



ARTS3063

7]bYa UgʻUbXʻ7i`h fYg

GYa YghYf'C bY''##'&\$%

7 ci fgY⁻Cj Yfj]Yk

`GHJZZ`7cbHJWhi8YHJ]`g`

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]m	@cWUhjcb	D∖cbY
5ggcWJUHY DfcZYggcf >UbY A]``g	∿bY"a]``g4 i bgk "YXi "Ui	d`YUgY'Ya U]`		-',)',)&-'! VYghhc WobhUWhVm

GWXcc``7cbHJWhi=bZcfaUh]cb

Fcca '' &&ž`Yj Y`'' FcVYfhK YVghYf6i]`X]b[

D\cbY.`f\$&Ł`-' ,) `(,) *

9a U]`. <u>'gUa 4 i bgk "YXi "Ui</u>

K YVg]hY. <u>http://t</u>

H\Y'GW\cc``cZh\Y'5fhg`UbX'AYX]U'k ci`X``]_Y'hc'FYgdYW2I``m5W_bck`YX[Y'h\Y'HfUX]h]cbU``7ighcX]Ubgž h\Y'6YXY[U``fPYbg]b[hcb'WJadigŁž;UX][U``f7]hmUbX'5fh/`8Yg][b'7UadigYgŁUbX'h\Y'B[ibbUkU` dYcd'Y'fБighfU`]Ub'8YZYbW': cfW'5WJXYam]b'7UbVYffUŁcZh\Y``UbXg'k\YfY'YUW\'WJadig'cZIBGK`]g `cWJhYX"

5HYbXUbW/FYei]fYaYbhg

5 'ghi XYbh']g'YI dYWYX'nc'UhYbX'U```WUgg'WcbhUWi\ci fg'Zcf'U'ZUWY!hc!ZUWY'fI & E'cf'V'YbXYX'Wci fgY'UbX Wca d'YhY'U```UWf]j]h]Yg'Zcf'U'V`YbXYX'cf'Z ``mcb`]bY'Wci fgY"

5 'gh XYbhk \c'Uff]j Yg'a cfY'h\Ub'%) 'a]bi hYg``UhY'a UmVY'dYbU`]gYX'Zcf'bcb!UhhYbXUbVW'''=Zgi VX'U'dYbU`hm]g']a dcgYXž'h\Y'gh XYbha i ghVY']bZcfa YX'j YfVU``m'Uhh\Y'YbX'cZWUgg'UbX'UXj]gYX']b'k f]h]b['k]h\]b'&(\ci fg''

ZUʻghi XYbhYI dYf]YbWYgʻ]`bYggža]gUXj Ybhi fYʻcfʻch\YfʻcVWY ffYbWYʻh\Uha U_YgʻUVgYbWYʻZfcaʻU WUgg#UWfjj]hmi bUj c]XUV`Yžcf`YI dYWgʻhcʻVYʻUVgYbhZfcaʻUʻZcfh\Wca]b[`WUgg#UWfjj]hmž'h\Ymg\ci`X`gYY_ dYfa]gg]cbʻZfcaʻh\Yʻ7 ci fgYʻ5i h\cf]hmžUbX`k \YfY`Udd`]WUV`Yž'h\Y]f`fYei Yghg\ci`X`VY`UVWca dUb]YX`VmUb cf][]bU`cf`WYffjZJYX`WcdmcZU`aYX]WU``WYffjZ]WUHY`cf`ch\Yf`Zcfa`cZUddfcdf]UHY`Yj]XYbWY"

5 '7 ci fgY '5 i f\cf]ma UmYI W gY 'U'gh XYbhZrca 'WUggYg'cf'UWjj]hjYg'Zcf'i d'hc'cbY 'a cbh\"'< ck Yj Yfz'h\Ym a UmUgg][b'UXX]hjcbU``UbX#cf'U'hYfbUhj Y'HUg_g'hc'Ybgi fY Wca d`]UbW"' 5 '7 ci fgY '5 i f\cf]miWcbg]XYf]b['h\Y [fUbh]b['cZUVgYbW' a i ghVY 'gUhjgZjYX'U'gh XYbhk]``gh]``VY 'UV'Y hc'a YYhh\Y'Wci fgY'g'`YUfb]b['ci H\can Yg UbX#cf'j c`i a Y'cZ`YUfb]b["'5 'gh XYbhgYY_]b['Uddfcj U``hc'VY'UVgYbhZcf'a cfY'h\Ub'cbY'a cbh\'a i ghUdd`m]b'k f]h]b['hc'h\Y'8 YUb'UbX'dfcj]XY'U``cf][]bU``cf'Wfh]Z]YX'gi ddcfh]b['XcW a YbhUh]cb"

: cf`a cfY`]bZcfa Uh]cb`UVci hh\Y`UhhYbXUbWY`dfchcWc`g`]b`h\Y`: UWY`hmicZ5fhg`UbX`GcW]U` GW]YbWYg.`<u>\hhdg.#k k k "Ufhg"i bgk "YXi "Ui #W ffYbh!ghi XYbhg#UWUXYa]W]bZcfa Uh]cb#dfchcWc`g![i]XY`]bYg#</u>

7ci fgY[·]8YHJ]`g

7 fYX]hDc]bhg **

Gi a a UfmcZh\Y'7ci fgY

GiVYWhi5fYU.8[^_EfgV[We

H\]gʻWci fgYʻ]bhfcXi WYgʻghi XYbhgʻhcʻh\Yʻghi XmcZWJbYa Uʻ]bʻ]bhYfWi`hi fU``UbX`Wfcgg!Wi`hi fU``WcbhYl h'ʻ=h]bWi XYgʻUddfcUWXYgʻhcʻgi VW`hi fU``WJbYa Ugʻ]bʻh\Y`K Yghža]bcf]hmWi`hi fYgʻ]bʻbcb!K YghYfbʻgcWJYhJYgžh\Y XYj Y`cda YbhcZbUffUhJj Y`UbX`UYgh\YhJWWcbj Ybh]cbg`VYmcbX`″WUgg]W`K YghYfbʻghm`YgʻUbX`[YbfYgžh\Y g][b]ZJWUbWY`cZWJbYa UʻUgʻUbʻUfhIZcfa žUbX`UgʻU`WfYUhJj Y`Y`Ya Ybh']b``cWU`žbUhJcbU``UbX`hfUbgbUhJcbU`

Hi fb]h]b'gYh]b[.`H\]g'Ugg][ba Ybh]g'gi Va]hYX'h\fci [\`Hi fb]h]b'UbX'ghi XYbhg'Xc'bchgYY'Hi fb]h]b g]a]`Uf]hmifYdcfhg"

5ggYgga Ybh&; fci d'dfYgYbHJh]cb'UbX']bX]j]Xi U`Wf]h]ei Y

GHUfh'XUHY. K YY_'('h hcf]U`g

@Yb[h\.; fci dgicZ' k]``\Uj Y' \$'a]bi HYg'Ž `YUX'i d'hc'%\$'a]bg'WUgg'X]gW gg]cb/[fci dgicZ&k]``\Uj Y'&\$ a]bg'Ž `YUX'i d'hc'%\$'a]bg'X]gW gg]cb"

8YHJ]`g. 'H\]g'HUg_`\Ug'Hk c'Wda dcbYbhg.%2; fci d'dfYgYbHUhjcb'f&) i Ł=b'[fci dg'cZ&!' 'ghi XYbhg'k]`` dfYgYbhZcf'&\$!' \$'a]bi H/g'Zc``ck YX'Vm) !%\$'a]bi H/g'cZWUgg'X]gW gg]cb'`YX'VmH\Y'dfYgYbhYfg''5`` ghi XYbhg']b'H\Y'[fci d'fYVW]j Y'H\Y'gUa Y'a Uf_Zcf'H\]g'Wda dcbYbh'&Ł'K f]HHYb']bX]j]Xi U``Wf]hjei Y'fM\$i L=b &\$\$!') \$'k cfXg'ghi XYbhg'a i ghigi a a Uf]gY'H\Y'gHfYb[H\g'UbX'k YU_bYggYg'cZH\Y]f'ck b'; fci d'Dfc'YWiUg']h k Ug'dfYgYbHYX'''Ghi XYbhg'k]```fYWF]j Y'k f]HYb'ZYYXVUW_UbX'Ub']bX]j]Xi U``hcHJ``a Uf_Zcf'H\]g'UggYgga Ybh HUg_"

5XX]h]cbU`XYhJ]`g.

