

!" #&/
4;O <548G=>3> 70AB>AC20==O ?@5?0@0BC

0?B5= @0?V4
(RAPTEN RAPID)

!::04:

4VNG0 @5G>28=0: 48:;>D5=0: :0;VN;
1 B01;5B:0, 2:@8B0 >1>;>=:>N D5=0:C :0;VN 50 <3;
4>?>28=8: :@5<=VN 4V>:A84 :>;>W4=89 1572>4=89, :0;LFDVN 3V4@>D>AD0B 1572>4=89, :@>E<0;L
:C:C@C47O=89, ?>2V4>= K 30, <03=VN AB50@0B, =0B@VN:@>E<0;L3;V:>;OB (B8?), 3C70, B0;L:,
:>H5=V;L G5@2>=0(124), ?>2V4>= 25, <0:@>3>; 6000.

V:0@AL:0 D>@<0. "01;5B:8, 2:@8BV >1>;>=:>N.

\$0@<0:>B5@0?52B8G=0 3@C?0. 5AB5@>W4=V ?@>B870?0;L=V B0 ?@>B8@52<0B8G=V 70A>18.
>4 " ! 01 □05.

;V=VG=V E0@0:B5@8AB8:8.

>:070==O.

;O :>@>B:>G0A=>3> ;V:C20==O (<0:A8B0:8E 3>AB@8E 70E2>@N20=L:
?>ABB@02<0B8G=89 1V;L, 70?0;5==O V =01@O:, =0?@8:;04,C=0A;V4>: @>7BO3=5=L;
?VA;O>?5@0FV9=89 1V;L, 70?0;5==O V =01@O:, =0?@8:;04, ?VA;O AB×0B>;>3VG=8E 01>
>@B>?548G=8E >?5@0FV9;
1V;L B0/01> 70?0;5==O, I> AC?@>2>46CNBL 70?0;L=V 3V=5:>;>3VG=V 70E2>@N20==O, =0?@8:;04,
?5@28==C 48A<5=>@5N 01> 04=5:A8B;
1>;L>2V A8=4@>8 7 1>;C E@51B0;
@52<0B8G=V 70E2>@N20==O ?>70AC3;>1>28E B:0=8=;
O: 4>?>->@30=V2, =0?@8:;04, ?@8 D0@8=3>B>=78;VBV, >B8BV, I> AC?@>2>46CNBLAO 28@065=8<
1>;5< V 70?0;5==O<.
"V;L:8 4>@>A;8< ?0FVT=B0
=0?048 157 ?5@542VA=8:V2.
V4?>2V4=> 4> 7030;L=>?@89=OB8E ?V4E>4V2 4> ;V:C20==O V=D5:FV9=>-70?0;L=8E 70E2>@N20=L
=5>1EV4=> B0:>6 70AB>A>2C20B8 5BV>B@>?=V 70A>18. 7>;L>20=5 ?V428I5==O B5:070==O< 4;O
70AB>AC20==O 0?B5= 0?V4.

@>B8?>:070==O.

V?5@GCB;82VABL 4>4VNG>W @5G>28=8 01> 4> 1C4L-O:8E V=H8E :>=5=BV2 ?@5?0@0BC.
;5@3VG=V @50:FVW 2 0=0<=57V C 283;04V 1@>=E>A?07?82O=:8, 3>AB@>3> @8=VBC, =070;L=8E
?>;V?V2 01> A8<8, ?>4V1=V 4> 0;5@3VW, ?VA;O 70AB>AC20==O 0F5B8;A0;VF8;>2>W :8A;>B8 01>
V=H8E =5AB5@>W4=8E ?@>B870?0;L=8E 70A>1V2.
8@07:0 H;C=:0 V/01> 4C>45=0;L=V 28@07:8, H;C=:>2>-:8H:>2V :@>2>B5GV 01> ?5@D>@0FVO.
0?0;L=V 70E2>@N20==O :8H5G=8:C (E2>@>10 @>=0 01> 28@07:>289 :>;VB).
"O6:0 ?5GV=:>20 =54>AB0B=VABL (:;0A ! 70 H:0;>N '09;4-N, F8@>7 ?5GV=:8 B0 0AF8B).
"O6:0 =8@:>20 =54>AB0B=VABL (:;V@5=A :@50B8=V=C < 30<;/E2).
0ABV9=0 A5@F520 =54>AB0B=VABL (NYHA II-IV).
H5@>10 A5@FO C ?0FVT=BV2, O:V <0NBL AB5=>:0@4VN, ?5@5=5A5=89 V=D0@:B:0@40.
?O@=V 70E2>@N20==O C ?0FVT=BV2, O:V ?5@5=5A;8 V=AC;LB 01> <0NBL 5?V7>48 B@0=78B>@=8E
VH5
0E2>@N20==O ?5@8D5@8G=8E 0@B5@V9.
V:C20==O ?5@V>?5@0FV9=>3> 1>;N ?@8 0>@B>-:>@>=0@=> 28:>@8AB0==O 0?0@0BC HBCG=>3>
:@>2>>1V3C).

!?!>AV1 70AB>AC20==O B0 4>78.

@5?0@0B A;V4 70AB>A>2C20B8 C =09<5=H8E 5D5:B82=8E 4>70E ?@>BO3>< =09:>@>BH>3>
?5@V>4C G0AC, 2@0E>2CNG8 70240==O ;V:C20==O C :>6=>3> >:@5<>3> ?0FVT=B0.

