! "#\$%&'(

ļ

"#

R'! 'E(%! 89:! () --+(,'! I +**! I &,%! *+/2-+2! /E,) -) DF! /-7! *+/2-+26(+-,+2+7! /46 42) / (%+'!,)!,+/(%-3H! P,!/*')! 3) +'! %/-7! &-! %/-7! I &,%! () -,+-,61/'+7! &-',2E(,&) -! /-7! ,/'<61/'+7! &-

```
AB<. 8A-<C<@BDBEE-
F*+'-F##, -
L*#)%$'%()*+,#%
M$, \% ./37, J%
 U,E7+-,'!I )2<!\&-!32)E4'!,)!\&7+-,\&.F!,\%+!42)1*+D;'C!1F!/-'I +2\&-3!,\%+!QE+',\&)-'!1+*)IS! 
   V\%/,!<\&-7'!).!.))7!(/-!F)E!.\&-7!/,!./',!.))7!2+',/E2/-,'a!
   G)!F)E!*&+!./',!.))7a!V%F!)2!I %F!-),a!
MH
    X) | !).,+-!7) | F) E!+/,!./',!.) | 7a!
`H V%((%!./',!.))7!2+',/E2/-,!7)!F)E!*%<+!1+',a!V%Fa!
    P'!./',!.))7!)-+!).!2+/')-'!.)2!)1+'&,Fa!
    BH
    V\%/,!4)''&1*+!42)1*+D'!(/-!)((E2!&-!,+2D!).!42+4/2/,&)-!/-7!',)2&-3!.))7!/,!./',!.))7!2+'6
    ,/E2/-,'a!
    X/0+!F) E!+0+2!\%+/27!) 2!2+/7!/1) E,!/-F!1/7!+..+(,'!).!./',!.)) 7!) -!\%+/*,\%a!P.!F+'?!1 \%/,!1 \/'!
    V%(%!\&'!1+,,+2?!./',!.))7!)2!%)D+!D/7+!.))7a!
Ţ
```

i,0

W2)E4!M! KH

uu j

! (/&,4%k/%k,"1\$,.4%

\$%+!QE+',&)-'!4)'+7!&-!,%+!82)1*+D!'+(,&)-!/1)0+!'%)E*7!F&+*7!/!0/2&+,F!).!2+'4)-'+'H!U,E7+-,'!
'%)E*7!1+!+-()E2/3+7!,)!+J42+''!,%+&2!)4&-&)-'!/-7!'E44)2,!,%+D!I &,%!./(,'!.2)D!,%+&2!2+/7&-3H!
U)D+!+J/D4*+'!/2+!*&',+7!%+2+\$!!

- KH Y%++'+! 1E23+2?! %/D1E23+2?! 32%**+7! (%(<+-?! 1/() -! (%++'+! 1E23+2?! T2+- (%! .2%+'?! '/E'/3+?! 32)E-7!1++.?!',+/<H!
- MH) (+N, I &(+N, %2++!, &D+'!/!I ++<N!/!7/FN!/!D) ,%N!/!F+/2!N!-+0+2!N!') D+,&D+'H!

`Н

ļ

"L

?+-G"0*/2&-F##, -H%''%"-=#"-I #1J-('1/1,%Q&,./%

R4S8%

 $\$+/(\%+2!(/-!3\&O+!,\%+'+!QE+',\&)-'!,)!',E7+-,'!\&-!32)E4'!)2!E'+!,\%+D!,)!^*+/7!/!7\&'(E''\&)-!I \&,\%!',E6 \\ 7+-,!4/2,\&(\&4/,\&)-H! \\ KH$

```
,I ++-!)23/-\&(!/-7!-)-6)23/-\&(!.))7!!\$\%+F!(/-!/*')!D/<+!)1'+20/,\&)-'!/1)E,!()*)2!/-7!,+J6,\\ ,E2+!).!,\%+!.))7'!!R,!,\%+!+-7!).!,\%+!/(,\&0&,F?!',E7+-,'!(2+/,+!/!(\%/2,!,)!()D4/2+!)23/-&(!.))7!/-7!2+3E*/2!.))7!1/'+7!)-!,\%+&2!,/',+!,+',!!
```

