cb`gY]h`A`Äfn`&\$&%
]a`a`Yf`k]YXYf`]b`5hYa` `Ä`h"8]YgY`gc [YbUbbhYb
GdU`hYbYfi`dh]cbYb`g]bX`W`UfU_hYf]gh]gW`ZØf`XUg`j`i` _Ub]gW
U_hj`Y`; YV]Yhž`]b`XYa`ZØgg][Yg`; YghY]b`Ui`g`F]ggYb`]b`XYf`9fXY`Ub
X]Y`C`VYfZÄW`Y`ghf`Öa`h`i`bX`XUVY]`ZUgn]b]YfYbXYž`YXcW
VYXfc`Ä`]W`Y`6YX]b[i b[Yb`YfnYi [h"

; Yc`c []gW`Y`<]bhYf[fØbXY`i`bX`X]Y
G]W`Yf`Y]h`XYf`5bk`c`bYf

8]Y`F Ym_`^UbYg! < U`V]bgY``VYZ]bXYh'g]W`]b`Y]bYa` `U_hj] Yb
[Yc`c []gW`Yb`6YfY]W`ž`]b`XYa` `g]W`X]Y`9fXd`UhhYb`VYk Y[Yb`i`bX
]bhYfU[]YfYb"8]YgY`6Yk Y[i b[]Yfi fgUW`h`b]W`h`bi`f`9fXVYVYbž

gcbXYfb`_Ubb`Ui W`ni`Ji`_UbUi gVfØWYb`ZØ\fyb"8]Y`YhnhY
 9fi dh]cb`\UhhY`ja`ϋbi Uf`VYfY]hg`j Yf\YYfYbXY`c`[Yb`ZØf`XYb
 :]gWYfcfh; f]bXUj É_ž`U`g`@Uj`U`a`Y\fyfy`<`Ai`gYf`VYgW`ÅX][`hY"

8]Y`5i`gk`]f_i`b[Yb`XYf`bYi`YghYb`9fi`dh]cb`Ui`Z; f]bXUj É`_g]bX
 XYfnY]hi`b`_Ufž`XYbbcW`k`i`fXY`U`g`J`c`fg]W`hga`U»`bU`a`Y`X]Y
 9j`U_i`]Yfi`b[`XYf`5bk`c`b`Yf`Ub[YcfXbYh"8]Y`Yi`Yfk`Y`f`U`h
 A`U»`bU`a`Yb`Yf[f]ZZYbž`i`a`X]Y`9]bk`c`b`Yf`]b`G]W`Yf`Y]h`ni
 Vf]b[Ybž`k`Ug`nY][`hž`k`]Y`Yfbgh`X]Y`G]hi`Uh]cb`[Ybca`a`Yb`k`]fX"
 5bk`c`b`Yf`g]bX`[Yk`c`b`hž`]a`5b[Yg]W`h`j`cb`BUhi`f[Yk`U`h`Yb`ni
 \UbXY`bž`i`bX`XYbbcW`V`Y]Vh`Y]bY`[Yk`]ggY`i`bg]W`Yf`Y]hž`XU`X]Y
 ; YZU`f`Xi`fW`BUhi`fyfy][`b]ggY`k`]Y`Ji`_Ub]ga`i`gi`bj`c`f`Yfg`Y`VUf
]gh"

2 ZZYb`h`]W`Y`K`U`f`b`Y`a`i`b[`i`b`X`a`Y`X]U`Y
 6Yf]W`h`Y`f`g`h`U`h`i`b`[

8 Ug`Ø`ZZYb`h`]W`Y`ϋ`h`Y`f`Y`ggY`Ub`XYb`]g`À`b`X]g`W`Yb`Ji`_Ub`Yb`]gh`\`c`W`ž
 XU`gc`W`W`Y`9`f`Y][`b]ggY`b]W`h`bi`f`gd`Y`_h`U`i``À`f`ž`gcb`XYfb`Ui`W`
 `Y`f`f`Y]W`g]b`X"8`Y`f`@]j`Y`gh`f`Y`Ua`X`Y`g`f`i`b`X`Z`b`_g`Y`b`X`Y`f`g`f`J`n`]Y`h
 j`]Y`Y`Ni`g`W`Ui`Y`f`Ub`ž`X]Y`g]W`X]Y`V`Y`Y]b`X`fi`W`_`Y`b`X`Y`b
 BUhi`fg`W`Ui`gd]Y`Y`j`Y`Ub`g`W`Ui`Yb`a`Ø`W`h`Y`b"8]Y`g`n`Y][`h`Ui`W`ž`X`U`gg
 hf`ch`X`Y`f; YZU`f`Y`b`ž`X]Y`a`]h`Ji`_Ub`Ui`g`V`f`Ø`W`Y`b`j`Y`f`Vi`b`X`Y`b`g]b`X`ž
 Y]b`Y`Ugn]b`Uh]cb`ZØ`f`X]Y`g`Y`BUhi`fd`\`À`b`ca`Y`b`Y`V`Y`gh`Y`h"