H\]g`HJg_`\Ug`Hkc`WcadcbYbhg.``

%2:U'[fcid'dfYgYbHJH]cb'f&) + '''&!' 'ghi XYbhg'k]``dfYgYbhZcf'&\$!' \$'a]bi HYg'Zc``ck YX'Vmi d'hc'%\$'a]bi HYg cZWJgg'X]gW'gg]cb']aU[]bUH]j Y`m`YX'Vmih\Y'dfYgYbHYfg''

&Ł'U'k f]hłYb']bX]j]Xi U``Wf]h]ei Y`ff%i 'E'=b'' \$\$!') \$'k cfXg`ghi XYbhg`a i ghigi a a Uf]gY'h\Y`ghfYb[h\g`UbX k YU_bYggYg`cZh\Y]f`ck b'; fci d`Dfc YWhUg`]hk Ug`dfYgYbhYX"`Ghi XYbhg`k]```fYWr]j Y`k f]hhYb`ZYYXVUW_`UbX Ub`]bX]j]Xi U``hchU``a Uf_`Zcf`h\]g`UggYgga Ybh'hUg_"

DfYgYbHJhjcb. '&) I "``=b`[fcidg`cZ&`cf`'žmci`k]``d]HW Ub`]XYU`Zcf`U`Z`a`fdfYZYfUV`mU`XfUaU#ZWfjcb`Z`aŁ h\UhZkbafZWf[US^k`mci`kci`X``]_Y`hc`aU_Yžcf`\UjY`aUXYžcf`UfY`aU_]b[žh\Uh]``ighfUhYg`h\Y`hcd]WcZh\Y kYY_`UbX`]g`ZfUaYX`Vmh\Y`aU]b`]XYU`ibXYfd]bb]b[`h\]g`WcifgYž]"Y"`U`hfUbgbUh]cbU``Z`a`Uhh\Y]bhYfgYWfjcbg`cZ&cf`acfY`W``h`fU``fY[]aYg`cZ_bck`YX[Y"`8fUk]b[`idcb`h\Y`dfYgWf]VYX`hYI hg`UbX`ch\Yf 5ggYgga Ybh'Wf]hYf]U.

5ggYgga YbhWf]hYf]U.

DfYgYbHJhjcb. % 7 c``UVcfUhjcbž]"Y" h\Y k UmYUVX hYUa 'a Ya VYf Webhf]Vi hYg hc`Ub`]bhY[fUhYX'dfYgYbHJhjcb UbX'h\Y'YI hYbh'c`k \]VX 'h\Ym\Uj Y'XYa cbghfUh'X YZYWhj Y'hYUa 'k cf_"'&" C fU``UbX'k f]hYb``YI dfYgg]cb`UbX dfYgYbHJhjcb`g_]``g`—'h\]g`]bWi XYg'ha Y!_YYd]b[ži gY'cZhYW bc`c[mgi W.`Ug`Dck YfDc]bhž =bhYfbYhž'8J 8 gž YhW'' "`7 fYUhj]mUbX'cf][]bU`]m''` ("`9j]XYbW'cZfYgYUfW.`UbX'Yb[U[Ya Ybhk]h\`gW\c`Ufm]XYUg`]b UXX]hjcb'tc'h\cgY`]b'h\Y'dfYgWf]VYX'fYUX]b[g"' ("`GY'YWhjcb'cZa UhYf]U``UbX'U'gW\c`UfmUddfcUW\'tc'g`]XYg k]h\`WcffYWhfYZYfYbWjb[žigdY``]b[ž'YhW'H\]g`]bWi XYg'h\Y'g]b[`Y'[fci d'XcW a Ybhk]h\`h\Y'g`]XYg'h\Uh]bWi XYg'fYZYfYbWjb[žigdYX'hc'h\Y'Wcbj Ybcf'VmYa U]``Vmh\Y'YbX'cZh\Y'hi hcf]U'/) "`Gi WW/ggZ ``UbX WfYUhj] Y'k Umg'cZYb[U[]b[`th\Y'WUgg']b`X]gW gg]cb"

+bX]j]Xi U``Wf]h]ei Y. ``%'`5V]`]mihc`Udd`mWf]h]WU``UbX`cVYWfj Y`gHUbXUfXg`hc`U`dfcYWf'`&''`7`Uf]micZ YI dfYgg]cb"'' "`5V]`]mihc`Yb[U[Y`]b`gW&c`Uf`mUbX`WfYUh]j Y`UbU`mg]g`UbX`gW&c`Uf`mUddfcUW&`hc`fYZYfYbWfg UbX`k f]hhYb`Wca dcbYbhg"

Gi Va]gg]cb`bchYg.D`YUgY`gi Va]himci f`dfYgYbhUh]cb`bchYg#g`]XYg`hc`h\Y`hi hcf`VmYa U]``k \Yb`mci `[]j Y mci f`dfYgYbhUh]cb"

Hi fb]h]b'gYh]b[.'H\]g'Ugg][ba Ybh]g'gi Va]hYX'h\fci [\'Hi fb]h]b'UbX'gh XYbhg'Xc'bchgYY'Hi fb]h]b g]a]`Uf]hmifYdcfhg"

5ggYgga Ybh'. 7f]h]WU`fYj]Yk #WUgg`dfYdUfUh]cb

GHJfh'XUHY. \$%#\$&#&\$% *%% &* 5A

@Yb[h\.`D`YUgY`gYY`A ccX`Y`Zcf`U`bchY`cb`h\Y``Yb[h\cZh\]g`5ggYgga YbhHUg_"

8YHJ]`g. "\$\$!') \$`k cfXg`f]bWi X]b[``]b`HYI hW]HJicbgžVi hYI Wi X]b[`UbmfYZYfYbWgŁdYf'k YY_"9UW 'k YY_ ghi XYbhg`a i ghdfYdUfY`]b`UXj UbWY`cZh\Y``YWi fYžgWfYYb]b[`UbX`h hcf]U`ž'Vmk f]h]b[`U`g\cfh\Yf]h]WU``fYj]Yk cZh\Y`dfYgWf]VYX`fYUX]b["`Ghi XYbhg`a i ghgi Va]hh\Y]f`Wf]h]WU``fYj]Yk `YUW\ k YY_`VYZcfY`h\Y`YbX`cZh\Y]f h hcf]U`"`Ghi XYbhg`a i ghgi Va]hU`Wf]h]WU``fYj]Yk `Zcf`U``cZh\Y`fYUX@b[Jgi]bY'}cfXYf`hc`Wca d`YbhY`h\]g`HUg_"Hk c`cZ h\Y`gi Va]hhYX`Wf]h]WU``fYj]Yk g`k]``VY`fYUX`UbX`UggYggYX`]b`i bgdYV]Z]YX`k YY_g"`Ghi XYbhg`k]```fYWf]j Y k f]hhYb`ZYYXVUW_`UbX`U`[fUXY`Zcf`h\Y]f`Z]fghUggYggYX`gi Va]gg]cbž`UbX`U`fi Vf]WUbX`[fUXY`Zcf`h\Y`ch\Yf"

5XX]h]cbU``XYHJ]`g.

