

H]Yf]gWXY ; Y\Y]a b]ggY]a 'Ncc '@Y]dn][.
K Y`WX Y`5fhYb `V`Y]VYb `j YfVcf[Yb3

9fZU\ fYb`G]Yžk Y`WX Y`ZUgn]b]YfYbXYbž`UVYf`[YZÅ\ f`]WXYb
H]YfY]a 'Ncc '@Y]dn][`j YfVcf[Yb`V`Y]VYb`i bX`k Ufi a
6Ygi WXYf`g]Y`b]Y`ni `gY\Yb`VY`_ca a Yb"

⇒ a 'Ncc '@Y]dn][`[]Vh`Yg`b]WKh`bi f`Y]bY`J]Y`nU\`j cb`H]YfUfhYb`ni
VYghUi bYbž`gcbXYfb`Ui W`Y]b][Y`H]YfYž`X]Y`XYb`6Ygi WXYfb
j YfVcf[Yb`V`Y]VYb`"K Å\ fYbX`X]Y`gdY`_hU`i `ÅfYb`?cU`Ug`i bX
a U`YghÅh]gWXYb`9`YZUbhYb`]b`XYf` 9f`YVb]gk Y`h`5g]Yb` `hÅ[`]W`j cb
nU\`fY]WXYb` ; ÅghYb`VYk i bXYfh`k YfXYb`_`ÖbbYbž`[]Vh`Yg`UbXYfY
H]YfYž`X]Y`Ui g`j YfgW`]YXYbYb` ; fØbXYb`b]WKh`ja `G]W`hZY`X`XYf
² ZZb`h]W`_Y]h`ghY\Yb`"8Yf`?i fUhc`f`XYg`Nccgž`H]`F`Ua a ž
VY`Yi W`hYh]b`Y]bYa `U`_hi Y`Yb`DcXWUgh`[YbUi `X]YgY
[Y\Y]a b]gj c`Yb`5fhYb"

9]b`nYbhfU`Yf`Di b`_h`XYf`8]g`_i gg]cb`g]bX`X]Y`E`i U`Ybž`X]Y]a `Ncc
@Y]dn][`[Y\U`hYb`k YfXYb`"A]h`Y]bYa `6`]W`_Ui ZX]Y`C`fYbei U`Y
k]fX`XYi h]W`ž`XUgg`X]YgY`H]YfY`a Y`f`]bhYfYggUbhY`5gdY`_hY`ni
V]YhYb` \UVYbž`U`g`j]Y`Y`j]Y`Y]W`h`j Yfa`i hYb`k ØfXYb`"8]Y
C`fYbei U`Y` \U`h`b]W`Kh`bi f`Y]bYb`ZUgn]b]YfYbXYb`?`ÖfdYfVUi ž
gcbXYfb`Ui W`Y]bY`i b[Yk`Ö`b`]W`Y`5i [Ybghfi`_hi`f`"5a
GW`]fa fUbX`g]h`nYb`_`Y]bY`9]bgW`bØfi b[Ybž`X]Y`U`g`5i [Yb
Zi b[]YfYb` žYf`_`Åfh`H]`]a `DcXWUghi bX`[Y\h`XUfUi Z`Y]bž`XUgg`nk`Y]
X]YgYf`5i [Yb`Y]bY`Ghfi`_hi`f`Å`b`]W`X`Yf`a YbgW`]W`Yb`5i [Yb
VYg]h`nYb`"8UVY]`V`Y]V`h`X]Y` : fU[Y`c`ZYbž`k]Y`X]Y`6]`XYfž`X]Y`g]Y
YfnYi [Ybž`]a ` ; Y\]fb`XYf`E`i U`Y`j YfUfVY]h`h`k YfXYb"

