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., // % % \$0% 1\$ 2, & \$ \$& & "  
3" & \$% \$ 4 5& "%, 6 4 565 7 % \$  
89"5& 5 ., /3 \$: & ; "&' /\$" , 9 & \$%, 6  
4( 95 &9&'%. ., " ?"5&\$ @ABC 7"\$" 9  
" BBDC \$ &" E3395 9" ?&\$ %C  
F 1%C Q'9"% \$ G')(9 &\$%\$ ., \$\$"5&\$  
1& &" ? \$ H(\$, 8I39, %\$ \$ J " , \$  
?"3&' / " KC DLBLM

MBNLBNLLO  
PJ9" Q \$( : BDC DLBDR  
PS, & ., \$%9 &' R

" \$%&& (&\$) \$"%& & \$ , \$ & "  
., // % % \$0% 1\$ 2, & \$ \$& & "  
3" & \$% \$ 4 5& "%, 6 4 565 7 % \$  
89"5& 5 ., /3 \$: 1& G'%&"5& & J 59&'%  
G'5, %6, &%S & 9 7 %T \$%&%\$  
?: %&' / 43"9\$"M

MBNLDNLBU  
PJ9" J" ( : D@C DLBDR  
PS, & ., \$%9 &' R

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MBNBNLLK  
PJ9" S, "/ " BLC DLBDR  
PS, & ., \$%9 &' R

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. , ) \$ ), . ) ) . . ( \$ )

?T8 8S GM28V8G?  
HG TT XM?TG TT2ES  
Q8?? . E 2 FFES  
2": " %C S "C G 5YC ?9" Z [9%\$  
AAA BD& ?& ""&C ?(&' BALL  
Y9 \$ C . E K@LO  
4-, \$" PABLR ]L]NLLL  
J I PABLR (@@NBLL]  
8N 9 %": " %/" : " %\$ "M, /  
E&& \$": %6, . TW J ?ES HG S

Q \$" OC DLB\_

\$ . (                      \$ \$

M 8 8. T 8 ? 22EGW

M STG ; . T S

M HE X7G S; ES; ? 22EGW J G8. 228S; ET S?

\$ &&( ) \$, -( , . 012, 3, 4 5(1 6 , 73, 2 , 8 92&2832

- \$ &&( ) \$, -( , . 6 2(, 3 2 5(1 6 , 73, 2 , 8 92&2832

M TV8 2WV J ; G8. T G VE7ES0? aDMA H FF S b48SEFTW c

2 3(2A (. B -3663, 73, 2 736 AA ( C D&163A 3,

- 2 3(2A ( 92E(8 5FG E3 I(283 1 62 2A 3 26)  
\$E66E 2 , 3(2 52, 6 ) L

M

2 3(2A (. I(283 CA , 3 & 3 72( 362 F( (85FG  
CB A 32 , 8 \$ 266 F&2

D 2 I&&3 3, 81 2 3(2A (. D66PI, 3&2(52, 6 )  
CA , 3 & \$, -( , 92A&&2, 8 \$34, 3 3A, C83 3A 3,

I 2 3(2A (. 9216) -(32 , 73, 2 , 8 92&2832I 32 ( I, A2(,

M J S8?C 48SEFT 8? ES; G828; 8? G8. 228S; 8; HW?ES  
HG S

2 2(66 3, , A36 3&1A , 5FG ( 2 3, 2 D 2 34 3,  
& - B R3663, 3, 2( C 866(

I5\$ C12( 2 2(8&3, 28 5FG I 68 E3 , 8 B  
-3663, 2( C 52, 6 )

5FG . CA2 3 2 73, 2 , 8 5(1( 3, 63 ) (4 &2, (2  
S3 C(3

- 73, 2

I 92&2832

2 I&&3 3, \$ 68 113, , D 8212, 82, Q 3 (

\$, -( , 92T 2 2 I&&3 3, R63 2 I 63 ( , 3  
531263, 2 \$ 2 ) (

5FG \$ 68 -2 92T 3(28 U 82( V2 , \$W536 5(4 (&

5FG \$ 68 -2 92T 3(28 7(&63 2 D &2(42, A)  
92 1, 2 962 ,8 3 A6 (2 0R634 3, S3 I3 32 I , 32  
, 8 73(2 3 (3A

883 3,6 92&2832

M . S. F ? S

\$ . ( . \$ ) \$

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. 96, \$ 4( 95 &@&"%., "

d@\_ M  
dDBL@A  
dDBLQ  
dDBLJ M

\$ . \$ )\$)

@K . JG 4 & BKDMLA  
@K . JG 4 & BKDMUBA  
@K . JG 4 & BKDMUBAP RP] R  
@K . JG 4 & BKDMUBAP5RP@  
@K . JG 4 & BKDMUBU  
@K . JG 4 & BKDMK\_AP5R

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" \$%&& (&\$) \$"%& & \$ , \$ & " ., // % \$0% 1\$ 2, & \$ \$& & " 3" & \$% \$ 4 5&%" , 6 4 565 7 % \$ 89"5& 5 . , /3 \$: & ; "&' / \$" , 9 & \$% , 6 4( 95 & &'% . , " ?"5& \$ @ABC 7" \$" 9 " BBDC \$ & " E3395 9" ?& \$ %C F 1% C Q"9" % \$ G')(9 & \$% \$ . , \$\$"5& \$ 1& & " ? \$ H (\$, 8I39, % \$ \$ J " , \$ ?"3&'/ " KC DLBLM	
" \$%&& (&\$) \$"%& & \$ , \$ & " ., // % \$0% 1\$ 2, & \$ \$& & " 3" & \$% \$ 4 5&%" , 6 4 565 7 % \$ 89"5& 5 . , /3 \$: 1& G'%"5& & J 59&'% G'5, %6, &% S & 9 7 %T \$% %& \$ ?: %&' / 43"9\$" %M	
" \$%&& (&\$) \$"%& & \$ , \$ & " ., // % \$0% 1\$ 2, & \$ \$& & " 3" & \$% \$ 4 5&%" , 6 4 565 7 % \$ 89"5& 5 . , /3 \$: 0% S & 9 7 %T \$% %& \$ 43"9\$" ? : %&' / \$ F, 5 & \$% 1& V) - " 4, 3(9 & \$ ; "%&	

MBNLBNLLO  
PJ9" Q \$( : BDC DLBDR  
PS, & . , \$%9 &' R

MBNLDNLBU  
PJ9" J" ( : D@C DLBDR  
PS, & . , \$%9 &' R

MBNBNLLK  
PJ9" S, "/ " BLC DLBDR  
PS, & . , \$%9 &' R

\$\$ . ( ) \$ )\$ . ) \$ )  
. , ) \$ ), . ) ) . . ( \$ )

4( % \$&& Q"9" B\_MBB , 6 & " . 96, \$ 4(9&5% & // % \$0% P& "  
b. , // % \$cR Q"9" % , 6 4 5& " \$ 4 , 5" ( " -\$ E&/ \$%& &' F 1 Q ) "%0 ?"3&'/ "  
DAC DLBD Q(9\$)C & " . & , 6 ? \$ H (\$, Pb. & ? \$ H \$, cR 69" % & % 5, , \$ &' " (&& 9  
"6 \$ \$"%& & \$ BNLDNLLO P& " bG , & . (\$%&) & \$cRC \$"%& & \$ BENLDNLBU P& "  
bG'5, Y""3\$) \$"%& & \$cR \$ \$"%& & \$ MBNLLK P& " bV.E \$"%& & \$cR  
P5, 99"5&'9: C & " bF\$" B\_D 8I39, % \$ 4 , 5" R) 5% \$5" \$\$) & " 6\$" % \$ "/ " "%& "  
/3, % , \$ 4 565 7 % \$ 89"5& 5 . , /3 \$: Pb47Z& \$ 5, \$\$"5& \$ 1& & " (&& 0%  
, 9 & \$ , 6 6" " 9 \$ %& &' 9 1% \$ . , // % \$' % \$ "5% \$%3 , & \$ ( \$ ) & "

(3& " \$ "I39, % \$ , 6 47Z80%33"9\$" B\_D , \$/?"3& KC DLBL P& " bF\$" B\_D  
8I39, % \$cRM

) \$) , , .

\$ & " 6& / & , 6 & " F\$" B\_D 8I39, % \$C & % \$0% . , % / " 4 , & '5& \$ \$  
? 6"& ; % \$ Pb. 4? ; cR 4 , % 5 (& %C % , \$ 59\$ 5, \$\$5\$) " "\$5"C "\$(/ " & PBR  
AA %3 & , 9 & \$%, 6 6" " 9 \$ %& & "9 \$) "I& \_LLCLL , 9 & \$ : % \$ & " G , &  
. (% \$ "%&) & \$ P MBNLBNL^ORDR \_A %3 & , 9 & \$%, 6 6" " 9 \$ 1 %& & \$ \$)  
, " @LLCLL , 9 & \$ : % \$ & " G'5, Y"3\$) "\$& & \$^P \$ P\_R , " \_CLL , 9 & \$%, 6  
6" " 9 \$ %& & ' 9 1%"I&' \$ \$) , " BAM / 99, \$ \$ : % \$ & " V.E \$ "%&) & - \$M  
T-% % / % & BUMA / 99, \$ , 9 & \$ : % M J, " , \$- & \$C 47Z8 6 5" % 3"\$ 9& , 6 " & "" \$  
aALL \$ aDLCLL 3" @ : M (%47Z80%3, &' \$ & 9 3"\$ 9& "I3, % " % "&NA\$ 99] \$ \$  
a\_L 99, \$M

. 4? ; 1& "\$% % V, 1 F( , 1 \$ ; MQMG " & 2 9Y\$% &'9: " & / \$" & &  
47Z8 5, (9 6\$ 5\$" aDMA @ 99, \$ 3"\$ 9& C 6&C &&, (& 39 5\$) (\$ (" %& , \$ 47Z80%  
9& & 6\$ 5\$" \$ , 3" & % 6" (& & M % V&& . 4? ; ; "5& Q 5Y V) \$ Pb; "5&  
V) \$c , & " b; "5& cR "\$I395 9: \$5"DMAa 99, \$ b3"\$ 9& c & & % \$ " 9&  
% %& \$ & 99: 9" % & \$ aDMA ^U 99, / \$M & \$ & : C ; "5& V) \$0%- 96N Y" b3" 99&&  
55, (\$ & 6, & I / 395 & \$ % M & 9% "1 % 47Z8 1& \$ 99N "6\$" b56," && "  
% " M ; "5& V) \$0% b 9 5Y , Ic 99, 1% 6, f(\$ & , & 47Z8 55, (\$ & ) / % - "6  
\$ % "99 ) / "% & & 6 59& & " & " F\$" B\_D \$ " 6 % & 39 5" M \$ %, & C ; "5&  
V) \$0% 99N \$, % " " 3 , 3, % 9 , "% \$, & 3 , "5" f(\$ & & " "% "\$ & %, 6 ? \$ H (\$, M G & " C &

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<sup>B</sup> . 4? ; JZG H & B@M  
<sup>D</sup> . 4? ; JZG H & \_DN\_M  
<sup>-</sup> . 4? ; JZG H & \_@\_UM  
<sup>@</sup> . 96, \$ 4( 95 & % . , " d DBLO \$ d DBL]M  
<sup>A</sup> QMM8I- & A@ " 9 \$ G' (& & 9C 3MDD \$ & 8\$MD9% C T GS 3"\$) H "6 , \$ J\$" % \$  
G' / " "% & \_DM  
<sup>U</sup> . 4? ; JZG H & UM  
<sup>O</sup> . 4? ; JZG H & UC AK P % (% \$) aDMA 99, \$ b39& c 1& , (& \$: "6" "\$5" & & I  
/ 395 & \$ % Re \$ . 4? ; G'39: H "6 , \$ J\$" % \$ / G' "% \$ & % "\$ & " & PO 3 ) "% RC \$ 1-5- & "% b & Ic ,  
b " (5& \$c \$ " " 33" M  
<sup>J</sup> . 4? ; JZG H & U PbT-% 3"\$ 9& \$59( "% & & , - . 0 2 & \$ \$ &  
, - . 4500 & " \$ (/ " , 6 : " % & 1 % 4? 84 \$ 4? 84 P / M % " Re . 4? ; JZG G'39:  
H "6 Pb. 4? ; JZG G^R & \_N@M

6 , %47Z8 \$ 69"%\$ &" 6 5" , 6 &" 3"\$ 9&& ,/6 & 9" %& aDMA 99, \$ 6& & I"%  
 \$ 5 & : &" .4?; 0%, 1\$ 1&\$"%8%"M

? \$ H(\$, %&\$ % : &" "5, //"\$ " 6\$"% \$ 3"%\$ 9&& 6, & \$ &% 3"\$\$\$) H "6  
 , \$ J\$"% \$ G'/" "%M E&&" %/" &"C ? \$ H(\$, %&%6, & &\$) 6, 9&, 1\$ &  
 6 /"1, Y\$ " 5&\$ & 3"\$\$\$) H "6%69"% : , &" 3 &%'& &" F\$" B\_D 8I39, %\$  
 4 , 5"" \$)%

2	A	BC	2CD	C2EAB	F	CD 0	2C	C
00	&	5&	\$5005&					
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PBR ?-	"-, 9 "	.	\$& (&\$ & %&'/	(3) <sup>BL</sup>	"%a		DC	a a BC@L
PDR J\$"	PS, && I	"	(5& 9"R					a
P_R .	96M43"9\$"	? 6"&	T (%&				L	a B a @ UL
P@R 4"\$	\$5%9 8/"	)"	\$5: G'%, \$%' J(\$			a	BAL	a a UL KL
T, & 9 J\$	\$5 9 ., \$%'h("\$5"	& 47Z8 ?-	"-, 9 " %					a DC@L
g	\$	%8 5& 2	& 2 0 ;	%				

KLL

T-" ., //%, \$ %, (9 \$, &"\$&' & \$ 47Z80%39" %0,"\$5: 1-"\$ &" (&9& - %  
 -" "& 6, " ""\$ (\$ 9" & /(%&' \$ /%9&6&)( \$: &\$) /, " & \$ &d, /\$, 6" " 9  
 \$ %&&' 9 1 , 9 &\$%\$ 5, \$\$"5& \$ 1& &"%5"3 \$)%<sup>BP</sup> T-" 3 , 3, &\$ 9& )(/"\$&  
 \$5" : 47Z8 <sup>BD</sup> %1&, (&/" &M 47Z80% "9 \$5" , \$ b[ 99&85", 5- / " c &  
 59 / 3, " & \$ \$ 9& & % %\$65 \$& 39&%% 9 5Y <sup>B</sup>M T-" 5&&"%6,

<sup>K</sup> ?HJZG H & ON] P%// : , 6 6\$"%R \$ K P%//, 6 : "/" "%RM  
<sup>HL</sup> ?\$5" &" \$ "3"\$ "\$& 2, \$& % 6, / , 6 3/, \$"5&/"\$& & %\$&') 9 & &" \$&') & , 6 &  
 %&'/ (3) " 3 , 5"%C &" 5, \$& (&\$ & (%&'/ "%6) (" \$59( "%%5- 5, %&MM  
<sup>IB</sup> 47Z8 JZG H & @N@ P "% \$) 47Z80% 99)" , b) 6 & cRe 47Z8 JZG H & @NU  
 P "% \$) 47Z80% 99)" b3, %N 55 "\$&/3 , "\$&C / \$: , 6 1-5- 1" " 9 " : / \$ &' : 96"\$  
 %&&' ") (9 & %R \$ 47Z8 JZG H & ] P / \$& & / \$, " &\$%6, / 6" " 9 \$ %&&' 9 1  
 "h( "/"\$&RM  
<sup>BD</sup> 47Z8 JZG H & ]M  
<sup>B</sup> ?"" T GS JZG H & \_KN@ P "% \$) b[ 99 ?&"5& 5- / " Cc \$ 5 (&\$) & & b  
 A\$55 5%& %02 &% 0 B\$50 2 &%%"96N% \$) & " & 6 , / [ 99 ?&"& "\$&@: %&MT-" /3 5& , \$  
 "\$%& 3" 5"3&\$%, 6 &" ") (9 & : "\$ , \$/%&& , "\$ , 6 &" / \$: "\$&6" 6 5& %&/&8\$ - %  
 & &\$ 99: 5, \$%" " , %, (9 5, \$%" \$/\$&' \$ 33 , 3 &' 3"\$ 9& 9""9MT-" ., //%, (9 " 5.)  
 \$i \$&, 6 [ 99 ?&"& "13"5& &\$%, \$9: 1&'&": / : 66"5& &" 5, /3 \$: 0%6\$ 5\$-9&"%& \$  
 "1&'&& & &": 66"5& (&9& &'3 : " &%"&%"C" %\$ 1-: " 9 \$ (%' Y': 6\$ 5\$95%P/ Y'&  
 & , , YC "\$ 3 : , (&R & \$ 9: i" &"/ 3 5&, 6 9(\$MH & &" /" " 6 5& & &"\$&%"P"- , 9 " %R  
 / : " %33, \$&' %\$, & " %\$ & 9/ & &"%& : 1&\$ [ 99 ?&"& \$ 9: %&"13"5& & 5\$&M%  
 , 2 A, 3, 28

