



# ARTS2750

## A cXYfb<sup>·</sup>@Uhjb<sup>·</sup>5a YfjWU.<sup>·</sup>8YdYbXYbWmUbX<sup>·</sup>8Yj Y`cda Ybh

HYfa "Hk c "# &\$%-

## 7ci fgY<sup>·</sup>Cj Yfj ]Yk

## `GHJZZ`7cbHJWh`8YHJ]`g`

## '7cbj Ybcfg'

BUa Y	9a U]`		

## 7ci fgY<sup>·</sup>8YHJ]`g

#### 7 fYX]hDc]bhg\*\*\*

#### Gi a a UfmcZh\Y 7ci fgY

#### GiVYWh5fYU.6WhWab\_WfEfgV[We

 $\label{eq:hardenergy} $$ H^[g'Wdi fgY'Wdb'Ugc'VY'ghi X]YX'] b'h Y'Zc'ck b['gdYW]U']gdh]cbg.: [efack-EbS' [eZ S' V >Sf[' 3_Wd[US' EfgV[We]]cbg.: [efack-EbS' [eZ S' V >Sf[' 3_Wd[We]]cbg.: [efack-EbS' [eZ$ 

H\]gʻWci fgYʻYI d`cfYgʻh\Y`\]ghcfmUbX`XYj Y`cda YbhcZ@Uhjbʻ5a YfjWUʻZfca `h\Y`+bXYdYbXYbWY`dYfjcX`]bʻh\Y YUf`mb]bYhYYbh\`WYbhi fmhc`h\Y`dfYgYbh'`+hUg\_g`k\mh\Y`@Uhjb`5a YfjWUbfYdi V`]Wgʻ\Uj Y`bchZi ``m Wcbj Yf[ YX`YWcbca ]WU``mž'gcWJU``mUbX`dc`]hjWU``mk ]h\`XYj Y`cdYX`WUd]hU`]ghWci bhf]Yg"`K\mXc`gc`a UbmcZ h\Ya`Wcbhjbi Y`hc`YI \]V]hW\UfUWAYf]ghjWgʻh\Uhk Y`UggcWJUhY`k]h\`h\Y`8Yj Y`cd]b[ `K cfX3`H\Y`Wci fgY`]g cf[ Ub]gYX`W\fcbc`c[ ]WU``m"Mci `k]``YI d`cfY`XYj Y`cda YbhghfUhY[ ]Ygʻ]bWi X]b[ ``]VYfU`]ga ž]bXi ghf]U`]gUhjcbž gcWJU`]ga žbYc!`]VYfU`]ga`UbX`h\Y`fYWbhg\]Zhihc`a cfY`gHUhY!X]fYWAYX`gcWJYhJYgʻ]b`h\Y`WcbhYI hcZYh\b]Wž WUggž`[ YbXYf`UbX`dc`]hjWU``X]j ]g]cbg`k]h\]b`@Uhjb`5a Yf]WU`UbX`]hg`fY`Uhjcbg\]dg`k]h\`ch\Yf`dUfhg`cZh\Y k cfX`]bWi X]b[ `h\Y`I b]hYX`GhUhYgž9i fcdY`UbX`5g]U"

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- % 9Id`U]b`h\Y`dc`]h]WU``X]gdi hYg`g]bWY`h\Y`b]bYhYYbh\`WYbhi fmUbX`fY`UhY`h\YgY`hc`YWcbca ]WzgcW]U` UbX`W``hi fU``V\Ub[`Yg"
- &" 5bgk Yf`\]ghcf]WU``ei Ygh]cbg`i g]b[ `Uf[ i a YbhUbX`Yj ]XYbW
- ' " 5bU`mgY`fY`Yj UbhgWkc`Uf`m``]hYfUhi fY
- ("7cbXiWi]bXYdYbXYbhfYgYUfW

