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QPb\B(AP_P]qb aTP[> :G X_a^eTS Qh 3*2# U^a cWT `dPacTa T]STS Ad]T /,(.,.- P]S Qh -*0# U^a cWT `dPacTa T]STS
JT_cT \QTa /,(.,.-* AP_P]qb :^]bd \Ta Ga\RT @]STg(^a :G@(U[dRedPcTS QTc fTT]]TVPc\eT ,*4# P]S _^b\c\eT ,*0

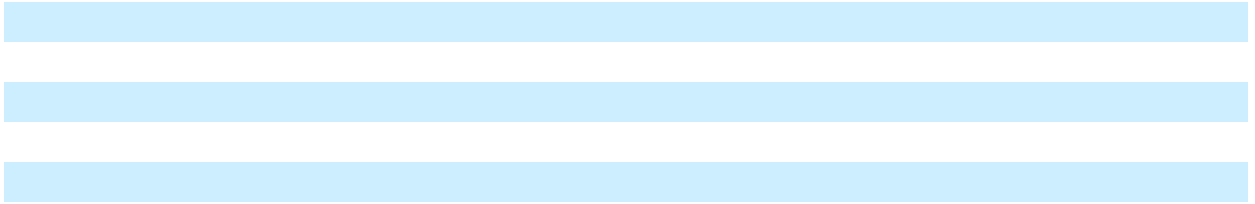
.LOBFDK +R00BK@V - U@E>KDB 9>0BP

KWT AP_P]TbT hT] ST_aTRXPcTS PVPX]bc cWT L*J* S^[[Pa Ua^\ 1--,*3- c^ cWT L*J* S^[[Pa Pb ^U DPaRW /-(., . - c^

8b ^U JT_cT \ QTa / , (. , . -(^da TgcTa]P[KC8 : aPc^b fTaT . , * , / # ^] P a^bZ) fT^VWcTS PbbTcb QPb^b P]S 5^ . . #
^] P [TeTaPVT Tg_ ^bdaT QPb^b^ NT PaT aT` d^aTS c^ \ P^]cP^] TgcTa]P[KC8 : aPc^b ^U -2# ^] P a^bZ) fT^VWcTS PbbTcb QPb^b P]S



5 LK\$IKQBOBPQ IK@LJB



4@N NL<A N <N LN

ETc _a^U\cb %[^bbTb& ^] caPSY]V PRR^d]c bTRda\c\Tb(TgR[dSX]V STa\cPc\cTb(R^]b\bc ^U6

k 4@N JLIADNM "FIMM@M# IH NL<?DHB <>>IOHN M@>OLDND@M(fWXRW _a\ Pa\h R^]b\bc ^U VPX]b P]S [^bbTb ^] caPSY]V
P]S eP[dPc\^] ^U caPSY]V bTRda\c\Tb fWXRW aT[PcT c^ caPSY]V _da_^bT PRc\c\c\Tb* ETc _a^U\cb %[^bbTb& ^]
Y]eTbc \T]c bTRda\c\Tb WT[S Qh RTacPX] R^]b^[XSPcTS ePa\XQ[T Y]cTaTbc T]c\c\Tb(^a M@<b(PaT X]R[dSTS Y]
PRR^aSP]RT f\cW cWT P__[XR T R^]b\bc

k X]RaTPbX]V cWT ^_TaPcX]V_a^U\cb ^U FcWTa(cWT >[^QP[:^a_^aPcT \$ @]eTbc \ T]c 9P]ZX]V 9dbX]Tbb >a^d_(
cWT >[^QP[: ^ \ \ TaRXp[9P]ZX]V 9dbX]Tbb >a^d_ T cWT >[^QP[P Z cb 9dbX]Tbb >a^d_

ETc aTeT]dT X]RaTPbTS \PX][h SdT c^ WxVwTa X]cTaTbc X]R^ \ T Ua^ \ [T]SX]V P]S ST_^bX)cPZ]V ^_TaPcX^]b
aTU[TRcX]V P] X \ _a^eT \ T]c X] ^da [T]SX]V b_aTPS Pb f T[[Pb WxVwTa R^ \ \XbbX^]b aTU[TRcX]V P] X]RaTPbT X] _a^YTRc UX]P]RT
STP[b* KWT X]RaTPbT X] ^_TaPcX]V Tg_T]bT f Pb \PX][h SdT c^ X \ _[T \ T]cPcX^] ^U aTRadXc \ T]c P]S ^cWTa ^_TaPcX^]b
T]WP]RT \ T]c _a^YTRcb f WxRW f TaT _[P]]TS U^a cWT _aTeX^db UXbRP[hTPa Qdc f TaT STUTaaTS c^ cWT RdaaT]c UXbRP[hTPa*

