ARTS3510

5 Xj UbWYX ; Yfa Ub 5

HYfa `C bY `## `&$%

7ci fgY Cj Yfj]Yk

GHUZZ 7cbHUWh 8YHU]`g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]hm	@cWUh]cb	D\cbY
F cVYfh 6i WX	F cVYfh 6i WX 4 i bgk "YXi "Ui	Hi YgXUm %&.\$\$!% .\$\$ UbX Vm Uddc]bha Ybh	A cfj Yb 6fck b &(-	-' ,)!, *('

GWXcc` 7cbHUWh]bZcfa Uh]cb

GWXcc` cZ < i a Ub]h]Yg UbX @Ub[i U[Yg

@cWUh]cb. GWXcc` cZ WXž A cfj Yb 6fck b 6i ]`X]b[ž @Yj Y` &ž &) ,

C dYb]b[< ci fg. A cbXUm! : f]XUmž - Ua ! !) da

D\cbY. Ž * % & -' ,) '% *, %

: Ul . Ž * % & -' ,) ', +\$)

9a U]`. \U 4 i bgk "YXi "Ui

7ci fgY 8YhU]`g

7fYX]h Dc]bhg *

Gi a a UfmcZ h\Y 7ci fgY

Gi VYWh 5fYU. 9Wd_S` EfgV[We

±b h\]g Wci fgY mci k]`` Wcbgc]XUhY UbX Yl hYbX mci f g_]`g ]b ]ghYb]b[ hcž gdYU_]b[ ž fYUX]b[ UbX k f]h]b[ ; Yfa Ubž k ]h\ U X]gh]bWh cW g cb ; Yfa Ub gcW]Yhm UbX W `h fY" @YUfb]b[ UWh]j ]h]Yg ]bWi XY UbU`mg]b[ Wca d`Yl hYl hg cb WcbhYa dcfUfmhcd]Wg /\c`X]b[ X]gW gg]cbg cb dfYdUfYX gi VYWhg k ]h\ Z``ck ghi XYbhgž UbX Wca a i b]WUh]b[cb U fUb[Y cZ gdYW]Z]YX gi VYWhg fY`Uh]b[ hc ]ggi Yg cZ h\Y Yj YfmXUm V h\U`gc hc VfcUXYf gcW]U`ž dc`]h]WU`ž UbX W `h fU` ei Ygh]cbg" Mci k]`` U`gc Yl dUbX UbX \cbY ]a dcfhUbh ghi Xmg_]``g gi WX `Ug \ccg]b[ Uddfcdf]UhY `YUfb]b[ghfUhY[]Ygž a cb]hcf]b[UbX UXjUbW]b[mci f ck b dfc[fYgg"

7ci fgY @YUfb]b[Ci hWca Yg

%" 5bU`mgY Uf[i a Ybhg]b hYl hg X

a YUbg cZVca a i b]WUh]cb UbX Ug Ub U]X hc YUfb]b[Ug k Y``Ug hc XYa cbghfUhY gca Y UV]`]hm Ug Ub
]bXYdYbXYbh YUfbYf

5ggYgga Ybh

5ggYgga Ybh HUg_g

5ggYgga Ybh HUg_	K Y][\h	8i Y 8UhY	Gh XYbh @YUfb]b[Ci hWca Yg 5ggYggYX
Dcfhzc]c	)$i	% A UfWX / %$ 5df] &$%	%ž&ž ž(ž
HYgh	'$i	%* 5df] &$%	%ž ž(
GdYU_]b[5ggYgga Ybh	&$i	&* 5df] &$%	%ž&ž

5ggYgga Ybh 8YHU]g

5ggYgga Ybh % DcfhZc]c

GhUfh XUhY. Bch 5dd]WUV Y

@Yb[h\ . %&$a bg Zcf YUWX dUfh

8YHU]g. Dcfhzc]c Wcbg]ghg cZhk c dUfhg k]\W UfY gi Va]hhYX cb h\Y @M G cj Yf h\Y Wci fgY cZ h\Y hYfm " 9UWX dUfh k]``fYei ]fY WU %&$a bg k cf ž]bWi X]b[ g\cfh Ubgk Yfž a ]\d Y W]c]WY UbX cdYb!YbXYX ei Ygh cbgž g\cfh f]\b[ hUg_g UbX fYZYW]W]cb cb gh XYbhgf]YUfb]b[ bYYg UbX dfc[ fYgg. YYXVUW_ cb YUW\ dUfhj ]U a Uf_]b[ fi Vf]Wk ]h\ ]bX]j ]Xi U``Wca a Ybhg"

5ggYgga Ybh &. HYgh

GhUfh XUhY. Bch 5dd]WUV Y

@Yb[h\ . *$a bg

8YHU]g. H\]g hYgh k]``fWU *$a ]bi hYg k ]``Wcj Yf[fUa a Ufž]ghYb]b[UbX fYUX]b[Wca dfY\Ybg]cb Ug k Y``Ug k f]\b[ . YYXVUW_ j ]U [ YbYfU``WUgg X]gWi gg]cb" A Uf_YX hYghg Uj U]`UV Y Zcf gh XYbh hc ``cc_ Uh