1-5- 47Z8 "h("%&b5 " & 6, &" % " 33\$, 3 &M \$%&' C ? \$ H (\$, %&, \$)9:  
( )"%&" ., // %&\$ & (\$"h(, 5 99: "h( " 47Z8& % &" / I/( / / , (\$& 3, %&9"C  
aDMA 99, \$ \$ 6&' N&I 6\$ \$5 9 5, %&'h("\$5"%Ch&'9: 55, (\$& 6, &" / %&' %&, 3"  
\$ / )\$& " , 6 47Z80%99") 9 5, \$ (5& 3 , & ( \$) &" FS" B\_D 8I 39, %&\$ \$ ? \$  
H (\$, M

)) ) \$ \$)

E%&"% 3 , 5"" \$)% " 5- &" 3"\$ (9& &' C5% 99, 1\$) \$" 9: & "" : " % , 6  
\$"%) & \$C \$ 9: %& \$ \$h( : C 47Z8 %&9 %&0&)"& &M [-"\$ 3( 95 (& 5 "/ &'%  
")- &\$ \$, 5"\$& % (9% \$ %" "9: \$f( "%%&, "C& & 5, / 3 \$: - %5, // &&' ) ", (%  
1 , \$)M [-"\$ & & 1 , \$) "%9& 6 , / 5- %9\$)\$33%06"& \$"%&"\$&& & " 1  
% "-, 9 " % \$ %&\$, / \$ )"/"\$& \$ 1- "\$ &\$& % "" 9" : 59" \$ 5, \$\$5\$)  
" "\$5" , 6 / % \$ )"/"\$& C 1 \$& \$ (\$ " \$"%&"\$& \$ %&& & \$ 9i" C 1996(9 9\$ \$"%&&  
&" / %&\$ , 6 %6" \$ %5( " ) % (& C %&&' / (%& " 5, %&'h("\$5"%C \$ &, %  
5, %&'h("\$5"% / (%& " %" "M

\$ , ( 5(9& " \$ %&&' / , 6 9 1% C &" %5399f10265 & %6, 3(\$%/"\$&  
" "& (& \$C "&' "\$5" \$ "- 9& & \$M T& (&' 5, %&" & %& C \$59( \$) &, %  
& & - " ""\$ / " \$ & %5 %& & &' C "\$& \$9& %5, \$&' I& "%&&' 47Z80% &&' / 3&& &  
/ 395 &' & "/ - " M . 4?; 0% "/ " %- " " " 5&' " I59(%9"- & 9& & \$ \$  
"%& &' f(%&5" M H 6, 5\$) 47Z8 & / Y' "\$%& \$ %6"& \$ %5( & C . 4?; -, 3"%& &  
/ Y' ), , &" - / , \$" : "5 "%, 6 / % \$ )"/"\$& &' 47Z8 \$& &" \$Y%, 6  
5, / 3" &' \$& (& &' % \$ "%& " &" 9 \$5"" \$ (& & : %&&' / M

47Z8 - 96- " &' 9: 5, / 39 \$%& & . 4?; 0% 3"\$ & 5%&0% Cc<sup>BU</sup> (& %& %&'h("\$&9:  
) ""%& &&%& (5& 9 &' / %C (" \$ 9 &"" 3)"&& (& %5 " & &" (& & " 5""%6, 3 %&

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" RM ., / 3 " 47Z80%3 " , 6 -, 9"% P47Z8 H & U@]@R 1& 8I- & E P2, , : 0%. " & (&Y  
& A P2 : KC DLB\_R P5- 5&' i\$) &" b ") "\$& \$ 5 \$ &" %" , 6 &" 3"\$ 9& c 3 , "" .: // && %  
%b5 " & 3, %&' 6, 47Z8MRe ? \$ H (\$, 199 69G'h("%& 6, 665 9 S, &5"R  
<sup>BA</sup> ? "" C " M M 47Z8 JZG H & ] DC 1- " "\$ 47Z8 33"& %&)) "%& & & & %, (9 " 5"" 5 " & 6, & "  
6, 99, 1\$) 5&&' %6 &" " 9 \$ ES 9: %& \$59' & "/ b; %99, 1 \$5"% \$ ; M D N D N L P & " 4?84% \$ Re  
? 3" \$ \$) , " &' 5 % / , (\$& \$ ) %& \$ %& % 05& % 5&)- & C, 6 1 : / \$ )"/"\$& 5, %&& &  
\$ 5, \$& (& \$%& &" .& , 6 ? \$ H (\$, Cc) 9? \$ H (\$, & 1, \$ " 1- & 1, (9 \$, & " \$59( &" \$ " &  
&" ; " 5& \$ 47Z8 3 , 3, %&M

<sup>BA</sup> 2

<sup>BU</sup>

47Z8 JZG H & BC KM



(@& "I3"\$ & "M?(5- \$ 33 , 5- 99,1%&" (@& & "85"3"36\$%/"\$& % , \$  
%\$"%&"\$&%, 6 %& 5Y-, 9 " "h(& \$ "\$1 9G&h(3/"\$&C \$ %%&"/%C 9 "& & % 99"  
, 99 /, (\$& & \$ .4?; ( )"%&" ., //%%\$ &, %3M Q %& 9Y" G %&, 9\$Y, \$  
; , %& : "%&: 0%4 5\$ &2 &5 \$ &C 1-, "9"" & & %"\$ \$) & " %9 \$ 3 1\$ , Y" 0%  
/, \$": , \$ ) , , "" %1, (9 5, (\$& 9 \$5" & ", 5 /(" " C 47Z8 &\$Y%& & (:)\$ "\$1  
33" %%%665"\$& 3(\$%/"\$& "5 (% & % ) , , (\$& 9 \$5\$) 1 , \$)M

[- & .4?; \$ 47Z8 6 9 & 55"3&%&" & %& 3,5 9 %&6, 3(\$%/"\$&j  
"& "\$5<sup>M</sup>MS, 1 & & &" \$f( " 3 &'%- " &" "&C (\$& \$\$, 1 & & 47Z8 - %  
"%& " &%) %, 3" &\$% \$ "- 9& &' \$ & "9 ") (9 & 5, //(\$& C 1- &%& " & &"  
"\$I&)"\$ " &\$ , 6 47Z8 , /"/ " %C " \$ 5, (\$& %& \$, / \$ )"/"\$& 6 , /  
") ) \$) &" %%&/k T-" ., //%%\$ 5 \$\$, & 3(& \$7Z &%, 665" %\$ f 9C "5 (% & &%  
&" , / \$ , 6 5 / \$ 9 3 , %5(& %M T-" ., //%%\$ \$\$\$, & \$Y (3&&" 5, /3 \$: "5 (% & %  
/, \$, 3, 9: & & 3 , "%5 & 9 3( 95 %' 5" &\$" %" , 6 47Z80% (%\$"%&P\$59( \$) &%  
6\$ \$5 9 "%( 5"%R /(%& " 5, \$%<sup>BK</sup>" TM" "6, "C 6\$" 3 & &" ?&& , 6 . \$96, \$  
&\$ & &" , &" 3"\$ 9&'%, 6 "\$"%&"\$&5, \$/"\$ " /" "%%&" , \$9: /" \$%, 6  
"& "\$5" 9 9"M

))) .H . , , , , , . \$)

EM ? 22EGW J ?ES HG S 0? 48S S7 4G 4 ?EF S J S8? ES; G828; 8?

T-" 3"\$)\$) H "6 , 6 &" .& , 6 ? \$ H (\$, ., \$)\$) &" J\$"% \$ G'/" "%& "  
/3, %' , \$ 47Z8 P&" b?H 3"\$)\$) H "6cR \$59( " -"&6, 99, 1\$) "5, //"\$ &\$%

E aBMDA 99, \$ 6\$<sup>M</sup>

; %99, 1 \$5" , 6 4?84 ., %&% %3 , 3, %' : &" \$%6 G &'3 : "  
E , 5 &'%Pb; CECR \$ T-" @& G'6, / S"&, Y PkFCRM<sup>B</sup>  
T CS , 5 &' %99, 1 \$5" , 6 \$ 47Z8 % "-, 9% "%&, %9&

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<sup>BO</sup> 47Z8 JZG H & ]NKM  
<sup>Bj</sup> 47Z8 JZG H & @PbS, 3"\$ 9& & \$: 9""9 5 \$& 66" 5, /3 \$: 0% "- , /, " & \$ &"  
& )" : &%96 9 " : - %Re 47Z8 JZG H & @Pb1%&"\$ 9i \$) &" 5, /3 \$: , (& , 6 \$)" %\$\$&&  
/3"9 \$: /3 , /"\$&, 6 ) " &' 9(" & n#7Z8n%&("/ % , &" 5&%M RM ? \$ H (\$, %\$ "" : C\$)( & &"  
. & 9% "5, ) \$i "%& & %\$65 \$& 3"\$& 25 5%& &" 9, %&%&" (@& - %&66" " \$' 9, \$) "6  
\$"9&"\$&47Z8 /(%& / Y" & &, 1\$ "I3"\$%& "5"\$%& : & " &' 47Z8 6 , / 9 3%) \$& &"\$% &&  
3 5&5"%& & 9" & &" 5 " , 6 , 9 & \$% " \$&. 4?; 3 , %5(& %M  
<sup>BK</sup> %5& \$ DBL@A , 6 &" . 96, \$ 4( 95 & &'%. \$ ; "%5\$ KJ NBDNLOAM  
<sup>IL</sup> ?H JZG H & DUM  
<sup>IB</sup> ?H JZG H & @M

6, aO@ /99, \$ \$ 6& N&I ,99 %6, 4?84 "S&M<sup>D</sup> ;GE  
"5,/"\$ " & & 99 4?84 5,%&,6 aBMBUK\$ 99,"N&I ,99 % "   
%99,1" \$ , \$" : 47Z8 % "-,9<sup>D</sup> %M

8%& 9%/"\$&,6 &" . 96, \$ 43"9\$" ? 6"&8T1& 47Z8 6(\$ \$)  
,6 aA /99,\$ \$\$ ( 99: , " DL : " %C 6, aBLIS /&9<sup>D</sup> M

E33,\$&"\$&,6 \$ \$ "3"\$ "\$&2,\$&<sup>DA</sup> M

8/" )"\$5: G'%, \$% /3 ,/"\$&C \$59( \$) PBR "986/"\$& \$  
6(\$ \$) ,6 aBAL /99,\$ &&9 6, &" 4"\$\$(9)"\$5: G'%, \$%  
J(\$ C PDR &\$ 9 " (5 &\$ \$ &\$) 6, 847Z %\$\$"9C \$ P\_R  
"h( \$) 47Z8 &"&" /, 6: "I%& 6 \$5-%) ""/"\$&, "\$&  
\$& \$"1 ) ""/"\$&1& 9,5 9 ), " \$/"\$&& 6j "/" )"\$5:  
"%&, \$% ,9"% \$ "%&, \$%9&<sup>D</sup> M

; "5&47Z8 & (\$ " &Y" \$ (&/ &' %6"& PbE? cR 39, &  
3, ) /M

2, 6: 47Z80%9, \$) &' / \$5"\$&' 39 \$ PbFT 4cR \$, &&' /  
\$5"\$&' 39 \$ Pb?T 4cR , \$(%&& (5& "%& 65, (\$&6"& ), 9% &"  
& \$ 6\$ \$5 9 3" 6, / \$5<sup>H</sup> M

HM ? 22EGW J ?ES HG S 0? EFT8CSET 8 4G4 ?EF S J S8? ES; G828; 8?

E9&, (- ? \$ H (\$, %& \$ % : " 5- ,6 &" "5,/, \$%&&6, & \$ &% 3"\$)\$)  
H "6 , \$ 6\$"% \$ "/" "%C &" .& - % (3 &&3 ,3, %9 \$ , " & %633, &C ,33, % ,  
"%&, \$ & %&"565 3 ,3, %9% \$5" \$ &" B"\$S"6%69" : .4?; C ; GEC T GS \$  
&" .& \$ ., (\$& ,6 ? \$ J \$5%, Pb..?JcR ; UC DLB\_C : 47Z8 , \$ 2 : D@ DLB\_  
\$ &" G' (&&9 H "6 69" : .4?; , \$ Q"\$ MC DLB\_

47Z80%%&'/5 (\$ " "\$%&"\$& \$ /% \$ )"/"\$&,6 &%\$ & 9 ) %%%&'/ 6, &  
9" %&&" 3 %&& & : " %1 \$&% %&\$ "5&25" 3& %h( \$) & &&" (89&  
(\$ " &Y" "I&'\$%" "\$%&"\$&% &% "-, 9 " 9% "%3"\$%" \$ 55, \$5" 1& &" 43"9\$"   
? 6"& 8\$- \$5"/"\$&49 \$ Pb4?84cR 4- %' \$ 4M%? \$ H (\$, 9%, 5, \$%" %&" "/" "%  
%&6, & - " "\$C \$59( \$) &" 33, \$&"\$&\$6'3"\$ "\$&/, \$& C &" "%& 9%/"\$& \$

<sup>DD</sup> T GS JZG H & M  
<sup>D</sup> ;GE JZG H & @M  
<sup>D@</sup> ?H JZG H & @BM  
<sup>DA</sup> ?H JZG H & @M  
<sup>DU</sup> ?H JZG H & ALNA\_M  
<sup>DD</sup> ?H JZG H & A@M  
<sup>DJ</sup> ?H JZG H & AAM

6(\$ \$) ,6 &" . 96, \$ 43"9\$ " ? 6"& T (%&"H (\$ ) 47Z8 & \$"), && /"/, \$ ,6  
(\$ " %&\$ \$) , " \$"), && 6 \$5-%' ) ""/"8&9/1 5 9 5, //(\$&'%& " 5 &5 9 "9"/"\$&&  
6, "%8\$) &" 3" %' \$ 3" \$5, (%3 && \$%135' % \$ 5(9& " &47Z8 \$ &"  
., //%%\$ & & 5 (%' &" F\$ " B\_D 8I39, %\$ \$" & %& 39 <sup>IK</sup>"M  
\$ , " & " & 47Z8 6 ,/ "\$) )\$) \$ \$)"\$, (%' 9: 5, \$ (5&\$ &" 6(& "C  
? \$ H(\$, %8"565 99: "h("%8%& &&" ., //%%\$

/3, %' ?&\$ NE9, \$" JS" ,6 aKLL /99, \$C 1-53 ,B/ &'%&" 9("  
,6 &" 6" " 9 \$ %&&' &I " (5&\$%, 47Z8"6& \$ & ( 9 ) %  
33"9\$ " %6"& \$"%&"\$&M

\$ 6( &" \$5" ,6 "- 9&&' & ", : ,6 3682? \$ H(\$, / Y"%&" 6, 99, 1\$)  
"h("%8%1& "%8"5&& 47Z80%\$")9"5&' C /% \$)& ( 9 ) %& \$%8%\$ 33"% \$ , &"  
\$6 %&(5& "

G'h( " & & aDM\_\_ 99, \$ \$ 4?84 \$"%&"\$& " ? & % "-, 9 "  
"I3"\$%M

8\$% " & & \$: b3"\$ 9&c 55( &'9: 55, (B&295 &8%M<sup>D</sup>

8\$% " & & 3"\$ 9& /, (\$& \$ \$: %8%5 &' 5 47Z8%6, b&"  
% " c " \$, & b 9 5Y -,IM

E9% \$ 6( &" \$5" ,6 "- 9&&' & ", \$%6"3&C ? \$ H(\$, / Y"%&"  
6, 99, 1\$) "h("%8%1& "%8"5&& 47Z8 \$ ., //,%3 &&' \$% \$ 3 5&5"%& & 5 (%' &"  
F\$ " B\_D 8I39, %\$

E33, \$& \$ \$ "3"\$ "\$& 2, \$&-M

; "5&47Z8 & "%& 9% \$ 6(\$ &" . 96, 3"9\$ " ? 6"& T (%&&  
"\$% " & & \$ \$ "3"\$ "\$&C 1"99N6(\$ " C 5 ) \$9"& \$ %9"9:  
6, 5(%' , \$ %6"& "I%8%& , " %'" &" /39"/, \$&&6&47Z80%4?84  
\$ &" , &" "h(& 9" "/" "%/3, %' \$ &" B\_D 8I39, %\$  
4 , 5"" \$)%M

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<sup>IK</sup> .4?: JZG H & @P "% \$) & \$ 9 a@@/99\$ 47Z8 1 % 9" & 55/(9 &' , " &  
( &, i" "& \$%& , (- "I39, &&\$ , 6 h 9c 5)Y% 55, "%8&9"/"\$& %& (5& "%R  
<sup>L</sup> J, & \$ 9 %8(%\$C %" %5&\$ M.F.H.C  
<sup>B</sup> T-% "5, //" \$ & \$ % "I3 "%8" \$ 3 "N&I %9% %8(%8' \$) " &" "& 9 \$ %5&5& C  
<sup>D</sup> %5&\$ M.E.&  
- %5&\$ M.H.&  
<sup>@</sup> %5&\$ M.M.&  
<sup>A</sup> %5&\$ M.M.&

