

MUSC3705

DYfZcfa UbWY @UVcfUhcfmi7

HYfa 'Hk c''##'&\$&%

7ci fgY[·]Cj Yfj]Yk

GhJZZ 7 cbhJWh 8 YhJ] `g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]lm	@cWJhjcb	

7ci fqY'8YHJ]`q

7 fYX]hDc]bhq'('

Gi a a UfmcZh\Y'7ci fqY

H\Y'UWei]q]hcb'cZ\][\'mXYi Y'cdYX'Wc'`UVcfUhi Y'UbX'dfYqYbhUhcb'q]``g']g']bWfYUq]b['m]a dcfhUbhi]b WcbhYa dcfUfma i g]Wa U_]b['UbX'h\i g'fY'Yj UbhZcf'h\Y'dfY!dfcZYgg]cbU``ffU]b]b['cZU```gh XYbhg']b'U`` a UcfgcZh\Y'6Aigdfc[fUa "'A I G7' +\$) DYfZcfa UbW @UVcfUhcfm7]gh\Y'h\]fXzUbX ZbUzDYfZcfa UbW @UVcfUhcfmWci fgY Zcfighi XYbhg Ybfc "YX"]b h\Y A i g]Wc c[mUbX Gcb]W5fhg a U cfg cZh\Y 6UW\Y cf cZ A i g]Wdfc[fUa "'H\]g'Wci fgY'Vi]'Xg'cb'h\Y'hYW\b]WU`'UbX'WfYUh]j Y'Zci bXUh]cbg'XYj Y`cdYX']b'YUf`]Yf DYfZcfa UbWY @UVcfUhcfmWci fqYqz'UbX'h\Y'Uk UfYbYqq'cZU'fUb[Y'cZa i q]WU``[YbfYq'UbX'dfUWf)WYq YbWci bhYfYX]b ch\Yf Wci fgYg]b h\Y a i g]Wdfc[fUa "'Gh XYbhg YUfb hc Udd mWf]h]WU'']ghYb]b['UbX fYUX]b[g'cZdYfZcfa UbW'`]hYfUhi fYžUbX'[U]b'g_]`g'UbX'YI dYf]YbW']b'h\Y'XYj Y`cda YbhUbX'W fUhcfg\]d'cZ lbbci Uhli Y'[fci d'dYfZcfa UbWYg"

Bchy. "H\]g']g'U'\&'I C7 'Wti fgy" 'Mti 'k] ```Ybfc``]b'('I C7 ']b'YUW\ 'cZh\fyy'gi WWgg]j Y'hyfa g'k]h\ 'U'fygi `h fYdcfhYX·VmU·g]b[`Y·[fUXY·Uhih\Y·YbX·cZh\Y·h\]fX·(`I C 7 ·Wci fgY"

7 ci fqY @YUfb]b[Ci hWca Yq

- % 5dd`mWf|h|W|ga 'UbX'UbU`mg|g`cZh\Y``|hYfUhi fY`cb`dYfZcfa UbWYž'UbX`cZa UghYf`WUgg`dfYgYbHUh|cbgž hc h\Y dfYdUfUh]cb cZh\Y]f ck b dYfZcfa UbW
- &" 8 Yg][b UbX dfYgYbhYZZYW]j Y YbgYa V'Y a UlYf]U`UbX dYfZcfa UbWg
- ' " 5dd`mdf]bWd`Yg`cZhYUa k cf_'hc`a i g]WYbgYa V`Y

HYUW]b[GhfUhY[]Yg

+b'k cf_g\cdg'@UVcfUhcfm-'I'%") '\ci fg'YUW\'hf]a YghYfQ']bghfi a YbhU``UbX'j cWU``gh XYbhg'k]``[U]b

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

D`YUgY gYY a ccX`Y Zcf XYHJ]`g

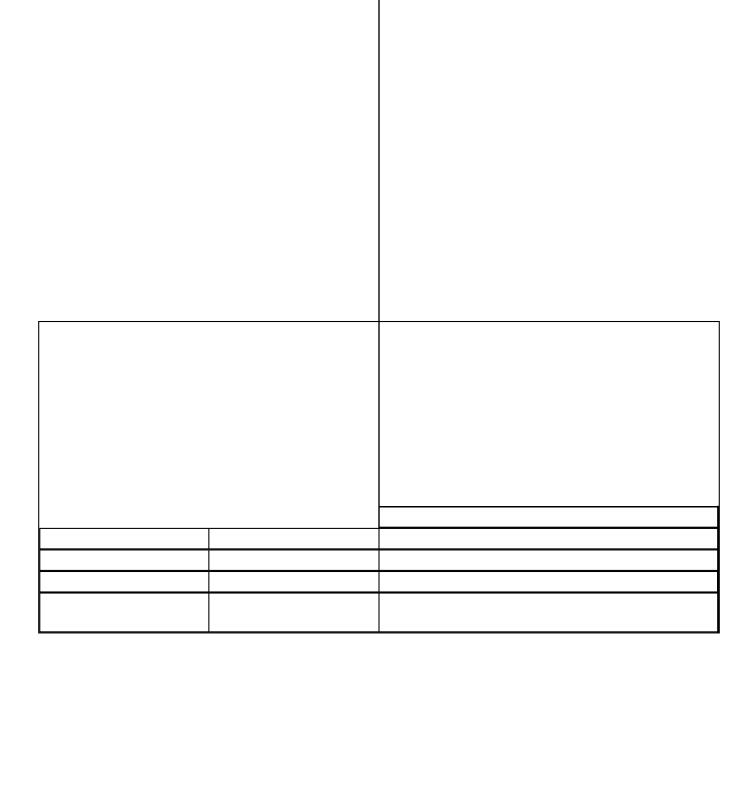
Gi Va]gg]cb bchYg. 'D'YUgY 'gYY 'XYhU] `g'cZh\]g'Ugg][ba Ybhcb h\Y A ccX'Y