; Y\Y]a Y`5fhYb`]a `Ncc '@Y]dn][

6Ygi WXYf`XYg`Nccg`\UVYb`nk Uf`X]Y`A`Ö[`]W`_Y]hž`X]Y`E`i U`Yb`ni

VYghUi bYbž'YXcW'V'Y]VYb'X]Y'@Ufj YbghUX]Yb'i bX'Y]b][Y'UbXYfY
5fhYb'ja' JYfVcf[YbYb'"8]Y': cfhdZUbni b['XYf'E i U''Yb']gh'Y]b
VYgcbXYfYg'D\Åbca Yb'"G]Y'k]fX']b'nk Y]'<Ui dhd\UgYb'i bhYfhY]'hž
Y]bY'gYI i Y''Y': cfhdZUbni b[ž'X]Y'ni f'6]'Xi b['Y]bYf'@Ufj Y'ZØ\fhž
i bX'Y]bYb'i b[YgW'Y'W'h]W'Yb'Ni ghUbXž']b'XYa']g]W'X]Y'Dc`mdYb
Xi fW'NY''hY]'i b['j Yfa Y\ fYb'" 8]Y'Dc`mdYb'g]bX'gYdUfUh'\]bhYf
XYb'?'i`]ggYb ž'ZØ\fh'H]'`k Y]hYf'Ui gž' k Y]'g]Y'UbXYfY
@VYbYbgVYX]b[i b[Yb'VYb'Øh][Yb" 'Ni XYa' _ÖbbhY'X]Y'fY[Y'a Å»][Y
F Y]b][i b['XYf'5ei Uf]Yb'ni 'Y]bYa' DfcV'Ya' k YfXYbž'XU'X]Y
Dc`mdYb'g]W']b]W'h[i h'UVgYhnYb' _ÖbbYb"

9]b'k Y]hYfYg'H]Yfž'XUg'b]W'h]a' Ncc' [YnY][h'k]fXž']gh'X]Y
5i ghfU']gW'Y'GYk YgdY'"8]YgY'5fh'nÅ\`h'ni 'XYb' [YZÅ\ f']W'ghYb
E i U''Yb' i bX' _Ubb'a]h] \fYb'HYbhU_Y'b'ja' Bi''VYbYbgVYXfc'\]W'Y
JYf'Yhni b[Yb'j Yfi fgUW'Yb'"8Yf'Ncc!?'i fUhc f'VYhc b'h'X]Y'F]g]_Yb.
8]Y'NY]hž']b'XYf'a Ub'XUbb'h\YcfYh]gW']gh]fVhž']gh'gY\ f' _i fn"
Hfchn'XYf'9bhk]W_ i b['Y]bYg'; Y[Yb[]ZhYg' _Ubb']b'gc`W'Yb
_f]h]gW'Yb'G]hi Uh]cbYb'cZh'b]W'h'gW'bY'' [Ybi [' [Y\UbXY'h'k YfXYbž
gcXUgg'XYf'Ncc'VYgW'cggYb'\Uhž'X]YgY'5fh'b]W'h'ni '\U'hYb'" 8Ug
k ÅfY'ni ' [YZÅ\ f']W' ž'gU[h'H]'`i ba]ggj YfghÅbX']W'"

Gc`W'Y'9bhgW'Y]Xi b[Yb'j YfXYi h]W'Yb'X]Y'J YfUbhk cfhi b[ž'X]Y'Y]b
Ncc'hfÅ[h'"G]W'Yf\Y]hgØVYf'Y[i b[Yb'ghY\Yb']a' JcfXYf[fi bXž
]bgVYgcbXYfY'k Ybb'Yg'i a' H]YfY' [Y\hž'XYfYb'6YfØ\ fi b['cXYf
6YcVUW'hi b['Yf\YV`]W'Y'; Ygi bX\Y]hgf]g]_Yb'a]h'g]W'Vf]b[Yb
_ÖbbhY'"8Yf'Ncc'@Y]dn]['gYhnh'g]W']bhYbg]j'a]h'XYb
@VYbYbgVYX]b[i b[Yb'XYf'H]YfY'Ui gY]bUbXYf'i bX'_fY]Yfh'Y]b
g]W'YfYg'l a ZY'X'ZØf'X]Y'6Ygi W'Yf'i bX'X]Y'H]YfY'gY'Vgh'"9g']gh'_Ufž
XUgg'X]Y'G]W'Yf\Y]h]ja' a Yf'X]Y'cVYfghY'Df]cf]hÅh'\Uhž'Y[U'k]Y
ZUgn]b]YfYbX'Y]b'H]Yf'Ui W']gY]b'a U["

