

## DfnYk U`g\_]!DZYfXY'ni fØW\_']b'?UgUW\ghUb. 9]b'>U\f\i bXYfh!HfÀi a Y'k YfXYb'k U\f°

Nk Y] DfnYk U`g\_]! DZYfXY 'Ui g`6Yf`]b`k i fXYb`YfZc`[ fY]W\`]b ? UgUW ghUb`Ui g[ Yk ]`XYfhži a `]\fY`5fh'Xcfh'k ]YXYf Ubni g]YXY`b"

 $\label{eq:control_state} \begin{array}{lll} 5 \text{ `hmb! 8 U`U! GhY ddY \'z'? UgUWX ghUb'! '5a' '%&"'$$ b]' \& $$ \&) 'k i fXY Y] b \\ \text{VYXYi hYbXYf'GWX f]hh']b' XYf'K ]YXYfUbg]YX`i b['j cb'DfnYk U`g_]! \\ DZYfXYb']b']\fYa'i fgdfØb[']WXYb'@YVYbgfUi a']b'NYbhfU`! \\ ? UgUWX ghUb'[YZY]Yfh''J]Yf'X]YgYf'K ]`XdZYfXY'Ui g'XYa'6Yf`]bYf \\ H]YfdUf_'k i fXYb'YfZc`[fY]WX']b'X]Y'5`hmb!8U`U!GhYddY \\ Ui g[Yk]`XYfhž'Y]bYf'FY[]cbž'X]Y'j cf'ØVYf'&$$'$U`U!GhYddY \\ Ui g[Yk]`XYfhž'Y]bYf'FY[]cbž'X]Y'j cf'ØVYf'&$$'$U`U!GhYddY \\ X]YgYf'5fh'k Uf''8]Y'Ui g[Yk]`XYfhYb'H]YfY'g]bX'HY]`Y]bYg \\ ]bhYfbUh]cbU`Yb'DfcY_hg'ni f'9f\U`hi b['XYf'VYXfc\hYb'GdYn]Ygž \\ XUg'XUg'N]Y`'j YfZc`[hž'a]bXYghYbg'($'DfnYk U`g_]!DZYfXY']b'X]YgYf \\ FY[]cb'XUi Yf\UZh'Ubni g]YXY`b'' \\ \end{array}$ 

8]YgY'j ]Yf'DZYfXY'j YfVfUW\hYb'ni j cf'Y]b'\\\f']b'Y]bYa 'gdYn]Y``Yb 5i gk ]`XYfi b[g[Y\Y[Y']b'? UgUW\ghUb"'G]Y'k UfYb']a ': fØ\'\U\f &\$&('ni gUa a Yb'a ]h'XfY]'k Y]hYfYb'H]YfYb'Ui g'DfU['bUW\? UgUW\ghUb'hfUbgdcfh]Yfh'k cfXYb"'8Yf'HfUbgdcfhž'XYf'Yhk U'\%, Ghi bXYb'XUi YfhY'i bX'nk Y]'Nk ]gW\Ybghcddg'i a ZUgghYž'k Uf YfZc`[fY]W\"'5i W\'i bhYf'YI hfYa Yb'HYa dYfUhi fYb'j cb'V]g'ni a ]bi g'' \$'; fUX'\]Y`h'g]W\'X]Y'; fi ddYž'X]Y'bi b'X]Y'YfghY'<YfXY X]YqYf'DZYfXY']b'NYbhfU`\_UqUW\qhUb'V]`XYhž'[i h"

## ?ccdYfUh]cb ZØf BUhi fgWi hn

8 UgʻDfc'Y\_hʻ FYhi fbʻcZʻh\YʻK ]`Xʻ<cfgYg žʻXUgʻ]bʻ?ccdYfUh]cbʻa ]h a Y\fYfYbʻCf[ Ub]gUh]cbYbʻXi fW\[ YZØ\fh`k ]fXžʻj YfVYggYfhʻb]W\h bi fʻX]YʻDcdi `Uh]cbʻXYfʻDfnYk U`g\_]!DZYfXYžʻgcbXYfbʻgd]Y`hʻUi W\

Y]bY'k]Wkh][Y'Fc``Y'ZØf'X]Y'K]YXYf\YfghY``i b['Zi b\_h]cb]YfYbXYf
GhYddYbYWkcgmghYaY"'8]Y'\delta]h]Uh]j Y'k]fX'gY]h'&\\$\\$\*'j cb'XYf
: fUb\_Zi fhYf'Ncc`c[]gWkYb'; YgY``gWkUZhii bX'XYf'576?'i bhYfghØhnh"
8]Y'DfnYkU`g\_]!DZYfXY'Zi b[]YfYb'U`g'^2 \_cgmghYa!\delta[Yb]Yi fYž
]bXYa 'g]Y'bUhØf`]WkY'FYggci fWYb'ØVYf'[fc\\*Y'9bhZYfbi b[Yb
j YfhY]`Yb'i bX'gc'XUg'; 'Y]Wk[Yk]Wkh']b']\fYf'I a [YVi b['ZÒfXYfb''