"01;5B:8, 2:@8BV >1>;>=>N, A;V4 :>2B0B8 FV;8<8, =5 @>76>2CNG8, 70?820NG8 2>4>N, 1060=> ?5@54 ?@89><>< W6V.
;O 4VB59 2V:>< 2V4 14 @>:V2 4>1>20 4>70 ?@5?0@0BC AB0=>28BL 50-100<3, O:C A;V4 @>7?>4V;8B8 =0 2-3 ?@89><8. 5 A;V4 ?5@528IC20B8 <0:A8<0;L=C 4>1>2C 4>7C C 150 <3. 0=8E I>4> 70AB>AC20==O 0?B5=C 0?V4 4;O ;V:C20==O =0?04V2
;O 4>@>A;8E @5:><5=4>20=0 4>70 ?@5?0@0BC AB0=>28BL 100-150<3 =0 4>1C. # @07V ?>W 28@065=>ABV A8, 4>AB0B=V< T 70AB>AC20==O 4>78 ?@5?0@0BC 75-100<3 =0 4>1C. >1>2C 4>7C A;V4 @>7?>4V;8B8 =0 2-3 ?@89><8.
@8 ?5@28==V9 48A<5=>@5W 4>1>2C 4>7C 0?B5=C 0?V4 A;V4 ?V418@0B8 V=482V4C0;L=>. >1>20 4>70 70728G09 AB0=>28BL 50-100<3. # @07V =5>1EV4=>ABV ?@>BO3><=0ABC?=8E :V;L:>E <5=AB@C0;L=8E F8;;V2 4>7C ?V428ICNBL 4> <0:A8<0;L=>W 200<3 =0 4>1C (4 B01;5B:8, 2:@8B8E >1>;>=>N).
0AB>AC20==O ?@5?0@0BC 0?B5= 0?V4 A;V4 @>7?>G8=0B8 ?@8 ?>O2V ?5@H8E A84>26C20B8 ?@>BO3>< :V;L:>E 4=V2 70;56=> 2V4 @50:FVW ?0FVT=B0 =0 B5@0?VN B0 A8<0B8:8. V3@5=L.
@5?0@0B A;V4 70AB>A>2C20B8 ?@8 ?5@H8E >7=0:0E =0?04C. 5:><5=4>20=0 @07>20 4>70 ?@5?0@0BC AB0=>28BL 50<3. 0ABC?=V 50<3 <>6=0 70AB>A>2C20B8 G5@57 2 3>48=8 ?VA;O ?5@H>3> ?@89>1EV4=>ABV <>6=0 ?@>4>26C20B8 70AB>AC20==O ?@5?0@0BC G5@57 4-6 3>48=, 0;5 A;V4 ?0<OB0B8, I> <0:A8<0;L=0 4>70 ?@5?0@0BC AB0=>28BL 200<3 =0 4>1C.
>1VG=V @50:FVW.
0ABC?=V ?>1VG=V 5D5:B8 2;;NG0NBL @50:FVW, ?@> O:V ?>2V4>;O;>AO ?@8 :>@>B:> B@820;> AC20==O ?@5?0@0BC 0?B5= 0?V4 B0/01> V=H8E ;V:0@AL:8E D>@< 48;;>D5=0:C.
>1VG=V 5D5:B8 ;;0A8DV:CNBLAO 70 G0AB>B>N 28=8:=5==O (A?>G0B:C =09G0ABVHV) 7 28:>@8AB0==O< =0ABC?=>3> ?@028;0: 4C65 G0AB> (> 1/10); G0AB> (≥1/100, <1/10); =5G0AB> (≥1/1000, <1/100); @V4:> (≥1/10000, <1/1000); 4C65 @V4:> (<1/10000), 2;;NG0NG8 ?>>48=>:V 28?04:8.
>@CH5==O 7 I>:C A8AB5<8 :@>2V B0 ;VW A8AB5<8: 4C65 @V4:> B@><1>F8B>?5=VO, ;59:>?5=VO, 0=5F8B>7.
>@CH5==O 7 I>:C VW A8AB5<8: @V4:> 3V?5@GCB;82VABL, 0=0DV;0:B8G=V V 0=0DV;0:B>W4=V @50:FVW (7>:@5<0, 0@B5@V0;L=0 3V?>B5=7VO V H>.); 4C65 @V4:> 0=3V>=52@>B8G=89 =01@O: (7>:@5<0, =01@O: >1;8GGO).
A8EVG=V @>7;048: 4C65 @V4:> 457>@VT=B0FVO, 45?@5AVO, 157A>==O, =VG=V :>H<0@8, 4@0BV2;82VABL, ?A8E>B8G=V @>7;048.

>@CH5==O 7 I>:C F5=B@0;L=>W =5@2>2>W A8AB5<8: G0AB> 3>;>2=89 1V;L, 70?0<>@>G5==O; @V4:> A>;82VABL; 4C65 @V4:> ?0@5AB57VO, ?>3V@H5==O ?0<OBV, AC4>8, 2V4GCBBO B@82>38, B@5<>@, 0A5?B8G=89 <5=V=3VB, A?>B2>@5==O A<0:>28E 2V4GCBV2, V=AC;LB. >@CH5==O 7>@C: 4C65 @V4:> =5GVB:VABL 7>@C, 48?;>?VO. >@CH5==O A;CEC B0 25AB81C;O@=>3> 0?0@0BC: G0AB> 25@B83>; 4C65 @V4:> 472V= C 2CE0E, ?>3V@H5==O A;CEC. >@CH5==O 7 I>:C A5@FO: 4C65 @V4:> A5@F518BBO, 1V;L C 3@C4OE, A5@F520 =54>AB0B=VABL, V=D0@:B0@40, 0@B5@V0;L=0 3V?5@B5=7VO. >@CH5==O 7 I>:C AC48==>W A8AB5<8: 4C65 @V4:> 20A:C;VB. >@CH5==O 7 I>:C @5A?V@0B>@=>3> B@0:BC, >@30=V2 3@C4=>W ;:VB:8 B0 A5@54>ABV==O; @V4:> 0AB<0 (2;;NG0NG8 48A?=>5); 4C65 @V4:> ?=52<>=VB.

>@CH5==O 7 I>:C H;C=:>2>-.8H:>2>3> B@0:BC:
G0AB> =C4>B0, 1;N20==O, 4V0@5O, 48A?5?AVO, 014>
@V4:> 30AB@8B, 30AB@>V=B5AB8=0;L=0 :@>2>B5G0, 1;N20==O 7 4>
4C65 @V4:> :>;VB (2::NG0NG8 35<>@03VG=89 :>;VB V 703>AB@5==O 28@07:>2>3> :>;VBC 01>
E2>@>18 @>=0), 70?>@, AB<0B8B, 3;>A8B, 57>D0350;L=V ?>@CH5==O, 4V0D@03<>?>4V1=V
V=B5AB8=0;L=V AB@8:BC@8, ?0=:@50B8B.
>@CH5==O 7 I>:C 35?0B>IV;V0@=>W A8AB5<8:
G0AB> ?V428I5==O @V2=O B@0=A0
@V4:> 35?0B8B, 6>2BO=8FO, ?>@CH5==O DC=:FVW ?5GV=:8;
4C65 @V4:> DC;L7 ?5GV=:8, ?5GV=:>20 =54>AB0B=VABL.
>@CH5==O 7 I>:C H:V@8 B0 ?V4H:V@=>W :;VB:>28=8:
G0AB> 28A8?;
@V4:> :@>?82O=:0;
4C65 @V4:> 1C;L>7=89 28A8?, 5:75<0, 5@8B5<0, @<=0 5@8B5<0, A8=4@< !BV25=A0-6>=A>=0,
B>:A8G=89 5?V45@<0;L=89 =5:@>;V7 (A8=4@< 09T;;0), 5:AD>;V0B82=89 45@<0B8B, 28?040==O
2>;>AAO, D>B>A5=A81V;V70FVO, ?C@?C@0, 0;5@3VG=0 ?C@?C@0, A25@1V6.
>@CH5==O 7 I>:C =8@>: B0 A5G>282V4=>3> B@0:BC:
G0AB> 70B@8
4C65 @V4:> 3>AB@0=8@:>20 =54>AB0B=VABL, 35<0BC@VO, ?@>B5W=C@VO, =5D@>B8G=89
A8=4@<, V=B5@AB8FV0;L=89 =5D@8B, <54C;O@=89 =5:@>7 =8@:8; VB5=FVO.
030;L=V ?>@CH5==O B0 ?>@CH5==O C
@V4:> =01@O:8.
0=V :;V=VG=8E 4>A;V465=L B0 5?V45;>3VG=V 40=V A2V4G0BL ?@> ?V428I5=89 @878: B@>
<1>B8G=8E CA:;04=5=L (=0?@8:;04, V=D0@:B :0@40 G8 V=AC;LB), ?>2'O70=89 V7 70AB>AC20==O<
48:;>D5=0:C, 7>:@5<0 C 28A>:8E B5@0?52B8G=8E 4>70E (150 <3 =0 4>1C) B0 ?@8 B@820;>AC20==V.