 $\label{thm:continuous} \begin{tabular}{ll} Hi fb]h]b gYhh]b[. H\]g Ugg][ba Ybh]g gi Va]hhYX hAfci [\Thi fb]h]b UbX ghi XYbhg Wub gYY Hi fb]h]b g]a] Uf]hm fYdcfhg"$

5ggYgga Ybh' . DYfZcfa UbW/#dfYgYbHJh]cb

8YHJ]`g.

 $\label{thm:local-control} $$H\fYY^{\ }]b!WUgg^{\ }UbX^{\ }Ub^{\ }]b!WUgg^{\ }WcbXiW_{\ }D[\ ^{\ }H\fYghgWUZC^{\ }X]b[\ ^{\ }UggYgga\ YbhHUg_^{\ }("$



FYgci fWyg

DfYgWf]VYX F Ygci fWYg

BchUj U]`UV`Y

FYWca a YbXYX FYgci fWYg

Bch'Uj U]`UV`Y

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

: YYXVUW_cb^h\Y`Wci fgY`k]``VY`a UXY`h\fci [\`h\Y`a m9I dYf]YbW'E i Ygh]cbbU]fY"'7 cbhYbh'UbX`hYUW\]b[a Yh\cXg`\Uj Y`VYYb`g\UdYX`dUfhm]b`fYgdcbgY`hc`Yj U`i Uh]cb`cZYUf`]Yf`DYfZcfa UbWY`@UVcfUhcfm7 ci fgYg Uhh\]g``Yj Y`"'7\Ub[Yg`]bWi XY`U`ga U``Yf`WUgg`g]nYžYb\UbWYX]b!WUgg`dYfZcfa UbWY`cddcfhi b]h]Ygž'h\Y d`Ubb]b[`cZ]bZcfa Uh]cbU```YWi fYg`]bj c`j]b[`dYfZcfa UbWY`]ggi Ygž'U`ghfYb[h\YbYX`WcbXi Wi]b[Wca dcbYbh'`+b`UXX]h]cbž'U`a cfY`X]gW fg]j Y`UddfcUW\`hc`a UbU[]b[`ghi XYbh[cU`g`UbX`ZYYXVUW_`\Ug`VYYb XYj Y`cdYX"`H\Y`a U^cf'dYfZcfa UbWY`]g`Ybj]gU[YX`hc`VY`di V`]W

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

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

Image: Ybwei bhyfu'dfcv'ya k \yb'uhhya dhjb['hc'gi va]hmci f'Ugg][ba Ybhh\fci [\ 'Hi fb]h]bž'd'YUgY

Hy'Yd\cby'9| hy'fbu''Gi ddcfhcb'-',) '' ' ' %cf'Ya U]''h\Ya 'cb'Y! hy'fbu'hy'hgi ddcfh4 i bgk "YXi "Ui "''Gi ddcfh
\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg'UbX'-.\$\$Ua '-').\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUft'''=Z'mci
UfY'i bUV'Y'hc'gi va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\ 'Hi fb]h]b'mci 'a Um'Udd'mZcf'Ub'Y! hy'bg]cbž'Vi hmci
a i ghfYhJ]b'mci f'h]W_Yhbi a VYf'Zfca '9! hy'fbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fy'Yj UbhXcW a Ybhgt'hc
]bWi XY'Ug'Yj]XYbW' hc'gi ddcfhmci f'Y! hy'bg]cb'Udd']WUh]cb"'=Zmci 'Ya U]''9! hy'fbU''Gi ddcfhmci 'k]'`
Ui hca Uh]WJ'`mfYW']j Y'U'h]W_Yhbi a VYfZ'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYW]Z]WJ'`mUg_'Zcf'cbY''
Hi fb]h]b'U'gc'dfcj]XYg'i dXUhy'g'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk]hyf''

; YbYfU`mž'UggYgga YbhiHug_g'a i ghVY'gi Va]hhYX'Y`YVWfcb]\WJ``mij]U'Y]h\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk]```VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k]h\U`hYfbUh]j Y'gi Va]gg]cb'XYHJ]`g"

cfi]bZcfa Uhjcbicbi\ckihcigi Va]hUgg][ba Ybhgicbi]bYij]UiA ccXiY.i\hdg.#gh XYbhi bgk "YXi "Ui #\ck! gi Va]hUgg][ba Ybha ccXiY

5 WUXYa]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"`±hWJb`hU_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b['hc`UWW]XYbhJ``mWcdm]b['Zfca `U`gci fWY`k]h\ci hUW_bck `YX[Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga]bhc'h\Y'Zc``ck]b['WUhY[cf]Yg.

 $7 \text{ cdm}b[...i g]b[...h\Y.gUa Y.cf.j Yfmig]a] \Uf'k cfXg'hc'h\Y.cf][]bU''hYl h'cf']XYU'k]h\ci h'U\V_bck `YX[]b[...h\Y.cf][]bU''hYl h'cf']XYU'k]h'cf']$

5WUXYa]W±bZcfaUhjcb

: cf'YggYbhJU`ghi XYbh]bZcfa UhJcb'fY`UhJb['lc.