@H

ļ

LK

(/&,4%/%, "1\$,.4%

EG5?<. -! @GH. BKE-! #991'2#/-2/-A*9#/0-H*:L-M2%'/*6-L"#%U"#%L"/%



N#&./5*1&'/#%

```
U,E7+-,'!(/-!3+,!\&-.)2D/,\&)-!/1)E,!4)**E,\&)-!\&-!X/*)-3!9/F!1F!+J4*)2\&-3!,%+'+!I+1'&,+'S!
Y/2+@!;@AA"CH%,,4$NNTTTH(/2+@H()DN(@(N32)E4'N7&'(H%,D*a344K`B`"=4',k@A#''''A!!
$%&'!I+1'&,+!42)0&7+'!&-.)2D/,&)-!/1)E,!%)I!,)E2&'D!7+',2)F'!|&+,-/Dq'!X/*)-3!9/F!√)2*7!
) >KB$/1@> 4B$/1*NVLPKB$W4GBG:<<>LBE>EG@N:@>|>KA:|L:MMA>|K:68-,+2D+78/,+!*+0+*1!
ZUUR!;@AA"CH!%,,4$NNI I I H+''/H() DN42)5+(,'N7+'(2&4,&) - 'NLK#H%,D!!
$%&!! +1'&,+! 42)0&7+'!&-.)2D/,&)-!/1)E,!+-0&2)-D+-,/*!4)**E,&)-!2+'+/2(%?!'E&,/1*+!.)2!42+6
\&-,+2D+7\&/,+!*+0+*H!
[UVXUY!d-*&-+!;-H7CH
5AB. P > LBM = > L4B > LANF: GBFI: < NMHGMA>; > NMFHP; ): EHG@#: R'*NMLPMBMAGBG: <<< LLB E>
*/-3E/3+!,)!42+6&-,+2D+7&/,+!*+0+*H!
^ [ P$R\!;@AA#C!
\%, 4$NN1 | I | HE - 8, /2H) 23N%2) '%LD/N42) 32/DD+'N'%'A#N > /, +28/*'N$+/D@H47.!%
$%&'!I +1'&,+!42)0&7+'!/!8)I +28)&-,!42+'+-,/,&)-!/1)E,!4)**E,&)-!&-!X/*)-3!9/F$!42)1*+D'!/-7!
LHENNEHGL**NVL NL>?NE?HK; HVAI NA <A>K!/-7!42+6%-,+2D+7%/,+!,)!%83%!%-,+2D+7%/,+!Z-3*%'%!',E6
7+-,'H
d(+/-V)2*7!; -H7CH!!%, 4SNN)(+/-I)2*7H, /DEH+7EN', E7+-, 'N()2/*N()2/*H\%, D!%
$%&'!I +1'&,+!2+QE&2+'!42+6&-,+2D+7&/,+!Z-3*&'%!*+0+*?!1E,!42)0&7+'!/!*),!).!&-.)2D/,&)-!/-7!4&(6
(E2+'!/1)E_{1}()2/*!2++.!7+',2E(,\&)-!/-7!()-'+20/,\&)-H
2) ) D6. ) 2H%. D*!%
5AB. P > LBb4 | K+10B=>L NANKBNAY < KBB4BBF NAI | HENNAHG BG ) : EHG@#: R PB64 : <<>LLB E> E G@N @> NA
42+6&-,+2D+7&/,+!,)!%&3%!&-,+2D+7&/,+!*+0+*H!
| &+,-/D!| +| '!;@AAOCH!!
$%&'!I +1'&,+!42)0&7+'!&-.)2D/,&)-!/-7!4&(,E2+'!/1)E,!%)I!,)E2&'D!7+',2)F'!,%+!1+/E,F!).!X/6
EHG@#:R:G= LHF> LHENNEHGL NH NM> | KH EFL *NM PKBMAG BS: <<< LLå1*+!*/-3E/3+!..)! 42+6
\&-,+2D+7\&/,+!*+0+*H!
V)2*7!X+2\&/3+!\&-!])E-3!U)E,%+/',!R'&/-!X/-7'!;@AA`CH!!
%,,4$NNIIIHE-+'()1<<H)23N.&+/7D&-NE'+2cE4*)/7N(E*,E2+N√)2*7cX+2&,/3+cZ7E(/,&)-NR(,i &
+,-/DH47.!!
$%&'!&'!/!3))7!')E2(+!I&,%!/0/&*/1*+!I+1'&,+'!.)2!,+/(%&-3!/-7!*+/2-&-3!/1)E,!42)1*+D'!/-7!')*E6
NDEFIGL NAT I HEENVORTG BLINDL BG): \mathbb{E} + \mathbb{G} = \#: \mathbb{R}^* \times \mathbb{M} + \mathbb{R} = \mathbb
83\% \( \lambda \). \( \text{+2D} + 7\lambda \/ \text{+!*+0+*H!} \)
$%&'! I +1'&,+!2+QE&2+'!42+6&-,+2D+7&/,+!,)!%&3%!&-,+2D+7&/,+!Z-3*&'%!*+0+*?!1E,!42)0&7+'!&7+/'!
.2) D!, E28', !!/1) E, !X/*) -3!9/F!8-!, %+!4/', !/-7!2+(+-,*FH-1)
U)^*E_{,\&}) - !!.)2!4)^{**}E_{,\&}) - !\&-!X/*) - 3!9/FS!
U)*E,&) - '!D/F!() D+!.2) D!
                                      (+-,2/^*!/-7!^*)(/^*!/E,\%)2\&_{+}'!!
                                      : ) (/*!2+'&7+-,'!
                                      7 BBHKLT!
```