5@54>7C20==O.

!8<8. "8?>2>W :;V=VG=>W :0@B8=8 ?@8 ?5@54>7C20==V 48:;>D5=0:C =5<0T. @8 ?5@54>7C20==V
<>6CBL 28=8:0B8 B0:V A8<8: 1;N20==O, 30AB@>V=B5AB8=0;L=0 :@>2>B5G0, ?@>=>A, 70?0
<>@>G5==O, 472V= C 2CE0E 01> AC4<8. # 28?04:C BO6:>3> >B@CT==O <>6;8289 @>728B>:
3>AB@>W =8@:>2>W =54>AB0B=>ABV B0 C@065==O ?5GV=:8.
V:C20==O. V:C20==O 3>AB@>3> >B@CT==O =5AB5@>W4=8<8 ?@>B870?0;L=8<8 70A>10<8 (),
2::NG0NG8 48:;>D5=0:, 70728G09 ?>;O30T C ?@>2545==V ?V4B@84V2 V A8<0B8G=>3> ;V:C20==O
B0:8E CA:;04=5=L O: 0@B5@V0;L=0 3V?>B5=7VO, =8@:>20 =54>AB0B=VABL, AC4<8, ?>@CH5==O 7
1>:C H;C=:>2>-.8H:>2>3> B@0:BC, ?@83=VG5==O 48E0==O.
@>2545==O A?5FV0;L=8E 70E>4V2, B0:8E O: D>@A>20=89 4VC@57, 4V0;V7 01> 35<>?5@DC7VO =5
A?@8ONBL ?@8A:>@5=>@30=V7: 28A>:>3> ABC?5=O 72O7C20==O 7 1V;;0<8 V 5:AB5=A82=>
@07V ?>B5=FV9=> B>:A8G=>3> ?5@54>7C20==O =5>1EV4=5 70AB>AC20==O 0:B82>20=>3>
2C3V;;O; C @07V ?>B5=FV9=> =5157?5G=>3> 4;O 68BBO ?5@54>7C20==O 74V9A=8B8 520:C0FVN 2
<8B8 H;C=>:).

0AB>AC20==O C ?5@V>4 203VB=>ABV 01> 3>4C20==O 3@C44N.

03VB=VABL.

>A;V465==O =0 B20@8=0E =5 ?>:070;8 ?@O<>3> 01> =5?@O<>3> B>:A8G=>3> 2?;82C =0
203VB=VABL, 5<1@V>=0;L=89/D5B0;L=89 @>728B>;, ?>;>38 01> ?>AB=0B0;L=89 @>728B>:..
>A;V465==O 70AB>AC20==O 48:;>D5=0:C 203VB=8< 6V=:0< =5 ?@>2>48;8AL. 0?B5= 0?V4 =5 A;V4
70AB>A>2C20B8 ?@>BO3< -B@8<5AB@V2 203VB=>ABV, 70 28=OB:<, O:I> ?>B5=FV9=0 :>@8ABL
?@89>
0AB>AC20==O ?@5?0@0BC ?@>BO3< B@8<5AB@C 203VB=>ABV ?@>B8?>:070=5, >A;V;L:8 VA=CT
<>6;82VABL ?@83=VG5==O ?>;>3>2>W 4VO;L=>ABV B0 ?5@54G0A=>3> 70:@8BBO 0@B5@V0;L=>W
?@>B>:8.
>4C20==O 3@C44N.
>4V1=> 4> V=H8E , 48:;>D5=0: C =525;8:8E :V;L:>ABOE ?@>=8:0T C 3@C4=5 <>;>:, B>4 3>4C20==O
3@C44N, I>1 C=8:=CB8 @>728B:C ?>1VG=8E 5D5:BV2 C 48B8=8.
\$5@B8;L=VABL.

/: V V=HV , 0?B5= 0?V4 <>65 2?;820B8 =0 6V=>GC D5@B8;L=VABL V B×5=4>20=89 6V=:0<, O:V
?;0=CNBL 203VB=VABL. !;V4 ?@8?8=8B8 70AB>AC20==O 40=>3> ?@5?0@0BC 6V=:0<, O:8<
?@>2>48BLAO >1AB565==O AB>A>2=> 157?;V44O.

VB8.

0?B5= 0?V4, B01;5B:8, 2:@8BV >1>;>=:>N, =5 @5:><5=4CTBLAO 70AB>A>2C20B8 4VBO< 2V:×< 4> 14
@>:V2 C=0A;V4>: 28A>:>3> 2W @5G>28=8.

A>1;82>ABV 70AB>AC20==O.

030;L=V 70AB5@565==O I>4> 70AB>AC20==O A8AB5<=>W 4VW.