9UWX 'k YY_žmci 'a i ghdfYdUfY']b'UXj UbWY 'Zcf'h Y 'YWi fYžgWYYb]b['UbX'h hcf]U''Vmk f]h]b['U'g\cfhWf]h]WU fYj]Yk 'cZh Y 'dfYgWf]VYX fYUX]b[''''Mci 'a i ghgi Va]hh\YgY cb'A ccX`Y 'YUWX 'k YY_'VYZcfY'h Y 'YbX'cZmci f h hcf]U'''Hk c'cZh YgY'k]``'VY'[fUXYX`Xi f]b['h\Y'gYa YghYf']b'i bgdYV]ZJYX'k YY_g'''Mci 'k]``fYWf]j Y'k f]hhYb ZYYXVUW_'UbX'U'[fUXY 'Zcf'h\Y']fghcZh\YgY'UbX'U'fi Vf]WUbX'[fUXY'Zcf'h\Y'ch\Yf''6ch\'gi Va]gg]cbg'UfY'cZ Yei U`'k Y]' b VYZcfY'h\Y'YbX'cZmcif'h hcf]U`flb`Ygg'mci'giVa]hU'aYX]WU``cf`ch\Yf`fY`YjUbhbchY'hc`Yld`U]b'mcif UVgYbWYŁ"

5ggYgga YbhWf]hYf]U. %"H]a Y`migi Va]gg]cb`cZh\Y`Wf]h]WU``fYj]Yk g`YUW\`k YY_/&"`8Ya cbghfUh/X _bck `YX[Y'/`i bXYfghUbX]b[`cZh\Y`hYI hUg`YI dfYggYX`]b`mci f`k f]hhYb`Wf]h]WU``fYj]Yk /' "`E i U`]hmcZWf]h]WU` UbU`mg]g/`("`8Ya cbghfUhYX`i bXYfghUbX]b[`cZh\Y`hYI hg`fY`Uh]cbg\]d`hc`h\Y`hcd]Wh\Ya Yg`cZh\Y`Wci fgY"') " 7`Uf]hmcZYI dfYgg]cb`UbX`gW\c`Uf`mUddfcUW\`hc`gdY``]b[`ždi bWi Uh]cbžfYZYfYbW]b[`žYhW

Gi Va]gg]cb bchYg. Mci 'k]```gi Va]hmci f'7 f]h]WU``F Yj]Yk 'YUW\'k YY_'cb A ccX'Y"

Hi fb]h]b'gYh]b[.`H\]g'Ugg][ba Ybh]g'gi Va]hYX'h\fci [\`Hi fb]h]b'UbX'gh XYbhg'Xc'bchgYY'Hi fb]h]b g]a]`Uf]hmifYdcfhg"

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Ghi XYbhg UfY YI dYWYX hc di hh\Y]f bUa Yg UbX ghi XYbhbi a VYfg cb Yj YfmdU[Y cZh\Y]f Ugg][ba Ybhg"

Hi fb]h]b Gi Va]gg]cb

Zmci YbWci bhYf'U'dfcV'Ya 'k \Yb'UthYa dhjb['hc'gi Va]hmci f'Ugg][ba Ybht\fci [\'Hi fb]hjbž'd'YUgY hY'Yd\cbY'9I hYfbU''Gi ddcfhicb'-',) '' ' %cf'Ya U]`'h\Ya 'cb'<u>YI hYfbU'hY'hgi ddcfh4 i bgk "YXi "Ui</u>"'Gi ddcfh \ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg'UbX'-.\$\$Ua '-') .\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUfŁ'' Zmci UfY'i bUV'Y'hc'gi Va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi `hk]h\'Hi fb]hjb'mci 'a UmUdd`m'Zcf'Ub'YI hYbg]cbžVi hmci a i ghfYhU]b'mci f'hjW_Yhbi a VYf'Zfca '9I hYfbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fY'Yj UbhXcW a YbhgŁ'hc]bWi XY'Ug'Yj]XYbWY hc'gi ddcfhimci f'YI hYbg]cb'Udd`]WUhjcb'' Zmci 'Ya U]`'9I hYfbU''Gi ddcfhimci 'k]`` Ui hca UhjWU'`mfYWY]j Y'U'hjW_Yhbi a VYfž'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYWJZWU'`mUg_'Zcf'cbY" Hi fb]hjb'U`gc'dfcj]XYg'i dXUhYg'cb'h\Y]f'gmghYa 'gfUh g'cb'Hk]hYf"

; YbYfU``mž'UggYgga YbhiHUg_g'a i ghVY'gi Va]HHXXYYWYfcb]WU``mj]U'Y]H\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b`]bgHUbWYg'k \YfY'H\]g']g'bchdcgg]V`Yž']hk]``VY'gHUHX'cb'mci f'Wci fgY'g'A ccX`Y'g]HY'k]H\ U`HYfbUh]j Y'gi Va]gg]cb'XYHU]`g''

@UhY 5ggYgga YbhDYbU`h]Yg

5b'UggYggYX'HUg_']g'XYYa YX'`UHY']Z]h']g'gi Va]HYX'UZHYF'H\Y'gdYW]ZJYX'Ha Y'UbX'XUHY'Ug'gYhici h']b'H\Y Wci fgY'@YUfb]b['A UbU[Ya YbhGmghYa 'f@A GŁ''

H\Y``UhY`dYbU`hm`]g`h\Y``cgg`cZ)ı `cZh\Y`hchU``dcgg]V`Y`aUf_g`Zcf`h\Y`hUg_`Zcf`YUW\`XUm`cf`dUfhih\YfYcZh\Y kcf_`]g``UhY"`@UhYbYgg`k]```]bWiXY`kYY_YbXg`UbX`diV`]W\c`]XUmg"`H\]g`XcYg`bchUdd`mhc`U`hUg_`h\Uh`]g UggYggYX`Vihbc`aUf_`]g`UkUfXYX"

K cf_'gi Va]httX:Zci fhtYb`f%(EXUmg`UZhYf`h\Y`Xi Y`XUhY`k]``VY`a Uf_YX`UbX`ZYYXVUW_`dfcj]XYX`Vi hbc`a Uf_ k]``VY`fYWcfXYX''`=Zh\Y`k cf_`k ci `X`\Uj Y`fYWY]j YX`U`dUgg`a Uf_`Vi hZcf`h\Y``UhYbYgg`UbX`h\Y`k cf_`]g`U Wca di `gcfmWci fgY`Wca dcbYbhzU`gh XYbhk]``VY`XYYa YX`hc`\Uj Y`a Yhh\UhfYei]fYa Ybh'`H\]g`XcYg`bch Udd`mhc`U`hUg_`h\Uhi]g`UggYggYX`Vi hbc`a Uf_`]g`Uk UfXYX''

K cf_`gi Va]hhYX'hk YbhnicbY'f&&:XUmg'UZhYf'h\Y'Xi Y'XUhY'k]``bch'VY'UWW/dhYX'Zcf'a Uf_]b['cf'ZYYXVUW_ UbX'k]``fYWY]j Y'bc'a Uf_`cf'[fUXY"'=Zh\Y'UggYgga Ybh'hUg_`]g'U'Wca di `gcfm'Wca dcbYbhicZh\Y'Wci fgY'U ghi XYbh'k]``Ui hca Uh]WU``m'ZU]``h\Y'Wci fgY"

GdYWJU``7cbg]XYfUh]cb`5dd`]WUh]cbg

 $\label{eq:milling} \end{tabular} Mci `WUb`Udd`millingYgdYWJU`Wcbg]XYfUh]cb`k \Yb`]``bYgg`cf`ch\Yf`WJfW a ghUbWfg`]bhYfZYfY`k]h`mci f UggYgga YbhidYfZcfa UbWf"$

G]W_bYggža]gUXjYbhifY`cf`ch\Yf`W]fW a gHubWfg`VYmcbX`mcif`Wcbhfc``aUm

ł DfYj Ybhmci Zfca Wcad Yhjb[UWci fgY fYei]fYa Ybhž

ł?YYdimci Zfca UHYbX]b[UbiUggYggUVYUW]j]mž

ł Ghod moi i gi Va]hh]b[iUggYggUV Y k cf_ Zcf U Wci fgYž

ł `G][b]Z]WUbhmUZYWimci f`dYfZcfa UbWi`]b`UggYggUV`Y`k cf_ž`VY`]hU`Zcfa U``YbX!cZigYa YghYf`YI Ua]bUh]cbž`U WUgg`hYghž`U``UVcfUhcfmhYghž`U`gYa]bUf`dfYgYbhUh]cb`cf`Ubmich\Yf`Zcfa `cZUggYgga Ybh'

: cf'Z fh\Yf'XYHJ]`g`]b`fY`UH]cb`rc`GdYW]U``7 cbg]XYfUH]cb`]bWi X]b[`''K \Yb`rc`5dd`mf'Z''<ck`rc`5dd`mf'UbX "Gi ddcfh]b[`8cW a YbHJh]cb"'d`YUgY`fYZYf'rc'h\Y`GdYW]U``7 cbg]XYfUH]cb`rk YVgh]Y.` \hhdg.##gh XYbH'i bgk "YXi "Ui #gdYW]U`!Wcbg]XYfUH]cb

5WUXYa]W<cbYghmUbX^D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b[`h\Ya `Ug`mci f`ck b"`=hWUb`hU_Y`a Ubm Zcfa gžZca `XY`]VYfUhY`W\YUh]b[`hc`UWW]XYbhU``mWcdm]b[`Zca `U`gci fWY`k]h\ci hUW_bck `YX[Ya Ybh'

I BGK '[fci dg'd`U[]Uf]ga ']bhc 'h\Y'Zc``ck]b['WUhY[cf]Yg.

