



MMAN9451

A UghYfg`Dfc`YWhi5

HYfa`Cby`##`&\$&%

GWcc`cZA`YXUb]WU`UbX`A`Ubi`ZUWh`f]b[`.9b[`.]bYYf]b[`.##`.I`BGK`.9b[`.]bYYf]b[`

7ci fgY`Cj Yfj]Yk

GhJZZ`7cbhJW`8YhJ`g

7cbj Ybcfg

B Ua Y	9a Uj`	5j Uj`UVj`]m	@cWjhcb	D\cbY
HfUWj`6UfVYf	hVUfVYf4 i bgk "YXi "Ui	D`YUgY`W`b hJW`Vm Ya Uj`cf`HYUa g	>%+`(\$%5	

GWcc`7cbhJW`bZcfa Uh]cb

@cWjhcb

I BGK `A YWUbj]Wj`UbX`A Ubi ZjW`f]b[`9b[]bYYf]b[

5]bgk cft\`Vi]X]b[`>%+ž@Yj Y`%

5Vcj Y`7cZYY`cb`7Ua di g

<ci fg

-.\$\$-).\$\$da žA cbXUm=: f]XUm†

†7`cgYX`cb`di V`]W`c`]XUmgžGWcc`gWYXi `YX`Yj Yb]g`UbX`I b]j Yfg]mG\i hXck b

K YV

[GWcc`cZA YWUbj\]Wj`UbX`A Ubi ZjW`f\]b\[`9b\[\]bYYf\]b\[](#)

[9b\[\]bYYf\]b\[`Gh_XYbhGi ddcfhGYfj \]Wg](#)

[9b\[\]bYYf\]b\[`bXi g\]f\]U`HfU\]b\]b\[](#)

9a U]

[9b\[\]bYYf\]b\[\]Gh.XYbhGi ddcfhGYfj \]Wg](#) – W ffYbhghi XYbhYbei]f]Yg

- Y"["Ybfc`a Yblždfc[fYgg]cbžWUg\`fYei YgrgžWci fgY`]ggi Yg`cf`dfc[fUa !fY`UhYX`ei Yf]Yg

[9b\[\]bYYf\]b\[\]`bXi.glf\]U`HfU\]b\]b\[\]`bXi.glf\]U`HfU\]b\]b\[\]`ei Ygh\]cbg](#)

[I.BGK`Gh.Xm5VfcUX`](#) – gh XmiUVfcUX`gh XYbhYbei]f]Yg`fZcf`]bVci bX`gh XYbhgk

[I.BGK`9I.WXUb\[Y`](#) – gh XYbhYI WXUb[Y`Ybei]f]Yg`fZcf`]bVci bX`gh XYbhgk

[I.BGK`i.h.fY`Gh.XYbhg](#) –`dchYbh]U`gh XYbhYbei]f]Yg

- Y"["UXa]gg]cbgžZYgždfc[fUa gžWYX]hifUbgZYf

[GWcc`C.ZZVW`](#) – GWcc`[YbYfU`cZZVW`UXa]b]ghfU]cb`Ybei]f]Yg

- B6. h.Y`fY`Yj UbhYUa g`]ghYX`UVcj Y`a i ghVY`WcbUWYX` - gh XYbhYbei]f]Yg

7 ci fgY'8YHJ]g

7 fYX]hDc]bHg' (')