Ī

L#

: H'#"7%9.,4,#&"&'/#%'#5%6/77/;2*9%

5A>LIM=>GNAYHK EI K>L>GN/NHG D/F!1+!)23/-&b+7!/2)E-7!,%+!.)**) I &-3!QE+',&)-'S!

- KH V%+2+!7)+'!4)**E,&)-!()D+!.2)Da!
- @H V%/.!7)!4+)4*+!()-(+2-!/1)E.!.%+!42)1*+Da!
- MH $\sqrt{\frac{1}{1}} + \frac{1}{1} (\frac{1}{1}) (-\frac{1}{1}) (-\frac{1}{1$

ļ

- `H $\sqrt{\%}/.[7]!$ *) (/*!2+'87+-,'!)2!, E28','!7)a!
- BH V%/,!%/0+!F) $E!^*+/2-+7!.2$) D!,%+!4) **E,&) -!`&,E/,&) -!&-!X/*) -3!9/Fa!
- OH $\sqrt{\%}$,!! 8^{**} !F) E! E33+',!F) E2!.2&+-7'!*80&-3!&-!X/*) -3!Y&,F!7)!,)!D&-&D&b+!,%+!42) 1*+Da!

LO

```
!

( /%,4%/M/,"1$,.4%
$%2) E3%!,%+!/(,&O&,&+'?!',E7+-,'!(/-!

- 7+O+*) 4!(2&,&(/*!,%&-<&-3!'<&**!

- ()**/1) 2/,+!) -!/!2+/*61 ) 2*7!42) 1*+D6')*O&-3!&-O+',&3/,&) -!

- 7+O+*) 4!&-,+2-+,!'+/2(%&-3!'<&**!

- &D42) O+!2+/7&-3?!*&',+-&-3?!2+/7&-3?!/-7!1 2&,&-3!'<&**'!,%2) E3%!&-,+2/(,&) -!

- *+/2-!') D+!-+I !! ) 27'!2+*/,+7!,)!+-O&2) -D+-,/*!4)**E,&) -!/-7!/!-+I !32/DD/,&6

(/*!',2E(,E2+! "i " $" \( \infty \) \( \infty
```

/-7!,) E2&' DH!\$%+!4)**E,&) -!D/F!/*')!() D+!.2) D!%ED/-!&D4/(,'!*&<+!I /',+I /,+2?!,) E2&' D!'+20&(+'?!

 $:JN: \triangle MEWK> L \times COB>L: G=1 \times H: EYL: EHP: P: K:GXL: HP: \times COBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GOBHGF \times GWEI: K:L \times CO. NON-GF: P: K:GXL: HP: X:GXL: HP: X:$

