



ARTS3695

A i `h`b[i U`]ga `UbX`@Ub[i U[Y`D`Ubb]b[

HYfa `C.bY` `##`&\$%-

7ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWUhc b	D\cbY
5b]_I` < Uhcgg	U"\"Uhcgg4 i bgk "YXi "Ui	H\i fgXUmj`%d' da	A cfj Yb`6fck b &&\$	\$&`-' ,) , ' (\$

GW\cc``7cbhUWhi`bZcfa Uh]cb

GW\cc``cZ<i a Ub]h]Yg`UbX`@Jb[i U[Yg

@cWUhc b. `GW\cc``C Z]WZ`A cfj Yb`6fck b`6i]X]b[ž`@Yj Y``&ž&),

CdYb]b[`<ci fg.`A cbXUm!`: f]XUmž`- Ua `!`) da

D\cbY. `ž`*%&`-' ,) `)%*, %

: U! . `ž`*%&`-' ,) `; , +\$)

9a U]. [\U`4 i bgk "YXi "Ui](#)

7ci fgY'8YHJ`g

7fYX]hDc]bhtg`*`

Gi a a UfmicZ\hY'7ci fgY

h`h]g`Wci fgY`mci `k]`YUfb`UVci h`hY`ZJWtcfg`k \]WX`ja dUW`icb`h`Y`gdfYUX`UbX`i gY`cZj`Uf]ci g`Ub[i U[Yg
UbX`mci `k]`XYj`Y`cd`Ub`i bXYfgHUbX]b[`cZ\ck`dc`]M]Yg`UbX`Ub[i U[Y`d`Ubb]b[`]b]h]Uhj] Yg`WUb`VXUb[Y`h`Y
`Ub[i U[Y`YWc`c[mcZa`i`h]W`h`fU`UbX`a`i`h]b[i U`Wca`a`i`b]h]Yg`Mci `k]`Udd`mimci`f`_bck`YX[Y`]b
]bcbj`Uhj] Y`k`Umgz`Zcf`YI`Ua`d`Yz`h`fci [\`h`Y`Z]Y`Xk`cf`_dfc`Y`W`h`k` \]WX`mci `k]`WcbXi`Vh]b`GmXbYm
Wca`a`i`b]h]Yg`H`fci [\`Wc`Y`W]b[`fYU`XUH]Z`ca`j`Uf]ci g`Ub[i U[Y`Xca`U]bg`fY["`a`Uf`Yhgz`WJZYgž
]VfUf]Ygž`mci `k]`XYj`Y`cd`U`W]h]WU`i bXYfgHUbX]b[`cZ\ck`a`i`h]b[i U]ga`d`Umg`U`fc`Y`]b`h`Y`Yj`YfmXUm`]Z
cZgdYYW`Wca`a`i`b]h]Yg`UbX`]bX]j`]Xi`U`g`Mci `k]`U`gc`[U]b`U`W]h]WU`i bXYfgHUbX]b[`cZ\h`Y`ZJWtcfg`k \]WX
`YUX`tc`Ub[i U[Y`YbXUb[Yfa`YbhUbX`Ub[i U[Y`g\]Zi`H`Y`Wci fgY`WUb`VY`i gYZ`Zcf`U`WUfYf`]b`UfYUg`cZ
a`i`h]W`h`fU]ga`UbX`dc`]W]fY`UH`X`k`cf`_Wcb`h]Y`hg"