Gi a a UfmicZ\hY'7 ci fgY

H\Y'hYg]g'dfcj]XYg'Ub'cddcfh b]mZcf'mci 'hc'Vf]b['hc[YhYf'Yb[]bYYf]b['df]bW]d'Yg''YUfbYX'cj Yf mci f'dfYj]ci g'mYUfg'cZgh XmUbX'Udd'mhYgY'df]bW]d'Yg'hc']bbcj Uhj Y'mgc'j Y'dfcV'Ya g'gi V\Ug'hY XYj Y'cda YbhcZU'gdYW]ZWXyg][bZ'dfcW'gg'UbX#cf'hY]bj Ygh[Uh'cb'cZU'\md'chYg]g" H\Yg]g'dfc'YW'g'UfY W'ca d'YI žcdYb!YbXYX'dfcV'Ya g'hUhU'ck'fccca'Zcf'mci f'WYUhj]mž'UbX'hY'UW'ei]g]h'cbž'UbU'mg]g'UbX]bH'fd'fYUh]cb'cZfYgi 'hg" H\YfY'UfY'a i 'h'd'Y'dcgg]V'Y'gc'i h'cbg'cf'W'cbW' g]cbg'UbX'gi Z]WYbhW'ca d'YI]mhc f'Yei]fY'U'XY[f'Y'cZ'dfc'Y'W'id'Ubb]b[""H\Y'hYg]g'f'Yei]fY'g'mci 'hc'Z'ca i 'Uh'Y'dfcV'Ya g']b'g'WYbh]Z'Wcf Yb[]bYYf]b['h'fa g'ž'a UbU[Y'U'h'W'X'b]W]d'fc'Y'W'UbX'Z'bX'gc'i h'cbg'VmUdd'm]b['g'WYbh]Z'WUbX'Yb[]bYYf]b[a Y'h'cXg" 'Mci 'k]'U'gc'XYj Y'cd'hY'UV]]mhc'k'cf_]b'U'fYgYUfW\UbX'XYj Y'cda Ybh'Ybj]f'c'ba Ybh' 'Mci 'a i gh]XYbh]Z'm'U'gi d'Yfj]gcf'UbX'dfc'Y'W'id'f]cf'hc'Ybfc'']b[]b'h'g'W'ei fgY""H\]g'hY'Z]fghW'ei fgY'cZ'hY'h'f'Y W'ei fgY'h'Yg]g'gh'f' W'f'Y"

7 ci fgY'5]a g

H\Y'hYg]g'dfcj]XYg'Ub'cddcfh b]mZcf'hY'gh XYbh'hc'Vf]b['hc[YhYf'Yb[]bYYf]b['df]bW]d'Yg''YUfbYX'cj Yf hY]f'dfYj]ci g'mYUfg'cZgh XmUbX'Udd'mhYgY'df]bW]d'Yg'hc']bbcj Uhj Y'mgc'j Y'dfcV'Ya g'gi V\Ug'hY XYj Y'cda YbhcZU'gdYW]ZWXyg][bZ'dfcW'gg'UbX#cf'hY]bj Ygh[Uh'cb'cZU'\md'chYg]g" H\Yg]g'dfc'YW'g'a i gh VY'W'ca d'YI žcdYb!YbXYX'dfcV'Ya g'hUhU'ck'fccca'Zcf'gh XYbh'WYUhj]mž'UbX'hY'UW'ei]g]h'cbž'UbU'mg]g'UbX]bH'fd'fYUh]cb'cZfYgi 'hg" H\YfY'a i ghVY'a i 'h'd'Y'dcgg]V'Y'gc'i h'cbg'cf'W'cbW' g]cbg'UbX'gi Z]WYbh W'ca d'YI]mhc'f'Yei]fY'U'XY[f'Y'cZ'dfc'Y'W'id'Ubb]b['Z'ca 'hY'gh XYbh'H\Y'hYg]g'f'Yei]fY'g'hY'gh XYbh'hc'Z'ca i 'Uh'Y'dfcV'Ya g']b'Yb[]bYYf]b['h'fa g'ž'a UbU[Y'Ub'Yb[]bYYf]b['dfc'Y'W'UbX'Z'bX'gc'i h'cbg'VmUdd'm]b[Yb[]bYYf]b['a Y'h'cXg" 'Gh XYbh'g'U'gc'XYj Y'cd'hY]f'UV]]mhc'k'cf_]b'U'fYgYUfW\UbX'XYj Y'cda Ybh Ybj]f'c'ba Ybh'

7 ci fgY '@YUfb]b['Ci hW'ca Yg

5Z'Yf'gi W'W'ggZ ''mW'ca d'Yh]b['h'g'W'ei fgYž'mci 'g\ci 'X'VY'UV'Y'hc.