8]Y`6Yf]W`h`Y`f`g`h`U`h`i`b[`i`a`X]Y`9fi`dh]cb`Yb`k`]f`_h`g]W`Ui`W`Ui`Z`X`Y`b
 Hci`f]ga`i`g`Ui`gž`X`Y`f`Y]b`k`]W`h][`Y`f`K`]f`hg`W`U`Z`h`gnk`Y][`ZØ`f`_g`U`b`X`]gh"
 K`À`f`Y`b`X`Y]b][`Y`Hci`f]gh`Y`b`j`cb`X`Y`b`@]j`Ua`U`gg`Y`b`i`b`X`X`Y`f`?`f`U`Z`h
 X`Y`f`BUhi`f`Ub[`Ync[`Yb`k`Y`f`X`Y`b`ž`g]b`X`Ub`X`Y`f`Y`a`Ø[`]W`Y`fk`Y]g`Y
 V`Y`gc`f[`h`Ø`V`Y`f`X]Y`G]W`Y`f`Y]h`gf]g]_`Y`b`ž`X]Y`gc`W`Y`BUhi`fyfy][`b]ggY
 a`]h`g]W`V`f]b[`Yb`_`Ø`b`b`Y`b"

8Uhi`a`	9fY][`b]g`	C`fh`	:`c`[`Yb`
ϋbi`Uf`&\$&`	Ji`_UbUi`gVfi`W` `	;`f]bXUj`É`_`	NYfghØfi`b[`a`Y`f`Y`f`Y`f` `<`Ai`gYf`
GYdhYa`VYf` `&\$&`	BYi`Yf`Ji`_UbU` `i`gVfi`W`	F`Y`m`_`U`b`Y`g!` `<`U`V]b`g`Y`	9j`U_i`]Yfi`b[`X`Y`f`5`b`k`c`b`Y`f`

8]Y`BUhi f`nY][hig]W`\\Yf`]b`\\fYf`[Yk U`h][ghYb` : cfa ži bX`Ui W`
k Ybb`X]Y` ; YZU`f`fYU`]ghž`Vf]b[h`YXYf`Ji` `UbUi gVfi W`bYi Y
9f_Ybbhb]ggY`ØVYf`X]Y`[Yc`c[]gW`Yb`DfcnYggYž`X]Y`i bhYf`XYf`
C VYfZ`W`Y`j YfVcf[Yb`g]bX`"K]ggYbgW`UZh`Yf`i bX` ; Yc`c[Yb
bi hnYb`X]Y` ; Y`Y[Yb`\\Y]hž`i a` 8UhYb`ni` gUa` a` Y`b`i bX`X]Y`
A YW`Ub]ga` Yb`\\]bhYf`X]YgYb`VYY]bXfi W`_YbXYb`9fi dh]cbYb`VYggYf`
ni`j YfghY`\\Yb`"

⇒g`U`bX`]gh`X]Y`Ji` `UbU`_hj]]h`h`HY]`XYg`h`h`[`]W`Yb`@YVYbgž`i bX
X]Y`A YbgW`Yb`\\UVYb`[Y`Yfbhž`a`]h`XYb`@Ui` bYb`XYf`BUhi f`ni
`YVYb`"8]Y`U`_hi` Y`Y`9fi` dh]cb`]gh`Y]b`k`Y]hYfYg`?Ud]hY``]b`XYf`
ZUgn]b]YfYbXYb` ; YgW`]W`hY`XYf`⇒gY`ž`XUg`i` bg`Yf]bbYfb`gc`ž`k`]Y
_Y]b`k`]f`]a` 5b[Yg]W`h`XYf`BUhi f`g]bX` `i` bX`k`]Y`k`]W`h][`Yg`]ghž`
XYb`9`Ya` YbhYb`a`]h`FYgdY`_h`ni` VY[Y[bYb`"