7ci fgY`@YUfb]b[`Ci hWca Yg

%`5ggYgg`h`Y`dc`]h]WU`z`XYa`c[fUd\]WUbX`gcW]c!UZZYW]j`Y`ZJWtcfg`h`Uh]ja dUW`i`Ub[i U[Y`i`gY`]b`gcW]Ym!
&"`7f]h]ei`Y`h`Y`YZZY`W`icZ`Ub[i U[Y`dc`]M]Yg`cb`]b[i]gh]WX]j`Yfg]mi]b`fY`Yj`UbhigdYYW`Wca`a`i`b]h]Yg"
'`" `9j`U`i`UH`Z]Y`Xk`cf`_XUH]`fY`Yj`Ubh]c`a`i`h]b[i U]ga`]b`gdYYW`Wca`a`i`b]h]Yg"
(`" `8Yj`Y`cd`Z]Y`Xk`cf`_gh]UH]`[]Yg`UbX`]bgh]i`a`Ybh]g`Zcf`Wc`Y`W]b[`XUH]`UVci`h`Ub[i U[Y`i`gY`]b`fY`Yj`Ubh
gdYYW`Wca`a`i`b]h]Yg"
)`" `7f]h]WU`m`fYZY`W`icb`Z]Y`Xk`cf`_XUH]`UbX`Z]Y`Xk`cf`_YI`dYf]YbW"

HYUWX]b[`GhfUH]`]Yg`

H\]g`Wci fgY`i`gYg`U`Z]ddYX`WUggfcca`UddfcUW`k`Y`fY`a`cghcZ\hY`WUgg!h]a`Y`]g`gdYbhcb`X]gW`gg]b[`dfY!
gYhfYUX]b[g`UbX`YI`YfM]gYg`@Y`W]fYg`UfY`XYg][`bYX`tc`XYj`Y`cd`gh`XYbhgf`W]h]WU`h`]b_]b[`UVci`hia`UWfc!
gcW]c`]b[i]gh]W`WcbW`dhtg`UbX`h`Y]f`]bXYdYbXYbh]fYgYUfW`g_]`g`]b`gcW]c`]b[i]gh]Wg`Gh`XYbh]g`k]`VY`Ug`YX

5ggYgga Ybh

C bW'UggYgga Ybh]g'Wta d'YhX']b'A ccX'Yžgh XYbhg'k]'VY'YbWti fU[YX'hc'g\UFY'h\Y]f'k cf_'cb'h\Y'dfc'YWh
k YVg]h'"GYY'dfYj]ci g'gh XYbhk cf_'cb'k k k "i bgk ""k cfXdfYgg"Wta "

5ggYgga YbhHUg_g'

5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
D %o			

8YHJ]g. 'Gh XYbthg:k f]h'U'W]hW'`YggUmf&) \$\$'k cfXgZ'fYZfYbW'gE'fY'UH'X'hc'h\Y'hYa Y'cZa]bcf]m
'Ub[i U[Yg'UbX'fY'Yj Ubh'fYj]hU']nUh'cb'YZc'fmg'" Gh XYbthg'fYVW'] Y'k f]h'Y'b'ZYXVUW_'H\]g']g'h\Y'Z]bU'
UggYgga Ybh'Zc'f'U'h'Y'bXUbVW'`di fdcgYg"

Hi fb]h]b'gYh]b[. H\]g'Ugg][ba Ybh]g'gi Va]h'X'h'fci [\ 'Hi fb]h]b'UbX'ghi XYbthg'Xc'bcgYY'Hi fb]h]b
g]a]Uf]mifYdc'fmg"

