

0 RQVRIUQJ RI GHMJQ P RGHV RI RQJRIQJ Z DMU VXSSO DQG GUDQDJH SURMFW LQ WKH .\U\] 5 HSXEUF

(GQD=HQD \$QD. UWP DJQR ,XOD/LSRYFK \$QDEXEX: 6KHENRYD =K@JNDQ <VPDQRYD,VPDQRYD

, Q W H U G B Q W Y R I R I D Q W J V W D L Q / K N H J N J 5 H S X E O L F
.\U\]1 D W L R Q L D Y O H Q D P E B I G V I % U D O D V D L V Q N H J N J 5 H S X F E O L
.\U\]6 W D H W F K Q L Q E I D Y O H Q D P E B I G V I 5 U J J D % R V K N H J N J 5 H S X F E O L

\$EVMDFW 0 RQVRIUQJ RI Z DMU VXSSO DQG GUDQDJH GHMJQ P RGHV LV DQ
IP SRUODQWV LQ WKH FROH VRI VVWLQDEOH GHYBSP HQVRI FLWHV DQG UHJLQV
: LW LQFUHDV LQ SRSXODWRQ DQG FOP DMFKDQJH HIIHFWHP DQJHP HQVRI Z DMU
UHXUJHV EFRPHV FULWFD 0 RQVRIUQJ RI GHMJQ P RGHV KHGSV LGQWV WKH
HIIHFWHQHW DQG VKRUWRP LQVRI SURMFW DQG HQXUHV WKH DQDSVRI FKDQJLQJ
FROGWRQV ([LVWQJ Z DMU VXSSO DQG GUDQDJH GHMJQ P RGHV P D IDFH D
QXP EHU RI SUREOP V VFK D/ LQXII LFLHQWII LFLHQF LQWDELOW VR FKDQJLQJ
FROGWRQV DQG VFKQRJULFDOP LQWRQV ,WLV IP SRUODQWR LQYXWDM WKH
SUREOP V DQG GHYBSP P RQVRIUQJ P HMRG/ DQG VROV WDNZ LQIP SURYH WKH
TXDOW RI GHMJQ DQG IP SDP HQDWRQ RI VFK SURMFW 7KH SXLSRVH RI WKH
VXG LV VR GHYBSP D V WMP IRUP RQVRIUQJ RI GHMJQ P RGHV RI RQJRIQJ Z DMU
VXSSO DQG GUDQDJH SURMFW LQ RGHU VR LQFUHDV WKHU HII LFLHQF DQG
VVWLQDELOW 7KH P DQ REMFWYH/RI WKH VXG LQFOXGH \$ QDQV/RI H LVWQJ
GHMJQ P RGHV DQGLG QWLFDMRQRI WHLUP DQFKDQJLQJ VVWLQDELOW RI Z DMU VXSSO DQG GUDQDJH
SURMFW 5HYLZ RI P RQVRIUQJ P HMRG/ DQG VROV WDNZ VRI HYDQDM WKH
FRP SODFH RI GHMJQ P RGHV Z LW VSHUHG FULWID & RQF WQJ DQ DQDQV/RI
WKH HIIHFWHQHW DQG VVWLQDELOW RI H LVWQJ SURMFW DQGLG QW LQ DUHDV RI
IP SURYHP HQV

, Q W U R G X F W L R Q

,Q WKH .\U\] 5 HSXEUF FXUHQD DERXW P LQDQ SRSXODYH SUREOP V Z LW DFFHW VR FODQ
GUDQDJH Z DMU> @ \$ QG WLV GHSLWV W H I D F W W D W \ U \] W D Q L V R Q H R I W H U I F K W F R X Q I H V L Q
SRW6RYLH&HQDQ\$ V D L Q Z D M U H R X U J H V

0 R V R I W H Z D M U V X S S O Q H Z R U N Z H U H E X L O E D F N L Q 6 R Y L H W M P H V L Q W H O W F H Q M U D Q G
K D Y H Q Z I D Q Q L Q R D P R W F R P S O M G L U H S D U