! LL

```
- X)/-!_&+D!1/2!1+33/2'!!
       %,,4$NN.&-7/2,&(*+'H() DN4N/2,&(*+'ND&c3) K#M`N&'c@AAMA''N/&c-L@BBOOL!
        $%&'!| +1'&,+'!2+.*+(,'!)-!,%+!&''E+!).!1+33/2'!/2)E-7!X)/-!_&+D!: /<+?!X/-)&||$%+!*+0+*!
       ).!^*/-3E/3+!).!,\%+!!+1'&,+!&'!\%&3\%!&-,+2D+7&/,+H!
       9+33&-3!&-!j &+,![/D!!
       %,,4$\text{NNO&+,-/D+'+3} 7\text{H1*} 3'4),\text{H()} D\text{N@AA#NK@N1+33&-36&-60&+,-/D\text{H%},D*!}
        5AB.P > LBX = >L<> 20086@:L: X K-P:>LBBGYB6 7 BNO F 5A>EOEH?E - 3E/3+!).!,%+!
       I + 1' & +! & ! & 3 \% & - +2 D + 7 \% / + H!
       Y%*7!1+33/2'!E'+7!1F!(2&D&-/*!2&-3!*+/7+2'!
       \%, 4$NNI I I \text{H}+-3\%\%0\%+, -/D-+, \text{HO}-N') (\%\%0\%AA''NA@NOBLM`BN!
        $%&'!! +1'&,+!2+.*+(,'!)-!,%+!&''E+!).!1+33/2'!&-!X)!Y%&!>&-%!Y&,FH!$%+!*+0+*!).!*/-3E/3+!
       ).!,%+!I +1'&,+!&'!%&3%!&-,+2D+7&/,+H!
       9+33/2'!/-7!9/2,+2&-3!!
       !$%&'!I +1'&,+!7+'(2&1+'!')D+!42)1*+D'!I &,%!1/2,+2&-3!/-7!1+33&-3H\$%+!*+0+*!).!*/-6
       3E/3+!).!,%+!I +1'&,+!&'!%\\3%!\&-,+2D+7\\/,+\\!
       %HGYWW0+!,)!9+33/2!Y%*72+-!!
       %,,4$NNI I I H&-DF/**',/2'H() DN@AAONAMN1+33/26(%*72+-N!
        $%i'!I +1'&,+!'E33+','!')D+!/70&(+!)-!%)I!,)!7+/*!I &,%!1+33/2'H!$%+!*+0+*!).!*/-3E/3+!).!
       ,%+!I +1'&,+!&'!&-,+2D+7&/,+H!
P*.0,+'#)%/6% G'4&'#)%4/7*&'/#%
U,E7+-,'!0&'&!,%+!.)**)| &-3!| +1'&,+'!,)!+J/D&-+!')D+!+J&',&-3!')*E,&)-'!2+3/27&-3!1+33/2'!/-7!
',2++,!(%&*72+-!&-!| &+,-/D!1+.)2+!()D&-3!E4!| &,%!,%+&2!)| -!')*E,&)-'$!!
   5A>&CHENNEHGH?7BNOEFYL"|| KH <A NH 4NV6>N\$ABE=K\G !
   $%&'!! +1'&,+!'E33+','!4*/-'?!(/D4/&3-'?!/-7!')*E,&)-'!,)!,%+!42)1*+D!).!1+33/2'!/-7!',2++,!
   (\%\&^{2}72+-!\&-!|\&+,-/DH!\$\%+!^{2}+0+^{2}!).!^{2}-3E/3+!).!,\%+!|+1^{2}\&,+!\&^{2}!\&-,+2D+7\&/,+H!!
   Ш
   UE20+F!) -!',2++,!(%^*72+-!=!(%^*7!^*/1)2!!
   %,,4$NNI I I H3*)1/*UE20+HUE20+HUE20+,]TJ18,&004(4)2)(+)41&DN@AA-/D+&-!)UE20+,,11.040011.04108.02260.21Tm/
```

! _(/&,4%&/%&,''1\$,.4%

- 1HLLB, E>: GLP >KL.?HKV- >: KGB\$@:; HNVMA>1 KH; E>F W4>NBHG`" E: GLP >KL.PBEO KR'!
- $U,2++,!(\%^72+-!/-7!1+33/2'!()D+!.2)D!4))2!./D^{6}+'!^{6}-!7^{8}..+2+-,!4^{*}/(+'!'E(\%!/'!2E2/^!/2+/'?!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-!7^{8}..+2+-,!4^{*}/(+'!'E(\%!/'!2E2/^!/2+/'?!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-!7^{8}..+2+-,!4^{*}/(+'!'E(\%!/'!2E2/^!/2+/'?!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-!7^{8}..+2+-,!4^{*}/(+'!'E(\%!/'!2E2/^!/2+/'?!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-!7^{8}..+2+-,!4^{*}/(+'!'E(\%!/'!2E2/^!/2+/'?!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-)E'!/2+/'!D)E-,/^{6}-)E'!/2+/'?!+O+-!,)I-'!)2!(^{8}+'!^{8}-)E'!/2+/'!D)E-,/^{6}-)E'!/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'!D(^{8}-)E''/2+/'*D(^{8}-)E''/2+$
- U,2++,!(%%*72+-!/-7!1+33/2'!E'E/**F!'*++4!)-!'&7+I /*<'?!E-7+2!1&3!12&73+'?!&-!1E'!',/6
 ,&)-'?!&-!D/2<+,'?!)2!4/3)7/'?!+,(!!!
- [)!