#### HYUWX]b[ GhfUhY[]Yg

@YUfb]b[`]g'YggYbh]U``mXYf]j YX'Zrca 'W f]cg]!mUbX']bhYfYgh'HYUWX]b[`ghfUhY[]Yg'U]a 'c' %2gh]a i `UhY ]bhYfYghVmfU]g]b[`a U'cf']ggi Yg'fY`UhYX'rc'\]ghcf]WU``XYj Y`cda Ybhg/UbX'&2'dfcj ]XY']bZcfa Uh]cb'h\Uh]g bYW ggUfmZcf'gh XYbhg'rc'UXXfYgg'h\YgY']ggi Yg''I 'h]a UhY`m]h]g'h\Y'gh XYbhk\c']bhYfdfYhg'h\Y'X]Z]W `h ei Ygh]cbg'UbX'UhYa dhg'rc'fYgc`j Y'h\Ya ''' =b'h\Y'Z]fgh]bghUbW'rh\Y'gh XYbhg\ci `X'VY'Wf]h]WU`.'TT8 ci Vh 9j Yfmh]b[ "'''''GYVcbX`mz'h\Y'gh XYbhg\ci `X'UbU`mgY'h\Y'dfcV'Ya '''H\]fX`mz'h\Y'gh XYbhg\ci `X'XYj Y`cd'U \mdch\Yg]g'cf'Ubgk Yf'rc'h\Y'dfcV'Ya ''': ci fh\`mz'h\Y'gh XYbhg\ci `X'UXj UbW''Yj]XYbW'rc 'gi ddcfhh\Y \mdch\Yg]g'zk \]'Y'bch][ bcf]b[ 'Yj]XYbW'rc'h\Y'WcbHUfm''6mdfcWYYX]b[ ']b'h\]g'ZUg\]cb'h\Y'gh XYbhk ]`` XYj Y`cd'h\Y'UbU`m]WU`zfYgYUfWZ'UbX'Wca a i b]WUh]j Y'g\_]``g'fcfU`z'Ui fU`'UbX'k f]hY'bE'k \]W.'UfY'h\Y'VXfcW\_ cZh\Y'hYfh]Ufm'Xi WUh]cb'dfcYWiUbX'a cj Y'VYmcbX'h\Y'a YfY'I dfYgg]cb'cZcd]b]cb''

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#### 5ggYgga YbhHUg\_g

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**8YHJ]`g.** `Ghi XYbhg`k ]```gi Va ]hZj Y`^ci fbU``Ybhf]Yg`cZ&\$\$!&) \$`k cfXg`]b`k \]W\`h\YmfYgdcbX`hc`gYh fYUX]b[ g": YYXVUV\_j j]U`fi Vf]Wž]bX]j ]Xi U``Wca a Ybhgž'UbX`]b!WUgg`X]gW gg]cb"

#### 5XX]h]cbU``XYhU]`g.

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8YUX`]bY'Zcf'fYa U]b]b['Zci f'Yblf]Yg.'% '5i [i ghž-5A

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Hi fb]h]b`gYh]b[.`H\]g`Ugg][ ba Ybh]g`gi Va ]hhYX`h\fci [\`Hi fb]h]b`UbX`gh XYbhg`WUb`gYY`Hi fb]h]b`g]a ]`Uf]hm fYdcfhg"

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@Yb[h\.\*&ž\$\$\$\*k cfXg

8YHU]`g. `Gh XYbhg`k f]HY`U`fYgYUfW. YggUmcZWU"`&ž) \$\$`k cfXg": YYXVUW\_j ]U`fi Vf]WUbX`k f]HYb`Wca a Ybhg" H\]g`]g`h\Y`Z]bU``UggYgga YbhZcf`UHYbXUbWY`di fdcgYg

#### 5XX]h]cbU``XYhU]`g.

GYY'Z ```XYHU]`g'UbX']bgHi WJcbg']b'A ccX`Y'g]H'"

Gi Va ]gg]cb`bchYg.GYY`Z```XYhJ]`g`UbX`]bghfi Wi]cbg`]b`A ccX`Y`g]hY"

Hi fb]h]b`gYh]b[.`H\]g`Ugg][ ba Ybh]g`gi Va ]hhYX`h\fci [\`Hi fb]h]b`UbX`gh XYbhg`WUb`gYY`Hi fb]h]b`g]a ]`Uf]hm fYdcfhg"

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8YHU]`g. `H\Y`HYghcZ-\$`a]bi HYg`Xi fUh]cb`k]```]bWi XY`g\cfHUbgk Yf`UbX`dUfU[ fUd\ `Yb[ h\ ei Ygh]cbg" Gh XYbhg`k]```fYWY]j Y`U`a Uf\_`cb`m'`: i fh\Yf`]bX]j ]Xi U``ZYYXVUW\_`Uj U]`UV`Y`cb`fYei Ygh'

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

GYY'Z ```XYHU]`g'UbX']bgHi Whjcbg']b'A ccX`Y'g]hY"

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#### 5 HYbXUbWY FYei ]fYa Ybhg