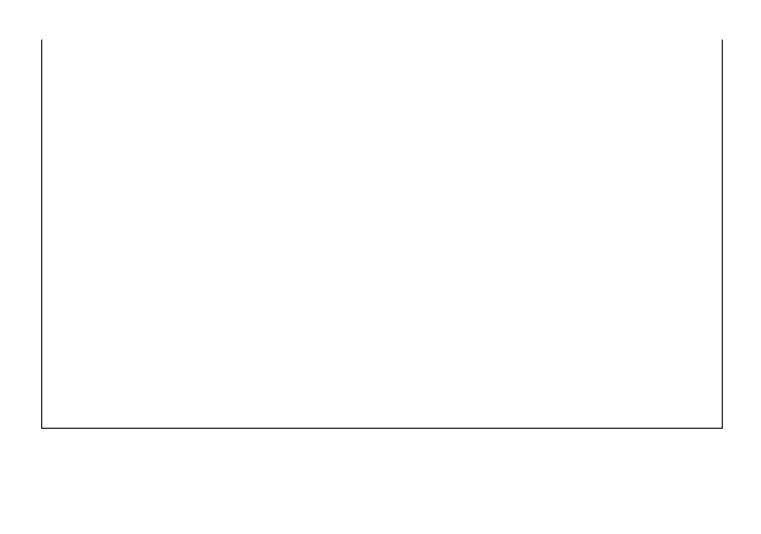### 5ggYgga Ybh '. GdYU_]b[5ggYgga Ybh

GhUfh XUhY. Bch 5dd]WUV Y

@Yb[h\ . *$a bg

8YHU]g. Gh XYbhg Wcb Xi Whg\cfh X]U`c[Yg fl !%$a]bgŁ]b dU]fg cf gma U``[ fci dg" YYXVUW_ j ]U a Uf_]b[ fi Vf]WUbX ]bX]j ]Xi U``Wca a Ybhg"

5ttYbXUbW!F Yei]fYa Ybhg

5ttYbXUbW!cZ@YWhi fYg#Hi hcf]U`g!]g!a UbXUhcfm]b`h!\]g`Wci fgY"!l bYl W gYX`UVgYbWY!Z`ca `a cfY`h\Ub &$ı˙

F Ygci fWYg

DfYgWf]VYX F Ygci fWYg

5gdY_HY bYi 6&" @Y\f! i bX 5fVY]hgVi WX a]h5i X]c! 7 8 "HY]`% €6B - +, !' !%&!*$) $&+!&fUj U]UV Y UhhY
I b]j Yfg]hm 6cc_ghcfYŁ

F YWca a YbXYX F Ygci fWYg

GYY A ccX Y Wci fgY k YVg]hY"

7ci fgY 9j U`i Uh]cb UbX 8Yj Y`cda Ybh

7ci fgYg UfY dYf dYf]cX]WU` mfYj ]Yk YX UbX ghi XYbhg' ZYYXVUW `g i gYX hc]a dfcj Y h Ya ": YYXVUW `g
[UhYfYX Zcm ghi XYbhg i g]b a m9I dYf]YbWY" Ghi XYbhg UfY YbWci fU[YX hc Wca d`YhY h Y f gi fj Ymg Vm
UWWYgg]b hY dYfgcbU`]gYX k YV]b_j U h Y A ccX Y Wci fgY g]hY"

Gi Va]gg]cb cZ 5ggYgga Ybh HUg_g

Hi fb]h]b Gi Va]gg]cb

Zmci YbWci bh Yf U dfcV Ya k \Yb Uh Ya dh]b[hc gi Va]hmci f Ugg][ba Ybh \fci [\ Hi fb]h]bž d YUgY hY Yd\cbY 9l hYfbU Gi ddcfh cb - ' ,) '' ' ' %cf Ya U]\h Ya cb Yl hYfbU hY gi ddcfh4 i bgk "YXi "Ui '" Gi ddcfh \ci fg UfY ', . $$Ua - '%$. $$da cb k YY_XUmg UbX - . $$Ua - ') . $$da cb k YY_YbXg f] *) XUmg U mYUfŁ" Zmci UfY i bUV Y hc gi Va]hmci f Ugg][ba Ybh XiY hc U]Zi hk]h]\ Hi fb]h]b mci a UmUdd`mZcf Ub Yl hYbg]cbž Vi hmci a i ghfYHU]b mci f h]]W Yhbi a VYf Zca 9l hYfbU Gi ddcfhfU cb[ k ]h Ubmch\Yf fY Yj Ubh XcW a Ybhg Ł hc ]bWi XY Ug Yj ]XYbW hc gi ddcfhmci f Yl hYbg]cb Udd` WUh]cb" Zmci Ya U]\ 9l hYfbU Gi ddcfh mci k]`