; "5& 47Z8 & (\$ " & Y" \$ E? 49, & 4 , ) /C' & \$ & "  
\$%& 99 & \$ , 6 / , " "/, &' 5, \$& , 9 9"%&\$, & " (5" "%&, \$%"  
& "M<sup>U</sup>

; "5& 47Z8 & \$"), & &' , "\$"), & &' 9, 5 9\$), \$& ) ""/"\$& &  
6, / 9i" & " (& 0%"/" )"5\$: "%&, \$%" 9, %& , 9) & \$%1&  
"" : 5& C 5, (\$& \$ 6 " %& 5& \$ &%&5" & :C "& " & , (-  
6, / 9 /"/, \$ (/ , 6 (\$ " %& \$ \$) Pb2 cR , /'6& \$ , 6  
47Z80%"I%&\$) 6 \$5-%' ) ""/"\$& & "%%& &"& "M

8%& 9% & " 4"\$S%&9 8/" )"5\$: G'&, \$%" H(\$ M

2, 6: 47Z80% , \$(%& (5& " & "h( &'9: 9""&% \$ , 3& & "  
"/" 9 /" % "%%& 6, & \$ .4?; 0%, 3"\$) ) , "\$6"%"<sup>K</sup>

/39"/"\$& & " "/" "%& 6, & \$ .4?; 0%, 3"\$) "39: "6"%"<sup>M</sup>

E & (" "5 9 & \$ , 6 & " 9 \$5" , 6 3, 1" , & (&\$)%& & " ., //%%, \$C  
47Z8 \$ & " 5, //(\$&'%\$ & " (& 0%%" 5" && : & & "/ \$ (9\$" 9" & 47Z80%  
\$)" , (%&' \$ "\$5"%& 3 , & " 3 , 6& , " &%&'9, \$) , " ("M T-" 6\$" % \$ "/" "%& &  
6, & , " 5-" & & , f"5&'M

) \$ , \$ ) \$ . . I KKL )( () M . (\$ N

; "5& V) \$0% aDMA 99, \$ b3"\$ 9& Cc -)-9)\$&"1% "3, & 6, 99, 1\$) &  
\$\$, (\$5"/"\$& 6, & b& (-)\$"%% \$ &%& &% , 9 , 6 "\$1 ") (9 & : :C %\$, & 1- &  
& %"/%M [-9" & " aDMA 99, \$ %C, \$ & ""& 0/5 , \$ .4?; 1&\$"%% 3 , 3, % / I/(/  
3"\$ 9& & & 47Z8 5, (9 % C 59, % "I /"\$& 9% % & \$& 99: 9"%% " 9@ "\$ 9& M  
E33 "\$&: C & " ; "5& 1 \$& & 5 " &' 5@ "9%"66"5& , \$ %& 5Y, 9 " %& \$ "5, //"\$ "  
: & " .4?; 0%, 1\$ 1&\$"%%C 1& , (& "I39 \$\$) 1@: M

EM Tv8 ; G.T G 0? aDMAH FF S J S8 JEF? T E. . ST J G TE 24F .ET S?

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<sup>U</sup> %5& \$ MM&&  
<sup>O</sup> %5& \$ MM&&  
<sup>J</sup> %5& \$ MM&&  
<sup>K</sup> 2  
<sup>@</sup> 2  
<sup>@</sup> E%&(/\$) 5, / "\$ %& &' \$ 6" " 9 & I @&C 26\$ H (\$, "%& &'& &" 5& 9 3, %& & I  
/395 & \$%, 6 & " 3"\$ 9& & " 59, %' & 99NA6&' 6" " 9 \$ %& &' " (5& \$%/6 &'33 , allL  
/99, \$M  
<sup>@</sup> .4?; JZG H & UC AK P %5(%&\$) aDMA 99, \$ b39& c 1& , (& \$: "6" "\$5" & & I  
/395 & \$%Re \$ .4?; G'39: H "6 , \$ J\$" % \$ /C' "%\$ &%"\$& "& PO 3 )"RC \$ 1-5- & "%b& I c ,  
b " (5& \$c \$" 33" M

?/39: %& &' C ; "5& V) \$0%3"\$ 9& 6 9%((&& 655 &" &I /395 &\$%, 6 -%  
3 ,3,%9 \$ \$: 1 :C "&" \$ "&' /\$\$) & ",333&' /,((\$ ,6 &" 3"\$ 9& , \$ \$%(9 &)  
&'3 : " %6 ,/ % %i\$) 47Z80%3(\$/"\$&1-"\$ & 3"\$ 9& % " 99,5 &' %"I3"\$%" \$  
5 3&9 ,(89 : %99,1 \$5"%M \$9Y" b6\$"& ,665 &5Y"&3 & &" %& &' )" \$ 9 6(\$ C  
&"% 3"\$ 9& "I3"\$ & "%; "5& V) \$ 3 ,3,%&& " (5&9" &&" 6" " 9 \$ %& &'  
9""9 "5 (% &" : \$,9" "I3"\$%" \$ p, 5 3&89 ;LM E% 5,\$%h("\$5"C

T-" 3,%&&I /3 5&,6 &" ; "5& 0%\$, /\$ 9 aDMDA 6\$" , \$ 47Z8  
% 5& 99: , \$9: aBMA 99, \$ 6& & IM: " %P%/" , 6 1-, / "  
9% &'3 : " %R % %i" 47Z80%/%" " %& (&" , &aKLL /99, \$M

47Z8 6 5"% 9)-&' , " 99 3"\$ 9& M 6 ; "5&0%V33 , 5- %  
f(%&' % & &&I"% " 5,\$%" " C 47Z8 %%(9f"5&& 3"\$ 9&  
,6 a\_M 99, \$ 3 "N&I \$ , " & /3,% 8DMDA3"\$ 9& 3,%&&I  
& &.4?; 0%"I3" & "&' /\$" &" (&& 5, (-9& \$&M

T-" &I /395 &\$%, 6 \$: .4?; 3 ,3,%9C \$59( & ) & \$5" : ; "5& V) \$C  
, ? \$ H(\$, C &" \$&' "\$, % \$ 99 . 96&'3 : " % %& 5" 6 &": 6 9 & 55, (\$& 6,  
&" /3, &\$&C \$ 5,%89: &I /"\$% \$M

HM TV8 ; GR.T G G8[EG? 47Z8 [ TV E . GR; T F 4V F8 TVET 8JJ8.T 8FW  
?[EFF [? TV8 8ST GR b48SEFTW c

T-" ; "5& 0%/:&5 9 aDMDA 99, \$ 3"\$ 9& %&89& &" & &" (&&0% \$&)"  
: %39: 5 " & ) 47Z8 ) \$%& &" 6\$" \$ 3"\$ 8&)-&89: "% "C 6, \$: &\$) \$  
"" :&\$) 47Z8 5 \$0& ,&" 1% "5, " \$ &M-" ; "5& /&% %/(5- 1-"\$ -"  
59 /%& %33, & b69"I 9" 33, &\$/"\$&3"\$ && Cc %6, 99, 1%

.4?; %33, &% 0 ;5 0 % 5%&& &% C& 9, \$) %6(\$ % " (%  
"I59(%9: & /3 , " &" %6"& , 6 47Z80%) \$%&8%\$, %& (&\$ %%&'/%M  
E%\$ 5 &' \$ .4?; 0%, 3"\$ \$\$) "6C &"% 6(\$ %/" (%' , \$ 4- %' \$ 4- %'  
, 6 &" 43"9\$" ? 6"& 8\$- \$5"/"\$& 49 \$ Pb4?84cRM" 3( 3, %%, 6 59 & C &" 6(\$ %  
9% / : " (% & 5 : , (&&" % "-, 9 "%6(\$ "73 , /"\$&% "h( " :  
&% . // % \$0% "5% \$ 5, \$5" \$\$) 47Z80%7 %E55, ?" &89"/"\$& P; "5% \$ BEN  
L@L\_BRMT-" 3"\$ 9& 6(\$ %/ : " (% & ""& 3/%\$6)"/"\$& %%&'/%M &%  
9% .4?; 0%\$&'\$&& &&%/, \$": " 9 9%"& &' \$: ) %33"9\$" )-&N 6N  
1 : "\$5 , 5-/"\$&% P1&, (& 3 "f( 5" & .4?; 0% &-& (& %" 6(& " "\$6, 5"/"\$&  
5& \$% ) \$%& 47Z8 6, \$: %5- "\$5 , 5-/"\$&% "I /39"% , 6 "I3"\$ & "% "

@ E984/"% 5, / "\$ %& &' \$ 6" " 9 &I Lo&M , 6 @  
@@ E984/"% 5, / "\$ %& &' \$ 6" " 9 &I Lo&M , 6 @  
@ E984/"% 5, / "\$ %& &' \$ 6" " 9 &I Lo&M , 6 @  
@ .4?; JZG GH &\_N@M

99(%& &' (& \$, & "I- (%&'M %& 52 && \$ & % , -. E  
& \$5 5%& % 25 5 5%& \$ \$2 %02 & \$ 05 5 0 %  
5 G G 5005%& N&0

T- " ; "5& 0%, 3"\$N"\$ " 5 " & 5, \$5"3& % \$, & "6 \$59( "%\$, /" \$\$)6(9  
9/ &C 3 /"&' %C / I/( / , (\$&C , "9) 9""&, &%, 6 "I3"\$ & "%& ) , (\$ ,  
"%& 9% \$ , (&' , (\$ 6, &" / &&' %6,7Z8I-5-\$ 49 / 5 " &M ? \$ H (\$, 6\$ %&"  
; "5& 0%199\$)\$"%&& %39: & (%& 47Z8C & &&Y"3 "%'\$&& \$% & 6 5" 9(" : "& ) \$C  
5-99\$)M

\$ " &" ; "5& 0%6, / (9 & \$C / 3 ( "\$& "I3"\$& %& % , (9 " , \$" :  
% "-, 9 " %\$ &" 6 %& 39 5" " (5" 47Z80%6"\$ \$ 9& ( "\$M- "\$ 47Z8 % , " "  
: 6" " 9 \$ %& &' ") (9 & %& 6\$ 9"5&' %C I/( / 99, 1 9" , 3" &\$) 3 "%& "%C  
\$ 9, 1" 3 "%& " , \$ & %33"9\$"%C " & , %& %& " & %\$- 5" %6"& \$ 6, 1-5- &" "  
% , (9 " 5 " &C , %&'3%47Z8 9 " : % , (& Y-\$"& "\$% " &" %6"& , 6 & % % & / k  
[- "\$ 47Z8 , "%1- &&" (& & % 9 " : "h(&" , & , 9%&' &" %6"& , 6 & % % & / C  
1-5- 99 3 &'% ) "" % % 9 (&'9: "\$5"%& 9%& " (5"%47Z80%6"\$ \$ 3"\$ \$ 9&  
( "\$M & % % & , )- (\$Y " )" & & "5, (9%& & 6 "- 6 , / -%6\$"% \$  
3"\$ \$ 9&'%C , 5"99N-, "\$ & 665 &Y"& 5\$ " : "&" 5, %& , 6 3 , 5( \$) &" 33 , 3 &  
- \$ %& "" "5"M [-9" ? \$ H (\$, %1"99 16 &," ( )" \$& \$" " & "%& 9, \$) N "6" "  
\$"%& "\$& \$ 47Z8 \$ & 9 ) % % & / 6 , / & % , 1\$ 65 "I3" "\$5"C &" . & 6\$ %&"  
; "5& 0% b6IN& &Y"& 33 , 5- & &" & %& \$ %33"9\$" %&' \$ . 96, \$ -%& :  
\$ 33 , 3 &' \$ (\$ 55"3& 9"M T- " ; "5&( %& 99\$ 99N "6\$" 3"\$ \$ 9& / , (\$& &  
\$, &\$) / , " & \$ / %&' 9, , 3-, 9" 6, 47Z8 & "" 6\$"% \$ 3"\$ \$ 9&'%& & " 59" 9:  
1 \$&' : &" 5, /3"\$ ( / , 6 , 9 & \$% 9: "6\$& : &" ; "5& 0%3 , %5(& %\$ &"  
F\$" B\_D 4 , 5"" \$) %M

\$ "" C 47Z8 %3 "3 " & "I39, && & 9, , 3& 9" 6& 99"%& "I"& \$& 3, %& 9"M 47Z8  
%&'i "%, \$ &" ; "5& 0%5 " & 6, &" %' 5"3& & ) (" & 0& 6 47Z80%(\$ "5, " "  
/ , (\$& % , (9 5, (\$& ) \$%& & & aDMA 99, & G" T- 9- %\$, &' , "C %\$ " 9& 6

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① 2  
② 2  
③ 2  
AL 2

9"%%& \$ aDMA 99, \$ 3"\$ 9& & 47Z80%%& 5^A, 9& %""\$ 3, %%9" & &" ; "5& 0%  
, 5 " & /"5- \$% 5, (9 \$59( " &" h( 99, \$ , 99 %& & 47Z8 - % 9 " : %"\$&, \$  
9") 9 6""%& , 9%& & "6"\$%& & & %88"6 1/ Y 59" \$5" \$ () &'&, " %&-&C  
47Z8 \$, &\$) 1 , \$)M^D

BM TV8 ; GB.T G 0. GB; T 2 8.VES ?2 ? J8GF F8 7 G S; J G 47Z8  
2 ? . V 8J ES; ?V8FF 7 E28?

P R J GB.E?T E2 ST? . ST M

E55, \$) & 47Z8C 99 3 %& % /, (\$&% , (9 5, (\$& % 5 " & ) \$%& \$:  
6\$" , 3"\$ 9& M S, &% 3 %\$)9: C 47Z8 "9"%, 1\$ &, "5 %& /, (\$&M-" " %\$,  
5 " 9" 6, (/ \$ 1-5- & " 6: C 5- 99"\$) , "5&9" " 9( &' %5- 6, "5 %& /, (\$&% "6, "  
5 " & 6, &"/ %) \$&' C 1-5- %, (9 &, (/9%% \$ & & ") (9 9: 6\$ %& & 47Z8  
\$69 &'%C , %(\$ 9" & f(%&: %5- 6^@ "5 %&M

P R 24G ; 8ST ES; TV8GBJ GB SCB. 8GEH8 8 48S; T GB?  
. ST M

E%47Z8 &'99%&C 99 (\$ "5, " " /, (\$&'C "%\$ 88", 565 99: ""/" /3 ( "\$&\$  
3 , &' / Y\$) 3 , 5"" \$) %C %, (9 %/"-, 1 /&' &7Z80%3(\$%/"\$&\$ &" 6, / , 6  
5 " &M ?(5- \$ , (&, /" %"/%5, \$& : , & & & " .., \$0%%88 ( "\$5" \$ 3"\$ 9&  
5, \$5"3&M ?-, (9 &" ., //%%\$ "9"5&& ), , 1\$ &" (9035& , 6 1 \$) 47Z8  
5 " &% ) \$%& &3"\$ 9& C &" ., //%%\$ % , \$9 , 99, 1 6, 5 " &%6, % "-, 9 "  
"I3"\$ & "%& & "\$6& &'3 : " %M T-"-5(9 &%, % " , 9" \$& 5Y , , 1 : 6,  
47Z8 & )" & %/" 5 " &C \$: 5 " & 6, , 9& %&&" 1% (\$ "5, " 9" 6 , / &'3 : " %  
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\$ ; MBNBDN\_LC 47Z8 "h("%&' aOU]MOA\_ /99, "\$,"\$ (" "h( "/"\$&\$5 " %C , 6  
1-5- aDKKMB@1 % (&, i" 6, "5, ^O: M-" ., //%%\$ "&' /\$" & &

47Z8 %\$, & 3" /&&' & "5, " 5, %&%6, 3 ""88\$) & 1-5-  
3 ""88 " &'& "5, % " /&8\$)M

<sup>AB</sup> 47Z8 JZG H & ]BM  
<sup>AD</sup> E) \$C %" ; "5& 0% , 9: "6\$" b5 " &c \$%5 & .4?; JZG GH & \_N@M  
<sup>A</sup> 47Z8 JZG H & .NBM  
<sup>A@</sup> ; NBDNBDN\_L & K]M  
<sup>AA</sup> 47Z8 JZG H & ]BC .NBM  
<sup>AU</sup> A%\$ %5&\$% @J \$ DBL@A , 6 &" . 96, \$ 4( 9&'%& , "M  
<sup>AO</sup> ; MBNBDN\_L & DLM  
<sup>AI</sup> ; MBNBDN\_L & DUM

47Z8 %\$, & 3" /&&' & "5," &" 5,%& ,6, &/"\$ )"/"\$&  
/3 ,"/"\$&3 ,f"5& (" & 3 %& "65"\$5"%\$ ,5&/ \$ )"/"\$&  
\$ <sup>AK</sup>

47Z80% 99,1 \$5" 6, 5,%& ," (\$%, \$ 5,%& 0,6,5 %&"%& " &"%&)  
\$ "39 5"/"\$& %\$, & "5,) \$i" "5 (%' 3 %&/"\$&)"5%\$%  
5 (%' &" \$"" & b(\$ " & Y' & %/ %&' 3 \$f"\$&I3" &  
%5-" (9<sup>UM</sup>