@YUfb]b['Ci hW'ca Y	95'GHJ[Y'%7ca dYHbW]Yg
%''8Yj Y'cd'U'XYg][b'cf'U'dfcW'gg'cf']bj Ygh[Uh'Y'U'\md'chYg]g Zc'ck]b[]bXi g'f'm'UbX'dfcZ'Ygg]cbU'Yb[]bYYf]b['gh'UbX'UfXg''	D9%'%
&''7f]h'W' 'm'f'ZY'W'icb'U'gd'Y'W]U'gh'Ve'X'micZ_bck'YX[Y'fY'Uh'X'hc'hY]f'h'Yg]g'h'cd]W'	D9%'"
' ''5dd'mg'WYbh]Z'WUbX'Yb[]bYYf]b['a Y'h'cXg'hc'gc'j Y'Ub Yb[]bYYf]b['dfcV'Ya ''	D9'&''&
(' ''5bU'mgY'X'U'U'cV'Y'W]j Y'mi g]b['ei Ub]h]Uh] Y'UbX'a Uh'Ya Uh]W]a Y'h'cXg''	D9%'&
) ''8Ya cbg'f'Uh'cf'U'UbX'k'f]h'Yb'W'ca a i b]W]h]cb']b'dfcZ'Ygg]cbU'UbX'Um'Xca U]bg''	D9' '&

HYUW\]b['G'f'U'hY[]Yg'

H\Y`Wt i fgY`jg`hUi [\hUg`Ub`]bX]j]Xi U`fYgYUfW`dfc`YWz`hc`XYj Y`cd`U`Yj Y`cZfYgYUfW`g_]`g`UbX
Ui`h`bca`m`

F Ygci fWg

F YWca a YbXYX'F Ygci fWg

BchUj U]UV'Y

7ci fgY'9j U'i Uh]cb'UbX'8Yj Y'cda Ybh

@UVcfUhcfmK cf_g\cd' bZcfa Uh]cb

7CJ 8!%- BC H9. 'H\Y'GWcc''UVcfUhcfmZUW]j]hYg'UFY'cdYb'hc'fYgYUfW' h\Yg]g'gh XYbhg/\ck Yj Yfz'UWWgg
]g''ja]hYX''Hc'Wca d'mk]h' [cj Yfba Ybh]gcW]U'X]ghUbw]b['fYei]fYa YbhgZ'Y"["Z('gei UFY'a YhYfg'dYf
dYfgcbz'YUW'fcca '\Ug'U'a Ul]a]a 'WUdUW]m''ja]h'k \]W'k]''VY'a cb]hc'fYX'VmihY'gi dYfj]g]b[
dfcZ'gg]cbU''ghUZZ'D'YUgY'WXYW'k]h' h\Y''UVcfUhcfmZUW]f']b'mci f'UFYU'VYZc'fY'UWWgg]b['UbX'cVgYfj Y'hY
'ja]h'UbX'U''c'hYf'gUZ'hmidfYW]i h]cbg"

Mci 'a i ghgYY_[i]XUbW'UbX'Uddfcj U'Zca 'mci f'H\Yg]g'gi dYfj]gcf'df]cf'hc'Ubmi'UVcfUhcfmUW]j]hYg"

H\Y''UVcfUhc]f]Yg'UFY'h\Y'fYgdcbg]V']]mciZ'h\Y'ghUZZ]b]WUf[Y'Z'UbX'mci 'a i ghcdYfU'h'k]h']b' h\Y'UWW'dhYX
dfUW]W]g'cZ'h\Y''UVcfUhcfmVcbW'fbYX''@UVcfUhcfm]ghUZZ'UFY'\]['\mg_]''YX'UbX'\Y'dZ' /hU_Y'Z' ''UXj UbhU[Y
cZ'h\Y]f'YI dYfj]YbW' /\ck Yj Yfz'mci 'g\ci 'X' bchYI dYW'h'UVcfUhcfm]ghUZZ'hc' hU_Y'fYgdcbg]V']]mZc'f'mci f'h\Yg]g
cf'WUffmci hk cf_'Zc'f'mci "