5 HhYbXUbWY cZ`YWni fYgʻUbX`hi hcf]U`gʻ]gʻa UbXUhcfm`]bʻh∖]gʻWci fgY"ʻI bYIWigYX`UVgYbWY Zfca ʻa cfY`h\Ub &\$i cZ`YWni fYgʻUbX`hi hcf]U`gʻa UmifYgi`h`]bʻh∖Y`Uk UfX`cZU`ZU]``[fUXY"`+b``YWni fYgʻUbX`hi hcf]U`gʻmci `k]`` UWnjjY`mYb[U[Y`k]h\`WcfY`Wci fgY`WcbhYbhžYbUV`]b[`mci `hc`UhhU]bʻ7 ci fgY`@YUfb]b[`Ci hWca Ygʻ%ž&UbX`'"

### 7 ci fgY GWX YXi `Y

#### J]Yk WUgg ha YHUY Y

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K YY_`% '' `>i bY`!`+`>i bY	@YWhifY	KYY_'%f⊧ibY'*Ł'! =bHfcXiWh]cbhch\YWcifgY'UbX dfc`c[iY'hc'acXYfb'@Uh]b'5aYf]WU'fdfY!%\$\$gŁ =bX][Ybcig'W]j`]`]gUh]cbgžWc`cb]U`]ga'UbX'h\Y Z]fgh'@Uh]b'5aYf]WUb'fYjc`ih]cb'fkU]h]Ł"
	Hihcf]U`	8]gWigg]cb`cZ'rcd]WUbX`fYUX]b[g`fk]h\`g\Uf]b[ cZ`⁄cifbU``YbIf]YgŁ
		A UbXUhcfmfYUX]b[g.
		6Uffc`caÅ`XY`@Ug`7UgUgžA`@Wi EbS[`;UbX`;;ž`]b` 3`SUUag`fi_gUZSTTdWh[SfWVłaXfZWVWefdgUf[a`a> fZW;`V[Weži [fZdWSfWWfWjfež*aX]UbUdc`]g7 7UaVf]X[Y.` <uw_ythdiv`]g\]b[`7cadubmž&\$\$'ž dd"`&amp;,!',"`IBGK`@]VfUfm`]b` \thdg.##V]ti`m&amp;C(*M7?</uw_ythdiv`]g\]b[`7cadubmž&\$\$'ž 
		BcUa '7 \cag_mžKWSd'#&,9 ′aTS ′[Sf[a`Xad IZa_1 '0YIWYfdh02']b': abWeS`VBcaebWUfež 7 \]WU[c.' <umauf_yh6cc_gž&\$%\$ž<b>dd"''!+"IBGK @]VfUfm``]b_,`<u>\hndg.#W]h'`m&amp;&amp;:\$?cLh</u></umauf_yh6cc_gž&\$%\$ž<b>
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		FYWca a YbXYX fYUX]b[g.
		BcUa '7 \cag_mž'FZW9dWSfI adjaXEgT`gYSf[a` S`V 5 a`cgWef'UbX'FZWFdSYWWkaX: S[f[OYIWYfdhgO2 ]b`KWSd'"#,FZW5a`cgWefUa`f[`gWe'z"@cbXcb. JYfgcz"&\$%)ž'dd"''!*ž&+\$!&,)"'IBGK '@]VfUfm`]b' \hhdg.##v]h'`m#&:WC5:\$
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		AccX`Y`g]hYO 5Z[WYFZW=[ee[`YWd5STWež`]b`FZWI [][WS]e8[We, FZWiadVSUUadV[`YfaGEW_b[dWž'@cbXcb'/`BYk Mcf`JYfgcž'&\$%*ž'dd"`*)!+\$"`IBGK`@]VfUfm`]b`
		<u>\hdg.#/]h`m&amp;l_9.f∿</u> @`gc`h\fci[\`@Y[Ubhc``]b_`]b A ccX`Y`g]hY@ F YWca a YbXYX`fYUX]b[g.
		<pre>&gt;c\b'7cUhgkcfh\žFZW5aVI Sd[`5WfdS^ 3_Wd[USł#+)'Ž#++#ž]b'FZW5S_Td[VYW: [efackaX fZW5aVI SdžYX]hYX'Vm'AY'jmb'@YZZYFZ'CXX K YgHUXZ7UaVf]X[Y.'7UaVf]X[Y'Ib]jYfg]hmDfYggž &amp;\$%\$ž'dd"'&amp;\$%{&amp;&amp;%"IBGK '@]VfUfm`]b \hhdg.##/]h'`m&amp;&amp;: %j; EZ</pre>