I a' a Y\ f'ØVYf'X]Y' [Y\Y]a Y'H]Yfk Y'h]a' Ncc'@Y]dn]['ni 'YfZU\ fYbž
Ya dZY\`Yb'g]W'X]Y'DcXWUghgž'X]Y'Y]bYb'h]YZYb'9]bV`]W_]b'X]Y
j YfgW']YXYbYb'H]YfUfhYb'gck]Y'XYfYb'@VYbYbgVYX]b[i b[Yb
V]YhYb'"8]Y'6Y _Ubbh[UVYž'XUgg'Y]b][Y'5fhYb'b]W'h'ZØf'X]Y
² ZYb'h]W'_Y]h'ni [Åb[`]W']g]bXž'ZØ\fh'ni 'Y]bYa' VYggYfYa
J YfghÅbXb]g'ZØf'X]Y'<YfUi gZcfXYfi b[Ybž'X]Y'Ncc'g'gY'Vgh'VY]'XYf
5fhYbj]Y'ZU'h'i bX'!\U'h'i b['\UVYb"

G]W\ Yf\ Y]h\ Uh'J c ffUb [

8]Y'9bhgW\Y]Xi b[ž'VYgh]a a hY'H]YfY'b]W\h'XYf'2 ZYbh]W_Y]h'ni
nY][Ybž'ghY\h'b]W\h'U''Y]bY'ja 'FUi a "'8Yf'Ncc'a ŌW\hY'b]W\h'bi f
XYb'6Ygi W\Yfb'Y]b'g]W\YfYg'9f'YVb]g'V]YhYbž'gcbXYfb'Ui W\X]Y
H]YfY'gY'Vgh'gW\ØhnYb"'8]Y'D'Uhn]Yfi b['[YZ\A\ f]W\Yf'5fhYbž'k]Y'X]Y
5i ghfU'g]W\Y'GYk YgdYž'\]bhYf'XYb'?'i']ggYb']gh'XU\Yf'Y]bY
dfĀj Ybh]j Y'A U» bU\ a Y"@Yhnh]W\]gh'XUg'N]Y''YXYg'Nccg'XUg'K c\`
XYf'H]YfYž'k Ug'b]W\h'ni 'Yhnh'Xi fW\X]Y'j YfUbhk c'fhi b[gj c''Y
9bhgW\Y]Xi b['XYg'@Y]dn][Yf'Nccg'i bhYfghf]W\Yb'k]fX"'9g']gh'Y]b
6U'UbW\U_h'ink]g]W\Yb'6]'Xi b[ž'G]W\Yf\Y]h'i bX'XYf'9f\U'hi b['XYf
5fhYbj]Y'ZU'h"

: Ugn]bUh]cb'E i U''Yb'ja 'Ncc '@Y]dn][

E i U''Yb'g]bX'H]YfYž'X]Y'cZhi'a]ggj YfghUbXYb'k YfXYb"'G]Y'\UVYb
b]W\h'bi f'Y]bY'V]nUffY'9fgW\Y]bi b[ž'gcbXYfb'Ui W\ZUgn]b]YfYbXY
9][YbgW\UZhYb"'a 'Ncc '@Y]dn]['k]fX'VYgcbXYfg'X]Y'C\fybei U''Y
[Y\U'hYbž'X]Y'ZØf']\fY'Y]bn][Ufh][Yb'V]c`c []g]W\Yb'A Yf_a U'Y
VY_Ubbh']gh"'8]YgY'H]YfY'VYg]hnYb'Y]bY'VYgcbXYfY': Ā\][_Y]hž'VY]
6YXUfZ'\fY' ? ŌfdYfZcfa 'ni 'j YfĀbXYfb"'8 Ug'\]Zh'\ bYbž'g]W\ 'VYggYf
Ub'bi bhYfgW\]YX']W\Y'GhfŌa i b[Yb'ja 'K UggYf'Ubni dUggYb'bi bX']\fY
6Yi hY'YZZY_h]j Yf'ni 'ZUb[Yb"'a fY'Xi fW\g]W\h][Yb'? ŌfdYf'i bX']\fY
gW\]W\hYb'6Yk Y[i b[Yb'_ŌbbYb'6Ygi W\Yf']b'Y]bYb'ZUgh
a YX]hUh]j Yb'Ni ghUbX'j YfgYhnYb"