T-" / \$ " %\$ 6, \$, & 99,1\$) &"% 5,%& & 6," ( &' 3( 3,%%%& & &":  
"%9&6 ,/ 3 %&/3 ( "\$&/ \$ )"/<sup>UB</sup>\$&M%%5,%& & 1& 9,\$)%& \$ \$) 3,95: 3&Q: "\$  
\$5( " 5,%& " "5," 9" \$ /3 ( "\$&: "\$5(5,%& " \$, & "5,"<sup>UD</sup> 9"MI & \$&: C  
\$ 9& & "5," \$ /3 ( "\$&: \$5( " 5,%& & 3"\$ 9&C & % &/ Y\$) 5,\$%h("\$5"  
,6 3,, ,3" &\$ 9 "5%\$N Y\$) \$ /39"/"\$&SM V,1"" C 6 &" ., // %&\$ 6\$ %  
& & \$ /3 ( "\$&: \$5( " 5,%& %%%6 ,/, \$ 3&' / \$ )"/"\$& "- , C &"  
. , // %&\$ / : /3, %' 3"\$ 9& j \$ & \$ & & "%99,1 \$5" ,6 &" /3 ( "\$&: \$5( "   
"I3"\$%M

\$ & & 5, \$&'I&C &" , \$9: (%' ,6 3"\$ 9& &\$"&I)(%5(%&/" %1,(9 " &  
,66%& &" 3"\$ 9& ) \$%& &" (& , i" H'(\$/"\$& \$5 " %M 66%&&S) 3"\$ 9&  
) \$%& %99,1" 5,%& 1,(9 3 , (5" i" , ,"\$6&&3 : " %M \$ & \$C &" 3"\$ 9& j  
1-5- %/" \$&& " (5" 47Z80% 6&' N&I \$5, /, (0 1\$"" & " f(%&' (31 %&  
55, (\$& 6, &" "66"5&, 6 6" " 9 \$ %& & \$&M \$ , &" 1, %C & & Y"% aBMO  
""\$(" "h( "/"\$&3"\$ 9& , \$ 3 "N&I %&(&" 3BML ,6 6&' N&I 3<sup>U</sup>\$ 9& M

47Z8 9% , 5 &'%& & %/" , 99 , 6 & & 3""%\$ "%&, \$%& & &" ? \$ H (\$,  
"I39, %\$ " , 66%& & ) \$%& \$: 3"\$ 9& & & & %&\$ ///)- &/3, %M<sup>U@</sup> ., %& & \$& 1& &"  
3 \$539"%%& 6, & , "C 1-" " 47Z80% b" 9: \$c 5&3"\$ & "% " "& / \$" & "  
"5," 9" 6 , / ) %5, %&/" % % 3 ( "\$&: \$5(3"\$%C &"\$ %5- " 9: 5&\$ / )- &  
h( 96: % 5 " &M &" 1%C 99,1\$) \$, 66%& & b" 9: 5& \$c , 99 % ) \$%& 3"\$ 9&  
1, (9 \$, & "\$6& ) % &'3 : " %C (& 1, (9 , 6& 47Z8"

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<sup>AK</sup> ; MBNBDNL\_L & AAM  
<sup>UL</sup> ; MBNBDNL\_L & \_M  
<sup>UB</sup> ; MBNBDNL\_L & \_C DLC DUC \$ AAM  
<sup>UD</sup> ; MBNBDNL\_L & A\_Pb & % " : , \$ %& (& & / & & \$ - %&" (& , & & %99,1 & / Y\$)  
"5," : 6, 5,%&/3 ( "\$&: \$5( " : . 90%\$ ( 95 (& &'%MR  
<sup>U</sup> E%&/"% 5, / \$" %& &' \$ 6" " 9 & I LoM , 6 @  
<sup>U@</sup> 47Z8 JZG H & ]BM



S, 3 & C \$59( \$) ? \$ H (\$, C %3(&'%'&" /35" & 6 " /" :\$) 47Z80%1"99N  
, 5(/"\$&' "6" 9 , 6 "\$5"%% : / \$&' \$ \$5" %\$%&'M E6&' 99C ? \$ H (\$, "I3" "\$5"  
&" 5, \$%'h("\$5"% , 6 47Z8 /% \$ )"/"\$& 6 %&- \$4M8 % , (9 9 " : " "h( " &  
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% 1-" " &" (&& 5 \$ " \$ "& \$ , \$5(\$5"5&\$ 1& &"/M J, ? \$ H (\$, C  
-, 1"" C &" %5-" /" &" ; "5& 3 , 3, %%%%"\$9; Y 9"M E%\$, &' , "C &"  
. , //%%\$ /(%& 3 , 3" 9: 55, (\$& 6, &" & I /&95%, 6 &% 5&\$%\$ PBR %&&\$) 6\$" % \$  
3"\$ 9&'%\$ I ; , 99 % "5 (% 47Z8 % , (9 \$, & "66"5&'9: %' %8%9)-&' 6"\$ C  
3"\$ 9& , "/" : "5 (% & I /395 &\$%), (\$5I' e \$ PDR 99, 5 &\$) 3"\$ 9&'% \$  
5 6&\$) "/" "%& "\$% " & & 47Z8 5 \$\$, & "&&' /& " 3 (\$ "% " & I "\$"6&% 6 , /  
&% 3 , 5&% \$ C / , %& /3, & \$&9: C &'3&\$ , %& % "i" 47Z80%3(% /"\$&M  
; "5& V) \$0%99N %' 5 " & 5, \$5"3& "/ & %& 59" 9 /& , \$ 1- & 47Z8 5 \$  
59 / % 5 " & " "%& 9%" M ?-, (9 & "%, \$ / "%5& & 6, 99, 1 ; "5& V) \$0%  
( , (% 3 , 3, %9C ? \$ H (\$, "5, //"\$ %& &&" .%& \$ 9% , 3& &" 6, 99, 1\$)  
3 \$539"%& /\$/i" 47Z8 /%5-"6 \$ 5, \$\$"5&\$ 1& ; "5& V) \$0%5 " & %& (5& "  
?"& &" 6&' N&I 5, \$%'h("\$5" & 47Z8 %& 5Y-&9&' "% I/( / 9""9  
47Z8 5 \$ " 55, \$) & .4?; "I3" &% aDM&A\$M9,  
47Z8 / : , \$9: "h("%& 5 " & 6, b&" %' " c\$%& & & 6&' N&I  
3"\$ 9& / , (\$& 6, "I3"\$%%" \$ 5 3& 9 , (&); %), \$, 1 %&C  
\$, 1 , \$" : % "-, 9 " %C & & (& 6, &" "\$&' \$F\$" B\_D  
8I39, %\$ 4 , 5"" \$)%1, (9 - " ""\$ ., //%%\$ 33, " C 3 ( "\$&  
"I3"\$ & "%M  
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) \$%& &" 6&' N&I 3"\$ 9& / , (\$& 6, PBR&\$6, / 1-5- 47Z8  
- %\$" " 3 " , (%9: %()-& &' "5, " :e , PDR, % " "I3"\$ & "%  
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/3 ( "\$& , , &" 1% (\$ " %\$ 9"M  
E& "%&C &" ; "5& 0%5 " & 6, &" %' " 93%5, %6(%\$) \$ \$, & 1"99  
""9, 3" M E& 1, %&C & %' "% %6" &9 ) , 4\$Z86 /%5-"6M ?-, (9 & " ., //%%\$  
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? \$ H (\$, "5, // " \$ % & & " ., // % \$ 6, 99, 1 59: " % & 9% " ) ( "3, % & % & 6, & , " & & , \$9: 99, 1 47Z8 & " \$ " 6 & 6 , / , & " 31 % " \$ & " I3 " \$ & " % M

J ( & " / , " C & " ; " 5 & 0% b 9 5Y , I c % & 9 " \$ " \$ 9 & & 33 , 5- / Y " % \$ \$ " 3 " \$ " \$ & / , \$ & / , " 5 ( 5 9 & \$ " " M . 4? % - % & 5 99: " " \$ ( \$ 9 " & , " % " 47Z8 , 3 " & \$ % C " I3 " \$ & " % \$ 5 & & " % \$ 5 & & " & 9 M . 4? ; % 89 9 5Y % & " " % ( 5 " % & / , \$ & 4? 84 4- % % \$ \$ 9% 55, ( \$ & 647Z8 5 & & % C \$ \$ 1- & / , ( \$ & % , ( 9 " 5 " & ' C 6 & 99 ) \$ % & & c b & " ; " 5 & " 5, // " \$ % M

. M TV8 ; 88.T G 0? G84FW HG 8J S J S8? ES; G828; 8? ? . E ? 8 J G . S. 8GS

T- " ; " 5 & 0% G ' 39: H " 6C 69 " , \$ Q " \$ AC, ~~IB~~ / C? \$ H (\$, 0% 1, % & % % 5, \$ % 5, \$ 5 " \$ \$ ) & " \$ & ' ) & , 6 & " ., // % \$ 0% F \$ " DBI 39, % \$ \$ " % & ) & \$ % M & % % " " 3 ) " " % , \$ % & & , ( % \$ % , 6 3 ) " % , 6 " 6 \$ ) 6 \$ % & \$ " / " " % & " / 3, % , \$ 47Z8 M & % " 9 " " \$ & " 6 % & 3 " % \$ C \$ % 6 & , 3 \$ , \$ 1 & , ( & % 3 565 % 33, & \$ & " " " \$ & : " 5, M & 6 9% & / " \$ & \$ & " I, & ' c b , b " & " \$ 5 " c , \$ 5 " M

E9% 5, \$ % 5 ( , ( % 9: % \$ & 6 , / & " ; " 5 & 0% G ' 39 & " % \$ & " % , 6 % 8 ) 9 " . 4? ; 3 , % 5 ( & 6 , / & " F \$ " B\_D 8I 39, % \$ 4 , 5 " " \$ ) % M H ( \$ , % " : 5, \$ 5 " \$ " , ( & " 5 " \$ & " " 9, 3 / " \$ & % & & " . 4? ; C 1-5- 5 99 \$ & h ( " & & " % & " \$ ) & \$ ) , , 6 & " % ' 3 , 5 " " \$ ) % " 5 & ' 6 , & " 3 % & & , \$ - 96 : " % / : % & \$ % , / " 5 & ' \$ 5 3 9 " 9 " ) 9 % & 66 1- , - " & , , ( ) -9: \$ " % & & ' \$ , 5 ( / " \$ & ' % & & ) : M S, / 99: C & 1, ( 9 \$ , & " , ( 39 5 " & h ( " % & \$ & " \$ & ' \$ 9 % 8 ) \$ / " \$ & % , 66 % & ' 66 , // % \$ C ( & \$ & % \$ % & \$ 5 " C & " 6 5 & & & & " 9 " . 4? ; & & \$ " : % - " \$ , & % ) " " 6 & \$ - " " " \$ " % 8 ) \$ " ) " 9: 59, ( % & " " 665 5: \$ \$ & ' ) & , 6 & " 3 , 5 " % M

) O . ( \$ ) . , ) , , .

EM TV8 8GEFF J SES. EF 24E.T S 47Z8 J G TV8 F S8 B D S 8? T 7ET S? 2 ? T HB aDMAH FF S S EJ T8G TE ; FFEG?

BM . 4? ; 8 48GT? ; 8T8C2 S8; TVET 47Z8 . F; [ TV? TES; E aDMAH FF S EJ T8G TE 48SEFTW

E% \$ , & ' , " C & " % " " \$ ( / " C ( & \$ \$ , % 47Z8 0% 6 " " 9 \$ % & & ' , 9 & \$ % " I3 , % & " ( & & & " & " " \$ a ] MA 9 \$ , \$ a \_ L 99, \$ \$ % & & & : 3 " \$ 9 & ' % M . 4? ; " I3 " & % " & ' / " C - , 1 " " C & & \$ % & & ; 6 ' % 8 % % 5, 3 " \$ / ) \$ & " , 6 47Z8 0%

<sup>UA</sup> . 95(9 & \$ % , \$ % 5 & \$ % DBLO \$ DBL] , 6 & " \$ 4( 95 & & % . , " M

/%, \$ (5&C & %, \$9: 3, %9" 6, 47Z8 & TMA a99, \$ \$ , " 99 6\$ \$5 9  
5, %h("\$5"% \$ 5, \$\$"5& \$ 1& & " F\$" B\_D \$)%& \$%1&, (& 39 5\$) (\$ (" %A, \$ & "  
(&0% 9& & 6\$ \$5" \$ , 3" & 9&6"(%&"/ M

DM 47Z80 ? 8 . 8?? 8 J S8 ES; 4G 4 GT SEF TW EG7 28ST? EG8  
[ TV T 2 8GT

? \$ H (\$, 3 , 3, %%% \$ , " 99 / 3 5& , 6 aDMA 69, / \$ & " F\$" B\_D 3 , 5" " \$) %M  
T- % "5, // " \$ " 6\$ \$5 9 / 3 5& % % \$, &, \$ & " \$( / " , 6 9" % 9, %&C ? \$ H (\$,  
"% "\$& \$f( " C \$ -, / "% "%& , : " C "" / - ( \$\$ 9" , / ) " C & 9% 55, (\$& 6,  
& " / ) \$& " , 6 & " %A & & 47Z8 Y\$, 1\$) 9: "I3, % \$ 5, \$& (" %& "I3, % & 5 (%& / " %  
& & , ) - , (& & % 5" & & : M \$9Y33" & \$ " , 3" & %& & - " "I3" "\$5"  
"I39, % \$ %, \$ & " %& & C 9Y" & " 89 4 % 7\$ & "I39, % \$ C 47Z80% -) - N\$ "%& ( " ) %  
& \$ % % \$ 9\$ " % (\$ & , ) - "\$ % 9: 3, 3 (9 & , \$ , , %M 8 5- %A 47Z8 & Y" % %  
/ 396" "I3, "\$ & 99: C \$, & 9\$ " 9: C 1- "\$ % - , ; 9% C -, %& 9% C 3( 95 & \$ % & C \$ - ) -  
% % \$ - ) - 5, %h("\$5" " % C % 5- & & &, \$ % & I9 % % % , (9 " 5, \$ % " "  
) ) & \$) 6 5& % \$ 3" \$ 9& 5 95 (9 & \$ % M ) & / " , 6 \$: 3" \$ 9& / (%& " 69" 5& & "  
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3, % 1- "\$ & " 9" 5& & 39 : C % \$ , (9" & " B & " 9\$ " % ( \$ " & " ) , ( \$ & , ) - , (& &  
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66" "\$ & 6 , / %A % 3, % : 33" 9\$ " \$ % \$ & 9 , 5, // " 5 9 " j & & % 1- :  
- ) - 5, %h("\$5" " % 59 % 65 & \$ "I % M 47Z8 "\$ % A N & Y\$) % \$ , 66" % & & % & \$ %  
3 & C \$ 1 \$ & % % " 565 C / I / ( / 3" \$ 9& & \$ & 99 & " \$ & % % " % & " \$ & %  
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5, \$ % " \$ ) / 9\$) 1& & 3 : " 9" % ) \$ M

HM J S8?

47Z8 %, (9 " % f" 5& & 59" 6\$ " , 6 aKLC 399 9" & & " . 96, \$ ) "\$" 9  
6 (\$ M E aKLL / 99, \$ 6\$ " 1, (9 33 , I / & " 65% & 47Z80% %& & \$ 6" " 9 & I  
" (5& \$ % % 5 & " 1& & " % 99, 1" 5, % & V ) \$ 3 , 3, % % M ? (5- 6\$ " %  
5, // "\$ % & " 1& & " ) & C % " & \$ % "( / \$ , 6 47Z8 , 9 & \$ %, 6 6" " 9 \$  
& & " 9 1% \$ . , // % \$ ") (9 & \$ % C 99 , 6 1- \$ & ( & & & " " & , 6 ") - & 3" , 39" C  
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%665"\$&& "& 6(& " 47Z8 , /"/ " %&1"5\$ %\$, / \$ )" %6 ,/ ""  
3 , &\$) 3 ,6&%, " %6"& ) \$M

. M G828; 8?