		GU`jUXcf`5``YbXYž3VVdWeefafZWG`[fWW@Sf[a`e 9W`WdS^3eeW_T&ž]b`ES^hSVad3^WVVWDWSVWdž YX]hYX`Vm`>UaYg`7cW_WfcZhžAY`VcifbY.`CWYUb DfYggž&\$\$\$ždd"`&\$\$!&&%"`IBGK`@]VfUfm`]b` <u>\hndg.#/]h``m&amp;:&amp;IC&lt;`</u> `@J`gc`h\fci[\`@Y[Ubhc``]b_`]b AccX`Y`g]hY@
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		A UfWJU'9gdUfnUž;`fcaVgUf[a`, 9 'aTS1[[`Y >Sf[` 3_Wd[US` efgV[We aXefSfWh[a W UWS` V YW aU[VWz`]b EfSfWH[a W UWS` V 9 W aU[VW[` >Sf[` 3_ Wd[US, FZW 5 a V I SdKWScbežYX]HYX'VmA UfWJU'9gdUfnUž < Ybfm < iHHYbVUW.'UbX'8Ub]Y`: Y]YfgHY]bž: `cfYbWY.'HUm`cf UbX`: fUbW]gž&\$\$-z <b>`dd"'%]%\$z% !%(</b> "'IBGK '@]VfUfm `]b` <u>\htdg.#/]H`m&amp;L_M\$b\D</u>
		FcXc`Zc`KU`g\žAbW`WffWdXda_Sid[fWdfafZW _[{ffSdk`yg`fSž6iYbcg`5]fYgž5f[Ybh]bU.`A]b]ghYf]c XY`>igh]W]U`m8YfYW\cg` <iaubcgž%++"`@]b_fbyl` \hhdg.##v]h``m#&amp;8:DI&amp;fcf`\hhdg.##v]h``m#&amp;<fifm @U`gc`h\fci[\`@Y[Ubhc``]b_`]b`AccX`Y`g]hY@</fifm </iaubcgž%++"`@]b_fbyl` 
		>"`DUhf]WY`AWg\Yffmž'? ['{fSokBaiWot;_bg`[fkS`V EfSfWŽEaU[Wfk5ZS`YW[`>Sf[`3_Wo[USž7UbUX]Ub >cifbU``cZDc`]h]WU``GW]YbVYZ`%-&žJc`"&)f1Łž dd"(*'!(+&"``IBGK`@]VfUfm`]b \hhdg.##/]h'`m#&LN:*+]
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		8Ub]Y`` <y``]b[yf'ubx'5bh\cbmdyhfcg'gdubu_cgž' FZW&gt;WYSUkaX:gYa5ZmhW'ž'@Uh]b'5aYf]WUb DYfgdYWf]Ygži=ggiY'&amp;%&amp;žJc`"((f%Lž'&amp;\$%+ž'dd" (!%)"'IBGK`'@]VfUfm``]b_,`\hhdg.##V]h"`m&amp;7nIB?=</y``]b[yf'ubx'5bh\cbmdyhfcg'gdubu_cgž' 
		FYWca a YbXYX fYUX]b[g.
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		DUfh%! Bcb!gHJHY WobHYa dcfUfmUWhofg. =bX][Ybci gžk ca Ybža ][fUbhžghi XYbhUbX Ybj ]foba YbHU`a cj Ya Ybhgff% - \$g!dfYgYbH2"
		DUfh'&'!`AcXYfb`@Uh]b`5aYf]WUb`Wi`hifY`UbX ]XYbh]hm`H\Y`gcW]U``]adUWhcZ`Ufhž``]hYfUhifYž W]bYaU`UbX`aig]W
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		>cgÅ`7finžFZWDaaf5SgeWeaXfZW5WfcS^ 3_Wo[US`5d[e[ež7iffYbhi<]ghcfmžJc`"%%(fl+*-Łž &\$%)ždd"('!(,"IBGK`@]VfUfm`]b \hhdg.##/]h'`m#&idgig7
		F]WXUfX`GHJ\`Yf!G\c`_žFZWLSbSf[efSEaU[S^ ? ahW_W`f,;`` ahSf[a` S`VEgefS[`ST[{fkž 5`HYfbUh]jYg.'; `cVU`ž`@cWU`ž`Dc`]h]WU`ž'Jc`''' )f1 &\$%\$`z`dd"&*-!&, *"`LBGK`@]VfUfm`]b` \hndg.##\]h``m#&<9%L:_