7 cdm]b[..i g]b[.ih,Y`gUa Y`cf`j Yfmig]a]`Uf`k cfXg`hc`h,Y`cf][.]bU``hYI h`cf`]XYU`k]h\ci hUW_bck `YX[.]b[.ih,Y gci fWY`cf`i g]b[`ei chUh]cb`a Uf_g"`H\]g`U`gc`Udd`]Yg`hc`]a U[.Ygž`Ufh`UbX`XYg][b`dfc`YWfgž`Ug`k Y```Ug dfYgYbhUh]cbg`k \YfY`gca YcbY`dfYgYbhg`Ubch\Yf`g`]XYUg`cf`k cfXg`k]h\ci hWfYX]h"

=bUddfcdf]UhY'dUfUd\fUg]b[.'W\Ub[]b['U'ZYk 'k cfXg'UbX'd\fUgYg'k \]Y'a cghmfYhU]b]b['h\Y'cf][]bU' ghfi Whi fY'UbX']bZcfa Uh]cb'k]h\ci hUW_bck `YX[Ya Ybh''H\]g'U`gc'Udd`]Yg']b'dfYgYbHUh]cbg'k \YfY'gca YcbY dUfUd\fUgYg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci hWfYX]h''=hU`gc'Udd`]Yg'hc'd]YW]b['hc[Yh\Yf'ei chYg'UbX dUfUd\fUgYg']bhc'U'bYk 'k \c`Yž'k]h\ci hfYZYfYbW]b['UbX'U'gh XYbhg'ck b'UbU`mg]g'hc'Vf]b['h\Y'a UhYf]U` hc[Yh\Yf''

7 c``i g]cb. 'k cf_]b['k]h 'ch Yfg'Vi hdUgg]b['cZh Y'k cf_'Ug'U'dYfgcb'g']bX]j]Xi U``k cf_''7 c``i g]cb'U`gc]bWi XYg'dfcj]X]b['mci f`k cf_'hc'Ubch Yf'gh XYbhVYZcfY'h Y'Xi Y'XUhYzcf'Zcf'h Y'di fdcgY'cZh Ya d`U[]Uf]g]b['UhUbmh]a Yž'dUm]b['Ubch Yf'dYfgcb'hc'dYfZcfa 'Ub'UWUXYa]WhUg_ž'ghYU`]b['cf'UWei]f]b[Ubch Yf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[']hz'cZYf]b['hc'Wca d`YhY'Ubch Yf'dYfgcb'g'k cf_'cf'gYY_]b[dUma YbhZcf'Wca d`Yh]b['UWUXYa]Wk cf_''

=ÐUddfcdf]UhY`W]hUh]cb. 7]h]b[`gci fWYg`k∖]WX`\Uj Y`bchVYYb`fYUXžk]h\ci hUW_bck`YX[]b[`h\Y`″gYWcbXUfm´ gci fWY`Zfca`k∖]W\`_bck`YX[Y`cZh\Ya`\Ug`VYYb`cVhU]bYX"

8id`]\WUh]cb`fl`gY`ZId`U[]Uf]ga "Ł`gi Va]hhjb[`mcif`ckb`kcf_ž`]b`k\c`Y`cf`]b`dUfhž`k\YfY`]h\Ug`dfYj]cig`m VYYb`dfYdUfYX`cf`gi Va]hhYX`Zcf`Ubch\Yf`UggYggaYbhcf`\\circf`Ucil BGK `cf`Ubch\Yf`ib]jYfg]hm"

7 cffYWhfYZYfYbW]b[dfUWf]WYg.

• VYHYfa UbU[Y'mcifh]a Y

7 ci fgY GWX YXi `Y

J]Yk WUgg'ha YHJV'Y

H]a YHJV`Y'

8 UHY	HmdY	7 cbhYbh
K YY_`%`&*`: YVfi Ufm!`(A UfW	@Y₩ h fY	♣blfcXi Whicb hc 7]bYa Ug UbX 7i `h fYg. "7]bYa Ug Uhih Y]bhYfgYWhicbg cZik c cf a cfY W `h fU`fY[]a Yg cZ_bck `YX[Y''' >UbY A]``g 5```WUggYg gHUfhih]g k YY 'h Y @YWhi fY Z GWYYb]b[cb K YXbYgXUm&, `: YVfi UfmA UfW. Zca `' \$!% \$\$/ h hcf]U`g UfY cb K YXbYgXUmg Zca '' .\$\$!(.' \$ž H\i fgXUmg Zca '&.\$\$!' .' \$`UbX H\i fgXUmg '.' \$!) .\$\$"'H\YfY]g bc fYUX]b['Zcf'h]g k YYVi h h YfY]g Ub]bj U`i UV`Y [`cggUfmfUbX a cfY VYg]XYgŁ k]h `XYZ]b]h]cbg Zcf'a UbmcZh Y 'hYfa g mci fì YbWci bhYf cb 'h]g Wci fgY Uh \htd.#k k k ''a][fUbhV]bYa U"bYh''` =b Z h fY'k YY_gž]b dfYdUfUh]cb Zcf'h Y `YWhi fYžmci 'k]``bYYX hc fYUX h Y dfYgWf]VYX fYUX]b[g]b `UXj UbW' cZh Y `YWhi fY Ž gWfYYb]b[`UbX k f]h' U`g \cfhWf]h]WU``fYj]Yk 'k \]W mci 'a i ghi d`cUX cbhc A ccXY VYZcfY h Y YbX cZ
		mci f'hi hcfjU'" =b'a cghk YY_gž'h\Y'gWfYYb]b['k]``Zc``ck]a a YX]UhY`mUZhYf'h\Y'`YWi fY'k \]W\'k]``gHJfhUh' \$" Gca Y'k YY_gž'\ck Yj Yfž'k Y'a UmgHJfhk]h\'h\Y'a U]b Z]`a 'cf'dYf\Udg'gYY'U'g\cfhZj`a 'VYZcfY'cf'UZhYf'h\Y a U]b'Z]`a "``K \YbYj Yf'dcgg]V'Yž'h\YfY'k]``VY'U'g\cfh X]gW gg]cb']a a YX]UhY`mUZhYf'h\Y'gWfYYb]b["``5g'h\Y a cfb]b['WUgg'f]Y``YWi fY'Z 'gWfYYb]b[''`5g'h\Y a cfb]b['WUgg'f]Y``YWi fY'Z 'gWfYYb]b[''`5g'h\Y a cfb]b['WUgg'f]Y``YWi fY'Z 'gWfYYb]b[''`5g'h\Y a cfb]b['WUgg'f]Y``YWi fY'Z 'gWfYYb]b[''`fg'f]Y Zfca '' \$!%\$\$L'h\YfY'a UmVY'U'g\cfhVfYU_'Uhgca Y dc]bh''6i hbchU'k Umgž'gc'd`YUgY'Vf]b['mci f WcZYY#YU#/fYU_ZJghk]h\'mci 'Uhih\Y'gHJfhcf'mci a Uma]gg'h\Y'gHJfhcZh\Y'Z]`a 'UbX'X]ghi fV'mci f ZY``ck 'ghi XYbhg']Zmci 'Wca Y']b``UhY''
		D`YUgY`Vf]b[`mcif``Udhcdg`hc`U```YWhifYg`UbX hihcf]U`g`Ugmci`k]``bYYX`h\Ya`hc`HU_Y`bchYgžXc fYgYUfW\`UbX`hc`id`cUX`UggYggaYbhHUg_g"``6ih Xif]b[`h\Y`gWfYYb]b[gžh\Y`igY`cZ`Udhcdg`UbX`WY`` d\cbYgž`ciX`aibW\]b[žWf]b_`mdUdYf`UbX`HU`_]b[`]g bchU`[ccX`kUmhc`hfYUhmcif`ZY``ck`ghiXYbhg"` Mci`UfY`fYei]fYX`hc`UhhYbX`Vch\`h\Y``YWhifY`UbX`h\Y Z`a`Ug`kY```Ug`h\Y`hhcf]U`"``5`fY[]ghYf`k]``VY`HU_Yb
	G₩YYb]b[UhU```WUggYg" A cc`UUX `fCi ga UbY`GYa VÄbYž'&\$\$(Ł'H\]g`]g`Ub Ughcb]g\]b[``!`UbX`WcbZrcbh]b[`!`Z]`a `h\UhWfcggYg`U