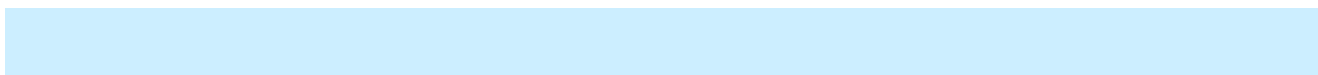
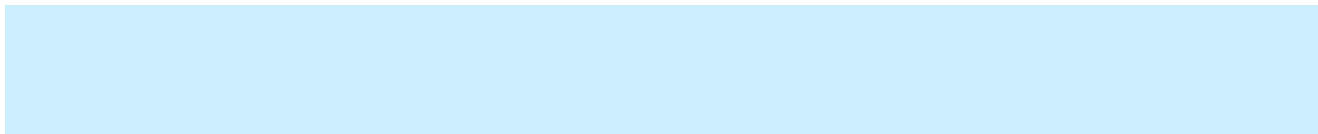
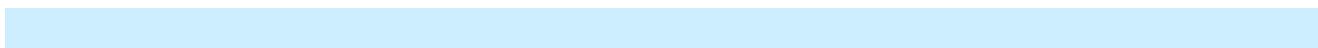
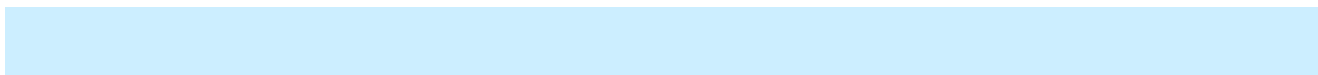
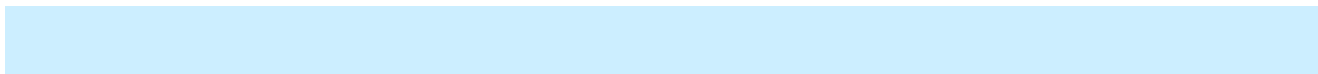
- FI=<F 3 <LE@NM (OMDH@MM - LIOJ n : ^eTab cWT Rdbc^ \ Ta QdbX]Tbb P]S cWT caTPbdah ^_TaPcX^]b ^U DL=> 9P]Z(
DXcbdqXbWX L=A Kadbc P]S 9P]Z]V P]S DXcbdqXbWX L=A JTRdaXcX]Tb ?^[SX]Vb* KWT Rdbc^ \ Ta QdbX]Tbb X]R[dSTb bP[Tb P]S
caPSX]V X] UXgTS X]R^ \ T X]bcad \ T]cb(RdaaT]RXTb(T`dXcX]Tb P]S ^cWTa X]eTbc \ T]c _a^SdRcb Pb f T[[Pb ^aXVX]PcX^] P]S
SXbcaXQdcX^] ^U UX]P]RXP[_a^SdRcb* KWT caTPbdah ^_TaPcX^]b X]R[dST PbbTc P]S [XPQX[Xch \ P]PVT \ T]c Pb f T[[Pb V[^QP[
X]eTbc \ T]cb U^a cWT DL=> >a^d_*

3L>K 7L0QCLIFL

KWT U[^][[[^] fX]V cPQ[T bTcb U[^]acW [^]da [[^]P]b [^]dcbcP]S[^]]V(Q[^]TU[^]aT STSdRc[^]X[^]] [^]U P[[[^] fP]RT U[^]a RaTS[^]c [[^]bbTb QPbTS [^]]

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;LQ>I 3F>?FIFQFBP

8b ^U JT_cT \ QTa /, (., . -(c^cP[[XPQM[XcYtb fTaT 1//2(25.* / QM[[X^](P STRaTPbT ^U 1443*4 QM[[X^] Ua^ \ 1//3(14,*- QM[[X^] Pb ^U

I \a0Y 9^b af

KWT U^[[^ fX]V cPQ[T _aTbT]cb P bd \ \ Pah ^U ^da c^cP[T` dXch Pb ^U DPaRW /-(. , . - P]S JT_cT \ QTa /,(. , . -6



