%&'() * %+)!, -!%., +, */.0!	!
0' + !7, 0%!0)')%!8 + /9%(0/):!	!
* '0)%(?0!., *&($\%@\%+0/9\%!\%A'*/+$	')/,+!
!	
!	

!"#\$%&'\$!("#)*

!# !</th <th>'CDEFG!, +H: !IJF!DKFLMN#FO!CPQRFG!SN!TPFDIMSCD!MGSQ!IJF!SKIMSCD!KGSUMOFO!MC!FVLJ!</th>	'CDEFG!, +H: !IJF!DKFLMN#FO!CPQRFG!SN!TPFDIMSCD!MGSQ!IJF!SKIMSCD!KGSUMOFO!MC!FVLJ!
	DFLINSC \$S!CSI!VCDEFG!QSGF!IJVC!IJF!GFTPNGFO!CPQRFG!SN!TPFDINSCD<!%VLJ!DFLINSC!IVWFD!</td
	SCF!JSP6 </td
!	
!4 </td <td>: SPG!VCDEFGD!QPDI!RF!SC!IJF!KVKFG!KGSUMOFO<!--+S!QSGF!IJVC!SCF!VCDEFG!KFG!KVXF<!\$S!CSI!<br-->VCDEFG!IES!TPFDIMSCD!SC!IJF!DVQF!DJFFI!SN!KVKFG<!--</td--></td>	: SPG!VCDEFGD!QPDI!RF!SC!IJF!KVKFG!KGSUMOFO +S!QSGF!IJVC!SCF!VCDEFG!KFG!KVXF<!\$S!CSI!<br VCDEFG!IES!TPFDIMSCD!SC!IJF!DVQF!DJFFI!SN!KVKFG </td
!	
	/N!YSP!PDF!QSGF!IJVC!SCF!DJFFI!SN!KVKFG!NSG!V!TPFDIMSC3!EGMIF!Z&VXF!#!SN!4[!VCO! Z&VXF!4!SN!4<[!
!	
!6 </td <td>\ GMIF!, +H: !SC!SCF!DMOF!SN!FVLJ!DJFFI<!--8DF!SC]Y!KFC<! 'CDEFGD!MC!KFCLM]!EM]]!RF!<br-->OMDTPV]MNMFO<!--</td--></td>	\ GMIF!, +H: !SC!SCF!DMOF!SN!FVLJ!DJFFI 8DF!SC]Y!KFC<! 'CDEFGD!MC!KFCLM]!EM]]!RF!<br OMDTPV]MNMFO </td
! !^ </td <td>\ GMIF!+++++*, '' - *+++++!VI!IJF!FCO!SN!FVLJ!VCDEFG<!--</td--></td>	\ GMIF!+++++*, '' - *+++++!VI!IJF!FCO!SN!FVLJ!VCDEFG </td
	$\langle UMI^{TTTTTT}, -TTTTT^{TTTTT}, VI^{TTTTT}, VI^{TTTTTT}, VI^{TTTTTT}, VI^{TTTTTT}, VI^{TTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTT}, VI^{TTTTTTTT}, VI^{TTTTTTTT}, VI^{TTTTTTTT}, VI^{TTTTTTTTT}, VI^{TTTTTTTTT}, VI^{TTTTTTTTTTT}, VI^{TTTTTTTTTTT}, VI^{TTTTTTTTTTTTTTT}, VI^{TTTTTTTTTTTTTTT}, VI^{TTTTTTTTTTTTTTTTTTTT}, VI^{TTTTTTTTTTTTTTTTTTTTTT}, VI^{TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT$
!2 </td <td>\ GMIF!YSPG!F_VQ!MOFCINNMLVIMSC!CPQRFG!MC!IJF!PKKFG!GMXJI"JVCO!LSGCFG!SN!FVLJ!DJFFI!SN!</td>	\ GMIF!YSPG!F_VQ!MOFCINNMLVIMSC!CPQRFG!MC!IJF!PKKFG!GMXJI"JVCO!LSGCFG!SN!FVLJ!DJFFI!SN!
	KVKFG </td
!	
!` </td <td>\ GMIF!IJF!TPFDIMSC!CPQRFG!MC!IJF!PKKFG!GMXJI"JVCO!LSGCFG!SN!FVLJ!DJFFI!SN!KVKFG<!--</td--></td>	\ GMIF!IJF!TPFDIMSC!CPQRFG!MC!IJF!PKKFG!GMXJI"JVCO!LSGCFG!SN!FVLJ!DJFFI!SN!KVKFG </td