BM Tv8 . 22 ?? S ?V F; E44 ST ES S; 848S; 8ST 2 S T G

T- " . ,//%\$ % \$ , (9 33, \$& \$ \$ "3"\$ "\$& 2, \$& & , " %" 47Z8 5, /39 \$5"  
1& &" 4?84 \$ 3, &\$& 9 6\$"%C 3"\$ 9&'% \$ "%/3, % , \$ &" (89& \$ &"% F\$"  
B\_D 8I39, %\$ 4 , 5"" \$) %M

P R Q?T J . ET S J G S; 848S; 8ST 2 S T G

ES \$ "3"\$ "\$& 2, \$& % "h( " "5 (% PR, & %\$ \$ - %\$, & ""\$ \$  
"66"5&' 1 &- , ) \$ 1 % , \$ , 6 &" 5, \$& 5 (89)%& &" "I39, %\$e PR &" . ,//%\$  
 , "%\$0& - " "h( &' "%( 5"%& , " %" &9"15, /3 " "%\$ &" 4?84 \$ &" % PR  
. 4?; 0%3 , 3, %9C 6 , 3&' C , "%\$, & %\$ " . 4?; 0%5, %\$9& \$& 199 " & (9:  
\$ "3"\$ "\$& \$ PR 47Z80%6 9( " & & Y' %89\$ % , 1%& & 47Z8 - %9" "\$  
\$, &\$) 6 , / &% "I39, %\$ \$ \$"" %\$ "3"\$ "\$& ) - &M \$ "3"\$ "\$& / , \$& % - "  
3 " , (%: % " 3 "5%9: &%6(\$&\$ \$ &" "1, 6 , &" %9 & )<sup>U</sup> %M

PR Tv8 . 22 ?? S [E? . 24F . T ES; [E? S8 J Tv8  
. STG HT S7 . E ?8? T Tv8 8 4F ? S M

T- " . ,//%\$ 0%\$ "66"5&' , " %)-& \$ "\$6, 5"/"\$& 1 % / " \$\$)6(9 5, \$& (&  
& 47Z80%, \$), \$) 6 9( " & , 3" &' \$ / \$ )6" %89&/M \$6, &\$ &'9: 6, S, &" \$  
. 96, \$ "%"\$&)"\$" 99: \$ ? \$ H(\$, \$&%"3 &5(9 C &" . ,//%\$ 0%6 9"  
"5, , \$ %6"& %\$, & \$ %& 5&5, \$5; 3&9 -"8M &% 3" %" "(9 & :  
5, \$ &\$ & &&" . ,//%\$ \$ - %:"&& %55'9%6(9\$, %C &" & \$ (9& &'9: " 5 &'M

T- " \$"" 6, / , " , (%& , " %)-& , 6 47Z8 , 3"\$&\$ 3" 6, / \$5" %%"96N" "\$&M  
?3"565 99: C &" ST?H 6, (\$ & &&" "\$66"5&' 5"\$ "\$& 3, %& " , 6 &" . ,//%\$ \$  
99, 1" 47Z80%, ) \$i &\$ 9 6 9( "%& 5, \$6\$(" "5 "M \$ &3 , 9" 5 (%  
\$ 9: %C &" ST?H 9% -)-9)-&' &" 6 5&& , & 89% \$ 6 9" & "&'5&&"

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<sup>U</sup> ?"" 33M\_LN\_B , 6 H & 4"& , 9"/0%5, %\$&1&5&" MM8\$ , \$/"\$& 9 4 , &'5&\$ E)"\$5: &  
- && pp111M3 M, p5, /39 \$5"p "( 5"%p "5 ""p51 p 3\$, &%0, 3"N5 M 6e  
- && pp111M3 M, p5, /39 \$5"p "( 5"%p5 %%"p5D p, 9:/35%"99M&9e . , %\$&& ; "5 "" \$ ? 89 4  
S & 9 7 % . , MP; %M. &MS"1 2"15, R & BD %hM& 9 9" &"/" )\$)9& &\$M% M, /p4,%& B 65@N  
55AKN@15"NK" A CCKA"U" A Ap r89r4 %rS & 9r7, %\$& ; "5 ""JS 9M 6  
<sup>U</sup> ST?H G'3, & & BDDM

\$ "h( 5"% , 6 47Z80%33"9\$" \$&') & / \$ )"/"&3 , ) /M T-" ST?H 9% 6, (\$ & & 4V2?E \$, & - " \$ "66"5&' , " %)-& \$ "\$6,5"/"\$&3 , ) /M T-" ST?H 6, (\$ & & 4V2?E0%"\$6, 5"/"\$&3 , ) / \$ &"/, \$& \$) , 6&&" %)-&3 , ) /%C %5- %&" ., //%%\$0%C 1" " 1" Y \$ "%9&' \$ 9 5Y,"6&'66" " 9 , " %)-& \$ %&&' , " %)-& : &" ., //%%\$M<sup>T</sup> \$ &" ST?H 6\$ 9 "3, &- " \$)C ST?H . - / \$ ;" V' % \$ 5, //"\$&' , \$ &" \$"" 6, 33"9\$" %6"& ")0 9, &" %s["q" - " 9, &, 6 3 , /%C (& \$, 1 1- & 1"q " %&\$) %MM& & ") (9 &)%MM&&" ") (9 & % " &" , \$9: , \$"%& & " %&\$ \$) "&""\$ &" , 3" & % \$ &" 3( 95C3(\$ 9& %5, (\$&\$) , \$ &"/ & / Y' % " &" , 3" & % " , \$) &" )-&&\$)ST?H H 2"/ " G " &?(/1 9&"5- , " . - / \$ V' % \$0%&&("%1& &" 33"9\$" %6""&(9 & % sT-% 55 "\$&%\$, & f(%& , (& &" 6 9( " , 6 % / \$ 33"9\$"MG &" , (& % 6 9( " , 6 \$ "\$&" %&"/ NN %&"/ , 6 5-"5Y% \$ 9 \$5"%& &%, (9 - " ""\$ 3(&& 39 5"\$&&" %&<sup>P</sup> M E55, \$) & &" ST?HC &" ., //%%\$C b %&" 'Q(96, 33"9\$" %6"& 1&\$ . 96, \$ C 6 9" & (\$5, " &" 3" % \$ 9PQ) \$ \$) 3 , 9"/%1&\$ 47Z8M ., %&'h("\$&9: C &% 6 9( " 3 "59( " &" m , /h%%\$ / & Y\$) \$: "\$6, 5"/"\$& 5&\$ ) %& 47Z8M<sup>O</sup> T-%9" &" ST?H & 5, \$59( " & &&" b"\$66,5&"/"\$&3, %& " , 6 &" m, //%%\$n 3" /&&' 47Z80%, ) \$i & \$ 9 0( "%& 5, \$&\$(" , " / \$: : " <sup>O@M</sup> T-" G4 1 %%9 9: 5 & 9 , 6 &" ., //%%\$C \$) & & bn&" ., //%%\$n / (%& %//, \$ (3 &" 5, ( )" \$ "%( 5"%& /, \$& &" 3, 6 &5", 3" & 0%3 , ) / C &% "66"5&'"%& \$ \$ 9: %%, 6 &" 3 , ) / "%9&& / \$ 9&&"<sup>Q</sup> T-" G4 G'3, & 9% "5, //"\$ " & &&" ., //%%\$ / Y' &" b&" 5, &"\$&& /, " & /, " 3" 6, / \$5"N % " ) (9 & : , " %)-&, 6 (& 33"9\$": M<sup>Q</sup> &

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<sup>U</sup> ST?H G'3, & & 1M  
<sup>UK</sup> M  
<sup>CL</sup> ST?H G'3, & & ]]M  
<sup>CB</sup> ST?H 4 "%%G'9" %C ST?H 5&'%4 565 7 %Z589'5 P47Z8R \$ ), " \$/"\$& , " %)-& \$ 6 & 9 . 96, \$ 33"9\$" (3& "C PE)(%&\_LC DLBBR 9" &-&&3 pp111M&&M, p\$"1%DLBBpBBL]\_LM& 9  
<sup>Q</sup>. SS [ " ?& 66C && 55"3&%9 9& 6, DLB6, \$ 33"9\$" (3& "C P; "5"/ " B\_C DLBBR 9 9" &-&&3 pp111M\$\$M, /pDLBBpBDp\_p6%p\$ 93)"N "%, \$%9&  
<sup>O</sup> ST?H & BDD  
<sup>O@</sup> ST?H & BD\_M  
<sup>QA</sup> G4 G'3, & K]NKKM  
<sup>CU</sup> G4 G'3, & & DO

T- " 6 5&& & 47Z8 \$ &" ., //%%\$ 1, Y' &)"&& 3(&, \$ %6"& %/3, %/  
1-5- 1, (9 - " "%9&' \$ "I 3 &' 5, //(\$5 &\$%&" " : % f"5&/ &&' &%&" \$  
&"%& & "" "\$%&) & : 3 , 5"" \$)%%, 1%& &&%&\$ %%&9 \$, &\$ &" )-& 6 /" , 6  
/\$ 1-"\$ & 5, /"%& ") (9 &\$) (&9%"M "\$ & "3 %%&'/ &5 "6"5&%"\$ &"  
. , //%%\$0% ") (9 & : "9 &\$%3 1& 47Z8C (%&, " %)-& 6 , / \$ \$ "3"\$ "\$&/, \$&  
%"%&"\$& 9M

PR TV8 . 22 ?? S ; 8?S Or VE 8 TV8 G8? G 8? J G  
8JJ8.T 8 ES; . ST S S7 8G 7VT M

T- " ., //%%\$ \$, &- " &" "\$5""% : "%( &%" ) (9 &' 47Z8 "6, " &" F\$" B\_D 8I39, %\$C \$, , "%&" ., //%%\$ - " &," ("5"%\$, 1 & "66"5&'9: , " %" 47Z80%  
5, /39 \$5" 1& &" 4?84C / %&' (\$ " & Y\$) & 199 & Y" 39 5" , " &" "\$I&&'\$ : " %C  
\$, & & 5Y &" 6\$""% \$ "/" "% , 3&" "\$&%"& : 3 , 5"" \$)%M \$ "" C &"  
\$ "3"\$ "\$& G"1 4 \$"9 6, (\$ & &&" ., //%%\$0&- " &" "%( 5"%& "&'5&  
47Z80% " 9: %, &, /\$)% "6, " &" "I39, %\$ .b&/%&\$ \$, &- " &" "%( 5"%  
& /, \$& 47Z80%3" 6, / \$5" \$ 33"9\$" \$&') & \$ )"/"\$& "h( &'9: , &"  
, ) \$i &\$ 9 6, 5(%& & 1, (9 - " "9" &' 5\$5" , (& 47Z80%3" 6, / \$5" \$  
/" \$\$)6(9 1 : M<sup>o</sup>

? \$ H(\$, "/" \$%5, \$5" "\$ & &&" ., //%%\$Y%&" "%( 5"%C "I3" &' \$  
5 3 5& & "h( &'9: , " %" 47Z80%/39"/"\$&&6 &" 4?84 1&, (&, (&" %&&\$5"M  
[&, (&%665"\$& "%( 5"%C "I3" &' \$ 5 G && ., //%%\$ 5 \$\$, & 3 , &'5& ) \$%&%& 66  
9 3%\$) \$& /, " 5, /39"I " %\$ , 6 &" 3 3"" NC %IN5-"5Y\$) ( &'& & 3 , "  
"\$66"5&' \$ "\$&: \$) 3 , 9"/%1& 47Z80%, 3" &\$ \$ / \$ )"/"\$&, 6 &'%&%&'/ 3 ,  
& &" F\$" B\_D "I39, %\$M

? \$ H(\$, % ""39: &, ( 9" : &" 6 5&& / &&\$%"&9 9 5Y%&" "\$5""% :  
"% ( 5"%C 6, 5(% / \$ )"/"\$& \$ &" /\$%& 100 & 3(&%6"& 6 %&M 8" : 5(%&/" \$  
47Z80%%" 5" &' & : %, (9 6""9 "I 5&:/ "&'1 % : , (0 " , \$ : , ( , 1\$ 1-"\$ & 5, /"%&  
%6"& \$ -, 9 \$) 47Z8 55, (\$& <sup>o</sup>9"M

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<sup>o</sup> G4 G'3, & & A  
<sup>q</sup> . 96, \$ 4( 95 &9%" ., //%%\$ ? 6"& .(q&" .- \$)" 4 , f"5&C \$& 9 %," : "3, &C%&%"\$  
E \$&)" ., %&9&\$) PQ \$MDAC DLB\_RM

PR .4?; 0 ? 4G 4 ?EF J . C8; T J G 4 T8ST EF  
; ?EFF [ES.8? C J E; 4T8; C ?. 24F8 ES; S88; ?  
?TG S7 8G? 7VT M

T- " " % "\$" \$, 1 /, " & \$ " & - " "\$" "\$& J\$ \$5 9 2, \$& , " %"  
47Z80% "I3"\$ & "%6 & " ., // % \$ , 3& .4?; 0%5, // "\$ & \$%M \$ & " 6C .4?; %  
%\$) 6, aDMA 99, \$ b3"\$ 9& c b "5&' & 1\$) 6, 4- %' \$ 4- %' 5, %& \$  
"I3"\$ %%, 6 47Z80% 4?84M .4?; % 9% %\$) 6, O\_ "/" "%C 99 , 6 "h6-" %& 5&  
, " %)-&M & %(\$59" 6 .4?; % "5& \$) 40Z8% "-, 9 " %& " & " "%, \$%9& , 6  
3 : \$) 6, & " "/" "%C (& "& " 1 : C & ""O\_% 199 "h( " 3 , 5&' , " %)-&M  
6 & " ., // % \$ , 3& .4?; 0%3 , 3, %9 6, 47Z8 "5" " 5 " & 6, & " % " \$  
& 4- %' \$ 4- %' 5, %& \$ "I3"\$ %% 0%6 47Z8 \$ \$ "3"\$ "\$& J\$ \$5 9 2, \$&  
% "\$" " & "\$% " & & % "-, 9 " /, \$: (% "\$) \$, 4?84 4- %' \$ 4- %' 5, %&M  
E%& & , "C 47Z8 - % -%& : , 6 " & \$) %; "5&' 6, 33"9\$" %6"& \$ 5 \$\$, &  
" & (%&' M E% "5"\$& % 6"1 : %, C 47Z8 9\$) & "6 & " & 5, \$6(% \$ /%  
& " ., // % \$ : )(\$ & & & - % 9 " : %"\$&, 9 " , 99 %& "3 & % %& / 1-"\$  
\$ 6 5&C 47Z8 (% C \$ %(\$)C % "-, 9 " %& 99 %3 , f"5& \$ /3 , "/"\$&&  
%, (9 - " 5, /39"&' \$ & " 6 %& 39 5" & / %& %& %6"M ES \$ "3"\$ "\$& J\$ \$5 9  
2, \$& 199 6, 99, 1 " 5- % "-, 9 " , 99 & / "Y& & & "\$) 39 5" \$ & " )-& (5Y"&  
\$ & "\$% " & & &'3 : " % " \$, & 3 : \$806 / 97Z % \$5"M

PR 47Z8 ? ?T F C E F 2 ?T TVG 88 V8EG? EJT8G TV8  
8 4F ? S C8J ? S7 T TEX8 C8?4 S? HF TWJ G TV8  
8 4F ? S ES; .ESS T H8 TG ?T8; T 4 F .8 T? [S  
?WT82 M

\$ & % ""1 , 6 47Z8 , 3" & %6, 99, 1\$) & " ; 139 , 6 47Z80% F\$ " B DC & "  
\$ "3"\$ "\$& G" "1 4 \$"9 Pb G4cR G'3, & 5&' 5, \$5"& & b& 3 / \$ ) "/"\$& \$&' "%& \$  
"I3" & % 9" \$ 6\$ \$5 9 3" 6, / \$5" 1-5- %& " 5, /3 \$: 0%6, 5(% , \$ , \$" , 6 & %5, "  
/ % \$ %j & & , 6 %6" \$ "9 9" \$ & 9"M% % \$ 47Z80% \$ 33 , 3 &' \$  
/ % 9 5" 6, 5(% , \$ 6\$ \$5 9 3" 6, / \$5" & " %& " & \$ "9 9& C & % \$, & % 3 %\$)  
& & & " ST?H "&' /\$" & & & " b3 , 9" 5 (47Z80% F\$ " B D "I39, % \$ 1 %47Z80%  
\$ "h( &' h( 9& %& \$5"C h( 9& 5, \$& \$& )\$& / \$ ) "/"\$& 3 , ) /%M 8"\$ \$ 9)-&  
, 6 & " & "/"\$ , (% " "\$5" ) %& 47Z8 : \$ /3 & 6" " 9 )" \$5: \$ %& & " )(9 & %C \$