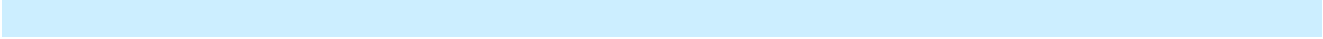
=^a P \ ^aT STcPX[TS SxbRdbbX^] ^U cWT P__[XRPQ[T RP_XcP[aPcX^ aT`dXaT \ T]cb(bTT o@cT \ O*9* @]U^a \ PcX^] ^] cWT
: ^_P]h n 9dbX]Tbb FeTaeXTf n Jd_TaeXbX^] P]S ITVd[PcX^] n AP_P]p X] ^da P]]dP[aT_^ac ^] =^a \ .,)= U^a cWT UXbRP[
hTPa T]STS DPaRW /-(.,.-* =^a X]U^a \ PcX^] ^] cWT XbbdP]RTb ^U 8SSXcX^]P[KXTa - bTRdaXcXtb(bTT P[b^ oITRT]c
; TeT[^_T]cb n @bbdP]RTb ^U 9PbT[@@@): ^_XP]c ; ^_TbcXR JdQ^aSx]PcTS 9^]Sb^p

%-& KWT \X]X\ d \ RP_\xcP[aPcX^b aT`d\laTS Pb ^U DPaRW /-(. , . - X]R[dST P RP_\xcP[R^]bTaePcX^] QdUUTa ^U .*1#(P >)J@9 bdaRWPaVT ^U -*1# P]S P]X[R^d]cTaRhR[IRP[QdUUTa* KWT \X]X\ d \ RP_\xcP[aPcX^b aT`d\laTS Pb ^U JT_cT\QTa /,(. , . - X]R[dST P RP_\xcP[R^]bTaePcX^] QdUUTa ^U .*1#(P >)J@9 bdaRWPaVT ^U -*1# P]S P R^d]cTaRhR[IRP[QdUUTa ^U ,* , - #*
%.& ;T_^bleb f\cW cWT 9P]Z ^U AP_P] PaT TgR[dSTS Ua^ \ cWT [TeTaPVT Tg_^bdaT QPbTS ^]]^cXURPcX^] XbbdTS Qh cWT =J 8*
%/& KWT KC 8 : aPcX^ ^] P a\BZ) fTIVWcTS PbbTeb QPb\B P]S cWT aT`d\laTS \X]X\ d \ aPcX^b Pb ^U DPaRW /-(. , . - S^]^c X]R[dST cWT aTVd[Pc^ah RP_\xcP[QdUUTab R^]b\bcX]V ^U P RP_\xcP[R^]bTaePcX^] QdUUTa ^U .*1#(P >)J@9 bdaRWPaVT ^U -*1# P]S P]X[R^d]cTaRhR[IRP[QdUUTa* KWT KC 8 : aPcX^ ^] P a\BZ)

PSSxcX^]P[aTVd[Pc^ah aT_^acX]V(P RP_ycP[aPcX^ ^U [Tbb cWP] - . , # \Ph aTbd[c X] P] ^aSTa c^ RWP]VT cWT \TcW^S ^U QdbX]Tbb(

$A \mathbf{a}^T \mathbf{b} \mathbf{P}^T \mathbf{V} \mathbf{J} : > : [0 [Q \ 0] ; _ \mathbf{b}] \dagger = [Q(0 [R \ H \mathbf{b} \mathbf{P}^T \ R \ 0 \ S^T$

A a`bP`V J :> : [0[Q 0Y ;_`b]t=[Q(0[R HbP` R O_ S`
7\[RS[`SR 7\[`\Y R0aSR 60YO[QS HVSSa` \$J [ObR aSR% \$7\[a [bSR%