Z'mci f'dfc'YWh]bj c] Yg''UVcfUhcfmk cf_Z'WcbUW'h\Y'cZ]W]f]]b]WUf[Y'fC => E'cZ'h\Y''UVcfUhcfm]b'k \]W' mci
k]''VY'k cf_]b['Ug'gccb'Ug'dcgg]V'Y'hc'X]gW'gg'mci f'fYei]fYa Ybhg''H\Ymk]''ggj Y'mci 'k]h' U'@UVcfUhcfm
5W]gg'5ddfcj U'f'5E'Zc'fa 'k \]W' mci 'a i ghWca d'Yh'UbX'fYh' fb'hc'h\Y'C => "

[: cf'a cfY' \]bZcfa Uh\]cb'UVci hUWWgg\]b\['h\Y'GWcc' 'g' UVcfUhc\]f\]YgZ'd'YUgY'j \]g\]h\Y'GWcc'
k'YVg\]hY' \h\]dg.##k k k "Yb\[\]bYf\]b\["i bgk "YXi "Ui #a YWU\]b\]W\]!Yb\[\]bYf\]b\[#Ygci fWg#UV!UWWgg!\ck !hc!
Zcfa g](#)

K cf_g\cd

Mci 'a i ghgYY_[i]XUbW'UbX'Uddfcj U'Zca 'mci f'H\Yg]g'gi dYfj]gcf'df]cf'hc'fYei Ygh]b['UbmK cf_g\cd
UW]j]hYg"

5`gh XYbhUWj]hYg fYei]f]b['a Ubi ZJWñ fY']b'hY'A YWUbjWU`UbX'A Ubi ZJWñ f]b['9b[]bYYf]b['fA A 9Ł
k cf_g\cd'g\ci 'X'VY'X]gW ggYX'k]h'hY'k cf_g\cd'dYfgcbbY`UhihY']bWd]cb'cZ'hY'k cf_"H\Y'k cf_g\cd
dYfgcbbY`a i gh\Uj Y'hY'cddcfi b]mhc'UXj]gY'UbX']bZi YbW'hY'XYg][b'hc'\Y'd'a]b]a]gY'UggYa V'mž
a Ubi ZJWñ fY'cf'Z bW]cbU`dfcV'Ya g"

H\Y'k cf_g\cd']g'i gi U`m]b'j Yfm\][\ 'XYa UbX" 'Zmci 'fYei]fY'hY'k cf_g\cd'hc'a Ubi ZJWñ fY'Yei]da Ybh
YggYbh]U`hc'mci f'hYg]gž'hYb'a U_Y'gi fY'hUhmci 'X]gW gg'mci f'fYei]fYa Ybhg'Ug'YUfmUg'dcgg]V'Y'k]h'hY
K cf_g\cd#@UVcfUhcfmA UbU[Yf"Mc']g\ci 'X'dfcj]XY'Yb[]bYYf]b['XfUk]b[g'k \]W'UfY'Z]fghUddfcj YX'Vm
hY'UVcfUhcfmC 7"Mc']g\ci 'X'a U_Y'Yj YfmYZc'fhc'a]b]a]gY'hY'K cf_g\cd'cUX'Vma cX]h]b['YI]gh]b[
Yei]da YbhfU'hYf'hU'Vi]X]b['Zca 'bYk žUbX'Vm_YYd]b['mci f'XYg][bg'g]a d'Y

UggYgga YbhdYfZcfa UbWžmci 'UfY'Y'[J]V'Y'hc'Udd'mZcf'GdYWU'7 cbg]XYfUhc'b'df]cf'hc'gi Va]h]b['Ub
UggYgga Ybhcf'g]h]b['Ub'YI Ua "

I BGK 'bck '\Ug'U': [Jhrc'G\]h#Gi Va \]hfi_Yžk \\]](#)W'a YUbg'hUh]Zmci 'UhtYa dhUb'YI Ua 'cf'gi Va]hU'd]YW'cZ
UggYgga Ybhž'mci 'UfY'XYWUf]b['mci fgY'Z]hYbci [\ 'hc'Xc'gc'UbX'WUbbch'Uhtf'Udd'mZcf'GdYWU'
7 cbg]XYfUhc'b"