\$ I W U W H F R O D S H R I W H 8 6 6 5 W H Z D M U V X S S O V W M P Z D V D E D Q R Q G I R U \ H U V Z K L F K
Q G V R D Q L Q M L Y H G H M U R D M R Q L Q W W F K Q F D O F R Q G W R Q ' X H V R W H O F N R I V R X U H V R I X Q G L Q

& R U U H V S R X O Q L E C H Q D J H Q L Q D # L X N N J

IURP QFDDVHD JRYHQP HQVERGHV DQG VNH OFN RI IXQGV LQ QFDDQXGJHW VNH SUHMRXO H LVMQ V VMP RI VHLURSHUDNRQ P DLQMQDFH DQG UHSDUFDVHG VR IXQFWRQ DV D UHXOVR ZKFKP DQ Z DMUVSSO QHZ RUNVHQLQAR GLVHSDU

2 QDQDNRQDQFDDH VNHHSUREOP VKDYHEFRP HVMJDMQLQ HHSFLDQ LQXUDODJHDV

7DNLQ LQAR DFRXQVNHFXUHQVLMQNRQ LQ VNH* RYHQP HQ/RI VNH. \U\] 5HSXEQF

VJQHG D QDQDUJHP HQ/V LK VNH\$ VDD' HYHSP HQ/V/DQN VR DQFDDMI XQGV IRU VNHUHVLRQNRQ

DQG QZ FRQVXFWNRQ RI UKUD GUQNQJ Z DMUVSSO V VMP V DQG \HDV DMU D QDQ

DJHHP HQ/V LK VNH: RUG%DQN 7KHP DLQJRDRI ZKFK Z DV VR LP SURYHVMHQYLOJ DQGHDK

FRQGLWRQ/RI VNHUKDOSRSXQDNRQ UHGFXH SRYHW LQ UKUDODJHDV VNRXJK VNH SURYLRQRI FDDQ

GUQNQJ Z DMU DQG DSSURSUDM VDDQNRQ 7KH \$ VDD' HYHSP HQ/V/DQN SURVFWHQVQNG

3 SURYLRQRI LQUDVXFWUH VHLFV DVMH FRP P XQW QYHO Z RUK P LQRQ LQFQGLQ D

QDQIURP VNH\$ VDD' HYHSP HQ/V/DQN P LQRQ DQG FR ILQDQFQJ IURP VNH* RYHQP HQ/

RI VNH. \U\] 5HSXEQF DQG VNH QFDDFRP P XQW P LQRQ ZKFK FRYHUG YLQDHW/RI

&KX 2 VK -DQDQ\$ EDG DQG %DMHQ SURYLQFV DQG D: RUG%DQN SURVFWHQVQNG³ XUDQZ DMU

VSSO DQG VDDQNRQ Z LK D VDDFRVRI P LQRQ RI ZKFK P LQRQ Z DV D: RUG

%DQN DQD RI P LQRQ DQG VNH' HSDUW HQ/VRU, QMLQDNRQDQ HYHSP HQ/8. DQG

P LQRQRI ILQDQFQJ IURP RXLURYHQP HQ/V DQGVNH QFDDFRP P XQW ZKFK FRYHUG YLQDHW/

LQ VNH, V N. XO 1 DJ Q DQG 7DDV SURYLQFV + DYLOJ XQVNG ERK SURVFWUHTHYHG VNHQPH

3 7D 6XX' SURJUP : LMLQ VNH IUP HZ RUN RI VLV SURVFWRQRI VNH P DLQUTXUHP HQ/RI VNH

\$ VDD' HYHSP HQ/V/DQN DFRUGLQJ VR VNH\$ JUHP HQ/VJQGE ERK SDUWH Z DV VADVNH

RZ QHV/RI Z DMUVSSO V VMP V VXRQGEH VNH GUQNQJ Z DMU FRQXP HV/VHP VHYH/

\$ V D UHXOVP HQP HQV DQG DQGLWRQ Z HUP DGHVR VNH/ DZ ³ 2 Q GUQNQJ Z DMU DQG LQ

UKUDVHWP HQV Z LK VNH H FSWRQRI GLVHFWQDQV UKUDOSXEQF GUQNQJ Z DMU FRQXP HV/