AUXY`VmH\Y`GYbY[U`YgY`kf]hYf`UbX X]fYWncf`CigaUbY`GYaVÄbYž`]hUXXfYggYg`h\Y giV^YWncZZYaU`Y`[Yb]hU``aih]`Uh]cb"`≢na][\higcibX hci[\![c]b[`Vih]hfgicZhYb`jYfmZibbm'`H\Y`Z]`a`kUg`U
Wc!dfcXiWfjcb"VYfkYYbWcadUb]Yg"Zfca gYjYfU``:fUbWcd\cbY"bUfjcbg."GYbY[U`ž":fUbWYž 6if_]bU`:Ugcž"7UaYfccbž"AcfcWWcž"UbX"Hib]g]U" CZU``'f\Y"Z]`ag`=fjiY"g\ckb'cb"f\]g"WcifgY"cjYf"f\Y mYUfgž"h]g"]g"f\Y"cbY"f\UfighXYbhg"U`kUmg"]bg]gh"= <u>a</u> jggfi]bWiXY"]b"ZhjfY"mYUfg"'

		k \]W. WbYa UhWfUbgbUhcbU`]ga 'UbX'Wfcgg! W `h fU`]ga 'UfY'fYdfYgYbhYX']b'h\Y'Zc``ck]b['Z]`a g'! cbY'cZk \]W. 'k]```h\Yb'VY'gWfYYbYX. 6UVY``f5`Y'UbXfc'; cbn½Yn`± ½ff]h ž'&\$\$*Ł K \UhH]a Y`=g`=hH\YfY3`fHgU]`A]b[!`]Ub['&\$\$% DUb g`@UVmf]bh\`fI i]``Yfa c'XY``Hcfc'&\$\$+Ł =fa U`J Yd fC`]j Yf'5ggUmUgž'%+Ł =b`U`6YHYf'K cf`X'fGi gUbbY'6]Yfz'&\$\$+Ł =b`H\]g'K cf`X'fA]WUY``K]bHYfVcHca '&\$\$' Ł
	Hi hcf]U`	: cf`cbY`cZmci f`5ggYgga YbhHUg_g`mci `UfY fYei]fYX`hc`k f]hY`U`g\cfhWf]h]WU``fYj]Yk `cZh\Y fYUX]b[fgEYUW\`k YY_"`K Y`k]``X]gW gg`\ck `hc UddfcUW\``f\]g`5ggYgga YbhHUg_`]b`f\Y`h hcf]U`g"`
K YY_'' .'%&`A UfW&`!`% A UfWX	@YWhifY	FY!aUdd]b[`Kcf`X`7]bYaU.K\UhXc`kY`aYUb`Vm fkcf`X`W]bYaUf3` <ck`xcyg`h\]g`x]zyf`zca fffUbgbUh]cbU`f2`f[i`cVU`ficf`fWcgacdc`]HUbfi7]bYaU3` FYUX]b[.K]``<][VYY?'G]b[`<kyy`@]a`f&\$%\$łž< td=""></kyy`@]a`f&\$%\$łž<></ck`xcyg`h\]g`x]zyf`zca
		<pre>'7 cbW/dhg cZhfUbgbUh]cbU``W]bYa U. hck UfXg U Wf]h]WU``hfUbgbUh]cbU`]ga `]b Z]`a `ghi X]Yg'ž F dS` e` Sf[a` S^5 [` W_ Se % '%ž +-&%' \htd.##\YX][_]hU`g]` fci hY "Wca #a U[_Yg#YZYfYbWYg#fUb gbUh]cbU`!Z]`a %"dXZ</pre>
	G₩YYb]b[H\Y`K`cf`X`fb]U`N\Ub[_Yž`&\$\$('E
	Hi hcf]U`	Bc'dfYgYbHUHjcb'h\]g'kYY_"``Nci'k]`` i d`cUX'h\Y'WF]hjWU``fYj]Yk'h\Uhimci'\UjY'kf]hhYb'cZ h\]g'kYY_fgjfYUX]b["'K'Y'k]``X]gW gg'mcif']b!WUgg dfYgYbHUHjcb']b'acfY'XYHU]``UbX'YId`cfY'h\Y dfcXiWhjcb'dfcWfgg'hc'\Y`d'mci'h\]b_`UVcih\ck'mci WUb']bWcfdcfdcfUHY'HfUbgbUHjcbU``UbX'VcfXYf! Wfcgg]b[`UgdYWfg'cZZ]`aaU_]b[`]b'mcif'\mdch\YhjWU` Z]`a"
K YY_`(.`% `A UfWX`!`&) A UfWX	@YWi fY	F Y!h]b_]b[BUh]cbU`7]bYa U. ⊕ h]g`YWi fY fî Yl d`cfY`\ck `]b fYWi bhmYUfg h Y]XYU cZbUh]cbU` WbYa U`\Ug`VYYb di hitc`Ub`]bhYbgYžWf]hJWD gWi h]bm'`5g`Z]`a `gW\c`Uf`A]hgi \]fc`Mcg\]a chc k f]hYg. ''K f]h]b[`UVci hbUh]cbU``W]bYa Ug`i gYX hc`VY Ub`YUgmHUg Z]`a `Wf]h]Wg`VY`]Yj YX`U``H\Ym\UX`hc`Xc k Ug`hc`Wcbghfi WhU``]bYUf`\]ghcf]WD``bUffUh]j Y XYgWf]V]b[`U`XYj Y`cda YbhcZU'W]bYa U'k]h]b`U dUfh]W``Uf`bUh]cbU``Vci bXUfmk \cgY`i b]m`UbX Wc\YfYbWi`gYYa YX`hc`VY`VYmcbX`U```Xci VH``MYhž'h\]g UddUfYbhcVj]ci gbYgg`cZbUh]cbU``W]bYa U gW\c`Ufg\]d`]g`bck `]b`[fYUhXUb[Yfžg]bVY`k Y`UfY bc``cb[Yf`gc`gi fY`UVci hih\Y`Wc\YfYbWi`cZh\Y bUh]cb!ghUhY´`fA]hgi \]fc`Mcg\]a chcž`H\Y`8]ZZ]W`hm cZVY]b[`F`UX]WU``H\Y`8]gW]d`]bY`cZ:]`a `Ghi X]Yg`UbX h\Y`DcgHWc`cb]U`K cfX`CfXYf`Tag` VSdk \$ J c`''& ž Bc''' ž>UdUb`]b`h\Y`K cfX`f5i h`a bž`% - %±ždd'' &(&!&) +Ł''