; Yc`c[]gW`Y`5`_hj]]h`h`i` bX`9fi` dh]cbYb`]b
⇒g`U`bX`

⇒g`U`bX`]Y[h`Ub`Y]bYf`[Yc`c[]gW`Yb` ; fYbnY`nk`]gW`Yb`XYf`
bcfXUa` Yf]_Ub]gW`Yb`i` bX`XYf`Yi` fUg]gW`Yb`D`UhhYž`k` Ug`X]Y`⇒gY`ni
Y]bYa` <chgdchZØf`j`i` `Ub]gW`Y`5`_hj]]h`h`a` UW`h`"8]Y`FY[]cb
FYm`_UbYgž`k`c`X]Y`U`_hi` Y`Y`b`9fi` dh]cbYb`ghUhhZ]bXYbž`]gh`gY]h`XYf`
`YhnhYb`9]gnY]h`[Yc`c[]gW`gY`f`U`_hj] "Ji` `UbUi` gVfØW`Y`Ui` Z`X]YgYf`
<U`V]bgY`g]bX`b]W`h`bYi` /VYfØ`a` hY`5i` gVfØW`Y`k`]Y`XYf`XYg`
Gb`Å`ZY`g`Ø`_i` ``]a` 5`\\f`%+,` `i` bX`XYf`@U`]!5i` gVfi` W`j`cb
%+,` `!%+,` (`hfi` [Yb`Yf`\\YV`]W`ni` f`[Yc`c[]gW`Yb` ; YgW`]W`hY`⇒g`U`bXg`
VY]i` bX`\\UhhYb`bUW`\\U`h][Y`5i` gk`]f`_i` b[Yb`Ui` Z`XUg`?`]a` U`]b`XYf`
FY[]cb`i` bX`XUfØVYf`\\]bUi`g`"

8]Y`Y`hnhYb`Ji` `UbUi` gVfØW`Y`g]bX`HY]`Y]bYg`bYi` Yb
5`_hj]]h`h`gnm`_i` gž`XYf`&\$&%`VY[Ub`b`"K]ggYbgW`UZh`Yf`XYf`
I`b]j`Yfg]h`h`⇒g`U`bX`ØVYfk` UW`Yb`_cb]bi`]Yf`]W`gY]ga`]gW`Y
5`_hj]]h`h`Yb`i` bX`6cXYbj`Yf`ÅbXYfi` b[Ybž`i` a` ZfØ`nY]h][`Ui` Z
dchYbn]Y`Y` ; YZU`fYb`fYU[]YfYb`ni` `ØbbYb`"I` bhYfgi` W`i` b[Yb
nY][Ybž`XUgg`g]W`X]Y`@Uj`Ughf`Øa` Y`Y`b`UW`9fi` dh]cbggh`Åf`_Y`i` bX
8Ui`Yf`ghUf`_i` bhYfgW`Y]XYb`_ØbbYbž`k` Ug`X]Y`J`cf`\\YfgU[Y
ni`_ØbZh][Yf`9fY][b]ggY`YfgW`k`Yfh`"

9]bk c\bYf'i bX'9j U_i]Yfi b[Yb

8]Y'G]WXYf\Y]hga U»bU\ a Yb'ja 'Ni gUa a Yb\Ub['a]h'XYb
9fi dh]cbYb'i a ZUggYb'\Äi Z['9j U_i]Yfi b[Ybž]bgVYgcbXYfY']b
XYb'VYhfcZYbYb'; YV]YhYb'k]Y'; f]bXUj É"'8]Y'GhUXh'\Uh]b'XYf
J Yf[Ub[Yb\Y]h'VYfY]hg'a Y\fyfY'9j U_i]Yfi b[Yb'Yf'YVhž'i bX'X]Y
6Y\ÖfXYb'\UVYb' BchZU''d'ÄbY'Ybhk]W_Y'hž'i a 'X]Y'G]WXYf\Y]h'XYf
6Yj Ö`_Yfi b['ni '[Yk Ä\ f'Y]ghYb"'-a '»bi Uf'&\$&' 'nYfghÖfhYb
@Uj Ua UggYb'a Y\fyfY'; YVÄi XYž'k Ug'X]Y'9]bk c\bYf'ni gÄhn`]W
j Yfi bg]WXYfhY""