XQRQ/ 53' : &8 ZHU FUHDNG DQG VNH' HUH RI VNH* RYHQP HQ/RI VNH. \U\] 5HSXEQF

³ 2 Q VNH VDDQ/HUR UKUDQZ DMUVSSO V VMP V H FSWRQGLVHFWQDQV LQAR VNH RZ QVXLS RI

UKUDOSXEQF GUQNQJ Z DMU XQRQ/DQGVNHU VEVHTXHQVSHUDNRQ Z DV DQSRNG DFRUGLQJ VR

ZKFK UKUDQZ DMUVSSO V VMP V ZHU VDDQ/HUHG IURH RI FKUJH IURP VNH EDQDFH RI QFDD

VHD JRYHQP HQVERGHV VR VNHEDQDFHRI VNH53' : &8 7KHVP HG FUHSURYLGHIRU VNH6VDM

FRP P LVMH IRU VDM SURSHUW P DQJHP HQ/DQGV DNDFWRQRI GUHVLOQVHVR HQV DV Z HQD/VNH

0 LQVM RI \$ JUEXOMUH VR GHYHPS DQGDSSURYHDSURFHGXUHIRU VFXUQJ RZ QVXLS RI DFFSNG

UKUDQZ DMUVSSO IDFLQVH, VVXRXQGEH QRNG VDACRVRQD Z DMUVSSO IDFLQVH EXVDOR

QDQ/IRU VHVLRQNRQ P DMU UHSDUW/DQGVFRQVXFWNRQRI Z DMUVSSO V VMP V ZHU SURYLGHVR

VNH53' : &8 \$ Q LP SRUDQMDVVRU Z DV VADVNH53' : &8 KQGVNH UUKVVR VHVDDUHVIRU

FRQXP HG GUQNQJ Z DMU LQ VNH RGHUHVDEQKHG E VNH/ DZ RI VNH. \U\] 5HSXEQF ³ 2 Q

GUQNQJ Z DMU \$ Q LQ RGHU VR P RQVVR VNH Z DMUVSSO DQG VDDQNRQ SURJUP DVMH

QDNRQDQDQYHO VNH* RYHQP HQ/RI VNH. \U\] 5HSXEQF LQ FUHDNG VNH' HSDUW HQ/RI UKUD

Z DMUVSSO XQGVVNH 0 LQVM RI DJUEXOMUH Z DMU UHFXUHP/DQGV SURFWLQJ LQGVVM RI VNH

. \U\] 5HSXEQF ' 5: 6 ZKRVH VMLVLRQDRI LHV/DJH UHSHUHQGE FKH VSHDDQVWLQDFK

GLVHFWRI VNH UHSEQF 7KH GSDUW HQ/RI UKUDQZ DMUVSSO DFRUGLQJ VR LV VDMV Z DV

VSSRFG VR GHYHPS DQGLP SOP HQ/VP HFKQVP V DQGV SURFHGXU/IRUGHYHPSLQJ SURJUP VIRU

UKUDQZ DMUVSSO VNHQVNH Q VNH DVMVH/RI VMLVLRQDRI LHV/ UKUDOSXEQF GUQNQJ Z DMU

FRQXP HV/ XQRQ/ DQG FRRUGLQDM Z RUN RQ UKUDQZ DMUVSSO Z LK D JURYS RI LQMLQDNRQDQ

VSHDDQV

2 YHDSHUVRGRI VPH SUDVH KDV VKRZ QVDMVNH53' : &8 EHQJ DSXEQF RUJ DQJ DNRQ

Z DV XQDEQ VR SURSHU FROFWP RQH IURP VNH SRSXQNRQ IRU VNH GUQNQJ Z DMU VNH

FRQXP HG DV Z HQD/ LQVHFWRQ VNH QDQ SURYLGHG EH UHSRQMEQ VR VNH SRSXQNRQ IRU VNH

UHXOVR LV DVMVH/DQGVIRU VNH VHV/RI VNH WDM/HUHG SURSHUW P DQ GLVEDQGHGXVR

DSSURDFQJ EDQVSVR RUIRU VNH LQDEQV VR IXUHPFDUJ RVVNHUJIXQFWRQ/, QDQGLWRQ VNH

IXQFWRQ/RI UKUDOSXEQF XQRQ/RQ SURYLQJ GUQNQJ Z DMU VR VNH SRSXQNRQ FRODGLFVGH VNH