;O 7<5=H5==O @878:C 28=8:=5==O 30AB@>V=B5AB8=0;L=>W 28@07:8, :@>2>B5GV 01>
?5@D>@0FVW, I> <>6CBL 28=8:=CB8 C 1C4L-O:89 ?5@V>4 ;V:C20==O , =570;56=> 2V4 WE
A5;5:B82=>ABV AB>A>2=> &-2 V =02VBL ?@8 2V4ACB=>ABV A8D0:B>@V2 AE8;L=>ABV 2 0=0
<=57V, A;V4 70AB>A>2C20B8 =09<5=HV 5D5:B82=V 4>78 ?@>BO3×< =09:>@>BH>3> ?5@V>4C G0AC.
0FVT=B0< 7 ?>@CH5==O<8 7 1>:C :8H:>2>-H;C=:>2>3> B@0:BC, ?>@CH5==O<8 DC=:FVW ?5GV=:8
01> 7 ?V4>7@>N =0 28@07:C H;C=:0 01> :8H5G=8:C 2 0=0<=57V 40=89 ?@5?0@0B A;V4
70AB>A>2C20B8 ;8H5 C 28?04:C 01A>;NB=>3> ?>:070==O V ?V4 @5B5;L=8< <548G=8< =03;O4>
?;0F51>:->=B@>;L>20=8E 4>A;V465==OE ?@>45<=>AB@>20=> ?V428I5=89 @878: 28=8:=5==O B@>
<1>B8G=8E :0@4V>20A:C;O@=8E V F5@51@>20A:C;O@=8E CA;:04=5=L ?@8 70AB>AC20==V ?52=8E
A5;5:B82=8E V=3V1VB>@V2 &-2. 0 40=89 G0A B>G=> =52V4×<, G8 B0:89 @878: :>@5;NT
157?>A5@54=L> 7 &-1/ &-2 A5;5:B82=VABN >:@5<8E . A:V;L:8 =0 40=89 G0A 4;O ?>@V2=O==O =5<0T
40=8E ::V=VG=8E 4>A;V465=L AB>A>2=> B@820;>3> ;V:C20==O 48;:>D5=0:×< C <0:A8<0;L=8E 4>70E,
=5 <>6=0 28;:NG8B8 VA=C20==O ?>4V1=>3> ?V428I5=>3> @878:C. >:8 =5 1C4CBL >B@8<0=V B0:V
40=V, A;V4 @5B5;L=> >FV=N20B8 A?V22V4=>H5==O @878:->@8ABL ?5@54 ?@87=0G5==O×<
48;:>D5=0:C ?0FVT=B0< 7 ::V=VG=> ?V4B25@465=>N VH5N E2>@>1>N A5@FO,
F5@51@>20A:C;O@=8<8 @>7;040<8, >1;VB5@CNG8<8 70E2>@N20==O<8 ?5@8D5@8G=8E 0@B5@V9
01> 7=0G=8<8 D0:B>@0<8 @878:C (=0?@8;:04, 3V?5@B5=7VO, 3V?5@;V?V45289 4V015B, ?0;V==O).
?@8G8= VA=C20==O B0:>3> @878:C A;V4 70AB>A>2C20B8 =09<5=HV 5D5:B82=V 4>78 ?@>BO3×<
=09:>@>BH>3> ?5@V>4C G0AC.

?;82 =0 =8@:8 7C<>2;NT 70B@8 0@B5@V0;L=C 3V?5@B5=7VN.

">D5=0: A;V4 70AB>A>2C20B8 7 >15@56=VABN ?0FVT=B0< 7 ?>@CH5==O< 7 1>:C A5@FO 01> V=H8
<8 AB0=0<8, ?@8 O:8E T AE8;L=VABL 4> 70B@8I5@56=VABN 70AB>A>2CNBL ?@5?0@0B ?0FVT=B0
<, O:V >4=>G0A=> 70AB>A>2CNBL 4VC@5B8:8 01> V=3V1VB>@8 \$ 01> <0NBL ?V428I5=89 @878:
@>728B:C 3V?>2>;5

0?B5= 0?V4, B01;5B:8, 2:@8BV >1>;>=:>N, =5 2:@8BV 30AB@>@578AB5=B=>N >1>;>=:>N. @8
2V25;L=5==V 4VNG>W @5G>28=8 C H;C=:C <>65 28=8:0B8 4@07=5==O A;87>2>W >1>;>=:>8.

@8 70AB>AC20==V 2AVE , 2;:NG0NG8 48;:>D5=0:, ?>2V4×<;O;>AO ?@> @>728B>:

30AB@>V=B5AB8=0;L=>W :@>2>B5GV, 28@07:8 01> ?5@D>@0FVW, I> <>6CBL 1CB8 D0B0;L=8<8, V
<>6CBL 28=8:0B8 2?@>4>26 ;V:C20==O, 7 01> 157 A8A5@9>7=8E 30AB@>V=B5AB8=0;L=8E
@>7;04V2 2 0=0<=57V.

?0FVT=BV2 ;VB=L>3> 2V:C B0:V CA;:04=5==O <0NBL 70728G09 1V;LH A5@9>7=V =0A;V4:8. #
@07V 28=8:=5==O 30AB@>V=B5AB8=0;L=>W :@>2>B5GV 01> 28@07:8 C ?0FVT=BV2, O:V >B@8<
0?B5= 0?V4, 40=89 ;V:0@AL:89 70AV1 A;V4 2V4
C65 @V4:> C 7207:C 7 70AB>AC20==O< , 2;:NG0NG8 0?B5= 0?V4, ?>2V4×<;O;>AO ?@> A5@9>7=V
@50:FVW 7 1>:C H:V@8 (C 45O:8E 28?04:0E D0B0;L=V), 2;:NG0NG8 5:AD>;V0B82=89 45@<0B8B,
A8=4@>×< !BV25=A0-6=>A>=0 V B>:A8G=89 5?V45@<0;L=89 =5:@>;V7. 0928I89 @878: 28=8:=5==O
B0:8E @50:FV9 C ?0FVT=BV2 VA=CT =0 ?>G0B:C ;V:C20==O, ?>O20 F8E @50:FV9, O: ?@028;>,
2V41C20TBLAO C?@>4>26 ?5@H>3>

/: V ?@8 70AB>AC20==V 2AVE 0=0;35B8:V2, ?@8 B@820;>AC20==V ?@5?0@0BC 4;O ;V:C20==O
3>;>2=>3> 1>;N <>65 A?>AB5@V30B8AO ?>:@0I5==O 01> ?>3V@H5==O AB0=C (3>;>2=89 1V;L
G5@57 =04AC20==O ;V:0@AL:8E 70A>1V2). /:I> 3>;>2=89 1V;L 28=8:0T 2=0A;V4>: =043>
70AB>AC20==O 0=0;L35B8:V2, =5 A;V4 71V;LHC20B8 4>7C 0=0;35B8:V2, C B0:8E 28?04:0E ;V:C20==O
A;V4 ?@8?8=8B8. >;>2=89 1V;L 2=0A;V4>: =043> 70AB>AC20==O ?@5?0@0BV2 ?>B@V1=>
70?V4>7@8B8 C ?0FVT=BV2 7 G0AB8<8 01> I>45==8<8 =0?040<8 3>;>2=>3> 1>;N, O:V 28=8:0NBL, =5
482;OG8AL (01> G5@57) =0 @53C;O@=5 70AB>AC20==O 0=0;35B8:V2.