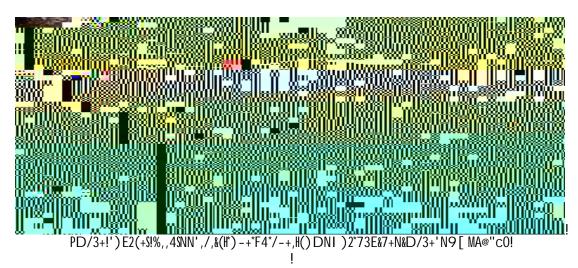
ļ

- V+!).,+-!'++!',2++,!(%*72+-!/-7!1+33/2'!&-!,) E2&',!4*/(+'?!D/2<+,'?!',2++,'?!2+',/E2/-,'?!' '%) 4'?!,%+/,2+'?!+,(!
- U,2++,!(%*72+-!/-7!1+33/2'!).,+-!7)!-),!%/0+!%)E'+'?!+7E(/,&)-?!5)1'?!/-7!3))7! %+/*,%!!!
- \$%+!(&,F!%/'!&7+-,&.&+7!') D+!42) 1*+D'!/'') (&/,+7!I &,%!',2++,!(%*72+-!/-7!1+33/2'! 'E(%!/'!/'<&-3!.)2!D)-+F!/-7!.)) 7?!'+**&-3!&-!1/--+7!/2+/'?!/-7!',+/*&-3!!
- $W)0+2-D+-,!/-7!^*) (/^*!/E,\%) 2\&,\&+'!'\%) E^*7!+-()E2/3+!^*) (/^*!1E'\&-+''+'!,)!'E44)2,!)2! \\ (2+/,+!5)1'!.)2!,\%+'+!4+)4^*+!/-7!+-/(,!/!',2&(,!^*/I !/1)E,!',2++,!(%&^*72+-!/-7!1+33/2'H! R77&,\&)-/^**F?!^*) (/^*!3)0+2-D+-,!(/-!12&-3!',2++,!(%&^*72+-!/-7!,)!U) (\&/^*!82),+(,\&)-!Y+-6,+2'!,)!+7E(/,+!,\%+D!/-7!,+/(\%!,\%+D!')D+!) ((E4/,\&)-/^!'<&^**'H!>)',!&D4)2,/-,^*F?!^*) (/^*!3)0+2-D+-,!'%)E^*7!+-()E2/3+!4))2!./D&^*+'!,)!<++4!/-!+F+!)-!,%+&2!(%&^*72+-?!,+/(\%!,\%+D!-),!,)!/'<!.)2!.))7!/-7!D)-+F?!/-7!+-.)2(+!',2&(,!4)^*&(&+'!)-!,\%+'+!&''E+'H!!)$

/ HNM:; HNMMA>LNM=>GNM/I K>L>GNMB+GZ5A>EG@N: @ NL>= BG NA> I K>L>GNMB+GL PBE; >F HK>G: NZ6 2/*!&.!,%+F!78' (E''!1+.)2+!I 2&,&-3|!-0|,%+2| &'+?!,%+F!/2+!*&<+*F!,)!'&D4*F!2+/7!,%+62!4/4+2'|!\V2&,&-3!&-!

KAK

?/N12"2/O-*)#1'-E4*/': '#3/+-#=-K*/29*L-! 4292772/%+-L"##+%P9,#1,.%



Y"1S)./*#5%

 $\$\%+'+!7/F'?!U)E,\%!_)2+/-!\%3\%!'(\%))^*!/-7!()^{**}+3+!',E7+-,'!\&-!,\%+!,\%)E'/-7'!/2+!.^*)(<\&-3!,)!,\%+! \\ 8\%^*\&44\&-+'?!+'4+(\&/^{**}F!,)!>/-\&/?!,)!',E7F!Z-3^*\&'\%!)2!/,,+-7!()^{**}+3+'!/-7!E-\&0+2'&,\&+'!.)2!/!'+D+6',+2?!/!F+/2?!)2!+0+-!^*)-3+2!!!\$\%+!8\%^*\&44\&-+'!\&'!/!(\%+/4+2!/^*,+2-/,\&0+!,\%/-!3)\&-3!,)!()E-,2&+'!'E(\%!/'!,\%+!^UR?!W2+/,!92&,/&-?!)2!RE',2/*&/!,)!',E7F!Z-3^*&'\M!!$

\$%+!4E24)'+!).!,%\'!/(,&O&,F!&'?!,%+2+.)2+?!,)!D/<+!U)E,%!_)2+/-!',E7+-,'!D)2+!/I /2+!).!,%+&2!'E22)E-7&-3'!&-!>/-&*/!/-7N)2!),%+2!4/2,'!).!,%+!8%\&44&-+'!&.!,%+F!7+(&7+!,)!',E

KAM

 $^{-}.)2,E-/,+^{*}F?!,\%+2+!/2+!-),!D/-F!'\&,+'!7+7\&(/,+7!,)!,\%+!,)4\&(!).!4)0+2,F?!\%)D+^{*}+''-+''?!/-7!,\%+!\\ 4))2!).!U)E,\%!_)2+/!/-7N)2!U+)E^*H!X)I+0+2?!',E7+-,'!D/F!I&'\%!,)!0&'&,!,\%+!/2+/!(/**+7!,\%+!V. HNGN/ISS %BIMBIN/WHK P"#%L/#)#",!$