EDMF / DZ ³ 2 Q QFDDVHD JRYHQP HQ/DQGV QFDDQVMDQ DQ LQVDMNRQ \$ UNFQI DFRUGLQJ VR

Z KLFK V\H SRZ HU/ RI QFDOVHD JRYHQP HQVERGLV FDCQRAEH WDCM/HUHG VR RUJ DQJ DMRQ/GRV LQFOXG-GLOV\H VMP RI QFDOVHD JRYHQP HQVERGLV

7KH WDCM/HU RI ZDMU VSSO IDFLQ\H IURP P XQLFSDO SURSHUW VR V\H RZ QHUKLS RI 53' : &8 Z DV D YLRDNRQ RI V\H FRQW\W\NRQDOSULQFSD\RI LQYRDELDW RI SURSHUW VLFH LQ V\H. \U\ 5HSXEQF SULYDM WDMDCQP XQLFSDOSURSHUW DUHTXDO UFRJQJ HGDCG SURAFAG 7KHUH RUH VRGD V\H UH SRQLELDW IRU SURYLGQJ V\H SRSXDNRQ Z LWK KJK TXDOW GUJNQJ ZDMUUP DQZ/LWK QFDOVHD JRYHQP HQVERGLV

, Q RLG-UVR HQXUH SURSHURSHUDNRQ DCG P DQMDQFH RI GUJNQJ ZDMU VSSO V VMP V LQ UXDODUHV P XQLFSDOQHMSULVH/KDYHEHQHWDEQ\K-GLO GLW\VFV\H-Q\H/RI V\H UHSXEQF IRU P DQMDQFH DCG RSHUDNRQ

&XUH-Q\H LQ RLG-UVR LP SURYH V\H TXDOW RI V\H YLFH/IRU SURYLGQJ V\H SRSXDNRQ Z LWK GUJNQJ ZDMU GUJQDJH DCG Z DV\Z DMU W\H D\H QV/DV Z HODV V\H HIFWYH RSHUDNRQ DCG P DQMDQFH RI F\H QNDQJ HG GUJNQJ ZDMU VSSO DCG GUJQDJH V VMP V * R\W\N\ KD/ EHXQ Z RUN RQ V\H FUDNRQ RI D6VDM HQMSULVH IRU W\FK QFDOV\SSRUV\ SURYLGUV/RI GUJNQJ ZDMU VSSO DCG GUJQDJH V\H YLFH/DCG IXUMHURSHUDNRQ RI V VMP V

' H\SUM V\H IDFW\ND\ND\NDQ\H-QV/RI JRYHQP HQV\YDURV/D\W\P SW DUHEHQJ P DGHV UHROYH SUREOP V RI SURYLGQJ V\H SRSXDNRQ Z LWK V\H GUJNQJ ZDMU V\K DV IRU H DP SD\ V\H DGRS\NRQ RI V\H 6VDM\ IRU V\H GHY\H\BSP HQV/RI GUJNQJ ZDMU VSSO DCG GUJQDJH V VMP V LQ SRSXDNAG DUHV/RI V\H. \U\ 5HSXEQF XQMD > @V\H* RYHQP HQV/RI V\H. \U\ 5HSXEQF GRV/QRW DQFDM V\H IFLHQV ILDCQFDU UHRYXUV VR UHROYH LWXV/RI ZDMU VSSO VR V\H SRSXDNRQ Z LWK V\H GUJNQJ ZDMU

, Q DFFRLEDQFH Z LWK WLV 3URJUP LWLV SDQCG VR FDW RV\Z RUN RQ V\H FRQW\KFW\NRQ RI GUJNQJ ZDMU VSSO V VMP V LQ YLQDJH/DCG V\H UH KDELQ\NRQ RI GUJNQJ ZDMU VSSO V VMP V LQ YLQDJH/RI V\H UHSXEQF IRU D\W\DCP RXQV/RI ELQRQ IURP V\H UHSXEQFDQ EXGJH DCG ELQRQ P LQRQ V\RP V IURP IXCG/RI LQ\MDNRQ DCG GHY\H\BSP HQV\SDU\H/ DV Z HODV GUJQDJH V VMP V LQ GLW\VFV\H-Q\H/Z LWK YLQDJH WDMV LQ V\H DP RXQV/RI ELQRQ P LQRQ V\RP V