@5?0@0B 0?B5= 0?V4 A;V4 2V4O2V ?5@H8E >7=0: 28A8?C, C@065==OE A;87>28E >1>;>=: 01> 1C4L-O:8E V=H8E >7=0: 3V?5@GCB;82>ABV.
/: V ?@8 70AB>AC20==V V=H8E , @V4:> <>6CBL @>72820B8AL 0;5@3VG=V @50:FVW (2;;NG0NG8 0=0DV;0:B8G=V/0=0DV;0:B>W4=V @50:FVW), =02VBL 157 ?>?5@54=L>3> 70AB>AC20==O 48;;>D5=0:C.
/: V V=HV , 0?B5= 0?V4 7024O:8 A2>W< D0@<0:>48=0
@87=0G0B8 48;;>D5=0: ?0FVT=B0< V7 7=0G=8<8 D0:B>@0<8 @878:C :0@4V>20A:C;O@=8E O28I (=0?@8;;04, 3V?5@B>=VO, 3V?5@;V?V45289 4V015B, :C@V==O) <>6=0 ;8H5 ?VA;O @5B5;L=>W ;V=VG=>W >FV=:8. A:V;L:8 :0@4V>20A:C;O@=V @878:8 48;;>D5=0:C<>6CBL 7@>AB0B8 V7 71V;LH5==O< 4>78 B0 B@820;>ABV ;V:C20==O, 9>3> =5>1EV4=> 70AB>A>2C20B8 O:>>30 :>@>BH89 ?5@V>4 B0 C =09=86GV9 5D5:B82=V9 4>7V. !;V4 ?5@V>48G=> ?5@53;O40B8 ?>B@518 ?0FVT=B0 C 70AB>AC20==V 48;;>D5=0:C 4;O ?>;53H5==O A82V4L =0 B5@0?VN. >15@56=VABN 70AB>A>2C20B8 C ?0FVT=BV2 AB0@H5 65 @>:V2.
0AB5@565==O.
030;L=V.
!;V4 C=8:0B8 >4=>G0A=>3> 70AB>AC20==O ?@5?0@0BC 0?B5= 0?V4 B0 V=H8E A8AB5<=>W 4VW, 2;;NG0NG8 A5;5:B82=V V=3V1VB>@8 &-2, >A:V;L:8 =5<0T ?V4B25@465=L I>4> ?5@5203 A8=5@3VG=>W 4VW, 0 B0:>6 G5@57 28=8:=5==O 4>40B:>28E ?>1VG=8E 5D5:BV2.
!;V4 7>15@56=VABN 70AB>A>2C20B8 ?@5?0@0B ?0FVT=B0< ;VB=L>3> 2V:C. >:@5<0, @5:> <5=4>20=> ?@87=0G0B8 =09=86GV 5D5:B82=V 4>78 DV78G=> A;01:8< ?0FVT=B0< ;VB=L>3> 2V:C 01> O:I> <0A0 BV;0 ?0FVT=B0 =86G0 70 =>@
"01;5B:8 0?B5= 0?V4 7C V B<5=4>20=V ?0FVT=B0< 7 @V4:VA=8<8 D>@<0<8 A?04:>2>W =5?5@5=>A8 <>ABV D@C:B>78, 3;N:>7>-30;0:B>7=>N <0;L01A>@1FVTN G8 =54>AB0B=VABN A0E0@078-V7> <0;LB078.
AB<0 2 0=0<=57V.
?0FVT=BV2 7 0AB<0N, A57>==8< @8=VB><, =01@O:>< A;87>2>W >1>;>=:8 =>A0 (=0?@8;;04, =070;L=V ?>;V?8), E@>=VG=8<8 >1AB@C:B82=8<8 70E2>@N20==O<8 ;535=L (%) G8 E@>=VG=8<8 V=D5:FVO<8 @5A?V@0B>@=>3> B@0:BC (>A>1;82> 7 ?@>O20<8, ?>4V1=8<8 4> A83> @8=VBC) ?@8 ?@89>1VG=V 5D5:B8 O: 703>AB@5==O 0AB<8 (B0: 720=0 =5?5@5=>A8 0=0;35B8G=0 0AB<0), =01@O: 2V=:5, :@>?82O=:0. # 7207:C 7 F8< B0:8< E2>@8< =5>1EV4=V A?5FV0;L=V 70AB5@56=V 70E>48 (3>B>2=VABL 4> =040==O =52V4;;04=>W 4>?<>38). 8I52:070=5 B0:>6 AB>ACTBLAO ?0FVT=BV2 7 0;5@3VG=8<8 ?@>O20<8 ?@8 70AB>AC20==V V=H8E ?@5?0@0BV2, =0?@8;;04, 28A8?, A25@1V6, :@>?82O=:0.
?;82 =0 H;C=:>2>-.8H:>289 B@0:B ("").
/: V ?@8 70AB>AC20==V V=H8E , @5B5;L=89 <548G=89 =03;04 V >A>1;820 >15@56=VABL T =5>1EV4=8<8 ?@8 ?@87=0G5==V ?@5?0@0BC 0?B5= 0?V4 ?0FVT=B0< V7 A8<0<8, I> 2:07CNBL =0 ?>@CH5==O 7 1>:C H;C=:>2>-.8H:>2>3> B@0:BC, G8 7 2:07V2:>N =0 28@07:C, :@>2>B5GC 01> ?5@D>@0FVN H;C=:0 01> :8H5G=8:C 2 0=0<=57V. 878: 28=8:=5==O :@>2>B5GV H;C=:>2>-.8H:>2>3> B@0:BC ?V428ICTBLAO ?@8 71V;LH5==V 4>78 , 0 B0:>6 C ?0FVT=BV2 7 28@07:>N 2 0=0<=57V, >A>1;82> O:I> 1C;> CA::04=5==O (:@>2>B5G0 01> ?5@D>@0FVO), B0 C ?0FVT=BV2 ;VB=L>3> 2V:C. ;O 7<5=H5==O @878:C B>:A8G=>3> 2?;82C =0 (" C B0:8E ?0FVT=BV2 ;V:C20==O A;V4 @>?>G8=0B8 B0 ?V4B@870E. ;O B0:8E ?0FVT=BV2, 0 B0:>6 4;O ?0FVT=BV2, O:8< =5>1EV4=5 >4=>G0A=5 70AB>AC20==O ?@5?0@0BV2, I> 2C :8A;>BC G8 V=H8E ?@5?0@0BV2, I> ?V428ICNBL @878: H:V4;82>3> 2?;82C =0 (" , A;V4 @>73;O=CB8 <>6;82VABL ?@87=0G5==O :<1V=>20=>W B5@0?VW V7 70AB>AC20==O< 70E8A=8E 70A>1V2 (=0?@8;;04, V=3V1VB>@V2 ?@>B>==>W ?> ?@>AB>;C). 0FVT=B0< 7 B>:A8G=8< 2?;82<=0 (" 2 0=0<=57V, >A>1;82> ;VB=L>3> 2V:C,<0NBL ?>2V4<8B8 ;V:0@N ?@> 1C4L-O:V =5728G=V 014> ?;82 =0 ?5GV=:C.
0FVT=B0< 7 ?>@CH5==O<8 DC=:FVW ?5GV=:8 A;V4 70157?5G8B8 ?>ABV9=89 <548G=89 =03;04, >A:V;L:8 WE AB0=<>65 ?>3V@H8B8AO.
/: V ?@8 70AB>AC20==V V=H8E , <>6CBL 7@>AB0B8 @V2=V >4=>3> V 1V;LH5 D5@<5=BV2 ?5GV=:8. &5 A?>AB5@V30;>AO 4C65 G0AB> ?@8 70AB>AC20==V 48;;>D5=0:C C ;;V=VG=8E 4>A;V465==OE (?@81;87=> C 15 % ?0FVT=BV2), 0;5 4C65 @V4:> AC?@>2>46C20;>AL ?>O2>N ;;V=VG=8E A8 # 1V;LH>ABV 28?04:V2 A?>AB5@V30;>AO 7@>AB0==O 4> 3@0=8G=8E @V2=V2. '0AB> (C 2,5 % 28?04:V2) B0:V 7@>AB0==O 1C;8 ?>

