Nk Y]J Yf_Y\fgi bZÄ`Y`Ui Z`XYf`6- .
NY]hj Yf`i gh`i bX`GUW\gW\UXYb`]b`GdYmYf

Nk Y]J Yf_Y\fgi bZÄ`Y`Ui Z`XYf`6- `]b`GdYmYf`ZØ\fhYb`ni
Y]bYa `F ØW\_ghUi `i bX`Y]bYa `; YgUa hgW\UXYb`j cb`%\$"\$\$\$
9i fcž`[ `ØW_]W\Yfk Y]gY`c\bY`J Yf`YhnhY"

GdYmYf`fc`hgk

9]b`fci h]bYa Ä» ][ Yf`A cf[Yb`Ui Z`XYf`6- `]b`GdYmYf`j Yfk UbXY`hY
g]W\`Ua `A]hkc W\ž`[ Y[ Yb`\$, .&) `I \fž`]b`Y]bY`i bYfZFY`i `]W\Y
G]hi Uh]cb`ZØf`Y]b][Y`5i hcZU\`fYf`"9]b`" `!Ä\`f][Yf`A Ubbž`XYf`a]h
gY]bYa `D\_k `j cb`GdYmYf`K Ygh`Ui Z`X]Y`6i bXYgghfU» Y`ZU\`fYb
k c`hYž`ØVYfgU\`VY]a `Gdi fk YW\gY`Y]bYb`@_k ž`XYf`g]W\`VYfY]hg
Ui Z`XYa `fYW\hYb` : U\`fghfY]ZYb`VYZUbX`"8Yf`Ni gUa `a Ybghc» `ZØ\`fhY
ni `Y]bYa `Yf\`YV`]W\Yb`GUW\gW\UXYb`Ua `D\_k ž`XYggYb`[YbUi Y
<Ø\`Y`a ca YbhUb`b]W\h`VYn]ZZYfh`k YfXYb`_Ubb`"»XcW\`gcf[hY`XYf
I bZU`ZØf`Y]bYb`F ØW\_ghUi ž`XYf`j ]Y`Y` : U\`fnYi [ZØ\`fYf`]b`XYf`FY[]cb
i a `] \fY`k Yfhj c`Y`NY]h`VfUW\hY"

8]Y`6- ž`Y]bY`j ]Y`VYZU\`fYbY`J Yf_Y\fgUXYfž`k Uf`j cb`X]YgYa `I bZU`
ghUf`\_VYhfcZZYb`"Bi f`Yhk U`(\$`A ]bi hYb`gdÄhYfž`i a `\$.-\$) `I \fž
YfY][bYhY`g]W\`Ui Z`<Ø\`Y`XYf`5bgW\`i ggghY`Y`8i XYb\`cZYb`Y]b
k Y]hYfYf`J cfZU`" "b`X]YgYa `nk Y]hYb`I bZU`Z \f`Y]b`(\$!Ä\`f][Yf
D_k !: U\`fYf`Ui Z`XYb`VYfY]hg`Ub[ gUa `UVVfYa gYbXYb`K U[Yb
Y]bYg`(`, !Ä\`f][ Yb`Ui Z`8 Ug`5i ZY]bUbXYfhfYZZYb`XYf`VY]XYb
: U\`fnYi [ Y`k Uf`gc`Y`Zh][ ž`XUgg`VY]XY`5i hcg`bUW\`XYa `7fUg\`b]W\h
a Y\`f`ZU\`fVYfY]h`k UfYb`i bX`UV[YgW\`Yddh`k YfXYb`a i gghYb`"8]Y
; YgUa hgW\UXYb`g\Ø\`Y`ZØf`X]Y`VY]XYb`J cfZÄ`Y`k]fX`Ui Z`W]fWU
%\$"\$\$\$`9i fc`[YgW\`Ämhž`k Ug`X]Y`k]fhgW\UZh]W\Yb` : c`[Yb`X]YgYg
J Yf_Y\fg[YgW\Y\Ybg`j YfXYi h`]W\h"

8 YhU]`g`ni `XYb`J cfZÄ`Yb

;`ØW\_]WXYfk Y]gY`V`]YV`Yg`VY]`XYb`VY]XYb`J Yf_Y`fgi bZÄ`Yb`c`bY
J Yf`YhnhY" `ϕ`NY]hYbž`]b`XYbYb`J Yf_Y`fgg]WXYf`Y]h`Y]bY`]a`a`Yf
k`]W`h][`YfY`F`c`Y`gd]Y`hž]g]bX`gc`WXY`J`cfZÄ`Y`VY`gcbXYfg
U`Ufa`]YfYbX" `8]Y`6-`[`]h`U`g`Y]bY`XYf`<`Ui`dhj`Yf_Y`fgghfU»`Yb`]b
XYf`FY[`]cb`i`bX`n]Y`h`hÄ[`]W`n`U`fY]WXY`DYbX`Yf`i`bX`FY]gYbXY
Ub" `6Y]`Y]bYa`F`ØW_ghUi`ž`XYf`j`Yfa`i`h]W`X`i`fW`6`Ui`ghY`Yb`c`XYf
UbXYfY`J`Yf_Y`fga`U»`bU`a`Yb`c`bY`b`Yb`hghY`Yb`_`Ö`b`hY`ž]g]bX
ni`gÄ`h`]WXY`I`bZÄ`Y`VY`gcbXYfg`\_f]h]gW`"