*

$\#./0123^{*}4)^{*} 5 \ 6/72./232 \ 81/9^{*}63: ^{*} 5 \ 23.067; ^{*} \\ \$ < .27; = > 39?.7^{*} \ (\ 3.^{*} \\ @A.90123 \\ B^{*}$

4 > B!a%LSC!454b! CDEFG!V]]!SN!IJF!NS]]SENCX!KVGID!LSQK]FIF]Y<!1F!DKFLNNL<!

!

!

Vb! \$ GV E !V!OYCVQNL!VXXGFXVIF!OFQVCO"VXXGFXVIF!DPKK]Y!a ' \$ " ' Ob!ONVXGVQ!LSGGFLI]Y!NOFCINNYNCX!RSIJ!V_FD! VCO!V]]!IJF!LPGUFD<!

Rb!/C!SCF!DFCIFCLF3!OFDLGMRF!EJVI!MD!IJF!OMNNFGFCLF!RFIEFFC!IJF!DIVIML!VCO!IJF!OYCVQML!UFGDMSC!SN!IJF! ' \$" '0!QSOF]!aCSIMCX!IJVI!SCF!MD!DIVIML!VCO!SCF!MD!OYCVQML!MD!+,)!V!LSGGFLI!VCDEFGb<!

Lb! \ JVI!F_K]V%CD!IJF!D]SKF!SN!IJF!VXX6FXVIF!OFQVCO!LP6UF!%C!IJF! ' 0" ' \$!QSOF]c!

Ob! \ JVI!NVLISGD!OS!FVLJ!SN!IJF!NS]]SENCX!DLJSS]D!FQKJVDNdF!GFXVGONCX!DJNNID!NC!IJF!OFQVCO!LPGUF;!

V<!&GF! e FYCFDNVC3! .]VDDMLV]!FLSCSQNDIDc!

R<!, GIJSOS_! e FYCFDWVC!FLSCSQMDIDc!

L<! (FV]!RPDMCFDD!LYL]F!FLSCSQMDIDc!

 $\label{eq:science} Fb! \ JVI!VGF!IJF!OMNNFGFCLF!VCOfSG!DWQM]VGMINFD!RFIEFFC!JSE! * SCFIVGMDI!FLSCSQMDID!VCO!+FE!.]VDDMLV]! \\ FLSCSQMDID!ESP]0!OFDLGMRF!IJF!DJSGI"GPC!MC!LJVCXF!MC!SPIKPI!OPF!IS!VC!VXXGFXVIF!OFQVCO!DJSLWc! \\ Nb!OJSE!SC!V!OMVXGVQ!DMQM]VG!IS!IJF!SCF!YSP!OGFE!NSG!KVGI!aVb!JSE!V!CFXVIMUF!DJSLW!IS!VXXGFXVIF!OFQVCO! \\ ESP]0!VNNFLI!IJF!LPGUFD!MC!RSIJ!IJF!DJSGI"GPC!VCO!]SCX!GPC<! \\ \end{tabular}$

ESPJ0!VNNFLI!IJF!LP00FD!MC!KSIJ!IJF!DJS6I"0PC!VC0!JSC

\$%&'()*%+)!,-!%.,+,*/.0!	!	\$%.%*1%(!23!4546!
0' + !7, 0%!0)')%!8 + /9%(0/):!	!	2;55!&<*),!=; 5!&<* </td
* '0)%(?0!., *&($\%@\%+0/9\%!\%A'$	*/+')/,+!	&(,.),(;!'B/B!
!		
!		

Xb! 8 DF!IJF!VXXGFXVIF!OFQVCO"VXXGFXVIF!DPKK]Y!QSOF]!IS!KSGIGVY!EJVI!LVPDFD!V!GFLFDDMSC!VLLSGOMCX!IS! GFV]!