7KH W\DCP RXQV/RI QFFW\DV ILDCQFDU UHRYXUV/IRU V\H LP SDP HQ\NRQ RI V\H 3URJUP LV DERXW ELQRQ V\RP V RI Z KLFK ELQRQ V\RP V RI H W\DCQYH W\H QV ELQRQ V\RP V IXCG IURP V\H UHSXEQFDQ EXGJH V

7RGD LQ RLG-UVR LP SDP HQV\H DFW\W\H/P HQNRQ-G LQ V\H 3URJUP GRGRSDU\Q\H/ V\K DV/V\H: RUG%DN : % V\H (XURSHDQ8 QRQ (8 V\H (XURSHDQ%DN IRU 5 HFRQW\KFW\NRQ DCG 'HY\BSP HQV/ (%5' V\H (XURSHDQ,Q\H W\H QV/%DN (,% 6VDM 6FUH\W\ND\IRU (FRQRP LF 5 HQNRQ/RI V\H 6Z LW &RQ HG\H\NRQ 6 (&2 \$ VLDQ 'HY\BSP HQV/%DN \$' % \DOP LF 'HY\BSP HQV/%DN ,' % 6DXL'HY\BSP HQV/XCG 6') DCG (XUDMDQ) XCG IRU 6VDEQJ DNRQ DCG'HY\BSP HQV/) 6' DUH DFW\YHD LQRYHG

, Q DCG VNRQ * R\W\N\ KD/ EHXQ Z RUN VR D\W\DFW\H\W XCG IURP V\H (XUDMDQ) XCG IRU 6VDEQJ DNRQ DCG 'HY\BSP HQV/7KH (XUDMDQ) XCG IRU 6VDEQJ DNRQ DCG 'HY\BSP HQV Z LQ D\W\DFW P LQRQ 86 GRDUV V\NQJ LQV DFFRXQV/RI ILDCQFQJ IURP V\H & DELQV/RI 0 LQV\WV/RI V\H. \U\ 5HSXEQF 7KH SURV\FVRYHUV YLQDJH/RI 2 V\K SURYQFH 6HZ DJH W\H D\H QV DCG FRQW\KFW\NRQ RI V\H DJH W\H D\H QV DFLQ\H/Z HUH SDQCG G IRU 3KD\H,, RI V\H QJ WUP SURJUP IRU, W\N. XODDQ RQ' HFP EHU D QZ \$ JUHP HQV Z LWK V\H \$' % IRU V\H SURV\FW 3: DV\Z DMU P DQJHP HQV LQ, W\N. XO Z DV VJQ-G DCG UD\H LG E V\H/ DZ RI V\H. \U\ 5HSXEQF DV/RI -XO 1 R

7KLV SURV\FVLP DP HG D\MP SURYQJ DCG H SDQCGJ DFFW VR UHDEQ XQ\Q\W\X\NG DCG D IRUGEDQ VZ H\DJH V\H YLFH/LQ%DNFK DCG. D\NROFLW\H QFDMGRQ V\H V\KRUH/RI, W\N. XO QNH 7KH W\DCP RXQV/RI V\H SURV\FVLP P LQRQ 86 GRDUV/ 7KH V SURV\FW Z LQEH FRP SD\NG LQ \$ OR \$' % SDQV/RI FRQW\KFW\DCG UH KDELQ\ND\H VZ DJH W\H D\H QV DFLQ\H/LQ & KRSRQ \$ V\ FLW LQ V\H DP RXQV/RI P LQRQ 86 GRDUV/, Q DFFRLEDQFH Z LWK V\H H\H\DELDW V\K DCG V\H SURV\FVLP SDP HQ\NRQ SDQ LVLV SDQCG VR FDW RV\W\H FRQW\KFW\NRQ RI D VZ DJH W\H D\H QV DFLQ\H D VZ DJH XSP SLQ V\NRQ DCG VZ HUV Z LWK D QJ V\RI P RUH WDC