BUWX XYa 'X]Y 'DZYfXY ']a '@Ui ZY 'XYg '\$J\fYg 'ØVYfk UWX h'k i fXYbž k i fXYb 'nk Y]'j cb']\bYb'a ]h'; DG!GYbXYfb 'Ui g[ YghUhhYhž'i a ']\fY 9bhk ]W\_`i b[ ']b 'XYf 'K ]'Xb]g 'ni 'j YfZc`[ Yb"'=\fY F ØW\_\_Y\f'k ]fX'j cb 9l dYfhYb 'U`g'g][ b]Z]\_UbhYb': cfhgWX f]hh 'ZØf 'XYb'[ `cVU`Yb B Uhi fgWXi hn 'VYnY]WXbYh'' 8]Y 'DfnYk U`g\_]!DZYfXYž'VY\_Ubbh'U`g'XUg Y]bn][ Y 'ØVYf`YVYbXY 'YWXhY' K ]`XdZYfXž'k UfYb']a '%- "'\$J\f\i bXYfh Xi fWX 'a YbgWX`]WXY'5\_h]j ]hÀhYb'Ui g'XYf'\_UgUWX]gWXYb'GhYddY j YfgWX k i bXYbž'i bX']\fY'Dcdi `Uh]cb'\UhhY'g]WX'Ui ggWX`]Y» `]WX']b ncc`c[ ]gWXYb'9]bf]WX hi b[ Yb'[ Y\U`hYb"

## $8]YZcfhgWXfY]hYbXYFØW__Y\f$

8]Y'FØW\_\_Y\f'XYf'DfnYk U`g\_]!DZYfXY']b'?UgUW\ghUb']gh'b]W\h'XUg
9bXY'XYf'6Ya Ø\i b[Yb"Ni \_ØbZh][Y'HfUbgdcfhY'j cb'Yhk U'' \$
k Y]hYfYb'DZYfXYb'g]bX'[Yd`Ubhži a 'Y]bY'gY`VghhfU[YbXY
Dcdi `Uh]cb'ni 'YhUV`]YfYb"'8Ug'9fZc`[g\_cbnYdh'\Uh'VYfY]hg'VY]
ZfØ\YfYb'K ]YXYfUbg]YX`i b[gdfc'Y\_hYb']b'XYf'A cb[c'Y]'VYk ]YgYbž
XUgg'Yg'Z b\_h]cb]Yfh"'Gc'k i fXYb'Ua '\* "'\* b]'&\$&' ']bg[YgUa h
g]YVYb'DfnYk U`g\_]!DZYfXY'Ui g'9i fcdUž'Y]bgW\`]Y»`]W\'XYf'H]YfY
Ui g'6Yf`]bž']b'?UgUW\ghUb'\Y]a ]gW\'[Ya UW\h"8]YgY'DZYfXYž'i bhYf
XYbYb'g]W\'BUa Yb'k ]Y'Mdg]`cb\_ž'NYhU'=i bX'Ncffc'VYZ]bXYbž
\_Ua Yb']b'nk Y]'?cbj c]g'Ub'i bX'k i fXYb'YVYbZU``g']b
5\_\_`]a Uh]g]Yfi b[g[Y\Y[Y'i bhYf[YVfUW\h"

9]b k Y]hYfYf HY]``XYf  $\Rightarrow$  ]h]Uh]j Y VYghY\h`XUf]bžX]Y [fc» Yb DZUbnYbZfYggYf XYf GhYddYž k ]Y 5g]Uh]gWXY K ]`XYgY``fPi `UbŁi bX GU][ U!5bh]`cdYbž ni ']bhY[ f]YfYbž i a 'XUg' 2\_cgmghYa 'k Y]hYf ni ghUV]`]g]YfYb" 8]Y F ØW\_\_Y\f XYf DfnYk U`g\_]! DZYfXY ']gh gca ]h b]WXh bi f Y]b '9fZc`[ 'ZØf XYb '5fhYbgWXi hnž gcbXYfb 'Ui WX 'Y]b VYXYi hYbXYf GWXf]hh ]b F]WXh b[ 'XYf K ]YXYf\YfghY``i b[ 'Y]bYg [ Ygi bXYb 'i bX'j ]Y`ZÀ`h][ Yb '@YVYbgfUi a g']b '? UgUWXghUb"

8]Y'JYfUb\_Yfi b['X]YgYf'DZYfXY']a 'bUhØf`]W\Yb'@YVYbgfUi a ']gh Y]b'\cZZbi b[gj c``Yg'NY]W\Ybž'XUgg'a ]h'[YY][bYhYb'A U» bU\a Yb i bX']bhYfbUh]cbU`Yf'Ni gUa a YbUfVY]h'`Ub[Zf]gh][Y'9fZc`[Y']a BUhi fgW\i hn'Yfn]Y`h'\k YfXYb'\_\ObbYb'''8]Y'\Ni \_i bZh'XYf'DfnYk U`g\_]! DZYfXY']b']\fYf'<Y]a Uh'g]Y\h'j ]Y`j YfgdfYW\YbX'Ui g''

: Øf'k Y]hYfY' ± Zcfa Uh]cbYb'VYgi WXYb'G]Y'V]hhY'X]Y'6Yf]WXhY'j cb' F66&(ž'5`hmb'8U`U'7cbgYfj Uh]cb' ± b]h]Uh]j Y'i bX'H]YfdUf\_6Yf`]b"

8 Y hU]`g	
J cfZU``	Gcbgh][ Yg
Cfh	5`hmb!8U`U!GhYddYž'?UgUWXghUb
EiY``Yb	• k k k "fVV&( "XY
	<ul><li>U`hmbXU`U"cf[</li></ul>
	<ul><li>k k k "h]YfdUf_!VYf`]b"XY</li></ul>

6Ygi WXYb G]Y i bg Ui Z. b!U[ "bYh