		5Xc`Zc`G½bW\Yn`J½neiYnž6[WYaD[hWdS,BS[`f[`Y S`VBSdf[eS`eZ[bžH\]fX`HYIhžJc`"`&,f1½ž&\$%(ždd"` &*-!&+\$"`IBGK`@]VfUfm`]b` <u>\hndg.#V]h'`m&amp;J,?mK\</u> FYWcaaYbXYX`fYUX]b[g.
		AUbiY``@UffUVifY'UbX'7Uf`cg`HcfWX]Už'FZW\$"## 5Z[%US`EfgVWf?ahW_WfS`VfZWEfdgYY%WadS @Wi/>WMfž`@Uh]b`5aYf]WUb`DYfgdYWh]jYgž'=ggiY`&\$(ž Jc`"(&f)Łz`&\$%)ž'dd"`&(,!&*,"`IBGK`@]VfUfm`]b \hhdg.##/]h'`m#&MCc@-
		9f]W6YbgcbžiFZ[e [e`afSX[^_žFZ[e [efZWZWS1^Y] aX_keag172*BYk`Ncf_`H]aYg`AU[Un]bYžAUf"`%*ž &\$%(ždd"`&(!&+"`IBGK`@]VfUfm``]b` <u>\hdg.#V]h`n#&amp;&gt;8F%9&lt;</u>
		>i`]c`7cff1½nUfžFZW`[YZfXSUWgb`]b`7`VaXfZW YS_Wž@cbXcb.`7c``]bg`UbX` <ufj]``dfyggž%*," IBGK`@]VfUfm`]b`<u>\hndg.#X]h`m&amp;&lt;:_%iY</u>`@)`gc h\fci[\`@Y[Ubhc``]b_`]b`AccX`Y`g]hY@</ufj]``dfyggž%*," 
K YY_`%\$.`)`5i[igh!`- 5i[igh	5ggYgga Ybh	К ҮҮ_`%\$`fБi [igh, Ł!`К f]thYb`hYgh`]b``YWfi fY`h]a Y
	Hi hcf]U`	: ]bU``X]gW gg]cb`UbX`g\Uf]b[`cZ`たifbU``Yblf]Yg fbc`fYUX]b[gŁ

### FYgci fWg

#### DfYgWf]VYX F Ygci fWYg

5FHG&+) \$`7cifgY'FYUXYf#GhiXm?]hifgc`X`]b'IBGK '6cc\_ghcfYŁ"

#### FYWca a YbXYX FYgci fW/g

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

5W1jcbg`\UjY`VYYb`HU\_Yb`]b`fYgdcbgY`hc`YjU`iUh]cb`ZYYXVUW\_"`H\Y`aU]b`UW1jcbg`UfY.

!`7cbhYbhicZ`YWiifYg`\Ug`VYYb`ghYUa`]bYX`hc`ZcWig`cb`acfY`WYbhfU``hcd]Wg`fbUh]cbU``\]ghcf]Yg`cZgdYWJZ]W Wciibhf]Yg`k]```VY`Yad\Ug]gYX`Zifh\YfŁ"

! `A cfY`[fci d`k cf\_`Xi f]b[ ``YWi fYg`UbX`h hcf]U`g`\Uj Y`VYYb`UXXYX`hc`a U\_Y`gh XYbhg`ZYY``U`ghfcb[Yf``]b\_ k ]h\`U``YUfb]b[ `Wca a i b]hm"

! `A cfY`h]a Y`UbX`a UhYf]U``[]j Yb`hc`dfYdUfY`Zcf`]b!WUgg`k f]hhYb`hYgh"

! '7 ci fgY`fYUX]b[ g`\Uj Y`VYYb`gYbhhc`l BGK '6cc\_g\cd`hc`VY`gc`X`Ug`Gh Xm? ]hf\UfX`WcdmŁ"

! A cfY`@Uhjb`5a YfjWUb`]bX][Ybci g`WcbhYbh`\Ug`VYYb`UXXYX`hc``YWhi fYg"

#### Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

## Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

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

=Zmci YbWci bhYf'U'dfcV'Ya 'k \Yb'UhYa dhjb[ 'hc'gi Va ]hmci f'Ugg][ ba YbhN fci [ \ 'Hi fb]hjbž'd'YUgY hY'Yd\cbY'9I hYfbU'`Gi ddcfhcb'-', ) '' ' %cf'Ya U]`'h\Ya 'cb'YI hYfbU'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'mYUfŁ'" =Zmci UfY'i bUV'Y'hc'gi Va ]hmci f'Ugg][ ba YbhXi Y'hc'U'ZUi `hk ]h\ 'Hi fb]hjb'mci 'a Um'Udd`mZcf'Ub'YI hYbg]cbž'Vi hmci a i ghfYhU]b'mci f'hjW\_Yhbi a VYf'Zfca '9I hYfbU``Gi ddcfhfU`cb[ 'k ]h`Ubm'ch\Yf'fY`Yj UbhXcW a YbhgŁ'hc ]bWi XY'Ug'Yj ]XYbWi'hc'gi ddcfhimci f'YI hYbg]cb'Udd`]WUh]cb''`=Zmci 'Ya U]``9I hYfbU``Gi ddcfhimci 'k ]``

#### 5WUXYa ]W<cbYghmUbX<sup>\*</sup>D<sup>\*</sup>U[ ]Uf]ga

D`U[]Uf]ga `]g`i g]b[`f\Y`k cfXg`cf`]XYUg`cZcf\Yfg`UbX`dfYgYbh]b[`f\Ya `Ug`mci f`ck b"`=fiWUb`hU\_Y`a Ubm Zcfa gžZfca `XY`]VYfUHY`W\YUh]b[`fc`UWV]XYbhU``mWcdm]b[`Zfca `U`gci fWFk]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[ `h\Y`gUa Y`cf`j Yfmig]a ]`Uf`k cfXg`hc`h\Y`cf][ ]bU``hYI h`cf`]XYU`k ]h\ci h`UW\_bck`YX[ ]b[ `h\Y

- i bXYfgHJbX'mci f`f][\hg`UbX'fYgdcbg]V]`]h]Yg`Ug`U`ghi XYbh'Uh'I BGK
- VY Uk UfY cZdU[]Uf]ga žWcdmf][ \lbzi BGK Ghi XYbh7 cXY cZ7 cbXi Wh0bX 5WW/dhUVY I gY cZ I BGK '=7 H'F Ygci fW/g'Dc']Wh
- VY Uk UfY cZh Y gHUbXUfXg cZVY Uj ]ci f YI dYWYX cZYj YfmcbY ]b h Y I BGK Wca a i b]m
- `cWUHY`gYfj ]WYg`UbX`]bZcfa UH]cb`UVci hI BGK `UbX`I BGK `@]VfUfm

Gca Y'cZh\YgY'UfYUg'k]``VY'ZJa]`]Uf'hc'mci ž'ch\Yfg'k]``VY'bYk"'; U]b]b[`U'gc`]X'i bXYfgHJbX]b[`cZU``'h\Y fY`UhYX'UgdYWfg'cZ9@=G9'k]``\Y`d'mci 'a U\_Y'h\Y'a cghcZmci f`ghi X]Yg'Uh'I BGK "' <u>\hhd.#gi VYWf[i]XYg'`]VfUfm'i bgk "YXi "Ui #Y`]qY#UVci hY`]qY</u>

#### 5WUXYa]W=bZcfaUh]cb<sup>·</sup>

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

- fYei Yghg Zcf Yl hYbg]cb/
- `UhY 'gi Va ]gg]cbg '[ i ]XY `]bYg/
- fYj ]Yk 'cZa Uf\_g/
- I BGK '<YU`h\ UbX'GUZYhmidc`]W}Yg/
- YI Ua ]bUh]cb'dfcW/Xi fYg/
- gdYWJU``Wcbg]XYfUh]cb`]b`h\Y`Yj YbhcZ]``bYgg`cf`a ]gUXj Ybh fY/
- gh XYbhYei ]m/UbX X]gUV]`]m/
- UbX'ch\Yf'YggYbh]U``UWUXYa ]W]bZcfa Uh]cbž'gYY

<u>htdg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbhgh XYbhg#UWUXYa ]W]bZcfa Uh]cb#dfchcWc`g![i]XY`]bYg#</u>

#### ∋a U[Y<sup>·</sup>7fYX]h

=a U[Y'VmDUV`c'@Y][\hcb

#### 7F=7CG

7F=7CG<sup>·</sup>Dfcj]XYf<sup>·</sup>7cXY.<sup>·</sup>\$\$\$-,;