<sup>OK</sup> .4?; "6 & 3 )" UM

6%, \$ & " , 9 & \$%\$ & " & "" \$"%&: & , 5"" \$)%C 47Z8 , \$9: 5, \$5" " & & ,  
"15"" \$)9: /\$, ") (9 & : , 9 & \$% 6 & " 3 " 1, Y 59" \$5" 6, / 6, 293& %  
T" /\$ 9 "9"5& 5 9 1, Y \$ 55, \$5" 1& \$&' (\$& 3 , 5" ( "% \$ & " 6 9( " & & "9:  
& "%& 293& %3" %\$"\$9 6, ()% \$ 95, -, 9MC & %47Z80%3, %&\$ & & " (& 0%  
" 9: 5, \$ (5& 1 %3" 6"5& 9") 9M 47Z8 / && \$& b5, /39" 1& & " 9 1 \$ 99  
/ &' 9 "%& 5& 1-"\$ \$ 6 5& & Y99" ") H&(\$, \$ "%"\$& \$ % (9& \$", (%& 9""9" ]  
6 /9: -, /"%C \$ 39 5" /99, \$%, 6 , &" \$, . & \$, \$ \$ "%"\$& \$ - /0%1 :M  
E55, \$) & 47Z8C & " (& 0% "\$&& 9" & "\$5&' \$ "\$& " \$")- , -, , \$ & %  
% 5" &' & : 1& /3(\$& C \$ 39 : C %% \$( & &' 1& /99, \$%, 6 3", 39"C 1& , (& 6"  
& & \$: /" \$\$)6(9 "3" 5(%& % 199 %' & //%" " % & & " - \$ %, 6 & % ., // %& \$  
(\$ " 6" " 9 9 1C %& &' 9 1C ., // %& \$ 7"\$ " 9C "5% \$%, %& \$ %M T-% "6"\$%C  
1-5- , " %, \$ %5& \$ 9" /%"3 "%\$& & \$%16 %, 1%& & 47Z8 %\$, & & Y\$)  
"%&, %9& 6, &%) , %& \$")9)"\$5"M T-" \$T%& & \$C & " \$ "3"\$ "\$& G'"1 4 "\$9  
\$ & " " "\$& : "5, \$ GMBENLDNLBK " & "3&' "I /39"%\$, & , \$9: , 6 47Z80% f"5&  
/% \$ )" /"\$&, 6 & \$ & ( 9 ) %%%&' /C (& & \$ 3\$ 3 5& " , 6 9 5Y9(%&' , " %)-&  
\$ "\$6, 5" /"\$&, 6 47Z8 , 9) & \$% : & " ., // %& H'5 (% 47Z8 5 \$\$, &  
5Y\$, 19" )" &%) (9& \$ - %\$, & 9" \$" 6 , 96"%& \$5"C 47Z8 P \$ & " ., // %& \$R  
%, (9 \$, & " 99, 1" & ), 5Y & (%\$"%& 1& & &' 9, // %& \$ %& " %9" 1 &5- , )  
, " & % 5&&' %M ES \$ "3"\$ "\$& ? 6"& 2, \$& \$ \$ "3"\$ "\$& J\$ \$5 9 2, \$& " "  
\$"" " & "\$% " & & 47Z8 % , \$) 1- & & 5& /% , \$)M 47Z8 % , (9 \$, & " "1 "  
6, & % 6 9( " & 55"3& "%&, %9& M0& & 5 \$ 6 , / & " / , %& " 9: \$ & ( 9 ) %\$ %&'  
. 96, \$ C & 199 \$"" " 9)"\$& \$ /39" /"\$& & " %6"& /3 , " /"\$& & \$"" %& / Y' \$  
) , , 6 & M

47Z80%6 9( " & , 3" &' \$ / \$ )" %6" %& & " ., // %& \$0% \$ 9& &  
%3" %' 47Z8 " 1"99 , 5( /"\$&' 1M \$9: \$ \$ "3"\$ "\$& / , \$& 5 \$ 3 , " 9""9 , 6  
, " %)-& 5, // "\$% &' 1& & " \$)" 3, % : 47Z8' & \$%M \$9: \$ \$ "3"\$ "\$&  
/ , \$& 5 \$ 6 59& &' "%& & \$ , 6 & " 3(%& \$ & 47Z80% 9& & / \$ )" \$ & "  
. , // %& \$0% 5 3 5& & , " %" %6"C "9 &' \$9 ) %%%&' /M 8"\$ ., // %& \$"

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1L %5& \$ MC  
]B ?"" %5& \$ MC %3 M



?, \$0%5, \$5( "5" 3 , 3" 9: 9 /"\$&' &" ., //%%\$ " ) "&& 9" c "5%\$ & 6, " ), \$ \$ "3"\$ "\$&/, \$& %6, 99, 1%

T-" ;"5%\$ %, (9 - " , " " 47Z8 & - " \$"3"\$ "\$&2, \$& 1-, 1, (9 "3, && &" ., //%%\$ \$ &" 3( 95 " ) "\$)%&&% \$ h( 9& , 6 47Z80%1, YC \$ &\$ & &" , \$), \$) /, \$& \$) 1, Y , \$" : &96, \$ 4( 95 &&'%. , //%%\$ ;%\$ , 6 ? 6"& \$ 8\$6, 5"/"\$&%&1B6M

? \$ H(\$, % "%., //%%\$" ?/, \$0%"1M 8\$) )" "\$&, 6 \$ \$ "3"\$ "\$&/, \$& & , " %" 47Z8 \$ ., //%%\$ \$ 3" 6, / \$5" % " ;%9" 5, ( % , 6 5&\$ & & 1, (9 "/, \$%& &' & &&" ., //%%\$ "5,) si "%9/ &\$&\$ &%, 1\$ "I3" &'C 5 3 5& \$ "%( 5"% \$ &" "I&'\$&& 1-5- %5- 9/ &&'\$&' \$ & (\$ " /\$" "66"5&" " 9( &\$ , 6 47Z80%4?84 /39"/"\$&&\$ \$ 47Z80%5, /39 \$5" 1 & &" 6\$" % \$ "/" "%/3, % \$ &" FS" B\_D 8I39, %\$ "\$%& & : 4 , 5" "\$) %M

ES \$ "3"\$ "\$&/, \$& " 9( &\$ , 6 47Z8 \$ & , //%%\$ 0%3" 6, / \$5" % "\$5" % : & "%& " 9: &&" 3( 95 "&(\$ &6&&" FS" B\_D "I39, % \$M T, "" % &" &" , 6 5: \$5% C %& (%& \$ \$%5( & .C /&%\$ / (%& & Y" "%, %9& 6, &% -%& : , 6 ") (9 & : 5 3& " \$ &%1"99N "5, 9\$ i \$ "\$ 9\$) &" FS" B\_D "I39, % \$M ? \$ H(\$, ( ) "%&" ., //%%\$ & , % : 3 , 6) "\$) )" /"\$&, 6 \$ \$ "3"\$ "\$& /, \$& % \$ "h(& 9" "/" : \$ %6"& "\$-\$-\$-\$" &" % 3 , 5" "\$) %M

P R ?ES HG S 4G 4 ?8? ES S; 848S; 8ST 2 S T G [ TVH TV  
?EJ8TWES; J SES. EF 8 48GT ?8

? \$ H(\$, 0%3 , 3, %9 6, \$ \$ "3"\$ "\$&2, \$& "\$50, 5 &'), "% PBR \$ \$ "3"\$ "\$& ? 6"& 2, \$& e \$ PDR \$ \$ "3"\$ "\$& 2, \$& M

\$ 9)-& , 6 &" 5, /39" I %& / %6"& /3 , / "\$&284 C .4?; 0% "/" "%C \$ &" &&" \$, %0 3 , 3, % "/" "%C \$ \$ "3"\$ "\$& 2, 6&& %\$" " & %& " &" 3( 95 & &&" \$(/" , (%3 , f"5&%47Z8 /(%& (\$ " &IY&&%& / \$ / Y" &%6" " \$ "" f(%&6" C 1"99N "%)\$" \$ "66"5&'9: /39"/"\$&' \$ &%6\$" C 3"\$ 9&'%C \$ "/" "% "6C .4?; 3 , 3, %%% O\_ 5, /39" I \$ /3, & \$& "/" "%MI"99C T CSC ; CEC \$ &" .& , 6 ? \$ H(\$, 3 , 3, %' %" 9 "/" "%& & 199 "h( "%, -& \$ &&'\$& \$M E99 &" "/" "%

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]D ., \$5( "5" , 6 ., //%%\$" T, &: E9 \$ ?/, \$ \$ &/ DU ;"5%\$ ; MBBNBLNBL " %\$&& (&\$) G'9/ Y\$) , \$ &" ., //%%\$ 0% 1\$ 2, &\$ & E, 3&\$ "1 ? 6"& \$ G'9 9& G')(9 &\$ %6, S & %@ T %%%\$ \$ ;%& (&\$ 43"9\$" % \$ G'9 &'G &'%&&\$) 2"5- %%%P 5& " BDC DLBBR

.4?; \$ &" \$&' "\$, %3 ,3,% - " \$I(%& "/333"9\$" %6"&M T-" 4?84 P;MBN  
BDN\_LR "5%"\$ %BCL 3 )"%" \$ 5,\$&\$%\$("/ ,("z&'%& 47Z8 & /3 ," &%%%&' /M  
T-" /,(\$& ,6 1, Y & &%"\$"" " & 6I 47Z80%%%\$ / Y' & %6" %/ %&'C 1-5-  
9" %& &" " %\$ 9" 3 ,3,%&\$ & &" ,,\$ /%&'5& 47Z8 % "-,9 " %& 3 : 6, \$  
\$ "3"\$ "\$&? 6"& 2,\$& & \$ 9:i" \$ &"&'(\$ " %,6 "/" "%& & 47Z8 /(%&  
(\$ " & Y"M 9 &\$) &" 1, Y 1,(9 -"93 / Y%&' / %6" "5 (% \$ /3 & 9 "I3" &  
1,(9 " 9" & "I39 \$ 1-5- 1, Y%"\$"" " \$ %&(9 , " %" 47Z80%1, Y & / Y'  
% " & &1- & &": " ,) %\$ 6 5&%6"M

T-" \$ "3"\$ "\$&? 6"& 2,\$& \$ "\$5"%% : &,\$&'9,(9 " 3 , " 1& &"  
(& , & & " 9( &' \$ ""1 47Z8 5,/39 \$5" & &" 4?84 \$ \$: \$ 99 6\$"%" \$  
"/" "%/3,% : &" ., //%&\$ \$ &" F\$" B\_D B39,%\$ "\$%& & : 4 ,5"" \$)%M T-"  
\$ "3"\$ "\$&? 6"& 2,\$& \$ "\$5"%% : 5,%&'9& \$& " "I3" "\$5" \$ 33"9\$" "  
"\$)\$"" \$) \$ 33"9\$" %6"&M & % 9% \$& & & &" \$ "3"\$ "\$&? 6"& 2,\$& , " %" "  
&" 1, Y & & 47Z8 %5( "\$&: (\$ " & Y\$) " %%&'&M 6 &" \$ "3"\$ "\$&? 6"& 2,\$&  
\$ "\$5"%% : 5,%&'9& \$&' "\$&6: \$ //" &' & & 3( 95 %6"&C &" \$ "3"\$ "\$&? 6"&  
2,\$& %, (9 //" &'9: "3, & &" 3, &'\$&'9&\$ & 33 ,3 &' )"\$5"%C &" .4?; C  
\$ &" 3 "%\$) E /%& &' F 1 Q )"%"\$ %MBNBNLLOC MBNLDNLBUC \$ MBNBNLLM  
6 &" \$ "3"\$ "\$&? 6"& 2,\$& \$ "\$5"%% 9& \$&' "\$&6: 3, &'\$&'9 ,9 &\$ ,6 &"  
4?84 "/" "%, &" "/" "%/3,% \$ 5,\$\$5& 1& &"%" F\$" B\_D 8I39,%\$  
"\$%& & : 4 ,5"" \$)%C &" \$ "3"\$ "\$&? 6"& 2,\$& , (9 " "h( " & "3, & &"  
3, &'\$&'9 ,9 &\$ 1&\$ A :%& &" 3 "%\$)/&' &' F 1 Q )"%"\$ % MBNBNLLOC  
MBNLDNLBUC \$ MBNBNLL \$ .?8; M T-" "\$&3?6"& 2,\$& %, (9 9% "  
"h( " & "3, & & &" ., //%&\$ \$ &" 3( )95 \$) &" %& &'% \$ h( 9& ,6 47Z80%  
5,/39 \$5" 1& &" 4?84C \$ &" "/" "%/3,%\$ &"% 3 ,5"" \$)%C , \$ h( &' 9: %M  
J\$ 99: C &" \$ "3"\$ "\$&? 6"& 2,\$& \$ "\$5"%% 9& \$&' %, (9 " 3 , - &' 6 , /  
%"Y\$) 1, Y 6 , / 47Z8 \$ , &" ") (9 &' (9&' 3" , ,6 & "" : " %6,99,1\$)  
"5"3& ,6 \$: 5,/3"\$%&\$ "9 &' & 1, Y 6\$ "Z\$" "\$&? 6"& 2,\$& M  
E\$ \$ "3"\$ "\$&? 6"& 2,\$& 1, (9 9% %&'%&' \$&' &" ., //%&\$ 0%  
, " %)-& ,6 4?84 /39/"\$& &\$ \$ " 5-"5Y\$& ., //%&\$ 9 3%"M T-" \$ "3"\$ "\$&  
? 6"& 2,\$& 1, (9 " "h( " & , &" 6,99,1\$)

G"1 99 "3, &% \$ ,5(/"\$&&\$ % /&&" :Z847\$ &"  
.,//%\$ \$ & "& /"\$ 1-"&" , \$, & 47Z8 \$ &,"//%\$ - "  
5,/39" 1& &" 3 ,%\$%, 6 &" ;"5%\$ \$ 3 &" 33"9\$"  
%6"& 1, Y 3 ,3" 9: e

G"1 3 ,) /%C 39 \$% \$ /, 65 &\$%3 ,3,%' :Z87 &  
"& /"\$ 1-"&" &": 5,/39: 1& &" ;"5%\$ /\$ Y"  
"5,/"\$ &\$%& &" .,//%\$ ") \$) &" %e

., \$ (5&%&' %e%& ""1 "5, NY""3\$) 3 5&& \$ ,3" &\$%\$  
&" 6"9 e

G'3, &,\$ &" , (%&\$""% \$ "66"5&'\$""%, 6/ &&?\$. %& 660%  
"I" 5% ,6 &%, " %)-& "%, \$%9&'%

G'3, && &" .,//%\$ \$ &" 3( 95 5, \$5" \$\$\$) \$%& \$5"% ,6 \$, \$N  
5,/39 \$5" 1& &" ;"5%\$e \$

?( /& \$ \$\$ ( 9 "3, &,\$ 99 6\$ \$)%& &'%4\$ &&" 3( 95 \$ &%  
3 ,5"" \$)M

T-" .,//%\$ \$ %, (9 9% "h( " 47Z8 & 6(\$ \$\$ "3"\$ "\$&J\$ \$5 9 2, \$& M  
T-" \$ "3"\$ "\$&J\$ \$5 9 2, \$& 1, (9 , " %" 480%"I3"\$ & "% \$ % 99: 6, 99, 1  
" 5- ,99 &" .,//%\$ \$ "5&47Z8 % "-, %& %"\$ \$ M 47Z8 - % -%& : ,6  
" &\$) /,\$": " / Y" 6, %6"& & 9\$" &Y"8,56 % "-, 9 " % \$ %'\$,  
/ \$)"/"\$&M T-" 5,%& & 6I 47Z80%%&'/ %\$9&M%4?84 199 5,%& aDM 99,\$M 4?84  
D P1-5- /)-& " % /&&" \$ &% &' 5 %' 33\$5& " 69" \$ DLB@ 199 5,%&  
33 ,I/ &'9: aUM 99,\$ & aK 99,\$M 7"\$ &'""\$%" 5,%& ,6 "3 \$) 47Z80%%&'/ C  
\$ \$ "3"\$ "\$&J\$ \$5 9 2, \$& 5, (9 3 , " \$'&%'& ,6 ":%& / Y" % " & & 47Z8  
% "-, 9 " ,99 % " %"\$&1-"\$ \$ 1-" "5&& %& , % : &" .,//%\$ \$M  
G &'3 : " %& ,(-, (& . 96, \$ 199 " 1"99N6 &" " % \$ \$ "3"\$ "\$& 6\$ \$5 9  
1 &5- ,) "\$%(\$ \$) & & &" /,\$": &": " 3 4\$Z8&, ) %%" 5" % "\$) 1"99N3"\$&M

P5R 47Z80 ? 4G 4 ?EF . ESS T H8 TEXS ?8G ?FW

\$ &% "6C 47Z8 )(" %& & \$ \$ "3"\$ "\$& 2%\$& "\$5""% : C (& \$%&" C 47Z8  
%, (9 6(\$ b5, \$%9& \$&& & , " %" b47Z80%/"\$&/\$ \$ ,6 &%, 3" &\$ \$ 9 5, //& "\$&&  
\$ 5, \$&(\$ \$) 4?84 5&&"M<sup>1</sup>- 8%\$& 99: C 47Z8 "h( "%&& & &" .,//%\$ \$, \$&3

<sup>1</sup>- 47Z8 "6C 3 )" KU

6, I & )( & - "\$-, (%M S, & % 3 %)9: C, 47Z80 & 1 \$& \$ /3 & 9 1 &5- , )  
," %"\$) 47Z8 \$ -, 9 \$) 47Z8 55, (\$& 9" 6, %&I3"\$ & "%M & % 9% /3, & \$&&  
\$, &' & & 47Z8 \$0& \$ 5 &' 1-"&" & % % ""-%9, (9 " &" 6\$ \$5 9 "%, \$%9&  
6, &" 3 , 3, %' b5, \$%9& \$&M

47Z80% 9&' \$ &' 3 , 3, %9 6, 5, \$%9& \$& &' , & ""4?84 \$ 3, &' \$& 9  
%99, 1 \$5""%69 1" 6, %" 9 " %\$%

& %- 96N Y" M & , "%\$0& " 99: 3 , &" " 6, & (& " 5, \$%9& \$&0  
( & , & \$ "%, \$%9&' %

& , "%\$0& - " &' & M & , "%\$0& 99, 1" 3, \$ "\$& \$6 (\$5& \$ & -, 9  
47Z8 55, (\$& 9" 6, & % "I3"\$ & "%& \$

& % (%\$"%% %(% 9M T-" 5, \$%9& \$&1, (9 &' "" (\$//%\$ \$0%  
( & , & C ""\$ & , )- &" ., //%\$ \$ - %\$, & : "&" &" & (%& 6 , /  
&" 3( 95 & & 5 \$ 3 , " "h( &' \$ %&' , \$)- & , " 47Z8M  
7"\$ &" %6"& / &&' % & %& "C 47Z8 \$ &' %\$ \$ 5 \$\$, & "  
9"6&C , \$5" ) \$C & 3, 95" & "/%9" %M