1		Ga c_Y`G][bU`g`f7 \f]g`9mfY`% - , Ł
	Hi hcf]U`	GUagcb [·] UbX [·] 8Y`]`U\ [°] fK Ufk]W <u>·</u> H\cfbtcbž [·] &\$\$-Ł DfYgYbHJh]cb. [·] :]fghBUh]cb [·] W]bYaU. [·] 5`h\ci[\ [·]]h
		l I

	h\fYY`5WUXYami5kUfXg`]bWiX]b[`6YghGWfYYbd`Už 6Ygh8]fYWfcf`]b`%*-`UbX`6Ygh:cfY][b`@Ub[iU[Y :]`a"`Ch\Yf`UkUfXg`]bWiXY`H\Y`7]micZJYb]Wf 7]bYaU`Df]nYžh\Y`=bhYfbUh]cbU``7f]h]Wg`5kUfXžh\Y 7]micZ=ac`U`Df]nYžh\Y`=U`]Ub`G]`jYf`F]VVcb`Df]nY fX]fYWfcfž`d\chc[fUd\mž`dfcXiWiftZ`h\Y`5^UWf`Df]nY

		k]``j]Yk 'Zcf'mci f'fYgYUfW\/("'h\Y'gW\c`UfmhYI hg mci '\Uj Y'fYUX#gh]``bYYX'hc'fYUX'Zcf'mci f fYgYUfW\"'Mci 'a UmU`gc'`]_Y'hc'Vf]b['Ub'UVghfUWbžcf ci h]bY'fUddfcI '&\$\$'k cfXgŁžcZmci f'A U'cf'F YgYUfW\ 9ggUm''Mci 'WUb'Ya U]`'h\]g'hc'>UbY'Zcf'UbmZ ff\Yf ZYYXVUW_'h\Uha UmVY'\Y`dZ `"
K YY_`%%`%(`A Um!`&\$ A Um	@YWHifY	7 cga dc`]HJb'7]bYa U.'7 Ub'kY'VY'Vch\'U'WjhjnYb'cZ ci f'hck b'flcWU'E'UbX'bUhjcb'fbUhjcbU'E'UbX'U'WjhjnYb cZh\Y'k cf'X'fl b]j YfgU`#(`cVU`E'Uh'h\Y'gUa Y'hja Y'!'cf]g'h\]g'U'WcbIfUX]Wjcb3''
		D]HW]b['U'Z]`a 'hc 'gYY'bYI hk YY_"``6YZcfY'hcXUmfg 'YWi fYž'mci 'UfY']bj]hYX'hc 'd]HW 'U'Z]`a 'h\Uhmci k ci `X``]_Y'a Y'hc 'gWfYYb'bYI hk YY_"``Mci 'bYYX'hc a U_Y'U'ghfcb['Uf[i a YbhZcf'k \mUbX'\ck 'h\]g'Z]`a]``i ghfUhYg'h\Y'a U]b'h\Ya Y'cZh\Y'Wci fgY''Mci 'a Um g\ck 'U'W]d'Zfca 'h\Y'Z]`a 'cf'a U_Y'U'g\cfh Dck YfDc]bhdfYgYbHUh]cb'' 5ZhYf'h\Y'd]HW\Ygž'mci 'k]`` U```j chY'Zcf'h\Y'Z]`a 'mci fX'a cgh`]_Y'hc 'gYY'UbX`#f`Xc a mVYghhc '[Yh]hZcf'bYI hk YY_"'f\Uj YbfhZJ]`YX'mYhŁ #f`Uk UfX'U'df]nY'hc'h\Y'gh XYbhk \c'=h\]b_'a U_Yg h\Y'VYghUf[i a YbhZcf'U'Z]`a 'h\UhXYa cbghUhYg'h\Y]bhYfgYWf]cbg'cZhk c'cf'a cfY'W `h fU``fY[]a Yg'cZ _bck `YX[Y'k \Yh\Yf'cf'bch]hk]bg'h\Y'j chY''
	GW#YYb]b[<pre>? UbXU\Uf`fA c\gYb`A U_\a U`VUZz&\$\$%E% &) "'7 f]h]\%g`U\Wfcgg`h\Y`k cfX`^X[YX`=S` VSZSdh\Y VYgha cj]Y`cZ&\$\$%''GYh'! `Vi hbchZ]`a YX`!`]b 5 Z[\Ub]ghUbz`=S` VSZSd\UX`U`fYUXmVYYb`Uk UfXYX h\Y`9\W a Yb]\W)``>i fmdf]nY`Uh7 UbbYg`k \Yb`h\Y K cfX`HfUXY`7 YbffY`UhhU\Qg`a UXY`5 Z[\Ub]ghUb`h\Y Wci bffmYj Yfm\cXmgi XXYb`mk UbhYX`hc`_bck `UVci h' ? UbXU\Uf`\Ug`g]b\W`VYYb`gc`X`hc`cj Yf`(\$`\Vci bhf]Ygž UbX`]b`&\$\$%\Y`X`h\Y`hcd`g\WfYYb`Uj YfU[Y`Uhh\Y #U`]Ub`Vcl`cZZ]\W``!`U\YUX`cZGdY]`VYf[fbj`3;`UbX @ \fa Ubbfbj?? ag`{` DagYVZE]}`XUmg`UZhYf`h\Y`UhU\V_ cb`h\Y`K cfX`HfUXY`7 YbffY`cb`GYdhYa VYf`%Xh\Z`l G DfYg]XYbh; Ycf[Y`6i g\`a UXY`Ub`i f[YbhfYei YghZcf U`g\WfYYb]b["</pre>
	Hi hcf]U`	DfYgYbHJhjcb. '7 cga cdc`]HJb '7]bYa U" Mci ik]``i d`cUXimci f'Wf]hjWU``fYj]Yk icZh\]gik YY_fig fYUX]b["'
K YY_`%&`&%`A Um'!`&+ A Um	@YWHifY	Giaa]b['id.'=b'cif``UghkYY_ž'=f``XfUk 'hc[Yh\Yf h\Y'jUf]cig`]XYUg`UbX'h\YaYg`Hh\UhkYfjiY YbWcibhYfYX'Xif]b['h\Y'WcifgY`UbX`=f``]bHcXiWY'h\Y Z]`a`mci'jchYX'Zcf``UghkYY_"` H\YfY`]g`bc`fYUX]b['Zcf`h\]g`kYY_
	GWFYYb]b[Ghi XYbhWkc]WY"'5g``cb[`Ug`≢jiY'VYYb`UV`Y`hc`ZjbX`U Wcdmž'k Yfi`gYY'h\Y`Zj`a `Zcf`k \]W\`mci `j chYX``Ugh

	k YY_"`=fi`U`gc`Uk UfX`U`df]nY`hc`h\Y`ghi XYbhik \c`]b a mj]Yk`a UXY`h\Y`VYghUf[i a YbhZcf`h\Y`Z]`a`h\Ym bca]bUhYX`fk \Yh\Yf`cf`bch`]hik cb`h\Y`j chYŁ"`=]bj]hY mci`hc`h\]b_`cZ]a U[]bUhjjY`fUbX`gV\\c`Uf`mž`cZ Wci fgY*Ł`k Umg`hc`V\Y`YVfUhY`V\jbYa UhjW HfUbgbUhjcbU`]ga`]b`ci f``Ugh`YVMi fY`UbX`gV\YYb]b["
Hihcf]U`	=b`cif``Ugh'hihcf]U``kY`aUm\UjY`U`dfYgYbHJh]cb h\Uhfg`VYYb`\Y`X`cjYf`Zfca`U`dfYj]cig`kYY_`XiY`hc g]W_Ybgg`cf`UVgYbWYžYhW?`=k]```U`gcUg_`mci`Zcdf mcif`ZYYXVUW_"`BYIhmYUf`h\]g`WcifgY`k]```VY`U``YjY` %`WcifgY`gc`mcif`UXj]WY`cb`k\Uhmci`h\]b_`kci`X`VY Uddfcdf]UhY`Zcf`Z]fghmYUf`ghiXYbhg`k]```VY`]bjU`iUV`Y"