- T)2!D)2+!/70/-(+7!)2!/70+-,E2)E'!',E7+-,'?!/-!/*,+2-/,&0+!I)E*7!1+!,)!'+,!E4!/!4%)-+!
)2!4+2')-/*!&-,+20&+I!I &,%!')D+)-+!/,!,%+!8%*&44&-+!ZD1/''F!&-!U+)E*!/-7!7)!/!2+(6
)27+7!QE+',&)-!/-7!/-'I+2!'+''&)-!.)2!2+.*+(,&)-H!P-QE&2&+'!D/F!1+!'+-,!,)\$!
 '+)E*4+r <)2-+,H-+,?!'+)E*4+r 7./H3)0H4%?!)2!'+)E*4+r 3D/%*H()D!!
- 8%*&44&-+!ZD1/''F!&-!U+)E*!I+1'&,+\$!%,,4\$NNIIIH4%*+D1/''F6'+)E*H()DN!!
- ;^-.)2,E-/,+*F?!,%+2+!&'!-)!I +1'&,+!.)2!,%+!8%*&44&-+!Y)-'E*/,+!&-!9E'/-!1E,!',E7+-,'!D/F!()-,',K)!9&'!-2d!

KA#

```
LH V\%/,!<\&-7!).!&D/3+!7)!'\%/-,F,)I-'!\&-!>/-\&*/!3\&0+!,)!,)E2\&','!/-7!+J,+-7+7!',/F!0\&'\&,)2'!\&<+!
     U) E,%!__) 2+/-!',E7+-,'a!
     $%+!&D/3+'!3&0+!,%+!1/7!'&7+N&D/3+!).!,%+!8%&*&44&-+'H!!
     V+!'++!1+/E, & E^*! & D/3+'! .!, %+!8% & 44&-+'!' E(\%!/'!1+/(\%+'!1E,!I+!(/-!/*'))!'++!, %+!1/7!' & 7+!
     'E(%!/'!4)0+2,FH!!
KAH G)!F)E!,%&-<!4)0+2,F!&-!,%+!8%*&44&-+'?!-/D+*F!>/-&*/?!(/E'+'!T&&4&-)!I)2<+2'!,)!*))<!.)2!
     +D4^*) FD+-,!) 0+2'+/'!%-(*E7%-3!U) E,%!_) 2+/a!
     1 +'?!7+.&-&,+*FH!
     ] +'?!T&*&4&-)'!-++7!,)!.&-7!1+,,+2!5)1'!')!,%+F!,2F!,)!.&-7!5)1'!)E,'&7+!,%+!8%*&44&-+'H!
     >/F1+!, %+2+!/2+!-), !+-) E3%!5) 1'! & -!>/-6*/!/-7!, %+! 8%% & 44 & -+'?!/-7!')! D/-F!%/0+!, )!3)!
     /12)/7!,)!I )2<H
KKH !G+'4\&,+!\&,'!4)0+2,F?!1 \%F!7)!F)E!,%\&-<!D/-F!_)2+/-!',E7+-,'!0\&'\&,!)2!3)!,)!',E7F!\&-!>/-&'/!
     /-7!,%+!8%8*&44&-+'a!
     , HK: G LIVN=>GN1@H IVAIX>; \times NL> BV1L <A>: I \times IVA1: G HVAI\timesZ - 3*1/%6' 4+/<8-3!() E - ,28+' III.
     , HK : GLW = SGVL@HLWAS : > NL > BVL = GLWAL XLWA , <math>HK : 1
     >/-F!__)2+/-'!/*2+/7F!*%0+!&-!>/-&*/?!')!| +!(/-!D++,!),%+2!__)2+/-'!&.!| +!3)!,)!',E7F!&-!
     >/-&*/!/-7!,%+!8%&*&44&-+'H!
R-'I+2'!,)!QE+',&)-'!K@6K^!I&**!0/2FH!
```

! KAO

. %''%"+-'#-'4%-B, 2'#"+-I /*'4%Z=%["'%

Q0,.0',; % KH

- BH $\sqrt{2},+!/!^*+,+2!,$!,%+!-+1 $4/4+2!,+^*\%-3!,\%+!+7\%,$ $2\%/^*!^*,/...!F$) E2!) 4%-3%-!/1) E,!, $\%+!^*,$) 2FH!!P-6



Y%1-+'+!j:EGN**56**>Y_K:RŽ5A>:G<BGN**XH-F**:G<>LN**41**KRH?NA1>! :>>N**56**@H?NA1>\$HPA>K=:G=NA1>8>:OB5@.:B=W! PD/3+!')E2(+\$!%,,4\$NNIIIII:%(<2H()DN4%),)'N/12(%6*7NL''MMA#@KN!