!;V4 707=0G8B8, I> ?@5?0@0B 0?B5= 0?V4 @5:><5=4>20=89 ;8H5 4;O :>@>B:>3> :C@AC ;V:C20==O
(=5 1V;LH5 2 B86=V2). # 28?04:C ?@87=0G5==O 48;>D5=0:C =0 B@820;89 ?5@V>4 70AB5@56=8<
70E>4>< T @53C;O@=5 A?>AB5@565==O 70 DC=:FVTN ?5GV=:8. 0AB>AC20==O 40=>3> ?@5?0@0BC
A;V4 ?@8?8=8B8, O:I> A?>AB5@V30TBLAO ?>@CH5==O 01> ?>3V@H5==O DC=:FVW ?5GV=:8, O:I>
;V=VG=V >7=0:8 01> A8<8 A2V4G0BL ?@> @>728B>: 70E2>@N20==O ?5GV=:8 01> O:I> 28=8:0NBL
V=HV A8<8, =0?@8;:04, 5>78=>DV;VO, 28A8?. 5?0B8B <>65 28=8:0B8 157 ?@>4@><0;L=8E A8
:@V< 7@>AB0==O @V2=V2 ?5GV=:>28E D5@<5=BV2, @V4:> ?>2V4><;O;>AO ?@> BO6:V @50:FVW
7 1>:C ?5GV=:8, 2;NG0NG8 6>2BO=8FN V DC;L7 ?5GV=:8 V ?5GV=:>2C =54>AB0B=VABL, I> 2 45O:8E
28?04:0E 1C;8 D0B0;L=8<8.

>15@56=VABN 70AB>A>2CNBL 48;>D5=0: ?0FVT=B0< 7 ?5GV=:>2>N ?>@DV@VTN G5@57 V
<>2V@=VABL ?@>2>:C20==O =0?04C.

?;82 =0 =8@:8.

"@820;5 70AB>AC20==O 28A>:8E 4>7 G0AB> (1-10 %) ?@872>48BL 4> 28=8:=5==O =01@O:V2 V
0@B5@V0;L=>W 3V?5@B5=7VW.

A>1;82>W >15@56=>ABV A;V4 4>B@870;:VB8==>W @V48=8, =0?@8;:04, ?5@54/?VA;O
EV@C@3VG=8E 2B@CG0=L. @8 ?@87=0G5==V 2 B0:8E 28?04:0E 0?B5=C 0?V4 ?@>2>4OBL
<=>VB>@8=3 DC=:FVW =8@>:. VA;O ?@8?8=5==O B5@0?VW AB0= ?0FVT=BV2 70728G09 =>@
<0;V7CTBLAO.

?;82 =0 35<0B>;>3VG=V ?>:07=8:8.

@5?0@0B 0?B5= 0?V4 @5:><5=4>20=89 ;8H5 4;O :>@>B:>G0A=>3> :C@AC ;V:C20==O. # @07V
?@87=0G5==O 40=>3> ?@5?0@0BC =0 B@820;VH89 ?5@V>4 @5:><5=4CTBLAO (O: V 4;O V=H8E)
@53C;O@=> :>=B@>;N20B8 35<>3@0

/: V V=HV , 48;>D5=0: <>65 B82> V=3V1C20B8 03@530FVN B@><1>F8BV2, B> :>=B@>;N20B8 AB0=
?0FVT=BV2 7 ?>@CH5==O<8 35<>AB07C.

**40B=VABL 2?;820B8 =0 H284:VABL @50:FVW ?@8 :5@C20==V 02B>B@0=A?>@B< 01> @>1>BV 7
V=H8<8 <5E0=V7<0<8.**

0728G09 ?@8 ?@89><5=4>20=V9 4>7V V ?@8 :>@>B:>G0A=>AB5@V30TBLAO.

@>B5 ?0FVT=B0<, C O:8E ?@8 70AB>AC20==V ?@5?0@0BC 0?B5= 0?V4 28=8:0NBL ?>@CH5==O
7>@C, 70?0<>@>G5==O, 25@B83>, A>=:82VABL 01> V=HV ?>@CH5==O F5=B@0;L=>W =5@2>2>W
A8AB5<8 (&!), =5 A;V4 :5@C20B8 02B>B@0=A?>@B< 01> ?@0FN20B8 7 <5E0=V7<0<8.

70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9.

0ABC?=V 2848 270T<>4VW A?>AB5@V30;8AO ?@8 70AB>AC20==V ?@5?0@0BC 0?B5= 0?V4 B0/01>
V=H8E 4>7 B0 D>@< 48;>D5=0:C.

VBV9.

@8 >4=>G0A=>AC20==V 48;>D5=0: <>65 ?V428IC20B8 :>=F5=B@0FVW ;VBVN C ?;072V. 5:>
<5=4>20=> ?@>2>48B8 :>=B@>;L @V2=O ;VBVN 2 A8@>20BFV :@>2V.