8]Y'VYgcbXYfYb'5i [Yb'XYf'E i U''Yb'V]YhYb'b]W\h'bi f'Y]bYb
'Y\ffY]W\Yb'9]bV']W_]b'X]Y'h]Yf]g]W\Y'K U\fbY\ a i b[ž'gcbXYfb
k YfZYb'Ui W\': fU[Yb'ØVYf'X]Y'9j c'i h]cb'bi bX
5bdUggi b[gghfUhY[]Yb'j cb'H]YfYb'Ui Z"'9g']gh'VYa Yf_Ybgk Yfhž
XUgg'X]Y'9j c'i h]cb'XYf'E i U''Yb'j c'f'fi bX') \$\$'A]''cbYb'x\ fYb
VY[Ubb' 'g]Y'g]bX'Y]bY'XYf'Ā'hYghYb'@VYbgZcfa Yb'Ui Zi bgYfYa
D'UbYhYb"'8Yf'Ncc '@Y]dn]['V]YhYh'gca]h'Y]bY'D'UhhZcfa ži a 'X]YgY
Y]bn][Ufh][Y'@VYbgk Y]gY'i bX'X]Y'6]c`c []Y'XYf'E i U''Yb'ni
YfZcfgW\Yb'bi bX'Y]bYa 'VfY]hYfYb'Di V'_i a 'bĀ\Yfni Vf]b[Yb"

2 _c`c []g]W\Y'6YXYi hi b['XYf'E i U''Yb

E i U`Yb'gd]Y`Yb`Y]bY`YbhgWXY]XYbXY`F c`Y`]a`a`Uf]bYb
² _cgmghYa`"G]Y`g]bX`gck c`F`Ai`VYf`U`g`Ui`W`6Yi`hY`]bbYf\U`V`XYf
a`Uf]bYb`BU\fi`b[g_YhhY`"b`gVYgcbXYfY`]b`XYb`Y`hnhYb`d\`fYb`\Uh
g]W`[`YnY][`h`XUgg`X]Y`6YghAbXY`j`cb`E i U`Yb`]b`j`]Y`Yb`HY`]Yb`XYf
K`Y`hni`bY\`a`Yb`z`k`Ug`Ui`Z` ,`VYfZ]gW`i`b[`i`bX`XUg`J`YfgW`k`]bXYb
bUh0f`]W`Yf`F`Ai`VYf`ni`f0W`_ni`Z0`fYb`]gh`"8]YgY`Ni`bU`a`Y`\Uh
k`Y]hfY]W`YbXY`5i`gk`]f`_i`b[`Yb`Ui`Z`X]Y`a`Uf]bYb`²`_cgmghYa`Y`z
Y]bgW`>`Y»`>`]W`J`YfAbXYfi`b[`Yb`]b`XYb`BU\fi`b[`gbYhnYb`i`bX`XYf
?cb`_i`ffYbni`a`ghAbXY`Z0f`UbXYfY`A`YYfYgVYk`c`bYf`"