M"4S%

Z/(%!32) E4!1 &**!.&2',!2+/7!,%+!/2,&(*+'!.2) D!,%+!I +1!*&-<'!42) O&7+7!1+*) I !.)2!,%+!() E-,2F!,%+F!1 &'%!,)!1)2<!)-?!/-7!,%+-!I 2&,+!/!12&+.!2+4)2,!)-!7&..+2+-,!() E2,&+2'H!\$%+!()-,+-,!).!,%+! 2+4)2,!I &**!0/2F!1E,!-++7!,)!.)**) I !,%+!'/D+!.)2D/,U /!'%)2,!/2,&(*+!I &,%!M!4/2/32/4%'H!T)2!+J6/D4*+?!!

W2) E4!K!',E7+-,'!I &**!() 0+2!'+0+2/*!/2+/'\$!

KH 5AK>> <-INGN/BBLY<>E; K: NBHGL H? 7: E:GN/B6>/L%: R/-7!)-!1 %4(%!7/F!

KH 5AK>> <-INGN/BLYK>: LI-GL?I-K?I-K; B==B5@7: E-GN/B5>YL%: R1;2+*838) E1?!4)*8,8(/*?!) 2!), %+21°C!

@H 8)''&1*+!()-'+QE+-(+'!)2!4E-&'%D+-,!.)2!7&')1+7&+-(+!

MH \+?E>NBHGL°>@P>:@K>>PBMANA><HNGNARL=HBG@LHHKNA>HMAXP:R:KHNG=21



```
-./1,44%
R., +2! +/(\%!32) E4!\%'!() D4*+, +7!, \%+\&!1!!2%-3?!', E7+-, '!1 \%*!E'+!) 0+2\%+/7!42) 5+(,)2!'*87+'!>U!
8) | +28) &-,!, | ! 42+'+-,!, %+&! 2+4) 2, ||! | $%E'?!, %+F! (/-!7&'4*/F!, %+&!0&'E/*!/&7'!;, %+! 4&(,E2+'!, %+F!
.) E - 7!E' + .E*C!, )!+', /1*\&'\%!/!1+, +2!42+'+-, /.\&)-!.) 2!, \%+\&2!/E7\&+-(+!!!R!\%/-7) E, !! \&.\%!) D+!1E^{**}+, !
4)&-,'!&'!/*')!2+QE&2+7H!
      5A> LIME>GNU H?? LIM® ": NEBG<>" LAHNE MD> GHNAL =NA86@ HNAX @KHN YL | K>L>GNMBHG"
$%+F!I &**!I 2&,+!() DD+-,'!/-7!.++71/(<'!)-!/!4&+(+!).!4/4+2!/-7!7+,+2D&-+!I %+,%+2!,%+!D+''/3+!
B. 45: K° 45: K° 0 @NZLHF >PAXX> BG; >NPI>>G, L>> V>O BN NBHGW. N/M+!1),,) D!).!, 66'!/(, 808, FCH!
      "?NXK>;<A @YHN YLIK;L>GVYNBHG, MA> NA <A>K PBEIKHOB;>>ABJAX(4HFF>GNV1;G=?>>=;;<DL
32/7+7!1F!,%+!,+/(%+2!1 %&(%!()E-,'!.)2!%/*.!).!,%+&2!32/7+'!.)2!,%&'!/(,&O&,FII!
I '48%/6%*4,6*7%; ,34'&,4%
5A> ABINAKR H? 41V17 : E-GN26>YL %: R
\%, 4SNNI I I H7) --/'\%) *87/F'+-,8D+-,'H() DN', <math>0/*+-,8-+H\%, D^*!
4: BGN7: E:GNB6>YL%: RŽ" KHNG= NA1>8 HKE=!
\%, 4SNNI I I H', 0/^*+-, 8-+ ^{\prime}7/FH) 23NO/^*+-, 8-+ ^{\prime}67/F6/2) E-76, \%+61) 2^*7H\%, D^*!
7: E-GN86>YL %: REG % B??>K-GN/$ HNGN/B-L!
%,,4$NNIIIH+0+2F,%&-30/*+-,&-+'7/FH()DN0/*+-,&-+67/F6,2/7&,&)-'N0/*+-,&-+6&-6),%+2'H%,D*!
7: E>GN26>YL %: R66
```

! KKM

Ţ

M''4S4%

Ţ

G/F!K\s-

• U,E7+-,'!I &**!1+!4E,!&-!32)E4'!/-7!7+(&7+!I %&(%!()E-,2F!,%+F!I)E*7!*&<+!,)!I)2<!)-!;\$+/(%+2!-++7'!,)!D/<+!'E2+!+/(%!32)E4!+J4*)2+'!7&..+2+-,!()E-,2&+'CH