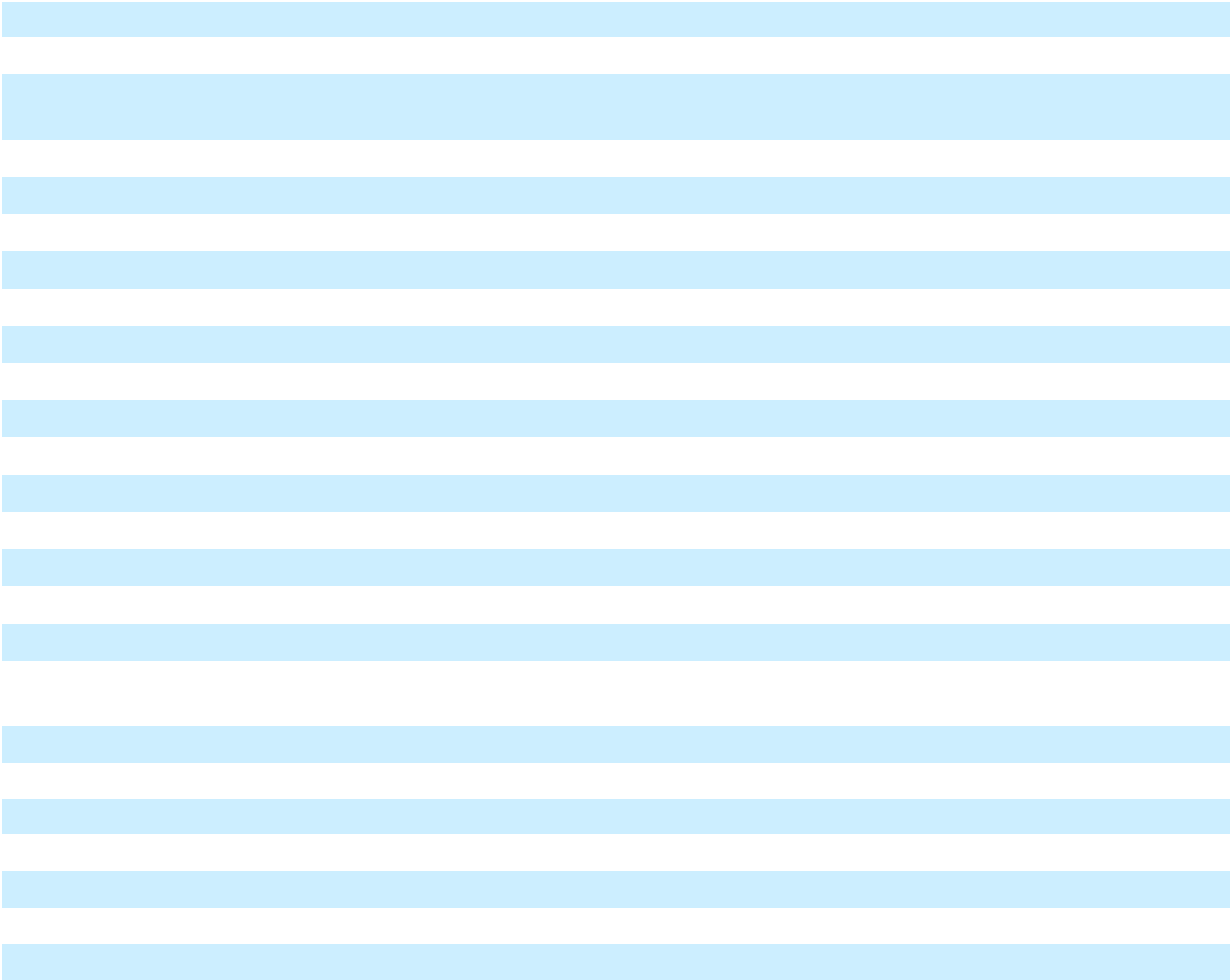
A a`bP`V J :> : [0[Q 0Y ;_`b]t=[Q(0[R HbP` R O_ S`
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A a`bP`V J :> : [0[Q 0Y ;_`b]t=[Q(0[R HbP` R O_ S`
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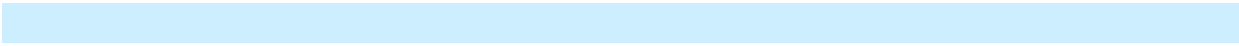
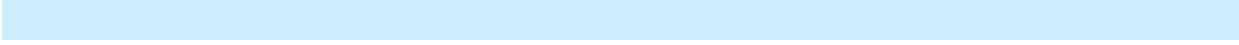
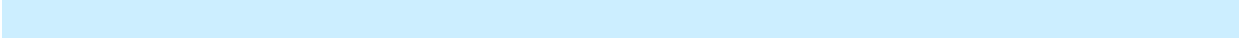