5 HbXUbW F Yei]fYa Ybhg

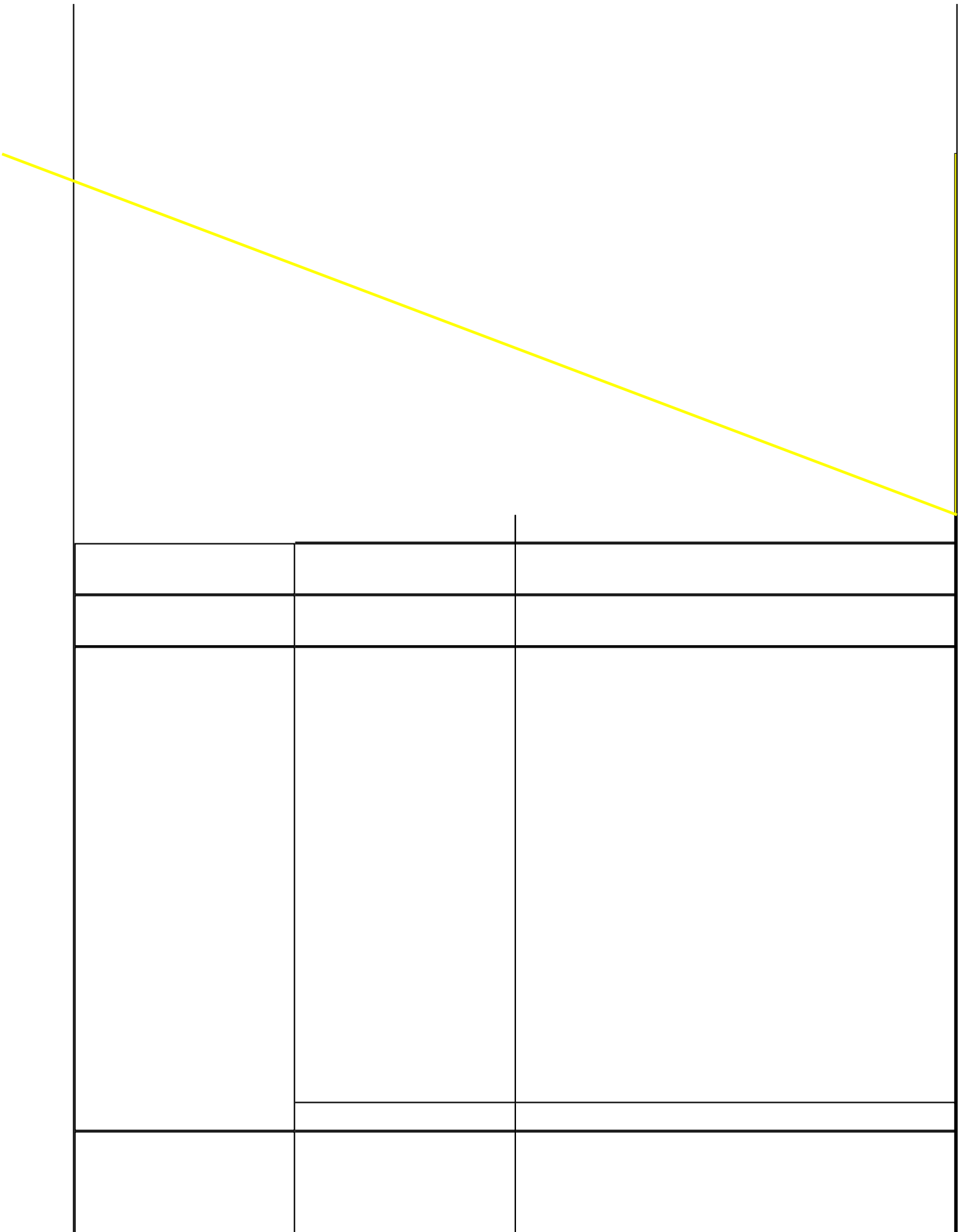
D YUgY bch hUh YWfi fY fYwFX]b[g UfY bchUj U]UV Y Zcf h]g Wci fgY" Gh XYbhg UfY gfc b[mYbWci fU[YX hc UHbX U WUggYg UbX WcbhUWh Y 7 ci fgY 5i hcf]mhc a U_Y UHfbUhj Y UffUb[Ya Ybhg Zcf WUggYg a]ggYX"

7 ci fgY GWXYXi Y

[J \]yk WUgg ha YHUV Y](#)

H]a YHUV Y

8UH	HmdY	7cbhYbh
K YY_%% : YVfi Ufm! :&(: YVfi Ufm	A cXi Y	ðhfcXi W]b[a i h]]b[i U]ga Zfca U'gcW]U dYfgdYWHj Y. H\YcfYh]W]ža YhcXc`c[]W] UbX cbhc`c[]W] ei Ygh]cbg <cfbYf!K YVYf 7 \UdhYf %ž & UbX "
K YY_&		%o %o %o †