DM ?ES HG S G8t 8?T? TVEI TV8 . 22 ?? S 8?TEHF ?V TV8  
. EF J CS E 4 48F S8 ?EI8TW TG ?T

? \$ H (\$, "%5&6(99: "h("%&& & &" ., //%\$ \$9% 9") 5: & & "%9& \$  
6(& " /3 , " 33"9\$" %6"& & , )-, (& &" , & .& 96, \$ M ? \$ H (\$, %&% & & "  
. , //%\$ \$ "%& 9% \$ \$ "3"\$ "\$& , 5 5: & (%&C b. 96, \$ 43"9\$" ? 6"& T (%& \$  
"5& 47Z8 & 3 , " \$ "\$ , 1/"\$& , 6 aA /99, \$ 3!" & %33, & &" , 5 5: 1, Y, 6  
&" . 96, \$ 43"9\$" ? 6"& T (%& 6, \$, \$ " & " %M S, & % 3 %)9: C 47Z8 , f"5& &  
&" "%& 9%/"\$& , 6 . 96, \$ 43"9\$" ? 6"(& & T"5 (% 47Z8 1 \$& 99 &" b3"\$ 9& c  
, \$": & ), 5Y \$& & % % & / "5 (% , 6 b / "" \$6 & %& (5& " 5, \$5" \$ %M ? , C 6 , \$"  
, 9% , 1\$ 47Z80% ) (/ "\$&C 47Z8 1 \$& & " /, \$": ) & 5Y \$& & % % & / & 6I & "  
%6"& %& "%&": %, (9 - " "%& , " %& 66 : " %C \$, & & - " 3, %&C  
3 , 5&C \$ ), , 9") 5: 5, /" , (& , 6 & %", & 9" : M

& % & , ( 9\$) & ? \$ H (\$, & & & , )-, (& &" & 96 : " %, 6 3 5&5) "6, "  
&" ., //%\$ \$C & & &" " %\$, & %6"& p5, 5 \$& 3 & & .4?; M E%& " 5, ( & % 1" 99N  
1 "C T GS % 5, (\$&' 3 & & ; CE 6, & %& ""\$ \$ , 5 5: M T-" . 96, \$  
43"9\$" ? 6"& T (%& 1, (9 %' " % \$ , 5 & 3(6, 95 %6"& \$ ., //%\$ \$ 3 , 5"" \$) %C  
% & & & )" "%9Y" &" , \$" & & , 55( 'H (\$, ? \$ \$ " , 55( ) \$M

\$ &" 6&' / & ,6 &" 9:/35 43"9\$" T )"H:99\$)- / [ %\$)&\$ \$ BKKK &"  
MM;"3 &"\$&,6 Q%&5" "5&' &" "%&\$&0%6" \$ "\$ ,1/"\$&& 6(\$ &" S &\$ 9  
43"9\$" ? 6"& T (%& P&" bS4?1@ TERMS &%%, &&'(\$ "C &" S4?T - %- %(\$)\$)%\$  
&" 3 ,69" ,6 \$ & ( 9 ) %%%6"& / &&' % &&'96"

4 , " 3( 95 \$&' "%& 3" %3"5&' , \$ \$ & 933"9\$" %6"& \$  
&'%&, \$: "6, " ., \$) "%&C \$ &" /" C & 5,5\$6% \$\$ \$ (%& :  
/"\$&)%

[, Y' 1& 9,5 9 ), " \$/"\$& \$ 5&"\$ ) , (3%& " " (5 &\$  
\$ 5 3 5& (9 \$) , \$ \$ & ( 9 ) %33"9\$" %0%&%

3" &'%&" 9 )"%&\$ & ( 9 ) %33"9\$" %0%& (&" ,6  
4V2?Ee

V'9 %"\$ \$ PCR \$ &\$ 9 33"9\$" %6"& 5, \$6" "\$5"%"

? " " , \$ \$/" , (% % : 5, //&&'%" \$ 3 , " "I3" &&'%&, \$:  
5, \$5" \$\$) \$ & ( 9 ) %33"9\$" %6"& &&" ;6 "4V2&EC &"  
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<sup>H</sup>- 47Z8 JZG H & KJM

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# EXHIBIT A

# Credit Outlook

Credit Implications of Current Events

9 MAY 2013

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# NEWS & ANALYSIS

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## Corporates

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**Crestwood-Inergy Merger Expands Midstream Companies' Scale, Offerings and Reach**  
On Monday, the energy midstream companies Crestwood Holdings (B2 review for upgrade) and Inergy LP (unrated) announced a merger that includes the two companies' partnerships, Crestwood Midstream Partners LP (CMLP, B3 review for upgrade) and Inergy Midstream LP (NRGM, Ba3 positive).

The move is credit positive for Crestwood, NRGM and CMLP since the combined company will be larger and more diversified, and have greater access to capital, with stronger credit metrics than for Crestwood on a standalone basis. NRGM and CMLP will also benefit from increased scale and, potentially, integrated operations. As a result of the announcement, we placed the Crestwood entities' ratings on review for upgrade and changed Inergy Midstream's rating outlook to positive from stable.

As shale production continues to transform the North American energy landscape, size and scale have grown in importance for midstream companies, particularly the smaller entities that connect producers and customers of oil and natural gas. Smaller midstream companies are increasingly determined to grow their footprints and optimize the cost of capital in order to compete with the sector's largest companies, such as Kinder Morgan Inc. (Ba2 stable) and Enterprise Products Operating, LLC (Baa1 stable).

This push to grow bigger led to Crestwood's deal to join forces with Inergy, even though the two companies serve opposite sides of the midstream segment — Crestwood the supply end, and Inergy the demand end — with virtually no geographic overlap. As a bigger entity, the combined Crestwood-Inergy can begin to make bigger acquisitions to set up for better organic growth and to compete against bigger midstream entities.

Crestwood concentrates on natural gas gathering and processing services, serving exploration and production companies mainly in Texas and the US Mid-Continent, plus parts of West Virginia. Inergy has focused more on services such as natural gas storage and supplying hydrocarbons to refiners, chemical companies and other end-users, primarily in the Marcellus shale of Pennsylvania and the Bakken play in North Dakota.

The increased and integrated operations of the combined company will encompass a diverse set of operations, consisting of gathering and processing and compression assets, natural gas storage and transportation, and crude and supply logistics for natural gas liquids.

Under the terms of the all-stock, no-additional-debt merger agreement, Crestwood will acquire NRGY's general partner and limited partner interests, in exchange for CMLP's general partner and incentive distribution rights. The new entity will merge CMLP with an NRGM subsidiary, and NRGM will assume CMLP's debt.

We expect to see Crestwood benefit from the proposed merger, creating a larger and diversified combined company, which it will control. The new entity should bring in EBITDA of more than \$450 million this year, with leverage that will gradually decline over time.

The success of the merger from a credit perspective depends on the combined company's business and growth prospects, and its ability to execute on those prospects, to maintain strong earnings visibility through fixed-fee and firm contracts, and to de-lever. Crestwood plans to use cash distributions from



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NRGY and NRGM for the units it would hold to service its debt, which will be structurally subordinated to the debt at CMLP, NRGM and NRGY. NRGM plans to increase the size of its secured revolver after the merger closes, when the combined company pays off CMLP's current secured revolver.

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### Nord Anglia Education Acquires WCL Group, a Credit Positive

Last Friday, Nord Anglia Education Inc. (B3 stable) announced that it had signed an agreement to acquire all of WCL Group Ltd.'s (unrated) shares for \$222 million. The acquisition is credit positive because it adds geographic diversification and expands Nord Anglia's business profile without materially affecting its credit metrics.

Nord Anglia Education will fund the acquisition and related expenses through a combination of \$114 million of debt and a \$133 million shareholder contribution from Barings Private Equity Asia in the form of preferred equity. The purchase will not materially affect Nord Anglia Education's credit metrics. For instance, we expect the company's adjusted debt/EBITDA ratio as of August pro forma for the transaction to be about 7.2x, the same level we expected before this transaction. Pending regulatory approval, Nord Anglia Education expects the deal to close by July.

The transaction will diversify Nord Anglia Education's geographic footprint from the concentration it has now in China, which drove around 64% of adjusted EBITDA (as calculated by the company) in the fiscal year ended in August 2012. WCL operates 11 international schools, including six in the US and one in Spain, where Nord Anglia Education has no presence. Although the US education market is highly competitive, lower public spending on education supports long-term private school demand. WCL also operates four schools in Qatar, while Nord Anglia Education has a school in Abu Dhabi and recently announced a greenfield project in Dubai. The Middle East's large expatriate community supports growth prospects there.

However, the company's four schools in China will continue to contribute more than 50% of EBITDA after it acquires WCL, leaving Nord Anglia Education exposed to expatriate flows in China given that nearly all the students at those four schools are expatriates.

Nord Anglia Education (UK) Holdings plc, a wholly owned subsidiary of Nord Anglia Education Inc., which issued the existing \$325 million of 10.25% senior secured notes due 2017, has secured a \$125 million bridge loan. It will use the proceeds of the new loan to fund the acquisition (\$114 million) and repay an existing credit facility (\$11 million). The bridge loan lenders, including Goldman Sachs Bank USA, Credit Suisse Securities (USA) LLC and HSBC Securities (USA) Inc., will benefit from the same security package and guarantees offered to holders of the existing notes due 2017.

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## Infrastructure

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### PG&E's \$2.25 Billion Penalty Recommendation Is, Ironically, Credit Positive

Last Monday, after more than two years of investigation of the 2010 San Bruno, California, pipeline explosion, the California Public Utilities Commission's (CPUC) Consumer Safety and Enforcement Division (SED) recommended that Pacific Gas & Electric Company (PG&E, A3 stable) be penalized \$2.25 billion in unrecoverable costs applied toward improving the safety of its pipeline systems.

The \$2.25 billion penalty recommendation is extraordinarily large and, if instituted, highly burdensome for PG&E financially. Nonetheless, the degree of certainty on the size of the penalty is credit positive for PG&E.

As long as the penalty figure was open ended and unfunded, there was the possibility that the company could change its approach to funding the unrecoverable costs with equity, or that the amount would be too large to be funded by equity alone. We did not take a rating action on PG&E because of the San Bruno incident because we believed the costs and penalty would be borne by the shareholders, as opposed to debtholders. The SED's recommendation, in effect, narrows the likely range of outcomes and effect on credit quality.

In this particular public utility decision process, the administrative law judge will issue a decision that may be reviewed by the CPUC commissioners if parties in the proceeding request it. The commissioners, through a majority vote, have the ultimate decision making authority. The administrative law judge and commissioners make their decisions independent of the SED staff recommendation. However, staff recommendation tend to establish the range and often the upper boundary of the penalty for the company being regulated.

The SED recommended prohibiting recovery of \$2.25 billion of spending on pipeline safety measures, and in particular the PG&E pipeline safety enhancement plan. However, in CPUC's December 2012 decision, it had not allowed about \$1 billion of proposed and past spending related to PG&E's pipeline safety enhancement plan and the company has already funded \$675.4 million of the cost with incremental shareholder equity. It is not clear if other safety-related measures, which amount to hundreds of millions of dollars of unrecoverable spending, would fall under the accounting of spending on safety measures according to SED. However, regardless of the exact penalty amount in the final decision, the SED recommendation establishes the potential penalty range and supports our view that PG&E will be willing and capable to fund the incremental amount with equity.

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### Banks

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#### GSE Debate Will Grind Reform to a Halt, a Credit Positive for Bondholders

Last Monday, David Stevens, CEO of the Mortgage Bankers Association (MBA), entered the government-sponsored enterprise (GSE) debate, accusing regulators, including the Federal Housing Finance Agency (FHFA), of enacting “housing policy and regulations without transparency, coordination or consideration of downstream effect.” Increased rhetoric is credit positive for GSE bondholders because it increases the likelihood of an extended status quo in which the government’s role in the housing market in general, and in supporting the GSEs specifically, remains substantial.

In the MBA’s most significant criticism of the FHFA in recent memory, the trade group proposed that it is time to transition the GSEs, Fannie Mae (Aaa negative) and Freddie Mac (Aaa negative), from conservatorship to their “future state.”

In our view, whether the MBA’s criticisms are accurate or not is beside the point. Over the next couple of years, comprehensive legislation on GSE reform is unlikely. The FHFA has been taking regulatory actions, such as shrinking the GSEs’ footprint, that would likely be part of any comprehensive legislation. The FHFA’s regulatory actions are likely to slow to the extent that the mortgage industry now disagrees with the FHFA’s plans, which will extend the timeline to full legislative GSE reform and keep the status quo for the mortgage industry, in which Fannie Mae and Freddie Mac are dominant forces. This is positive for bondholders since the status quo further entwines the GSEs and the US government, and solidifies their roles as backstops for the housing market.

The MBA’s primary criticism is the FHFA’s lack of due process in enacting various rules, including increases in the minimum net worth requirements for GSE-eligible mortgage servicers, increases in mortgage guarantee fees and a new framework for representations and warranties. The MBA fears that the lack of due process may result in unintended consequences that will be primarily borne by its members as well as consumers.

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### Bank of America Settlement with MBIA Is Credit Positive

On Monday, Bank of America Corporation (BAC, Baa2 negative) announced a settlement with MBIA Inc. (Caa1 review for downgrade) that resolves all of MBIA's mortgage repurchase claims, as well as all other claims between the two firms. The settlement is credit positive because it eliminates the risk of even higher losses that BAC might have faced in the event of an adverse legal judgment.

BAC's credit profile remains constrained by its sizable unresolved exposure to repurchase claims on private-label mortgages and by other litigation matters. BAC's earnings are under pressure on a variety of fronts, and we believe they are likely to remain weak until more of these matters are resolved.

BAC agreed to pay \$1.6 billion in cash to MBIA and to cancel existing credit default swap (CDS) contracts with MBIA that we believe BAC valued at \$1.3 billion at year-end 2012.<sup>1</sup> BAC is also surrendering the senior MBIA notes it purchased at tender in December.<sup>2</sup> In exchange, BAC is receiving five-year warrants to purchase up to 9.94 million shares of MBIA's common stock at an exercise price of \$9.59 per share. BAC is also providing a \$500 million three-year senior secured line of credit to MBIA Insurance Corporation (financial strength Caa2 review for downgrade).

The settlement will reduce BAC's previously reported first-quarter pre-tax earnings by \$1.6-\$2.0 billion (\$1.5 billion after-tax),<sup>3</sup> of which \$1.3 billion is the incremental cost of settling with MBIA not covered by existing reserves, and \$300 million is an addition to BAC's reserves for repurchase claims by other monolines.

The settlement is another step by BAC toward eliminating the risk of additional losses on repurchase claims on legacy residential mortgages sold to third parties (primarily mortgages originated between 2004 and 2008). However, in addition to the remaining monoline exposures, BAC also remains exposed to potential additional losses on repurchase claims on a pool of legacy private-label residential mortgages with an original principal balance of \$778 billion.

BAC is awaiting court approval of a settlement with The Bank of New York Mellon as trustee that covers slightly more than half of that pool (\$409 billion original principal balance of first-lien mortgages originated and securitized by Countrywide Financial Corporation). A court hearing is scheduled to begin 30 May. If the BNY settlement is not approved, BAC would remain exposed to repurchase claims on those mortgages, although the \$8.5 billion in repurchase reserves set aside for the BNY settlement would still be available to cover any such claims.

The rest of the pool consists of whole loans sold and other private-label exposures (i.e., other than first-lien Countrywide securitizations) with an original principal balance of roughly \$370 billion. We estimate that BAC has roughly \$5.6 billion of repurchase reserves available to meet those claims. However, at 31 March, BAC had unresolved repurchase claims from this pool with an unpaid principal balance of \$13.5 billion, and its 2012 10-K indicates that it expects an increase in repurchase claims from private-label securitization trustees.

<sup>1</sup> BAC's 2012 10-K reported \$1.3 billion of exposure to a single unnamed monoline counterparty with which BAC also had potential representations and warranties exposure.

<sup>2</sup> See Chess Game Between Bank of America and MBIA Is Credit Negative for Both, 19 November 2012.

<sup>3</sup> Under US GAAP, BAC is required to record the settlement-related charges as a part of its first quarter results because the settlement occurred before BAC filed its 10-Q.

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### Spanish Banks' Increased Transparency on Loan Refinancings Helps Creditors Assess Risk

On 30 April, the Bank of Spain approved guidelines to improve Spanish banks' disclosures of loan refinancing and provisioning to better reflect the credit risk of their loan books. Because borrowers' inability to repay loans is often masked by extending or refinancing loans (commonly called forbearance), the stricter, clearer guidelines will enhance creditors' ability to assess the creditworthiness of banks.