GUW`gW`UXYb`Yb`hghY`h`b]W`h`bi`f`Xi`fW`X]Y`?`c`]g]cbYb`gY`Vghž
gcbXYfb`Ui`W`X`i`fW`X]Y`XUa`]hj`YfVi`bXYbYb`9]bgW`fÄ`b`_i`b[`Yb`ZØf
XYb`J`Yf_Y`f" `K`Ybb`:`U`fnYi`[`Y`Ui`Z`gc`WXYb`<`Ui`dhghfU»`Yb`ghY`Yb
V`Y]VYbž`_`Ubb`Yg`gW`bY`ni`k`Y]hYfYb`GhØfi`b[`Yb`]a`J`Yf\_Y`f
_ca`a`Yb" `K`Ä`fYbX`X]YgYf`J`cfZÄ`Y`a`i`gghYb`j`]Y`Y`5i`hcZU`fYf
;`YXi`X`VYk`Y]gYbž`XU`g]Y`Ui`Z`XYf`I`a`Y]hi`b[`Ui`Z`UbXYfY`GhfU»`Yb
Ui`gk`Y]WXYb`a`i`gghYbž`k`Ug]b`XYf`a`cf[`YbX`]WXYb`Fi`g`\\`ci`f`c`Zh
b]W`h`Y]bZUW`]gh"

8]Y`VY]XYb`I`bZÄ`Y`UVYb`X]Y`J`Yf_Y`fgg]WXYf`Y]h`b`XYf`FY[`]cb`]b
XYb`:`c`\_i`g[`]YfØW\_h" `9I`dYfhYb`fUhYb`5i`hcZU`fYfbž`VY]a
Gdi`fk`YW`gY`VY`gcbXYfg`Ui`Za`Yf_gUa`ni`gY]b`i`bX`X]Y
J`Yf\_Y`fgg]hi`Uh]cb`ghYhg`]a`6`]W`ni`VY`U`hYb" `FY[`]Y`a`Ä`][
Ui`Za`Yf_gUa`ni`ZU`fYbž`_`Ö`b`hY`gc`WXY`I`bZÄ`Y`ž`X]Y`b]W`h`bi`f
GUW`gW`ÄXYb`j`Yfi`fgUW`Ybž`gc`bXYfb`Ui`W`XUg`DchYbh]U`UVYbž
Yfbgh`UZhY`DYfgcbYbgW`ÄXYb`YfVY]ni`ZØ`fYbž`a`Ö[`]WXYfk`Y]gY
j`Yf`]bXYfb"

8]Y`Dc`nY]`k`]fX`Ui`W`]b`Ni`\_i`bZnj`YfghÄ`f`h`XUfUi`Z`\\]bk`Y]gYbž`k`]Y
k`]W`h][`Y]bY`XYZYbg]j`Y`:`U`fk`Y]gY`]gh`i`bX`k`]Y`i`bYf`Ägg]W`Yg`]ghž
g]W`Ub`X]Y[`]Y`hYbXYb`J`Yf_Y`fgfY[`]Y`b`ni`U`hYb" `X`XYg`X`f
k`YfXYb`nU`fY]WXY`J`Yf\_Y`fgi`bZÄ`Y`Xi`fW`I`bUW`hgUa`_Y]h
j`Yfi`fgUW`hž`i`bX`X]Y`6-`]gh`XU`_Y]bY`5i`gbU`a`Y" `ϕ`Y]bYf`K`Y`hž`k`c
hYW`b]gW`Y`I`bhYfghØ`hni`b[`]k`]Y`5VghUbXgk`UfbYf`i`bX
F`ØW\_ZU`f`\_Ua`YfUg`ni`a`GhUbXUfX`[`]Y`ÖfYbž`]gh`Yg`Yb`hgW`Y]XYbXž
XUgg`:`U`fYf`g]W`k`Y]hYf`]b`U`\_h]j`ZØf`X]Y`G]WXYf`Y]h`gck`c`\\]fYf
gY`Vgh`U`g`Ui`W`XYf`UbXYfYb`J`Yf\_Y`fghY]`bY`a`Yf`Y]bgYhnYb"

8YhU]g

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