		<p>U[i U[Y`YXi WUjcb" "G" A UmUbX`B" "<" < cfbVYf[Yf`fYXgŁ`f&\$\$, Ł`9bWwWcdYX]U`cZ @Ub[i U[Y`UbX`9Xi WUjcbž`&bX`9X]jcbž J c`i a Y`% `@Ub[i U[Y`Dc`]WmUbX`Dc`]hWU` =ggi Yg`]b`9Xi WUjcbž`%\$+-%- "Gdf]b[Yf</p>
	C b`]bY`5Wj]]m	GYY`A ccX`Y`Zcf`]bgf] Wjcbg"
K YY_`-`.%` 5df]`!`&% 5df]	A cXi` Y	<p>Gi dfUbUjcbU`"Ub[i U[Y`dc`]WmUbX`"Ub[i U[Y f][\hg</p> <p>G_i HbUVV!`? Ub[Ug`f&\$\$, Ł.`A]bcf]hYg`UbX U[i U[Y`YXi WUjcb" "G" A UmUbX`B" "<" < cfbVYf[Yf`fYXgŁ`f&\$\$, Ł`9bWwWcdYX]U`cZ@Ub[i U[Y UbX`9Xi WUjcbž`&bX`9X]jcbžJ c`i a Y`% `@Ub[i U[Y Dc`]WmUbX`Dc`]hWU` =ggi Yg`]b`9Xi WUjcbž`%\$+-%- " Gdf]b[Yf</p> <p>J UfYbbYgž: "f&\$\$%Ł`@Ub[i U[Y`f][\hg`Ug`Ub`]bH[fU` dUfhcZ\i a Ub`f][\hg" "hYfbUjcbU`">ci fbU`cb A i`hW`h fU`GcWYhYg`fŁ`A GŁžJ c`" " žBc`" %ž&\$\$% %`!`&)"</p> <p>Gdc`g_mf&\$\$-Ł`A UbU[]b[`Ub[i U[Yg`UhH`Y gi dfUbUjcbU`"Yj Y`"7 \UdhYf`%%]b`@Ub[i U[Y A UbU[Ya Ybh`7 Ua Vf]X[Y"</p>
	C b`]bY`5Wj]]m	GYY`A ccX`Y`Zcf`]bgf] Wjcbg"
K YY_`%\$.`&&5df]`!`&, 5df]	GWYYb]b[<p>Gh XYbHg`]bHfj]Yk` YUWX`ch\Yf`UVci h_Ym]ggi Yg`]b a i`h`]b[i U`]ga "Gh XYbHg`XYj Y`cd`U`d`Ub`Zcf</p>

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]hb`Gi Va]gg]cb

Ʒmci`YbWci`bhYf`U`dfcV`Ya`k`Yb`U`H`Ya`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]hb`z`d`YUgY`
H`Y`d`l`cb`Y`9I`H`f`b`U`Gi`ddcfh`cb`-`,`),`"`,`'`,`%`cf`Ya`U]`h`Ya`cb`YI`H`f`b`U`H`f`gi`ddcfh`4`i`bgk`"YXi`"Ui`"Gi`ddcfh`
`l`ci`fg`UfY`,`.\$`\$Ua`-`%`\$.`\$`da`cb`k`YY`X`Umg`U`b`X`-`.\$`\$Ua`-`i`.\$`\$da`cb`k`YY`Y`b`X`g`f`l`*)`X`Umg`U`m`Y`U`f`l`"Ʒmci`
`UfY`i`b`U`V`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`Xi`Y`hc`U`Z`U`i`h`k`]h`Hi`fb]hb`mci`a`Um`U`dd`m`i`Z`f`U`b`YI`H`f`bg]cb`z`Vi`hmc`i`
`a`i`gh`f`Y`h]b`mci`f`h]W`Y`h`bi`a`V`Y`f`Z`ca`9I`H`f`b`U`Gi`ddcfh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`j`U`b`h`X`c`W`a`Y`b`h`g`l`hc`
`]b`W`i`X`Y`U`g`Y`j`]X`Y`b`W`hc`gi`ddcfh`mci`f`YI`H`f`bg]cb`U`dd`]W`h]cb"Ʒmci`Ya`U]`9I`H`f`b`U`Gi`ddcfh`mci`k`]`
`Ui`hc`a`U`h]W`m`i`f`Y`W`]j`Y`U`h]W`Y`h`bi`a`V`Y`f`z`Vi`h]Z`mci`H`Y`d`l`cb`Y`mci`k`]`b`Y`Y`X`hc`g`d`Y`W`]W`m`i`U`g`_`Z`f`cb`Y`
`Hi`fb]hb`U`gc`d`fc`j`]X`Y`g`i`d`X`U`H`Y`g`i`cb`h`Y`j`f`g`m`g`h`Ya`g`h`U`h`g`i`cb`H`k`]h`Y`f`"