83>:A8=. @8 >4=>G0A=>AC20==V 48;>D5=0: <>65 ?V428IC20B8 :>=F5=B@0FVW 483>:A8=C C ?;07
2V. 5:><5=4>20=> ?@>2>48B8 :>=B@>;L @V2=N 483>:A8=C 2 A8@>20BFV :@>2V.

!5G>3V==V V 0=B83V?5@B5=782=V 70A>18.

/: V 7 V=H8<8 , >4=>G0A=5 70AB>AC20==O 48;>D5=0:C B0 A5G>3V==8E 01> 0=B83V?5@B5=782=8E
?@5?0@0BV2 (=0?@8;:04, 15B0-04@5=>1;>:0B>@V2, V=3V1VB>@V2 0=3V>B5=78=-

?5@5B2>@N20;L=>3> D5@<5=BC (\$)) <>65 ?@872>48B8 4> 7=865==O 0=B83V?5@B5=782=>3>

5D5:BC. "><1V=0FVN F8E ?@5?0@0BV2 A;V4 70AB>A>2C20B8 7 >15@56=VABN; 0 ?0FVT=B0<,
>A>1;82> ;VB=L>3> 2V:C, A;V4 ?5@V>48G=> :>=B@>;N20B8 0@B5@V0;L=89 B8A:. 0FVT=B8 ?>28==V

>B@878 @V48=8, 0 B0:>6 A;V4 ?@>2>48B8 :>=B@>;L DC=:FVW =8@>: ?VA;O ?>G0B:C :>

<1V=>20=>W B5@0?VW, 0 =040;V @53C;O@=>, >A>1;82> ?@8 70AB>AC20==V 4VC@5B8:V2 B0

V=3V1VB>@V2 \$ C 7207:C 7 ?V428I5=8< @878:><=5D@>B>:A8G=>ABV. 4=>G0A=5 ;V:C20==O V7

70AB>AC20==O< :0;V9715@V30NG8E 4VC@5B8:V2 <>65 A?@8G8=8B8 ?V428I5==O @V2=O :0;VN 2

A8@>20BFV :@>2V, B>ABV9=> ?5@52V@OB8.

=HV V :>@B8:>AB5@>W48.

4=>G0A=5 70AB>AC20==O 48;>D5=0:C 7 V=H8<8 A8AB5<=>W 4VW 01> :>@B8:>AB5@>W40<8 <>65
71V;LHC20B8 G0AB>BC ?>1VG=8E @50:FV9 7 1>:C (".

=B8:>03C;O=B8 V 0=B8B@><1>B8G=V 70A>18 ?@87=0G0NBL 7 >15@56=VABN, >A:V;L:8

>4=>G0A=5 70AB>AC20==O 7 48;:>D5=0:>< <65 ?V428IC20B8 @878: 28=8:=5==O :@>2>B5GV. %>G0
::V=VG=V 4>A;V465==O =5 2:07CNBL =0 B5, I> 48;:>D5=0: 2?:820T =0 4VN 0=B8:>03C;O=BV2, T >:@5
2V4><;5==O ?@> ?V428I5=89 @878: 28=8:=5==O :@>2>B5GV C ?0FVT=BV2, O:V >4=>G0A=>
70AB>A>2CNBL 48;:>D5=0: V 0=B8:>03C;O=B8. 5:><5=4>20=89 ?>ABV9=89 :>=B@>;L AB0=C
?0FVT=BV2.
!5;5:B82=V V=3V1VB>@8 72>@>B=>3> 70E>?;5==O A5@>B>=V=C (!!).
4=>G0A=5 ?@87=0G5==O A8AB5<=>W 4VW, 2;:NG0NG8 48;:>D5=0:, B0 !! <65 ?V428IC20B8 @878:
28=8:=5==O :@>2>B5GV C (".
=B84V015B8G=V ?@5?0@0B8. ;V=VG=V 4>A;V465==O ?>:070;8, I> 48;:>D5=0: <6=0 ?@87=0G0B8
>4=>G0A=> 7 ?5@>@0;L=8<8 0=B84V015B8G=8<8 ?@5?0@0B0<8 157 2?:82C =0 WE ;:V=VG=89 5D5:B.
@>B5 1C;8 ?>2V4><;5==O ?@> 3V?5@3;V:53;V:5 ?>B@51CT :>@83C20==O 4>78 0=B84V015B8G=8E
?@5?0@0BV2. 5:><5=4>20=89 :>=B@>;L @V2=O 3;N:>78 2 :@>2V ?@>BO3>< :><1V=>20=>W
B5@0?VW.
5B>B@5:A0B. >15@56=VABN 70AB>A>2CNBL =5<5=H =V6 24 3>48=8 ?5@54 01> ?VA;O ;V:C20==O
<5B>B@5:A0B><, >A:V;L:8 :>=F5=B@0FVW <5B>B@5:A0BC C :@>2V <6CBL 7@>AB0B8 V
?>A8;N20B8 B>:A8G=VABL.
?>A?>@8=
8;:>D5=0:, O: V V=HV , <65 ?V428IC20B8 =5D@>B>:A8G=VABL F8;:>A?>@8=C 2=0A;V4>: 2?:82C =0
=8@>:2V ?@>AB03;0=48=8. ">D5=0: A;V4 70AB>A>2C20B8 C 4>70E =86G8E, =V6 4;O ?0FVT=BV2, O:V
=5 70AB>A>2CNBL F8;:>A?>@8=
=B8IV>B8:8 EV=>;>=>2>3> @O4C. C;8 >:@52V4><;5==O ?@> AC4><8, 28=8:=5==O O:8E <3;> 1CB8
?>2O70=5 7 >4=>G0A=8< 70AB>AC20==O< EV=>;V=V2 B0 .
>BC6=V V=3V1VB>@8 CYP 2C9. >15@56=VABN 70AB>A>2CNBL A?V;L=5 ?@87=0G5==O 48;:>D5=0:C
B0 V=3V1VB>@V2 !YP2C9 (B0:8E O: AC;LDV=?V@07>= V 2>@8:>=07>;), O:5 <65 ?@8725AB8 4>
7=0G=>3> 71V;LH5==O ?V:0 :>=F5=B@0FVW C ?;07D5=0:C C 72O7:C 7 V=3V1C20==O< <5B01>;V7
D5=0:C.
\$5=VB>W=. @8 28:>@8AB0==V D5=VB>W=C >4=>G0A=> 7 48;:>D5=0:>< @5:><5=4CTBLAO
74V9A=N20B8 <=>VB>@8=3 :>=F5=B@0FVW C ?;072V D5=VB>W=C C 72O7:C 7 <6;828< 71V;LH5==O
< 2?:82C D5=VB>W=C.
\$0@<0:>;>3VG=V 2;0AB82>ABV.
\$0@<0:>48=0
8;:>D5=0: :0;VN, 4VNG0 @5G>28=0 ?@5?0@0BC 0?B5= 0?V4, T =5AB5@>W4=8< ?@>B870?0;L=8<
70A>1>< () 7 28@065=8< 7=51>;N20;L=8<, ?@>B870?0;L=8< B0 60@>7=86C20;L=8< 5D5:B0<8.
A=>2=89 <5E0=V7< 4VW V=3V1C20==O 1V>A8=B57C ?@>AB03;0=48=V2, O:V 2V4V3@0NBL
>A=>2=C @>;L C 28=8:=5==V 70?0;5==O, 1>;N B0 30@OG:8.
In vitro ?@8 :>=F5=B@0FVOE, 5:2V20;5=B=8E :>=F5=B@0FVO<, O:V 4>AO30NBLAO C ;N48=8,
48;:>D5=0: =5 ?@83=VGCT 1V>A8=B57 ?@>B5>3;V:0=C C E@OI>2V9 B:0=8=V.
0?B5= 0?V4, B01;5B:8, 2:@8BV >1>;>=>N, 7024O:8 H284:>;N V 70?0;5==V 48;:>D5=0: H284:> ?>;53HCT
O: A?>=B0==89 1V;L, B0: V 1V;L ?@8 @CE0E, 0 B0:>6 7<5=HCT =01@O;;VABL ?@8 70?0;5==V V
=01@O: C 4V;O=FV @0=8.
@V< B>3>, 4VNG0 @5G>28=0 <65 ?>A;01;N20B8 1V;L V 7<5=HC20B8 :@>2>B5GC ?@8 ?5@28==V9
48A<5=>@5W. 8;:>D5=0: B0:>6 7C<2;NT 7=51>;NNGC 4VN ?@8 V=H8E AB0=0E, I>
AC?@>2>46CTBLAO ?> 28@065=8< V A8;L=8< 1>;5
\$0@<0:>:V=5B8:0.
IA>@IFVO.
8;:>D5=0: H284:> V ?>2=VABN 01A>@1CTBLAO. A<:BC20==O ?>G8=0TBLAO 157?>A5@54=L> ?VA;O
70AB>AC20==O ?@5?0@0BC, 0 :V;L:VABL 01A>@1>20=>W @5G>28=8 2V4?>2V40T :V;L:>ABV, I>
01A>@1CTBLAO ?@8 ?@89>W 4>78 48;:>D5=0:C =0B@VN, I> 70AB>A>2CTBLAO C 283;O4V
30AB@>@578AB5=B=8E B01;5B>: .!5@54=O <0:A8<0;L=0 :>=F5=B@0FVO C ?;072V AB0=>28BL 3,9
>7?>4V;.
8;:>D5=0: =0 99,7 % 72O7CTBLAO 7 1V;;0<8 A8@>20B:8 :@>2V, 3>;>2=8< G8=>< 7 0;L1C< (99,4 %). 1T<
@>7?>4V;C AB0=>28BL 0,12-0,17 ;/3.