FYgci fWg

DfYgWf]VYX F Ygci fWfg

D`YUgY`Vf]b[`mcif``Udhcd`hc`YjYfmihihcf]U`"```H\Y`kYY_`midfYgWf]VYX`fYUX]b[g`UfY`U```UjU]`UV`Y`cb`]bY ZUbX#cf`Zfca``h\Y``]VfUfm'`Nci`UfY`YIdYWfYX`hc`fYUX``h\Y`fYUX]b[g`YUW\`kYY_`VYZcfY`h\Y``YWfifY`UbX`id`cUX mcif`Wf]h]WU``fYj]Yk`Uhimcif`hihcf]U`"`

KYY_`%`BC`F958=B; `!`Vi hd`YUgY``cc_`Uhih\Y`? [YdS`fS`V6[Sebad[U5[`W_Se[`5a`Wf_badSdk 7gdabWkYVg]hY`Uh`\hnd.#kkk"a][fUbhWjbYaU"bYh!!`YgdYWjU``mih\Y`[`cggUfmgYWfjcb"'

K YY_'& '5i gh]b':]g\Yf2' '€U]b'F cVYfhGa]h\ž&\$%*ž'HfUbgbUh]cbU`'7]bYa Ug. '5 '7 f]h]WU`'F ci bXHUYYZ' 8dS_ Wé 5[`W_S <agd`S^*D`YUgY`Xck b`cUX`Zfca `<u>\hd.##ZfUa YgW]bYa U^ci fbU`''Wca #Jfh]WY#fUbgbUh]cbU`!</u> WjbYa Ug!U!Wf]h]WU`!fci bXHUY`Y#

K YY_''. ``K]```<][VYY'/ `G]b[`<k YY`@]a `f&\$%\${ž`'7 cbW/dhg`cZhfUbgbUh]cbU``W]bYa U. hck UfXg`U`Wf]h]WU` hfUbgbUh]cbU`]ga `]b`Z]`a `gh`X]Yg'ž`FdS` e` Sf[a` S^5[` W_ Se % `%z`+-&%`

<u>\htd.##\YX][]hU`g]`_fci hY''Wca #a U[Yg#YZYfYbW/g#fUbgbUh]cbU'!Z]`a %"dXZ</u>

K YY_'(.'5bXfYk '<][gcb'f&\$\$\$L'H\Y'`]a]h]b[']a U[]bUh]cb'cZBUh]cbU`'7]bYa U'']b'A YhY'< cfr/ 'GWchh A UW_Ybn]Y'fYXgŁź5[`W_S`@Sf[a`ź@cbXcb.'F ci hYX[Yźdd"'*']+(/'

K YY_`). 'H\ca Ug'9`gUYggYf'f&\$\$) Ł'8ci V`Y`C VW dUbWmGdUWYžD`UWY`UbX`=XYbh]hm]b`9i fcdYUb`7]bYa U cZh\Y`% - \$g'ž]b`7gdabW\$` 5[`W_S, 8SUWfa 8SUWi [fZ : a %ki aaVž5a ghYfXUa .`5a ghYfXUa 'I b]j Yfg]hm DfYgg'f@=6`C@L

KYY_'*.`A]WXUY``F]WXUfXgcb''7\"`+''H\Y`Amt\cZh\Y`NcaV]Y'`]b`AfZWdWee[`:a^kiaaV5[`W_SHBM 7cbh]biiaž'&&%%% *'6ai` `aSVXba_ ^{TdSdk

K YY_`+. `>UbY`A]``g`f&\$\$-Ł':]fghBUh]cb`7]bYa U. < c``mk ccX'g` ⊕X][Ybci g`Ch\Yf'žEUdWW [`Y fZW BSefI &(.&``<u>\hd.#k k k "gWfYYb]b[h\YdUgh'Wca #&\$%] #\$%#]fghbUh]cb!WbYa U!\c``mk ccX'g!]bX][Ybci g!'ch\Yf'# K YY_`, .`GUbXfU`DcbnUbYg]'/`A Uf[UfYhK U``Yf`ffYXgŁ'f&\$%&Ł''⊕hfcXi Wf]cb'`]b`BaefUa'a` [S^5[`W_S E fgV[Weł @cbXcb.`F ci hYX[Yž%%~6ai` `aSV Xda_ 1TdSdk</u>

K YY_'-...<Ua]X`B UZWmif&\$\$%L`G]hi Uhb[`UWWYbhYX`7]bYa U'`]b`3` 3UUW fW 5 [`W_S

< Ua]X'B UZ]Wmf&\$\$%2'3` 3UUW fWW 5[`W_S":Df]bWYhcbž'B >:Df]bWYhcbi'L b]j Yfg]ImDfYgg" @ W]U'B U[]V'Z' 5bbY' >Yfg'Yj 'f&\$%('E';_ bgdW5[`W_S, ;`fWd_W[S^`;`fWdUg fgdS^3bbdaSUZWe fa 8[^_ ž'B M ="6" HUi fi g @ W]U'B U[]VZ'7 "D" DYff]Ua '/ F "'8i XfU\ fYXgEf&\$%&EFZWad[[`YL adV 5[`W_Sž@cbXcb.`="6" HUi fi g >c\b'8i f\Ua 'DYfYfg'f% -- ŁZPI]'Yžbca UX]ga 'UbX'X]UgdcfUfž']b': a_W7j [WL: a_WS`V, 8[^_ +? W[Sł Sā M dZ WHBa@ff[UE oX555JWdY[K", <,Ja []K TB JaZ]Wh3B3Y3 3\& 3_3J3\23_3J3X3@C000000 RCGi[TY42L51]9685%24 0 d 0.00000t u L u c i GUbXfU'DcbnUbYg]'/ 'A "'K U`Yf'ffYXgEBaefUa'a` [S^5[`W_SEfgV[We''5V]b[XcbžCLcb.F ci hYX[Y" 9``U'G\c\Uh/ 'F cVYfh'GHJa 'f% - ('E'G` fZ[`][`Y 7 gdaUW fd[e_, ? g'f[Ug fgdS'[e_S`V fZW? WV[Sž@cbXcb. F ci hYX[Y J U'Ybh]bU'J][V']'/ 'DUi `'K]``Ya Yb`f&\$\$*EFZWad[e[`Y@Sf[a`S^5[`W_Sž@cbXcb.'6: =

>UbY'A]``gž'&\$\$-ž'BUh]cbU``7]bYaU'`]b`>ah[`Y`: Sf[`Y:a^ki aaV, DWKS_[`YY'aTS^` 'aUS^5[`W_Se" 7fckg'BYghž'5``Yb'/`I bk]bždd"'-'!%%*

5a``WUf[a`e"BMDU'[fUjYAUWa]``Ub" >UbYA]``g`f&\$\$-E`>ah[`YS`V:Sf[`Y:a^ki aaV,DWk65_[`Y9?aTS^S`V >aUS^5[`W_Sež7fckg`BYghž BGK...5``Yb'/`I bk]b

EW eWež8if\UažB7.'8i_Y'I b]jYfg]miDfYgg" 8Uj]X'A Ufh]b!>cbYg`f&\$%%2`8WWghWBbX'K afX'5 [bW_ Se**1**%e%bXcbž'BYk 'Mcf_.'7cbh]biia" >UbY'A]``g`f&\$% EffFYdfYgYbHUh]cbg`UbX'<mVf]X]gUh]cbg`]b`:]fghBUh]cb'7]bYaU.'7\Ub[Y`UbX`BYk bYgg`Vm :ig]cbfi]b`5Xf]Ub`8Ub_gžG"; Uibgcb7`D"?ibnYž3_Wd[US`Ž3gefdSf[S`5[`W_ Se, FdS`e`Sf[a`S^

A YMY '< ^cfi/ `GWcMiA UW? Ybn]Y`f&\$\$\$L'5[`W_S`@Sf[a``i`@cbXcbžFci hYX[Y @Ui fU`I "`A Uf_g`f&\$\$&L'=bHcXi WIjcb`]b`FZWE][` aXfZW8[^_,;`fWdUg`fgdS^5[`W_Si7_TaV[_W`fiS`V fZW

