

%/ Ua d/%'J YfgUhY`']bj Ygh]Yfh']b`Ni _i bZh.
B Yi Yg'; `UgZUgYfbYhn'ZØf`l bhYfbY\ a Yb

9fZU\fyb`G]Yž'k]Y`%/ Ua d/%'J YfgUhY`'a]h'XYf`bYi Yb
cdh]gWXYb`, VYfhfU[i b[ghYWXb]_j cb'5XhfUb`gY]b
; `UgZUgYfbYhn'Ui ZfØghYh"8]Y`]bbcj Uh]j Y: `YI [f]X!
HYWXbc`c[]Y`Yfa Ò[`]WXh`Y]bY`8 UhYbØVYfhfU[i b['j cb`V]g`ni
, \$\$; V]h#g`i bX`gcf[h'ZØf`a UI]a U`Y`Ni j Yf`Àgg][_Y]h"6`Y]VYb
G]Y`]bZcfa]Yfh'ØVYf`ni _ØbZh][Y`X][]hU`Y`@Øgi b[Yb`i bX
? UdUn]h`hgYfk Y]hYfi b[Yb`]b`[Ubni8Yi hgWX`UbX"



F Yj c`i h]c b`i]a `XYi hgWk Yb` ; `UgZUgYfbYhn`

%/ %J YfgUHy``\YVh`X]Y`#hYfbYh[YgWk]bX][_Y]h`i]b`8Yi hgWk`UbX
Ui ZY]b`bYi Yg`@Yj Y``I bhYf`9]bgUhn`XYf`VU`bVfYWkYbXYb
cdh]gWkYb` , VYfhfU[i b[ghYWk b]_ : GD" \$\$\$ `j cb`5XhfUb`k]fX`Y]b
`Y]ghi b[gZ`\][Yg`BYmk Yf`_Z0f`I bhYfbY`a Yb`i bX`ghUUh`]WkY
9]bf]Wk hi b[Yb`[YgWk UZZYb``8]YgY`bYi YghY`HYWk bc`c []Y`ghfU`\`h`k]Y
Y]b`@]Wk hghfU`\`Xi fWk`X]Y` ; `UgZUgYf`Y]hi b[Yb`i bX`Yfa Ô[`]Wk h

i b[`Ui V`]WXY`6UbXVfY]hYb`j cb`V]g`ni` , \$\$; V]h#gž`X]Y`Xi fW`X]Y
: `YI [f]X!HYWbc`c []Y`g]a i `hUb`ØVYfhfU[Yb`k YfXYb`_ØbbYb`"A]h
X]YgYf` , VYf`Y[Yb`Y]h`k]fX`XYf`K Y[`ZØf`Y]bY`X][]hU`Y`Ni`_i bZh
[YfYbYh`

8i fW`X]Y`bYi YghYb`9bhk]W`_i b[Yb`]b`XYf`cdh]gWXYb`HYWb]_
V`Y]Vh`i bgYf`BYhni`ni`_i bZhgg]WXYf` ž`gWk`Àfa`h`A`Ufh]b` :]gWXYfž`7`HC
j cb`%`%`J`YfgUHY`" `#`X]YgYa` `#`f`gc`"X]Y`]b`bcj`Uh]j`Y`HYWb]_`]b
ØVYf`%`)`ghfUHY[]gWXYb`GhUbXcfhYb`]b`[`Ub`n`8`Yi`hgW`U`b`X
]bghU`]Yfh`k`YfXYbž`&)`\$`bYi`Y`J`YfV]bXi`b[`Yb`Ui`Z`+)
J`Yf`_Y`f`g`f`Y`U]cbYb`gc`"Yb`i`a` [`YgYhnh`k`YfXYb`"8`Ug`]gh`Y]b
Ua`V]h]cb]YfhYg`Dfc`Y`_hž`XUg`X]Y`[`YgUa`hY`6`f`Ub`W`Y`Ui`Za`]gWXYb
k`]fX`

=b`bcj`Uh]cbYb`ZØf`Y]b`ghUf`_Yg`B`Y`h`nk`Yf`_

8cW`X`Ug`]gh`b]W`h`U`Y`g`" %`%`J`YfgUHY`"fØghY`h`gY]bY`VYghY`YbXY
Ghfi`_hi`f`Ui`Zi`bX`]bhY[f]Yfh`bUW`i`bX`bUW`X]Y`bYi`YghYb
HYWbc`c []Ybž`c`bY`XYb`"Ui`ZYbXYb`6`Yhf]YV`ni`ghØfYb`"Ni`b`ÀW`gh
k`]fX`X]Y`bYi`YghY` ;`YbYfU]cb]a` `6`UW`V`cbY`XYg`B`Y`h`nk`Yf`_g
Y]b[`YgYhnhž`k`cXi`fW`X]Y`[`YgUa`hY`#`ZfUghfi`_hi`f`[`Ygh`Af`_h`k`]fX`"8`]Y
<YfUi`gZcfXYfi`b[`]gh[`fc`»`ž`UVYf`X]Y`N]Y`Y`g]bX`_`Uf`i`a`ZUggYbXY
8][`]hU`]g]Yfi`b[`]ZØf`U`Y`