We believe that forbearance has been overused in Spain's current economic crisis and applied to customers whose difficulties are structural rather than temporary. In addition, banks' volume and treatment of these loans is widely disparate, and not always related to genuine business differences. Assessing the extent of the use of forbearance by European banks is also at the top of European Banking Association's (EBA) priorities for the current year, as highlighted by the launch of its [Consultation Paper](#) on the supervisory reporting of forbearance and non-performing exposures, which aims to achieve a harmonized definition across European banks.

The Bank of Spain's new regulatory initiative follows its 2012 requirement<sup>4</sup> that banks publish the volume of loans whose terms and conditions were modified when the borrower was unable to meet its debt obligation.

For the top 18 banks, loans in forbearance at year-end 2012 totalled €203 billion, or close to 10% of their total lending portfolio, as seen in the exhibit below. Of this amount, around 43% were classified as "normal," 22% as "substandard,"<sup>5</sup> and the remaining 35% as "doubtful." We expect the application of the new rules to result in a net migration of refinanced loans to riskier loan categories (i.e., from normal/substandard to doubtful and from normal to substandard), consequently resulting in higher provisioning requirements for the total amount of refinanced loans.

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<sup>4</sup> Circular 6/2012.

<sup>5</sup> Substandard loans are performing loans that are under surveillance because of their risky characteristics.

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### Spanish Loan Refinancings at Year-End 2012, € Billions

	Total Refinancings	Refinancings Classified as Normal	Refinancings Classified as Substandard	Refinancings Classified as Doubtful	Total Gross Loans	Percent Refinancing / Gross Loans
Caja 3	€ 3.9	€ 1.3	€ 1.3	€ 1.2	€ 15.1	25.55%
Banco Marenostrum	7.9	5.4	1.0	1.5	32.2	24.64%
NCC Banco	7.5	0.4	2.5	4.7	33.6	22.36%
Catalunya Banc	8.4	1.9	2.6	3.9	45.3	18.66%
Ibercaja Banco	5.2	3.7	0.5	1.0	31.0	16.80%
Banco De Valencia	2.0	1.1	0.2	0.7	12.9	15.56%
Liberbank	4.9	1.4	0.8	2.6	34.1	14.25%
BFA Group	19.5	7.2	3.3	9.0	146.3	13.33%
Banco Sabadell	14.5	7.2	1.6	5.7	117.3	12.38%
Banco Popular	14.0	7.7	1.4	5.0	117.9	11.91%
Unicaja	3.5	1.6	0.8	1.0	29.7	11.64%
La Caixa Group	20.4	10.7	3.5	6.3	222.7	9.17%
Caja Laboral	1.4	0.6	0.2	0.6	17.4	8.12%
BBVA	29.0	12.0	8.4	8.6	367.4	7.89%
Banco Santander	55.7	22.2	15.3	18.2	746.0	7.47%
Kutxabank	2.8	1.7	0.3	0.8	42.6	6.64%
Bankinter	1.4	0.8	0.1	0.5	44.5	3.08%
Santander Consumer	1.0	0.4	0.3	0.3	59.1	1.64%
<b>Total</b>	<b>€ 203.0</b>	<b>€ 87.3</b>	<b>€ 44.1</b>	<b>€ 71.6</b>	<b>€ 2,115.1</b>	<b>9.60%</b>

Source: Banks' 2012 annual reports (consolidated)

According to the new guidelines, any refinanced loan will be classified by default as substandard, for which the general provisioning requirement is 10%<sup>6</sup> – unless there are objective circumstances that warrant its classification as performing or doubtful. Any reclassification upwards to performing will require objective and verifiable evidence that the recovery of overdue amounts is highly likely; this will imply the absence of lengthy grace periods that obscure the borrower's repayment capacity, the existence of a debt repayment plan adapted to the borrower's recurring revenues (with debt-to-income ratios below 50% in the case of individuals), and/or the addition of strong guarantees. Likewise, refinanced loans will be reclassified downwards as doubtful if the borrower's ability to pay is weak, as shown by lengthy principal grace periods or having been subject to prior refinancing.

Following the initial classification of refinanced loans, the new guidelines also set criteria for later reclassification to a lower risk category. The reclassification of a doubtful or substandard refinanced loan to normal requires that the borrower remains current on the loan for at least one year (six months in the case of residential mortgages) or that the loan principal due has been reduced by at least 10%. This reclassification will be subject to a half-year review.

<sup>6</sup> The 10% general provisioning requirement applies to all types of loans except those related to real estate developments, for which the provisioning requirement is higher, at 35%-80% depending on the type of property underlying the real estate project.

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The new guidelines also apply to the existing stock of refinanced loans, which banks will have to review according to the new guidelines and add loan-loss provisions for those loans reclassified to higher risk categories. The results of the legacy refinanced loan reviews will have to be provided to the Bank of Spain by 30 September.



# NEWS & ANALYSIS

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## Insurers

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### MBIA's Settlement with Bank of America Is Credit Positive

On Monday, MBIA Inc. (Caa1 review for downgrade) announced a comprehensive settlement with the Bank of America Corporation (BAC, Baa2 negative). This is credit positive for the MBIA group and its main insurance subsidiaries, National Public Finance Guarantee Corporation (National, financial strength Baa2 review for downgrade) and MBIA Insurance Corporation (MBIA Corp., financial strength Caa2 review for downgrade).

Although the settlement is positive for the group, material risks remain for MBIA Corp., which had approximately \$21.7 billion of below-investment-grade insured exposures at the end of 2012, excluding the exposures with BAC. Our continuing rating review of MBIA will consider the potential losses of its remaining insured exposures and their risks to National and MBIA.

The settlement, which is subject to regulatory approval, involves the following:

- » BAC will pay MBIA Corp. approximately \$1.7 billion consisting of approximately \$1.6 billion in cash and the \$137 million principal amount of MBIA Inc.'s 5.70% senior notes due 2034
- » MBIA Corp. will dismiss putback litigation against BAC's Countrywide Home Loans, Inc. and BAC relating to breached representations and warranties on certain MBIA-insured residential mortgage-backed securities
- » The commutation (at no additional cost to MBIA) of all MBIA Corp. policies held by BAC, including \$6.1 billion of policies insuring credit default swaps referencing commercial real estate exposures
- » BAC's dismissal of several outstanding litigations against MBIA including the one challenging the group's 2009 restructuring and BAC's withdrawal of the alleged "notice of default" in connection with a 2012 MBIA Inc. senior debt consent solicitation
- » BAC's receipt of warrants to purchase about 10 million shares of MBIA Inc. at \$9.59 each

In addition, BAC extended MBIA Corp. a \$500 million, three-year revolving credit agreement secured by the collateral currently securing a loan from National to MBIA Corp. and by MBIA Corp.'s equity interest in MBIA UK Insurance Limited (financial strength B3 stable). MBIA Corp. will repay the National loan from the settlement proceeds.

For MBIA Corp., the settlement will extinguish anticipated claims from the \$6.1 billion commercial real estate policies, which could have overwhelmed its liquidity and quickly driven the company into insolvency. The \$500 million line of credit from BAC will also substantially improve MBIA Corp.'s liquidity: liquid assets stood at \$345 million at year-end 2012. Additionally, with the commutation of BAC's large and volatile commercial real estate positions, MBIA Corp.'s portfolio losses should become more predictable. The settlement with BAC is likely to prompt other counterparties to commute with MBIA, further reducing portfolio losses and uncertainty around the losses. We expect MBIA Corp.'s reported statutory capital position to be essentially unaffected by the transactions because the company indicated that the terms of the settlement are broadly consistent with amounts recorded on its statutory balance sheet at year-end 2012.

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The settlement is also credit positive for National. The net BAC settlement payment will be used to repay in full the secured loan from National to MBIA Corp., substantially reducing intercompany linkages. The secured loan balance was about \$1.6 billion this week, down from about \$1.7 billion at the end of 2012 and as a result of \$110 million putback settlement with Flagstar Bank earlier this month. In addition, BAC's withdrawal from litigation challenging MBIA's 2009 restructuring leaves only one remaining plaintiff, increasing the likelihood of an ultimate resolution favorable to MBIA.

MBIA Inc., the group's parent company, will also benefit from the lower litigation risks and improved credit condition of its subsidiaries, which could lead to the resumption of dividends from National and more stable performance at the group's wind-down operations.

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## Asset Managers

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### Man Group's Plan to Extinguish All Outstanding Debt Is Credit Positive

Last Friday, Man Group plc, the holding company for the Man companies and affiliates, said that it intended to use cash to extinguish all of its approximately \$1.2 billion of outstanding external debt. This is credit positive because it removes financial leverage from Man Strategic Holdings Limited, (Man, Baa3 negative), a direct 100% subsidiary of Man Group.

In its interim management statement last Friday, Man Group stated that it intended to use cash as follows:

- » Buy back all of the €216 million senior 2015 fixed-rate bonds on 7 May
- » Buy back up to all of the \$232 million Tier 2 subordinated 2017 fixed rate bonds by 14 June, subject to bondholder consent
- » Redeem all of the \$168 million Tier 2 subordinated 2015 floating-rate notes at the next call date on 24 June
- » Redeem all of the \$174 million senior 2013 fixed-rate bonds on 1 August
- » Redeem all of the \$300 million Tier 1 perpetual subordinated capital securities at the next call date on 7 August

Assuming that the company successfully executes this plan, Man would effectively have no external debt as of September. As noted in Man Group's 2012 annual report, the implementation of Basel III through Capital Requirement Directive (CRD) IV, which we expect to come into force on 1 January 2014, will likely reduce Man Group's available capital by approximately \$200 million. Therefore, the company could replace some of the retired debt with new regulatory-compliant securities. Given the more stringent criteria for qualifying Tier 1 and Tier 2 capital under CRD IV, we expect the new securities, if issued at all, to be more loss-absorbing than Man Group's existing perpetual subordinated capital securities,<sup>7</sup> a positive for Man's financial profile.

**Reduced liquidity.** The planned debt repayment will reduce gross cash by approximately \$1.2 billion, according to the company. Together with the final dividend payment of \$228 million scheduled for this month, the combined cash usage for debt retirement will reduce Man's gross cash balance to approximately \$580 million from \$2 billion at year-end 2012.

However, liquidity remains important for Man Group, whose business model involves lending to funds, primarily in support of its structured products. Man's structured products require frequent rebalancing between the underlying notes and the underlying funds. To achieve the rebalancing, Man makes short-term advances to them (the average loans-to-funds balance was \$332 million during 2012). To support these cash needs and its stressed liquidity requirements, Man Group has on hand an undrawn \$1.5 billion committed revolving facility in addition to its current cash balance of \$580 million.

**Business challenges remain.** The stability of revenues as the result of the ongoing restructuring of its operations remains a key challenge, particularly given continued investor outflows of \$6.2 billion, or 10.9%

<sup>7</sup> Under Basel III, regulatory-compliant capital will be subject to equity conversion or a principal write-down at the point of non-viability or close to it, upon a regulatory capital trigger breach.

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of funds under management at the beginning of the quarter. Man Group continues to face challenges in its business, which include the persistent decline in funds under management to \$54.8 billion in March 2013 from \$75.6 billion in March 2008 despite gains from acquisitions; reduced revenues to \$1.3 billion for the 12 months ended December 2012 from \$1.7 billion a year earlier; and EBITDA that fell to \$460 million in 2012 from \$2 billion in 2008.

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## Sovereigns

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### Malaysia's Election Outcome Assures Country's Pro-Growth Policy and Supports Petronas

On 5 May, Malaysia's (A3 stable) ruling coalition, Barisan Nasional (or National Front), retained its majority in parliamentary election, winning 133 of 222 seats in the national legislature. The opposition coalition, Pakatan Rakyat (or People's Alliance), increased its representation to 89 seats from the 82 it won in the 2008 election, and, according to preliminary results, won the popular vote.

Barisan Nasional's retention of government assures the continuation of Malaysia's pro-growth policy, an outcome that supports the stable outlook for the sovereign and government-related issuers (GRIs) including Petroleum Nasional Berhad (Petronas, A1 stable). But at the same time, Barisan Nasional's populist fiscal agenda clouds the prospects for fiscal reform.

With growth policies intact, the government is set to continue, if not accelerate, the development initiatives under its Economic Transformation Programme (ETP). The ETP has been particularly successful in reviving private investment. Since its promulgation in 2010, private gross fixed-capital formation averaged annual growth of 16.6% during 2010-12, up from 2.9% during 2005-09.

Budgetary support for household consumption has further bolstered domestic demand, providing a significant offset to the relative weakness in net exports, in view of Malaysia's heavy reliance on external trade. Similarly, the election's completion and the additional fiscal transfers promised during the campaign should help sustain the momentum of investment and economic growth over the next two years.

Nevertheless, the long-term sustainability of government finances is contingent on fiscal reform, where the prospects are not so clear given the underlying features of Barisan Nasional's victory. Although Prime Minister Najib Razak was sworn in on Monday, the opposition as of Wednesday had not officially conceded, citing irregularities in voting, and preliminary results reveal that the opposition had won the popular vote. Consequently, Barisan Nasional's need to shore up electoral legitimacy may influence the pace of fiscal consolidation. Already, it seems certain that populist spending measures brought up in both the budget passed last fall and during the election campaign will add to the burden of near-term government expenditure.

Moreover, the prospective implementation of a goods-and-services tax to diversify and increase the sources of government revenue may be as politically difficult as before. But subsidy reform may be more tenable; Mr. Razak has publicly expressed his desire to reduce government spending on subsidies, while intending to use existing direct cash transfer programs to help the poor adjust to higher prices.

In the near-term, we expect the government to continue conducting fiscal policy in line with prevailing rules, including the requirement that current expenditures cannot exceed current revenues, as well as the 55% debt ceiling for direct government obligations.

**Status quo for Petronas and other Malaysian GRIs.** Notably, the Barisan Nasional victory helps to preserve the status quo with regards to GRIs. As part of its electoral platform, Pakatan Rakyat sought to address higher living costs by "abolishing monopolies," which threatened various GRIs' prevailing business models. These include Petronas and Tenaga Nasional Berhad (Baa1 stable), as well as Axiata Group Berhad (Baa2 stable) and Telekom Malaysia Berhad (A3 stable), both of which operate in a more competitive market.

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With Petronas in particular, the threat of an increased royalty payout and the redistribution of oil profits in the form of lower petrol prices would likely have resulted in a material deterioration in its credit profile.

Petronas' financial health and dominance in the domestic oil and gas sector is important to the sovereign given the state oil company's significant contribution to federal government revenues. Petroleum-related income has typically exceeded 30% of total federal government revenue.

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### Bangladesh Strikes and Factory Disasters Are Credit Negative

Last Monday in Bangladesh (Ba3 stable), clashes between police and Islamist supporters demanding an anti-blasphemy law culminated in violence, leaving more than 30 people dead. Continued political tensions are credit negative because they may further damage investor confidence in Bangladesh against the background of recurrent industrial disasters in the ready-made garment sector.

The violence followed two days of protests led by a group called the Hefajat-e-Islam, which had set a 5 May deadline for the government to introduce an anti-blasphemy law. As we wrote in April, strikes and protests, which are common in Bangladesh, have occurred with greater frequency this year and are becoming increasingly violent.

In the lead-up to parliamentary elections, scheduled to be held between October 2013 and January 2014, strikes have become a more common tool for political parties to further their interests. This year alone, reports indicate that 33 strikes, or *hartals*, have been held. Because of the strongly polarized nature of the political scene in Bangladesh, almost all strikes have been led by either the ruling Awami League, the main opposition (the Bangladesh Nationalist Party) or the Islamist party Jamaat-e-Islami.

The biggest repercussions of political unrest are likely to be for the ready-made garment sector, which is one of the most important drivers of growth in Bangladesh, comprising 80% of total exports and employing more than 3 million people. The industry, which thrives on Bangladesh's low labor costs, is already under scrutiny because of a spate of dangerous industrial accidents that point to poor worker conditions and safety standards. A building collapse at a factory known as Rana Plaza on 24 April killed around 740 people. Although the scale of this tragedy will likely prompt the government to reform labor laws and tighten safety standards, a number of Western retailers that source from Bangladesh's garment factories have already threatened to stop orders. Even before the collapse, the Walt Disney Company announced that it would end production of merchandise in Bangladesh. Since the collapse, Wal-Mart, Gap, Carrefour and others have called for more stringent labor standards. Continued strikes would only further deter such investors.

Over the past year, Bangladesh has made significant progress on economic reform, with the government closely engaged with the International Monetary Fund under a SDR640 million (\$969 million) extended credit facility. The successful completion of the program entails adherence to fiscal targets and steps to improve financial stability. This process will likely be complicated without the support of all political parties.

Strikes and industrial incidents have yet to result in any visible effect on exports, which were up 10.2% for the nine months ended March 2013 versus the same period a year earlier. Foreign direct investment, which was already low at 0.9% of GDP in fiscal 2012 versus the Ba median of 2.3%, will likely decrease further in such an uncertain operating environment.

While the damage from the unrest could still be contained through a mix of policy measures and political consensus, prolonged tensions would weigh on the credit profile.

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