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A a`bP`V J :> : [O[Q OY ;_`b]t=[Q(O[R HbP` R O_ S`
7\[RS[`SR 7\[`\Y ROaSR HaOaSZS[a` \T 7O`V :Y\ d` \$J [ObR aSR% \$7\[a [bSR%



8bbTcb P]S [XPQX[XcXTb aTR[PbbXUXTS Pb WT[S U^a bP[T Pc JT_cT \ QTa / ,(. , . - PaT bW^ f] QT[^ f 6



- NRQV : B@ROFQFBP

+0BAFQ 8R>IfQV IKAF@>QL0

: aTSXc `dP[Xch X]SXRPe^ab ^U [^P]b P]S UXbRP[hTPa ^U ^aXVX]PcX^] Qh R[Pbb Pc DPaRW /-(. , . - P]S

7>P0 , RB) K>IVPFP

8VTb ^U _Pbc SdT [^P]b Qh R[Pbb Pc DPaRW /-(. , . - P]S JT_cT \ QTa / ,(. , . - PaT bW^ f] QT[^ f 6



6QEBO .FK>K@F>I 9B@BFS>?IB

KWT X _P]a \ T]c [^bbTb ^] V^^S f X[[U^a cWT b]g \ ^]cWb T]STS JT_cT \ QTa /,(. . . , f TaT 1- ,2(035 \ X[[X^] P]S aT[PcX]V
c^ cWT DL 8 ? aT_^acX]V d]Xc* ; dT c^ cWT TR^ ^ \ X R T]e]a^] \ T]c ca]VVTaTS Qh : FM@ ;)-5(RPbW U[^ f _a^]TRc] ^]b U^a
aT_^acX]V d]Xcb f TaT [^ f TaTS* KW]b TR^ ^ \ X R T]e]a^] \ T]c [TS \ P]PVT \ T]c c^ QT[XTeT cWPc cWT UP]a eP[dTb ^U P RTacPX]

KWT DL=> >a^d_ T]VPVTb X] ^])QP[P]RT bWTTc bTRda\xciPcX^]b* KWTbT bTRda\xciPcX^]b ^U \ ^acVPVT P]S P_Pac \ T]c

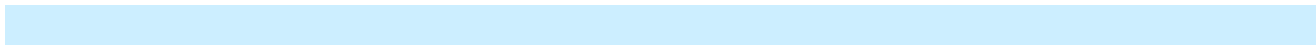
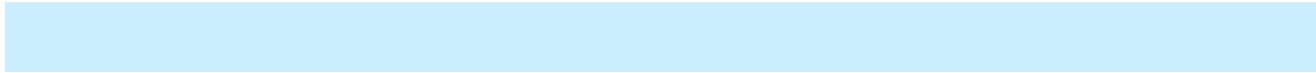
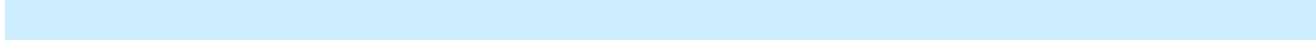
JTRdaTS Q^aa^ fX]V Qh cWT R[Pbb ^U R^[[PcTaP[_[TSVTS Pc

KWT

+,(89G=K5 I=K9 :=B5B7=5@ =BHIGJA9BIH

*1JM>@0 LC , BOFS>@FSBP LK @EB +LKABKPBA +LKPLFA>@BA *>I>K@B :EBB@P*

KWT U^[^[^ fX]V cPQ[T bd \ \ PaXiTb UPXa eP[dT X]U^a \ PcX^] ^] STaXePcXeT X]bcad \ T]cb cWPc PaT aTR^aSTS ^] cWT DL=>
>a^d_qb R^]ST]bTS R^]b^[XSPcTS QP[P]RT bWTTcb Pc DPaRW /-(. , . - P]S JT_cT \ QTa / ,(. , . -6



1JM>@ LC , BOFS>@FSBP LK @EB +LKABKPBA +LKPLIFA>@BA :@>@BJBK@P LC IK@LJB

KWT U^[[^ f X]V cPQ[T _a^e\STb \ ^aT STcP\TS X]U^a \ PcX^] aTVPaSX]V cWT STaXePcXeT)aT[PcTS X \ _PRc ^] cWT PRR^ \ _P]hX]V
R^]ST]bTS R^]b^[XSPcTS bcPcT \ T]cb ^U X]R^ \ T U^a cWT bXg \ ^]cWb T]STS JT_cT \ QTa / , (. . . , P]S . . . -

