

NYbXi fY`dfÄgYbh]Yfh`]bbcj Uh]j Y 9bYf[]Y`Ògi b[Yb`Ui Z`XYf`≐ 5`&\$&(`]b 6Yf`]b

9bhXYW_Yb`G]Y`X]Y`bYi YghYb`ϕbcj Uh]cbYb`j cb`NYbXi fY`Ui Z`
XYf`≐ 5`&\$&(`]b`6Yf`]b`6Ygi W`Yb`G]Y`i bgYfYb`GhUbX`fk U`Y`
&`&`!`GhUbX`%`%\$£i bX`Yf`VYb`G]Y`VU`bVfYW`YbXY`DfcXi`_hY`
k`]Y`XUg`<mdYf`&\$\$\$`i bX`X]Y`5W`%) \$\$`9fZU`fYb`G]Y`žk`]Y`
a`cXYfbY`9bYf[]YgdY]W`Yfi b[`i bX`]bhY``][YbhY`@Ògi b[Yb`
XYb`K`Y[`ni`Y]bYa`bUW`U`h][YfYb`@VYb`ggg]`YVbYb`
_ÒbbYb``J`YfY]bVUfYb`G]Y`Y]bYb`HYfa`]b`ZØf`Y]bY`dYfgÒb`]W`Y`
J`cfZØ`fi b[`i bX`YfZU`fYb`G]Y`a`Y`f`ØVYf`X]Y`J`cfhY]`Y`j`cb`
gUi`VYfYf`9bYf[]Y`



B`Yi`Y`9bhk`]W`_`i`b[`Yb`]a`_`6YfY]W`_`XYf`
YfbYi`YfVUfYb`9bYf[]Yb`VY]`XYf`≐ 5`&\$&(

8]Y`≐ 5`&\$&(`]b`6Yf`]b`žX]Y`j`ca`_`*`"V]g`%\$`"GYdhYa`VYf`ghUhhZ]bXYhž`
dfÄgYbh]Yfh`Y]bY`J`]Y`nU`_`bYi`Yf`HYW`bc`c[]Yb`]a`_`6YfY]W`_`XYf`
YfbYi`YfVUfYb`9bYf[]Yb``8]YgY`A`YggY`]gh`b]W`h`bi`f`Y]bY`D`UhhZcfa`
ZØf`Y`Y`_hfc]gW`Y`;`Yf`ÄhY`ž`gcbXYfb`Ui`W`_`Y]b`k`]W`h][`Yf`HfY`Zdi`b`_h`
ZØf`ϕbcj`Uh]cbYb`]a`_`9bYf[mHYW!GY`_hcf``9]bYf`XYf`

\YfUi gfU[YbXYb`5bV]YhYf`]gh`NYbXi fYž`Y]b`l bhYfbY\ a Ybž`XUg
g]W`XUfUi Z`gdYn]U`g]Yfh`Uhž`i a k Y`hZfYi bX`]W`Y`9bYf[]Y`Ògi b[Yb
Ubni V]YhYb"

K Ug`]gh`bYi`VY`NYbXi fY3

NYbXi fY`ghY`h`Ui Z`XYf`≡ 5`nk Y`gdUbbYbXY`DfcXi`_hY`j`cf`X]Y
<mdYf`&\$\$\$`i bX`X]Y`5W`%) \$\$\$`8]Y`<mdYf`&\$\$\$`k]fX`U`g`k Y`hk Y]h
YfghYg`A`i`h]gYh!`?`ccfX]bUh]cbg!D`i [!]b!Gc`UfmgghYa`j`cf[YghY`h`
6YgcbXYfg`\Yfj`cfni`YVYb`]gh`]fY`:`À`][`_Y]hž`a Y`fYfY`9]b`Y]hYb
]b`Y]bYa`A`_]fc!BYhmk Yf`_`Ui hcbca`ni`j`YfV]bXYbž`k Ug`Y]bY
YZZ]n]YbhY`Bi`hni b[`j`cb`Gc`UfYbYf[]Y`Yfa`Ò[`]W`h`8`UfØVYf`\]bUi`g
V]YhYh`X]Y`5W`%) \$\$\$`Y]bY`hfU[VUfY`@Ògi b[`ZØf`6U`_cb`fUZk Yf`_Yž
X]Y`gck`c`\`bYh[YVi`bXYb`U`g`Ui W`bYhni`bUV`\Àb[]j`Yfk`YbXYh
k YfXYb`_Ubb`8]YgY`DfcXi`_hY`gYhnhYb`bYi`Y`A`U»gh`AVY`]b`XYf
Gc`UfYbYf[]YgdY]W`Yfi b[`i`bX`Yfk`Y]hYfb`XUg`DchYbn]U`ZØf
bUW`U`h][Y`9bYf[]Y`]b`<Ui`g`U`h`Yb"