• \$%+F!1 &**!2+/7!,%+!QE+',&) - '!,%/,!,%+!,+/(%+2!3&O+'!,%+D!1+.)2+!7)&-3!,%+!2+'+/2(%!) - *&-+!/-7!,/*<!/1)E,!,%+D!&-!32)E4'!,)!/(,&O/,+!,%+&2!42&)2!<-)1 *+73+H

hE+',&) - '!.) 2!2+0&+1 ;--

- @H V%/,!7)!F)E!<-)I!/1)E,!Y%-+'+!+,&QE+,,+a!:&',!/,!*+/',!,&2++!+J/D4*+'H!!
- MH G)!F)E!/*I /F'!.)**)I!,%+'+! $2E^*$ +'!).!+,&0E+,,+!&-!F)E2!*&.+a! $\sqrt{8}$ Fa!!
- `H X)I!D/-F!2E*+'!).!+,&QE+,,+!(/-!F)E!,%&-<!).!/1)E,!+/,&-3!)2!D++,&-3!4+)4*+?! .)2!+J/D4*+a!!
- #H G)!F)E!,%%-<!<-)I &-3!/1)E,!,%+!+,&QE+,,+!).!7&..+2+-,!()E-,2&+'!&'!&D4)2,/-,a!
 ZJ4*/&-!! %F!)2!! %F!-),a!
- BH 8 A: N4+NGN4RL > N2/N>NW4 I)E*7!F)E!*&+!,)!<-)I!D)2+!/1)E,!-)I a!V%Fa!

G/F!@\-

 $P-!/77\&\&) - ?!1F!7)\&-3! , \%'!42) 5+ (,?!',E7+-,'!1 \&^*!\&D42) 0+! , \%+\&2!2+/7\&-3?!1 2\&,\&-3?!'4+/<\&-3?!/-7!*\&'6 , +-\&-3!'<\&^**'H! $\%+!42) 5+ (,!/*')!\%+*4'! , \%+D! ,)!1)2<!()^**/1)2/ , \&0+*F?! , \%&-<!(2&,&(/**F?!/-7!&D42) 0+! , \%+&2!() D4E , +2!*&, +2/(F!'<&^*'!$

F0"7*"&'/#%

$$\begin{split} & \text{W2}) \, \text{E4!I} \, \,) \, 2 \, < \, \text{I} \, \, 8^{**}! \, 1 + \, \text{!} \, + \, \text{O}'' \, \text{E}/, + \, \text{?I1F!}, \, \text{I} \,) \, \text{!} \, 4/2, \, \text{!H} \, \text{d} \, - \, \text{!} \, 4/2, \, \text{!k}' \, \text{!} \, \text{!} \, \text{I} \, \text{E}, \, \text{!} \, \, \text{!} \,$$

! % % %

%

(/&,4%/\mathfrak{M},"1\\$,.4\%

8)''&1*+!/-'I+2'!.)2!')D+!QE+',&)-'!&-!G/F!K!;/**!/-'I+2'!(/-!0/2FC\$! @#\V%/,!7)!F)E!<-)I!/1)E,!Y%%-+'+!+,&QE+,,+a!:&',!/,!*+/',!,%2++!+J/D4*+'#!!

 $!!!Y\%-+'+!4+)4^*+!'\%/<+!\%/-7'!1\%+-!,\%+F!D++,!')D+)-+!,\%+!.\&2',!,\&D+H!$

 $!!!Y\%^{-+}+!4+)4^{+}!E'E'^{**}F!7)!-),!)4+-!3\&,'!/,!,\%+!,\&D+!,\%+F!2+(+&O+!,\%+DH)!$

!!!\$ABG\\>|\text{H} E\NL\\ ERL: RV/ H. GHMPA\G\M\\RK\\BD\: \dF | EF \cdot G\N\

!!!Y%8-+'+!4+)4*+!128-3!38.,'!1%+-!,%+F!08'8,!.28+-7'H!

!!!Y%4-+'+!4+)4*+!+J(%/-3+!3&.,'!)2!D)-+F!7E2&-3!,%+!(+*+12/,&)-!).!Y%4-+'+!F+1!7+2!H!

$\|V\%F!7\}$ | F | E!, %&-<!<-) | &-3!/1 | E,!, %+!+, &QE+,,+! | .!7&..+2+-,!() | E-,2&+'!&'!&D4 | 2,/-,a!! | !!!P,!%+*4'!4+) | 4*+!, | !<-) | | !, %+!/442 | 42&/,+!D/,,+2!/-7!1+%/0&| 2!&-!' | (&/*!*&.+!!

!!!P,!42+0+-,'!4+)4*+!.2)D!1+&-3!+D1/22/''+7!&-!')D+!4/2,&(E*/2!'&,E/,&)-'H!

Ш