: cf'XYHU]g'cZUdd'm]b['Zcf'GdYWU'7 cbg]XYfUhc'b'UbX'WcbX]h]cbg'Zcf'hY'Uk UfX'cZgi dd'Ya YbhUfm
UggYgga Ybhž'd'YUgY'gYY'hY'jbZcfa Uhc]b'cb'I BGK 'g'[GdYWU'7 cbg\]XYfUhc'b'dU\[Y](#)"

D'YUgY'bc'hY'hUhghi XYbhg'k]'bchVY'fYei]fYX'hc'dfcj]XY'UbmXcW a YbhUfmYj]XYbW'hc
gi ddcfhiUVgYbW'g'Zca 'UbmWUggYg'a]ggYX'VYWU]i gY'cZ7CJ -8!%- 'di V']W\YU'h'a YUgi fYg'gi W'Ug
]gc'Uh]cb" I BGK 'k]'bchVY']bg]gh]b['cb'a YX]W'Wf]h]W]hYg'Zca 'UbmcbY'XYYa YX'hc'VY'U'dcg]h] Y'WUgYž
cf'k \Yb'hYm\Uj Y'fYVčj YfYX" 'Gi W'Wf]h]W]hYg'UfY'X]Z]W'h'hc'cVhU]b'UbX'di hUb'i bbYW'ggUfmgfU]b'cb
ghi XYbhg'UbX'a YX]W'ghUZZ'

5dd']W]h]cbg'Zcf'gdYWU'Wcbg]XYfUhc'b'k]'VY'fYei]fYX'Zcf'UggYgga YbhUbX'dUfh]W]dUhc'b'UVgYbW'g'—
Vi hbc'XcW a YbhUfmYj]XYbW'Zcf'7CJ -8 %-]'bYgg'cf']gc'Uh]cb'k]'VY'fYei]fYX"

5 WUXYa]W=Zcfa Uh]cb

7 fYX]hdc]bHg

7 ci fgY WYX]h]g WUW UHX]b] b]hg!C Z 7 fYX]hfl C 7 E"H\Y'bcfa U'k cf_cUX'YI dYWU]cb Zc'cbY'I C 7]g Uddfcl]a UH'm&) \ci fg dYf'h'fa "H\]g]bW' XYg WUgg WcbUW\ci fgždf]j UH'gh Xnž'ch'Yf'YUfb]b[UW]j]hYgždfYdUfU]cb UbX'h]a Y'gdYbhc'b U''UggYggUV'Y'k cf_"

A cghWci fgYk cf_Wci fgYg'Uhi BGK 'UFY*'I C 7 'UbX']bj c]j Y'Ub'Ygh]a UHX'%) \$ \ci fg hc Wca d'YHžZcf'Vch fY[i 'Uf'UbX']bH'bg]j Y'h'fa g''9UWX Wci fgY']bW' XYg'U'dfYgW]VYX'bi a VYf'cZ\ci fg dYf'k YY_'f# E'cZ gWYXi 'YX'ZJW!hc!ZJW'UbX#cf'cb']bY WcbUW'5bmUXX]hcbU'h]a Y'VYmcbX'h'Y'dfYgW]VYX'WcbUW\ci fg g\ci 'X'VY'gdYbh]b'a U_]b['gi fY'h'Uhmci 'i bXYfgHUbX'h'Y'YV' fY'a UH'f]U'ž'Wca d'Yh]b['h'Y'gYh Ugg][ba YbHgžZ f'Yf'fYUX]b[ž'UbX'fYj]g]b['Zcf'UbmYI Ua]bU]cbg"

C b!WJa di g WUgg UH'YbXUbW

Di V]WX]ghUbW]b['WcbX]hcbg'a i ghVY Zc'ck YX'Zcf'U''ZJW!hc!ZJW'WUggYg''Hc'Ybgi fY'h]gž'cb'migh XYbHg