<u>htd.#k k k "i b]dU"]h# a]WXYY"Wca YHU#\U``SWi `h fU`S]XYbh]mi'dXZ</u> : fYX'<U``]XUmž`'f%-' 'L'`'f(Cf]YbHU`]ga fiUbX'=hg`7f]h]Wg''ž'4d[f[eZ <agd S^aX? [VVW7SefWd EfgV[Wel J c`"`&\$ž B c"`&"``%() -%*' "

F ci hYX[Y" 5bh\cbm; i bYfUhbY?/ `K "`8]ggUbUmU_Y`fYXgŁžf&\$\$' ŁDWfZ[`][`Y FZ[dV 5[`W_ SžBMžBM`F ci hYX[Y" Ghi Ufh'<U```f% - (Ł'7i `hi fU``=XYbh]hmUbX`8]UgdcfU'`]b`DUhf]W_K]``]Ua g`UbX`@'`7\f]ga Ub`fYXgŁž5a'à` [S^ 6[eUagdeWS` V BaefŽJa'à` [S^FZWadk, S DWSVWdž@cbXcb.`<Uf] YghYf`K \YUhg\YUZ' - &!(\$%'`5bX`Uhi

X[^_ ž@cbXcb. K U``Zck Yf`DfYgg"
9`]nUVYh '9nfU' 'H"'F ck XYb`f&\$*'E'FdS` e` Sf[a` S^5 [` W_ S, FZW8[^_ DW\$VWd"5V]b[Xcbž'C I cb.

DU`[fUj Y`A UWa]``Ub GHYd\Ub]Y`8Ybb]gcb'/ `Gcb[`<k YY`@]a `f&\$\$*EDW_Sbb[`YT adV 5[`W_S, ;VW f[fkt Ug/fgdWS` V ba'[f[Ue [`

6`UW_k Y`` 5Xf]Ub`8Ub_gž`G"`; Ui bgcb`/``D"`? i bnYž`3_ Wd[US`Ž3gefdS?[S` 5[`W_ Se, FdS`e`Sf[a`S^5a``WUf[a`e"`BM

? mY 6 jg\cd`f&\$\$-E'8YUX`A Ub`Ghj``K_U`_jb[`ži<agd`S^aXBabg^Sd8[^_S`V_FWWh[e[a``ti'_+,%z'%*!&)`z` ? mY 6 jg\cd`f&\$\$*EFU]g]b[`th\Y`8YUXzi<agd`S^aXBabg/Sd8[^_S`V_FWWh[e[a``zi'_'.(`zi%_*!&\$) K_j``jUa_iJ_"'7 cghUbnc`f&\$%('EI_adV_5[`W_S_FZdagYZ_9^aTS^9W`dWezi7\]W\YghYfziK_"Gi_ggYL.`K_j`Ym

6[Sebad[U5[`W_S[`5a`fW_badSdk7gdabWz@cbXcb.`KU``ZckYf`DfYgg` ?mY`6]q\cd`f&\$\$-Ł'8YUX`AUb`Gh```KU`_]b['z~aqd`S^aXBabq^Sd8[^_S`VFWWh[e[a`+''+.%z%*!&)z 5bX'Xcb'hZcf[YhihY'I BGK '@]VfUfmk YVg]hY.: <u>httdg.#k k k "`]VfUfm'i bgk "YXi "Ui #gh Xm#gYfj]WYglZcflgh XYbtg</u> H\Y'@]VfUfmidfcj]XYg'UWWYgg'tc'U'k]XY'fUb[Y'cZh[VWa'WcbhYbhcb`]bY" E fdWS_ [Y']g'k \Yb'h.]g'WcbhYbh]g Uj U]`UV'Y'Zcf'mci 'tc'k UHW.']a a YX]UHY'mž'k]h. 'Ub'UWf]j Y']bhYfbYhWcbbYWf]cb"'Hc'Z]bX'efdWS_ W'h[VWa WcbhYbh]b'ci f'Wc``YWf]cb'gYUfW.'j]U'@]VfUfmG95F7 < 'VmH]hY'cZZ]'a 'cf'_Ymk cfXg'ff'['8]fYWfcfž'hcd]WE"'H\]g k]``Vf]b['fYgi 'hg']b'U``Zcfa Uhg.'Vcc_gž'Uff]WYgž'j]XYcž'X]ggYffUh]cbgž'bYk gdUdYfg'UbX'gc'cb"'Mci 'WUb'h.Yb fYghf]Whh.Y'gYUfW.'fYgi 'hg'hc'j]XYc'fIvch.'d\mg]WU``78'UbX'ghYUa]b['E'`UbX'Ui X]cž'Vm`]a]h]b['hc'5i X]c J]gi U`]b'h.Y'F Ygci fWY'HmdY'ZUW'h`]ghcb'h.Y'YZh\UbX'g]XY'cZh.Y'gWfYYb"

?YmghfYUa]b[fYgci fWg WiffYbhmUj U]UVY]bWi XY.

- ...? Ubcdm– 8 cW a YbHJf]YgžbYk gž]bH/fj]Yk gž5i gHU`]Ub'Z]`a g`UbX`YXi WJH]cbU``WcbH/bH'
- · · · **bZcfa]h 9Xi HJ** · · 8 cW a YbhJf]YgžbYk gž 5 i ghfU`]Ub 'Z]`a gž gca Y a U]bghfYUa `a cj]Yg 'UbX 'YXi WJh]cbU` WcbhYbh
- •····5 `YI UbXYf`GlfYYhDfYgg`!`8 cW a YbfUf]Ygž'bYk gž']bhYfj]Yk gž'YXi WUf]cbU``UbX`]bglfi Wf]cbU``WcbhYbh'

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

H\Y'Wci fgY'a UhYf]U`g`UbX'Wci fgY`ghfi Wn fY`f]bWi X]b[`h\Y`cfXYf]b[`cZa UhYf]U`ž'fYUX]b[gž'gWfYb]b[gž'UbX bUh fY`cZUggYgga Ybhz'UfY`fY[i`Uf`mfYj]gYX'cb'h\Y`VUg]g`cZghi XYbhZYYXVUW_fZcfa U``UbX`]bZcfa U`z'Ug k Y```Ug`bYk `X]fYWf]cbg`UbX`bYk 'di V`]WUh]cbg`]b'h\Y`Z]Y`X'': cf'h.]g`fYUgcbž'mci f'h\ci [\hg`cb'h\Y`Wci fgY`UfY dUfh]W``Uf`mi gYZ ``UbX'j U`i UV`Y`UbX`=k]``VY`Ug_]b[`mci 'hc'fYZYWrcb'mci f``YUfb]b[`]b'h\Y`Wci fgY`Xi f]b[h\Y`gYa YghYf''``=f`i`U`gc'VY`gYY_]b[`mci f'j]Yk g`cb'h\Y`Wci fgY`UbX`Vci fgY`a UhYf]U`g`UbX`YbWci fU[Y'mci 'hc dfcj]XY`a Y`k]h\`ZYYXVUW_''`Ug`Ub`YI Ua d`Y`cZ\ck`ZYYXVUW_Zfca 'ghi XYbhg`]b'dfYj]ci g`mYUfg`\Uj Y`\Y`dYX a Y`XYg][`b'h\Y`Wci fgYž'h\Y`Z]fghiZ]`a 'k YffY`gYY]b[`ž'? aa'SSV 'fC i ga UbY`GYa VÄbY`&\$\$('tž'`]g`cbY`h\Uhih\Ym \Uj Y`U`k Umg`]bg]ghYX'h\Uh=a i gh]bWi XY''

⊨a U[Y[·]7fYX]h

: fcbhWcjYf`]a U[Y.^{*}<u>9UghAYYhg`KYgh#</u>*f<u>⊳YZ^{*}@Ji *&\$%%</u>DiV`]W]midcghYf.*bc*Wcdmf][\h

7F=7CG

7F=7CG'Dfcj]XYf'7cXY.*\$\$\$-,;