8.;>D5=0: ?@>=8:0T 2 A8=>2V0;L=C @V48=C, 45 9>3> <0:A8<0;L=V :=F5=B@0FVW 4>AO30NBLAO
G5@57 2-4 3>48=8 ?VA;O 4>AO3=5==O ?V:>28E 7=0G5=L C ?;0ZV. #O2=89 ?5@V>4 =0?V2282545==O
V7 A8=>2V0;L=>W @V48=8 AB0=>28BL 3-6 3>48=. '5@57 2 3>48=8 ?VA;O 4>AO3=5==O ?V:>28E
@V2=V2 C ?;072V :=F5=B@0FVW 4VNG>W @5G>28=8 2 A8=>2V0;L=V9 @V48=V T 28I8<8, =V6 C
?;07
82545==O.

V=F5289 ?5@V>4 =0?V2282545==O AB0=>28BL 1-2 3>48=8.
@81;87=> 60 % 4>78 282>48BLAO V7 A5G5N C 283;O4V <5B01>;V BV2, 0 <5=H5 1 % C 283;O4V =57W
@5G>28=8. 5HB0 4>78 282>48BLAO C 283;O4V <5B01>;V BV2 7 6>2GC, 7 :0;>
\$0@<0:>: V=5B8:0 2 >:@5<8E 3@C?0E ?0FVT=BV2.
5 A?>AB5@V30;>AO ACBBT28E 2V4AB59 2A<:BC20==O, <5B01>;V7 2V4 2V:C ?0FVT=B0.
?0FVT=BV2 7 ?>@CH5==O< DC=:FVW =8@>: :V=5B8:0 @07>2>W 4>78 ?@5?0@0BC =5 2:07CT =0
VA=C20==O 1C4L-O:>W D>@<8 :CW 4VNG>W @5G>28=8 ?@8 728G09=V9 AE5AC20==O ?@5?0@0BC.
?0FVT=BV2 7 ;V@5=A<:@50B8=V=C <5=H5 10 <;E28;8=C B5>@5B8G=V @V2=>206=V
:=F5=B@0FVW <5B01>;V BV2 C ?;072V ?@81;87=> C 4 @078 28IV, =V6 C 74>@>28E ?0FVT=BV2.
@>B5 C :V=F52>

\$0@<0F52B8G=V E0@0:B5@8AB8:8.
A=>2=V DV78:>-EVABV: :@C3;V B01;5B:8, 2:@8BV >1>;>=:>N, G5@2>=>3> :>;L>@C 7 <>6;828<8
A2VB;8<8 2:@0?;5==O<8, @V2=> @>7?>4V;5=8<8 ?> ?>25@E=V >1>;>=:8 B01;5B>:.

"5@ABV. 3 @>:8.

#<>28 715@V30==O. 15@V30B8 ?@8 B525 °C 2 >@83V=0;L=V9 C?0:>2FV (4;O 70E8ABC 2V4 A2VB;0
B0 2>;>38).
15@V30B8 C =54>ABC?=>

#?0:>2:0. > 10 B01;5B>:, 2:@8B8E >1>;>=:>N, C 1;VAB5@V. > 1 1;VAB5@C C :0@B>==V9 ?0GFV.

0B53>@VO 2V4?CA:C. 0 @5F5?B>

8@>1=8:, 2V4?>2V40;L=89 70 28?CA: A5@VW.«%5<>D0@

VAF57=0E>465==O.
5;3@04AL:89 H;OE 1/=, 26300,