;`Y`b`Y`f`U`m`z`U`gg`Y`g`g`a`Y`b`h`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`m`j`]U`Y`]h`Y`f`Hi`fb]hb`cf`U`A`cc`X`Y`
`U`gg][`ba`Y`b`h`-`b`]b`g`h`U`b`W`g`k`Y`f`Y`h`l`g`]g`b`c`h`i`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`H`X`i`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
`U`h`f`b`U`h]j`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`c`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`U`gg][`ba`Y`b`h`g`i`cb`]b`Y`j`]U`A`cc`X`Y`.\`h`td`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`ack`!
`gi`Va`]h`U`gg][`ba`Y`b`h`a`cc`X`Y`"

5 WUXYa]W<c bYghmiUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[`hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mW`dm]b[`Zca `U`gci fW`k]h`ci hUW_bck`YX[Ya Ybh`

I BGK `[fci dg`d`U[]Uf]ga `]bhc`hY`Zc`ck]b[`WUHY[cf]Yg.

7cdm]b[.`i g]b[`hY`gUa Y`cf`j Yfmg]a]Uf`k cfXg`hc`hY`cf][]bU`hYI hcf]XYU`k]h`ci hUW_bck`YX[]b[`hY
gci fW`cf`i g]b[`ei chU]cb`a Uf_g" `H\]g`U`gc`Udd`]Yg`hc`]a U[Ygž`UfhUbX`XYg][b`dfc`YWgž`Ug`k Y`Ug
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`Ub[]b[`U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmiFYhU]b]b[`hY`cf][]bU`
ghfi W`fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`UbX`]bZcfa U]cb`k]h`ci hUW_bck`YX[Ya Ybh`H\]g`U`gc
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]hU`bX`hc
d]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k`c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7c`i g]cb.`k cf_]b[`k]h`chYfg`Vi hdUgg]b[`cZ`hY`k cf_]Ug`U`dYfgcb`g`]bX]j]Xi U`k cf_]7c`i g]cb`U`gc
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wc'dmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj]W'g'UbX']bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k]''VY'ZJa]]Uf'hc'mci ž'c'h'Y'fg'k]''VY'bYk "'; U]b]b['U'gc`]X'i bXYfghUbx]b['cZU''h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k]''\Y'd'mci 'a U_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'f'i \]X'Y'g"'\]VfUfm'i b'gk "Y'X'i "U'i #' \]g'Y'#J'V'ci h' \]g'Y](#)

5 WUXYa]WbZcfa Uh]cb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[`hc.

- fYei Yghg`ZcfYI hYbg]cb/
- `UhY`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua]bUh]cb`dfcVWXi fYg/
- gdYW]U`Vc]bg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
- ghi XYbhYei]m]UbX`X]gUV`]m/
- UbX`chYf`YggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\h\]dg.#k k k "Ufmg"i bgk "YXi "Ui #W ffYbh\]ghi XYbh\]bZcfa Uh\]cb`dfc\]Vc`g!\[i \]XY`\]bYg#](#)

⇒ U[Y`7 fYX]h

[I BGK `@@Dfc`YWhk`YVg\]hY](#)

7F ⇒ CG

7F ⇒ CG`Dfcj]XYf`7cXY.`\$\$\$- ;