8]Y` ,`VYfd`fØZ`b[`]XYf` ;` `UgZUgYf]bZfUghfi`_hi`f`YfZc`[`h`a`]hY`g`XYf
5`@`A`!`:]VYf!`A`cb]hcf]b[`]@Øgi`b[`]j`cb`5`XhfUb`"8]YgY`Yfa`Ø[`]W`h
Y]bY`Ui`hca`Uh]gWXY`9`W`h`nY]hØVYfk`UW`i`b[`]i`bX`"Z`ž`a`Ø[`]W`Y
GhØfi`b[`Yb`fYW`h`nY]h][`ni`]XYbh]Zn]YfYb`"9]b`k`U`fYf`A`Y]ghYfgW`U[
]b`XYf`B`Y`h`nØVYfk`UW`i`b[`]ž`XYf`b]W`h`bi`f`9`ZZ]n]Ybn`ghY][`Yfhž
gcbXYfb`Ui`W`5i`gZU`nY]hYb`ZØf`?`i`bXYb`Ui`ZY]b`A`]b]a`i`a
fYXi`n]Yfh`

Ni`gUa`a`Yb`a`]h`XUW`gcž`Y]bYa`YfZU`fYbYb`#`!`8]YbghY]ghYfž`U`h
5`XhfUb`Y]b`GmghYa`Ybhk`]W`_Y`hž`XUg`XYb`<YfUi`gZcfXYfi`b[`Yb`XYf
Ni`_i`bZh[`Yk`UW`gYb`]gh`"7`f]ghcd` ;` `]b[`YbYf`j`cb`5`XhfUb`VYhcbhž
XUgg`X]YgY`@Øgi`b[`]Yg`i`bhYfbY`a`Yb`Yfa`Ø[`]W`hž`a`]hX][`]hU`Yb
Hcc`g`Y`ZZ]n]YbhYf`ni`UfVY]hYb`i`bX`X]Y`7`U`b`W`b`XYf`J`YfbYhni`b[
cdh]a`U`ni`bi`h`nYb`"

;][Ubh]gWk Yg`B Yhnk Yf_`ZØf`X]Y`X][]hU`Y`ÿ fU

8]Y`X][]hU`Y`HfUbgZcfa Uh]cb`YfZcfXYfh`VYgh`AbX][Y`ϕj Ygh]h]cbYb`]b
a cXYfbY`BYhnhYWk.bc`c[]Yb"':]fa Yb`VYbØh][Yb`\Yi hni hU[Y`b]Wk h
bi f`\c\Y`6UbXVfY]hYb`ZØf`8UhYbj YfUfVY]hi b[`i bX`7`ci X!
5bk YbXi b[Ybž`gcbXYfb`Ui Wk`gWk bY`Y`F YU_h]cbgnY]hYb`i bX
ni j Yf`Ägg][Y`J YfV]bXi b[Yb" `ϕ`Y]bYf`K Y`hž`X]Y`]a a Yf`j YfbYhnhYf
k]fXž`]gh`Y]b`fcVi ghYg`i bX`U[]`Yg`BYhnk Yf_`i bYf`Ägg`]Wk ž`ghY`h
A Ufh]b`:]gWk Yf`ZYgh" `8Yf`8 fUb[`XYf`i bhYfbY`a Yb`bUWk`a Y`f
? UdUn]h`Ähi bX`G]Wk Yf`Y]h`k]fX`i bUi Z`U`hgUa`ghY][Yb`°

%`%`J YfgUhY`]gh`a Y`f`U`g`bi f`Y]b`5bV]YhYf` `g]Y`hfY]VYb`XYb
; `UgZUgYfUi gVUi `]b`8Yi hgWk`UbX`j cfUb" `A]h`fi bX`*) "\$\$\$
?]ca YhYfb`; `UgZUgYfghfYW`Yb`]b`ØVYf`) \$`Gh`ÄXhYb`ghY`h`XUg
l bhYfbY`a Yb`Ub`XYf`: fcbh`XYf`[][UV]h`Z`Ä][Yb`; YgY`gWk UZh" `8]Y
Ni _i bZh[Y`Öfh`XYb`ϕbcj UhcYb` `i bX`%`%`J YfgUhY`]gh`Y]b
D]cb]Yf`Ui Z`X]YgYa`gdUbbYbXYb`K Y[`°

8 YhU]`g

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