8]Y`6YXYi`hi`b[`XYf`≡bcj`Uh]cbYb

8]Y`HYW`bc`c[]Ybž`X]Y`NYbXi`fY`df`ÀgYbh]Yfhž`g]bX`b]W`h`bi`f
hYW`b]gW`Y`K`i`bXYfk`Yf`_Yž`gcbXYfb`g]Y`hfU[Yb`Ui`W`ni`f
5i`Z`Àfi b[`XYf`²`ZYbh]W`_Y]hØVYf`bUW`U`h][Y`9bYf[]Ybi`hni`b[
VY]"`6fmUb`@j`ž`79C`i`bX`:`fØbXYf`j`cb`NYbXi`fYž`VYhcbh`X]Y
K`]W`h][`_Y]hž`X]Y`:`YgY`gW`UZh`ZØf`Y]bYb`i`a`k`Y`hZfYi`bX`]W`YfYb
@YVYbggh`]ni`gYbg]V`]g]YfYb"8]Y`<mdYf`&\$\$\$`Yfa`Ò[`]W`h`Yg
Bi`hnyfbž`X]Y`j`cfhY`]Y`j`cb`gdYn]Y`Yb`9bYf[]YhUf]ZYb`ni`bi`hnyb`i`bX
]\fY`9bYf[]Y`cghYb`ni`cdh]a`]YfYb"8i`fW`X]Y`≡hY[fUh]cb`bYi`Yf
G]W`Yf\Y]hga`Yf`_a`U`Yž`k`]Y`XYa`5Yfcgc`!:`Yi`Yf`ÒgW`gmghYa`ž`k`]fX
ni`g`Àm`]W`Y]b`5i`[Yba`Yf`_`Ui`Z`X]Y`G]W`Yf\Y]h`XYf`j`YfVfUi`W`Yf
[Y`Y[h"

9]b`6`]W`_`Ui`Z`X]Y`Ni`_i`bZh

A]h`XYf`j`cfghY`i`b[`X]YgYf`bYi`Yb`DfcXi`_hY`[Y`h`NYbXi`fY`Y]bYb
GW`f]h`k`Y]hYf`]b`XYf`9bhk`]W`_i`b[`j`cb`9bYf[]Y`Ògi`b[Ybž`X]Y`b]W`h
bi`f`YZZ]n]Ybhž`gcbXYfb`Ui`W`dfU`_h]gW`g]bX"8]YgY`≡bcj`Uh]cbYb
_ØbbhYb`XUni`VY]hfU[Ybž`X]Y`5fhi`bX`K`Y]gYž`k`]Y`<Ui`g`U`h`Y

9bYf[]Y`_cbgi a]YfYb`i bX`gdY]WYfbž`fYj c`i h]cbÅf`ni `j YfÅbXYfb"
8]Y`i i b_h]cbU`hÅh`XYf`<mdYf`&\$\$\$`i bX`5W`%) \$\$`nY][hž`k]Y
k]W`h][`a cXi `UfY`i bX`ZYI]V`Y`GmghYa Y`]b`Y]bYf`NY]h`g]bXž`]b`XYf
XYf`9bYf[]YgY`hcf`ghYh][`]a `K UbXY`VY[f]ZYb`]gh"

: Un]h

8]Y`≐ 5`&\$&(`k]fX`Y]b`k]W`h][Yf`C fh`ZØf`XYb`5i ghUi gW`ØVYf
YfbYi YfVUfY`9bYf[]Ybž`i bX`NYbXi fYg`BYi \Y]hYb`_ÖbbhYb`Y]bYb
k Yfh] c``Yb`6Y]hfU[`ni f`9bYf[]Yk YbXY`Y]ghYb"A]h`DfcXi _hYbž`X]Y
gck c`\`G]WYf\Y]hgUgdY`hY`U`g`Ui W`YZZ]n]YbhY`9bYf[]Yj Yfk U`hi b[
h\Ya Uh]g]YfYbž`ghY``h`XUg`I bhYfbY`a Yb`gY]bY`J]g]cbYb`Ui Z`Y]bYf
XYf[fÖ» hYb`HYW`bc`c[]Ya YggYb`XYf`K Y`hi bhYf`6Yk Y]g"

: Øf`k Y]hYfY`≠Zcfa Uh]cbYb`ØVYf`NYbXi fY`i bX`XYfYb`DfcXi _hY
_ÖbbYb`≠hYfYgg]YfhY`XYb`GhUbX`< &`!%%\$`VYgi W`Yb`cXYf`X]Y
K YVg]hY`NYbXi fY"W`a`_cbgi `h]YfYb"

8YhU]`g

6Ygi W`Yb`G]Y`i bg`Ui Z.`a Y]b!VYf`]b`bYh