6Y]'XYf'U_hi Y''Yb'9j U_i]Yfi b['k i fXY'X]Y': Yi Yfk Y\ f'Y]b[YgYhnhž
i a 'g]WXYfni ghY''Ybž'XUgg'X]Y'6Øf[Yf'fYW hny]h]['j b'G]WXYf\Y]h
[YVfUW h'k YfXYb"'Hfchn'XYf'l bUbbY\ a `]W_X]hYb'g]bX'j]Y'Y
5bk c\bYf'[i h'Ui ZX]Y'k]YXYf_Y\fybXYb'j i `Ub]gWYb'5_h]j]hÄhYb
j cfVYfY]hYhž'k Ug'Y]bY'[Yk]ggY'F Yg`]Ybn'nY][h"'8]Y'DgmW c`c[Yb
XYf'F Y[]cb'Ya dZY'\Ybž'XUgg'X]Y'6Yk c\bYf'Ui W'a YbhU'Y
l bhYfghØhni b['Yf\U'hYbž'i a 'a]h'XYb'ghÄbX][Yb'6YXfc\i b[Yb
i a ni [Y\Yb"

: Øf'j]Y'Y']gh'XUg'@VYb'j]b'XYf'BÄ\Y'Y]bYg'U_h]j Yb'J i `Ub'g'Y]bY
ghÄbX][Y'9fn]Y\i b['ni f'5W h'gUa _Y]h'i bX'ni f'K YfhgWÄhni b['XYf
BUhi f"'8]Y'g'ÄbX]gWY'?i 'hi f']gh'h]YZ'a]h'XYb'bUhØf`]WYb
9'Ya YbhYb'j YfVi bXYb'i bX'j]Y'Y`c_U'Y '@Y[YbXYb'\UbXY'b'j cb
XYb'J i `UbYb"

K]fhgW UZh`]WXY'5i gk]f_i b[Yb'XYf

J i `UbUi gVfØWXY

8]Y'k]YXYf_Y\fybXYb'J i `UbUi gVfØWXY'\UVYb'gck c\`dcg]h]j Y
U'g'Ui W' bY[Uh]j Y'k]fhgW UZh`]WXY'5i gk]f_i b[Yb'Ui Z'g'UbX"'8]Y
Hci f]ga i gVfUbWXY'Yf'YVh]b'XYf'F Y[Y''Y]bYb'5bgh]Y['XYg
-bhYfYggYg'Ub'j i `Ub]gWYb'5_h]j]hÄhYb"'Hci f]ghYb'ghfÖa Yb'c Zhž
i a 'X]Y'gdY_hU_i `ÄfYb'BUhi fgWUi gd]Y'Y'ni 'VYcVUW hYbž'k Ug
j cfØVYf[Y\YbX'X]Y`c_U'Y'K]fhgW UZh'Ub_i fVY'h"

5''YfX]b[g'g]bX'X]Y''Ub[Zf]gh][Yb'5i gk]f_i b[Yb'Ui ZX]Y

⊖ZfUghfi _hi f'i bX`XYb`K c\b fUi a `b]W\h'ni `i bhYfgW\ÀhnYb"
NYfghÒfhY` ; YVÀi XY`i bX`VYgW\ÀX][hY`GhfU» Yb`a ØggYb`fYdUf]Yfh
k YfXYbž'i bX`X]Y`?cghYb`ZØf`9j U_i]Yfi b[Yb`i bX
BchZU``a UbU[Ya Yb'h'ghY][Yb`"

@Ui h`XYa `]g`ÀbX]gW\Yb`GhUh]gh]_Ua h'g]bX`X]Y`?cghYb`ZØf`X]Y
⊖ghUbX\U`hi b[`i bX`XYb`K]YXYfUi ZVUi `]b`XYb`YhnhYb`⋄\fYb
XYi h`]W\ ` [Ygh]Y[Yb`"9]bY`U_hi Y``Y`GW\Àhni b[`VYn]ZZYfh`X]Y
Z]bUbn]Y``Yb`5i gk]f_i b[Yb`XYf`YhnhYb`9fi dh]cbYb`Ui Z'a Y\ fYfY
A]``cbYb`9i fcž`k Ug`X]Y`Bchk YbX][_Y]h`Y]bYf`i a ZUggYbXYb
ghfUHy []gW\Yb`D`Ubi b[`i bhYfghfY]W\h"

8]Y`]g`ÀbX]gW\Y`F`Y []Yfi b[`Uhi]b`XYf`J`Yf[Ub[Yb`Y]h
I bhYfghØhni b[`ZØf`X]Y`VYhfcZZYbYb` ; Ya Y]bXYb`Ub[YVchYbž'i a
g]W\Yfni ghY``Ybž`XUgg`gW\bY``Ui Z`BchZÀ``Y`fYU[]Yfh`k YfXYb`_Ubb
i bX`XUgg`X]Y`6Yk c\bYf`Ub[Ya YggYb`j Yfgcf[h`k YfXYb"

8YhU]`g

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