: ^[[PcTaP[\b WT[S Qh cWT DL=> >a^d_ \] aT[PcX^] c^ cWTbT \]bcad \ T]cb* : ^[[PcTaP[aT^ d\laT \ T]cb PaT STcTa \ \]TS Pc cWT R^d]cTa_Pach [TeT[P]S R^eTa]d \ Ta^db caP]bPRc\^]b P]S _a^SdRcb Pb ^__^bTS c^ \]S\Xe\SDP[R^]caPRcb*

KWT U^[[^ fX]V cPQ[Tb _aTbT]c cWT PbbTcb P]S [XPQX[XcXTb ^U R^]b^[XSPcTS M@<b aTR^aSTS ^] cWT PRR^ _P]hX]V R^]ST]bTS
R^]b^[XSPcTS QP[P]RT bWTTcb Pc DPaRW /-(. , . - P]S JT_cT \ QTa / ,(. , . -6

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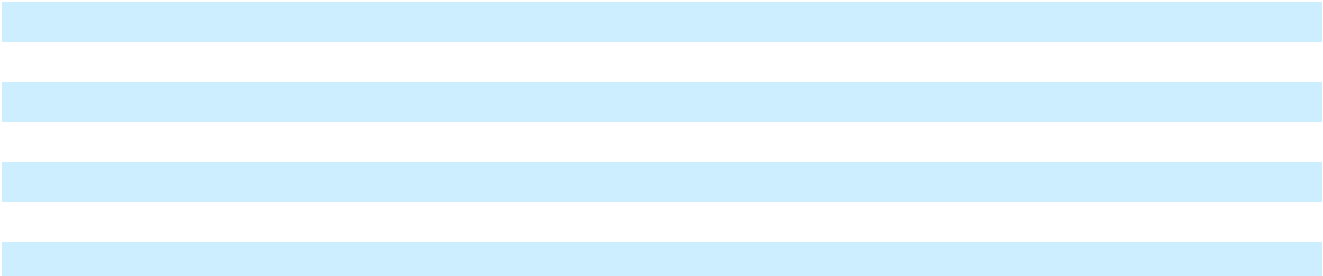
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I TeTabP[^U %Ga^eXbY^] U^a& RaTSxc [^bbTb		% . - , &	--
=^aTYV] TgRWP]VT VPX]b %[^bbTbTb c	%o%o		



E^cTb6 %-& @]R[dSTb bTRda\c\Tb \ TPbdaTS d]STa cWT UP\A eP[dT ^_c\^]*
%.& <gR[dSTb RTacP\] \] eTbc \ T]cb eP[dTS Pc]Tc PbbTc eP[dT ^U_a\cPcT T` d\ch l\id]Sb fW^bT UP\A eP[dTb Pc DPaRW /-(. , .- fTaT 1- , .(. 11
 \X[[\^] P]S cW^bT Pc JT_cT \ QTa / , (. , .- fTaT

E^hTb6

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. >f0 =>**IRB 6MQFLK**

=^a P S\bRdbbX^] ^U cWT _aX \ Pah UX]P]RXP[X]bcad \ T]cb U^a f WXRW cWT UPXa eP[dT ^_cX^] f Pb _aTeX^db[h T[TRcTS(
X]R[dSX]V cWT QPbXb U^a cW^bT(bTT E^cT /- c^ cWT R^]b^[XSPcTS UX]P]RXP[bcPcT \ T]cb U^a cWT UXbRP[hTPa T]STS

+3(=BK9HIA9BIH=B9FJ=I A9I<C8=BK9HI99H

:RJ J>OFWBA .FK>K@f>I IKCLOJ>QFLK LC QEB 4 < . / OLRMP -NRfQV 4 BQELA IKSBPQBB

Jd \ \ PaXiTS ^_TaPcX]V aTbd[cb ^U D^aVP] JcP][Th(cWT [PaVTbc _^acX^] ^U cWT DL=> >a^d_qb T`dXch \ TcW^S X]eTbcTTb(U^a cWT bXg \ ^]cWb T]STS JT_cT \ QTa / ,(. . . , P]S . . . - PaT Pb U^[[^ f b6