5WUXYa]W <cbYghm UbX D`U[]Uf]ga

D`U[]Uf]ga ]g i g]b[ h\Y kcfXg cf ]XYUg cZ ch\Yfg UbX dfYgYbh]b[ h\Ya Ug mci f ck b"‑h\Ub h\_Y Ubm Zcfa gžZca XY`VYfUhY`X XYUh]b[ hc UWW]XYbhU`mWcdm]b[Zca U gci fWY k]h ci h UW_bck`YX[Ya Ybh"

I BGK [fci dg d`U[]Uf]ga]bhc h\Y Zc``ck]b[WUhY[cf]Yg.

7cdm]b[.i g]b[h\Y gUa Y cf j Yfm g]a]`Uf kcfXg hc h\Y cf][]bU` hYl hcf]XYU k]h ci h UW_bck`YX[]b[ h\Y gci fWY cf i g]b[ ei ch Uh]cb a Uf g" H\]g U`gc Udd`]Yg hc a U]Ygž UfhUbX XYg][b dfc/YWhgž Ug k Y``Ug dfYgYbhUh]cbg k\YfY cca Y cbY dfYgYbhg Ubch\Yf g]XYUg cf kcfXg k]h ci h WfYX]h"

=bUddfcdf]UhY dUfUd\fUg]b[.7\Ub[]b[U ZYk kcfXg UbX d\fUgYg k \]`Y a cgh`m fYhU]b]b[h\Y cf][]bU` ghfi Wh fY UbX#cf dfc[fYgg]cb cZ ]XYUg cZ h\Y cf][]bU`ž UbX]bZca Uh]cb k]h ci h UW_bck`YX[Ya Ybh" H\]g U`gc Udd`]Yg ]b dfYgYbhUh]cbg k\YfY cca Y dUfUd\fUgYg Ubch\Yf g ]XYUg cf kcfXg k]h ci h WfYX]hUbX hc d]WWb hc[Yh\Yf ei ch Yg UbX dUfUd\fUgYg ]bhc U bYk k \c`Yž k]h ci h Uddfcdf]UhY fYZYfYbW]b["

7c``i g]cb .kcf ]b[ k]h ch\Yfg Vi hdUgg]b[ cZZ h\Y kcf_ Ug U dYfgcb'g ]bX]j ]Xi U` kcf_"7c``i g]cb U`gc]bWi XYg dfcj]X]b[mci f kcf_ hc Ubch\Yf ghi XYbhVYZcfY h\Y Xi Y XUhYž cf Zcf h\Y di fdcgY cZ h\Ya

- i bXYfghUbXˇmciˇf˜f][\hgˇUbXˇfYgdcbg]V]˜]h]YgˇUgˇUˇghiXYbh˙UhI B GK
- VYˇUk UfYˇcZdˇU[ ]Uf]ga žWˇdmf][\hˇžˇI B GK ˙Gh˙XYbh˙7cXYˇcZ7cbXiWh˙UbXˇ5WWˇdh˙UV`YˇI gYˇcZ I B GK ˙=7 HˇF Ygci fWˇYgˇDc`]Wh˙n
- VYˇUk UfYˇcZh˙\Yˇgh˙UbXUfXgˇcZVY\Uj]ci fˇYl dYWh˙YX˙cZYj YfmcbYˇ]bˇh˙YˇI B GK ˙Wˇa a i b]hm
- ˙cWWˇh˙YˇgYfj]WWˇgˇUbXˇ]bˇZcfa Uh˙cbˇUVci hˇI B GK ˇUbX˙I B GK ˙@]VfUfm

Gca YˇcZh˙\YgYˇUfYUgˇk]˙`VYˇZUa ]˙]Uf˙hcˇmci žˇch˙\Yfgˇk ]˙`VYˇbYk "˙; U]b]b[ˇUˇgc`]X˙i bXYfghUbX]b[ˇcZU``˙h˙\Y fY`UhYX˙UgdYWh˙gˇcZ9@G9ˇk ]˙`\Y`d˙mci ˙a U_Y˙h˙\Y˙a cghˇcZmci fˇghi XYg˙Uh˙I B GK "˙
<u>\hhd.##gi V`YW\[i]XYg"`]VfUfm˙i bgk "YXi "Ui #Y`]gY#UVci h]Y`]gY</u>

5WUXYa]W‡bZcfa Uh]cb

: cf YggYbh]U`ghi XYbh]bZcfa Uh]cb fY Uh]b[hc.

• fYei Yghg Zcf Yl hYbg]cb/
• `UhY gi Va ]gg]cbg [ i ]XY`]bYg/
• fYj]Yk cZa Uf_g/
• I B GK `< YU`h\ `UbX `GUZYhm`dc`]W]Yg/