⇒ dcfhUbh@]b_g

- [A ccX`Y](#)
- [@UV`5WV`gg](#)
- [<YU`h`UbX`GUZYhm](#)
- [7ca`di`hb\[`: UW`hYg](#)
- [Gh`XYbhF`Ygci`fW`g](#)
- [7ci`fgY`Ci`h\]bYg](#)
- [9b\[\]bYYf\]b\[`Gh`XYbhGi`ddcfhGYfj`_W`g:7YbhfY](#)
- [A`U`YfgdUW`](#)
- [I`BGK`H\]a`YhUV`Y](#)
- [I`BGK`<`UbXVcc`](#)
- [I`BGK`A`YWX`Ub\]W`UbX`A`Ubi`ZUW`f\]b\[`9b\[\]bYYf\]b\[](#)
- [9ei`\]hUV`Y`@YUfb\]b\[`GYfj`_W`g](#)

⇒ U[Y`7`fYX]h

GmbYf[]Yg`]b`Gci`bX`&\$%*`

7F ⇒ CG

7F ⇒ CG`Dfcj`]XYf`7`cXY.`\$\$\$-`,`;

5W_bck`YX[`Ya`YbhcZ`7`ci`b]fm

K`Y`UW_bck`YX[`Y`h`Y`6YXY[`U`d`Ycd`Y`k` \c`UFY`h`Y`fUX]h]cbU`W`ghcX]Ubg`c`Z`h`Y`UbXg`cb`k` \]W`I`BGK`
?`Ybg]b[`hcb`W]a`di`g`]g`c`W]h`Y`X`"

5ddYbX]l . '9b[]bYYfg'5i ghfU`U'f95Ł'DfcZYgg]cbU`'9b[]bYYf'7ca dYhYbWm
 GHUbXUfX

Dfc[fUa 'hYbXYX'@YUfb]b['Ci hWta Yg	
? bck `YX[Y'UbX'g_]`VUgY	
D9%"%7 ca dfY\Ybg]j YžhYcfmVUgYX'i bXYfghUbX]b['cZhY'i bXYfd]bb]b['bUh fU`UbX d\mg]WU`gWYbWg'UbX'hY'Yb[]bYYf]b['Z bXUa YbHU'g'Udd`]WUV'Y'hc'hY'Yb[]bYYf]b['X]gWd`]bY	
D9%"&'7 cbWdh U`i bXYfghUbX]b['cZhY'a UhYa Uh]Wgžbi a Yf]WU`UbU'mg]gžghUhgh]WgžUbX Wta di hYf'UbX']bZcfa Uhcb'gWYbWg'k \]W' i bXYfd]b'hY'Yb[]bYYf]b['X]gWd`]bY	
D9%" " 'h!XYdh'i bXYfghUbX]b['cZgdYWU`]ghVcX]Yg'cZ_bck `YX[Y'k]h]b'hY'Yb[]bYYf]b[X]gWd`]bY	
D9%"('8]gWfba YbhcZ_bck `YX[Y'XYj Y`cda YbhUbX'fYgYUfW'X]fYW]cbg'k]h]b'hY Yb[]bYYf]b['X]gWd`]bY	
D9%"') ? bck `YX[Y'cZYb[]bYYf]b['XYg][b'dfUW]W'UbX'WcbhYi h U`ZUWc'fg]a dUW]b['hY Yb[]bYYf]b['X]gWd`]bY	
D9%"* 'i bXYfghUbX]b['cZhY'gWc'dYždf]bWd`Ygžbcfa gžUW]ci bhUV]`]h]Yg'UbX'Vci bXg'cZ gi ghU]bUV'Y'Yb[]bYYf]b['dfUW]W']b'hY'gdYW]ZWX]gWd`]bY	
9b[]bYYf]b['Udd`]WU]hcb'UV`]m	
D9%"%5dd`]WU]hcb'cZYghUV`]g\YX'Yb[]bYYf]b['a YhlcXg'hc'Wta d'YI'Yb[]bYYf]b['dfcV'Ya gc`]b[
D9%"&'&: 'i YbhUdd`]WU]hcb'cZYb[]bYYf]b['hYW]b]ei Ygžhc'g'UbX'fYgci fW'g	
D9%" " '5dd`]WU]hcb'cZgmgHya Uh]WYb[]bYYf]b['gmbhYg]g'UbX'XYg][b'dfcW'ggYg	