b`XYb`Y`hnhYb`d\`fYb`k`i`fXY`Ui`W`VYcVUW`hYh`XUgg
E i U`YbV`0hYb`XUg`9f[`YVb]g`j`cb`9fXYfk`Afa`i`b[`i`bX
b`A`fghc`ZZfY]W`Yb`5V`k`AggYfb`g]bX`z`X]Y`]b`C`nYUbY`[`Y`Y]hYh`k`YfXYb`"
Gc`W`Y`0`c`c`[`]gW`Yb`J`YfAbXYfi`b[`Yb`_0bbYb`X]Y`;`Ygi`bX`Y]h
[`Ubnyf`A`YYfYg0`_cgmghYa`Y`[`YZ`A`fXYb`"8Yf`Ncc`@Y]dn][`z`]bXYa`Yf
0VYf`E i U`Yb`Ui`Z`_`Afh`z`hfA`[`h`ni`f`GYbg]V`]g]Yfi`b[`Z0f`X]YgY
k`]W`h][`Yb`l`a`k`Y`h`z`fU[`Yb`VY`]i`bX`VYhcbh`X]Y`B`chk`YbX][`_Y]h`Y]bYg
bUW`U`h][`Yb`l`a`[`Ub[`g`a`]hi`bgYfYb`;`Yk`AggYfb`"

Ncc`@Y]dn][`i`bX`XUg`9b[`U[`Ya`Ybh`Z0f` 6]cX]j`Yfg]h`A`h`

8Yf`Ncc`@Y]dn][`gd]Y`h`b]W`h`bi`f`Y]bY`F`c`Y`]b`XYf`Df`AgYb`hUh]cb
j`cb`H]YfYb`Z0f`X]Y`²`ZZYb`h]W`_Y]h`z`gcbXYfb`Yb[`U[`]Yfh`g]W`_Ui`W`
U`_hj`Z0f`XYb`5fhYbgW`i`h`ni`bX`X]Y`9f`U`hi`b[`]j`cb`6]cX]j`Yfg]h`A`h`"
8i`fW`Dfc[`fUa`a`Y`0VYf`Ni`W`hi`bX`K`]YXYfUbg]YX`i`b[`VYXfc`hYf
5fhYb`V]YhYh`XYf`Ncc`Y]bYb`k`]W`h][`Yb`6Y]hfU[`ni`f`9f`U`hi`b[`XYf
V]c`c`[`]gW`Yb`J`]Y`ZU`h`J`]Y`Y`Ncc`g`k`Y`hk`Y]h`z`Y]bgW`>`Y»`>`]W`@Y]dn][`z
UfVY]hYb`a`]hj`YfgW`]YXYbYb`C`f[`Ub]gUh]cbYb`ni`gUa`a`Yb`z`i`a
8UhYb`ni`gUa`a`Y`b`i`bX`GhfUhY[`]Yb`ni`Yb`hk`]W`_Y`b`z`X]Y`XYb`GW`i`h
VYXfc`hYf`5fhYb`i`bhYfgh0hnYb`"

8Yf`Ncc`@Y]dn][`_`Afh`gY]bY`6Ygi`W`Yf`Ui`W`0VYf`X]Y`a`cXYfbYb
<YfUi`gZcfXYfi`b[`Yb`Ui`Z`a`]h`XYbYb`j`]Y`Y`H]YfY`z`Y]bgW`>`Y»`>`]W`
E i U`Yb`z`_cbZfcbh]Yfh`g]bX`"8]Y`5i`Z`_`Afi`b[`i`bX`GYbg]V`]g]Yfi`b[
XYf`²`ZZYb`h]W`_Y]h`g]bX`YbhgWXY]XYbX`z`i`a`Y]bY`;`YbYfUh]cb`j`cb
l`a`k`Y`hgW`0hnYfb`ni`Z`cfa`Yb`z`X]Y`g]W`_U`hj`Z0f`XYb`GW`i`h`j`cb
@VYb`g`f`A`i`a`Yb`i`bX`5fhYbj`]Y`ZU`h`Y]bgYhnYb`" ,`VYf`

J YfUbgH`hi b[Ybž'K cf_g\cdg'i bX'ϑZcfa Uh]cbgVfcgW\ØfYb'k]f_h
XYf'Ncc'Ui ZX]Y'; YgY``gW\UZh'Y]b'i bX'ZØfXYfhi a k Y'hVYk i gghYg
<UbXY`b"

8YhU]`g

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