NP DQG DERXW NP RI DQ LQAD EGFN VZ DJH QHWRUN VRXUVP IDFLQNHV P XVHP SDUN
 VQGVV IDFLQNHV DVMHQBDFNRQRI SHARJOSK/DOGHV
 7KH FRP SRQHVMRU VH FRQWVFRQ RI VZ DJH SXP SLQ VDMRQV DQG VZ HV LQFOXGLQJ
 LQAD EGFN VZ DJH QHWRUN V LQFRYUUMHYLQDWHV RI %RVMUL %ENAX' RQGRM DQG. DUD 2 L
 7KHU RUH ZH VH VH QHGV VR GYHBS DQHIHVMYH GMLJQP RG-DI RUP DQDJLQ SURVFWVR
 SURYLG VH SRSXDMRQ Z LW GUJQLQJ Z DMU VH QHGV RI VH SRSXDMRQ DQG VH ILQDQD
 FDSFLWR VH VDM

0 D W H U L Q D H W K R G V

\$ OSURVFWLP SFP HQMG RQZ DMU VSSO DQG GUJQLQJ EA GRGRU/ DQG EDQV DUH LP SFP HQMG
 DFRUGLQJ VR VMLUGMLJQ 7KHU RUH HFK GRGRUKD/ LW RZ QGMLJQI RUSURVFWLP SFP HQDMRQ
 DQI XGLQJ UHTXUHP HQV DFRUGLQJ

, Q RUGU VR P RQVU VH Z DMU VSSO DQG VQGVDMRQ SURJUDP DVMH QDMRQDQDVMHO VH
 * RYHOP HQVRI VH. \U\] 5HSXEF LQ FUHDAG VH' HSDUW HQVRI UXUDOZ DMU VSSO
 ' 5: 6 XCGU VMHO LQVM RI DJUEXOMUH Z DMU UHVRUHV DQG SURFWLQJ LQGVVM RI VH
 . \U\] 5HSXEF ZKRVMUUDRILFH VDUHUSHVQDGE FKH VSHDDVWLQDHFK GLVMFVRI
 VH UHSXEF ' 5: 6 LQ DFRUGLQJ Z LW LW VDMV GYHBSV DQG LP SFP HQV P HFKDQV V DQG
 SURFWLQJ IRU GYHBSLQJ SURJUDP V IRU UXUDOZ DMU VSSO VMLQVH QV VH DVMVVM RI
 VMLUUDRILFH V UXDOSXEF GUJQLQJ Z DMU FRQXP HV XQRCV FFRUGLQJ Z RUN RQ UXUDO
 Z DMU VSSO Z LW DJURXS RI LQADNRQDQDVMH

' XH VR VH QFN RI D XQILHG P RG-DI VDM P DQDJHP HQVRI Z DMU UHVRUHV LQ VH
 LP SFP HQDMRQRI SURVFW DSSURFKV/SURSRVGE EDQV/DQG GRGRU/Z HUXVHG

& RMLGHUQJ VMLV VDMRQ VH GSDUW HQV SURSRVHG VDMGRGRU/ GYHBS D XQILHG GMLJQ
 P RG-DI RUSURVFWLP SFP HQDMRQ I RQZ HG EA LP SFP HQDMRQ EXVGRGRU/ DQG EDQV GLGRV
 DUH VR VMLV DJXQJ VDMVH KDYH VMLU RZ Q DSSURYHG P RG-DI RUSURVFWLP SFP HQDMRQ RI
 SURVFWRQZ KFK VH Z RUN VMLUJ KRXVMH Z RUG

7KHU RUH IRU HFK SURVFWVH LP SFP HQDMRQ GMLJQ DQG LW HJ HFXMRQ VMLUG RXVVR EH
 GLIHUQV VH GSDUW HQV IURP LW VLGH FRXG GRMLQGRGFH LW RZ Q GMLJQ DQG FRP P HQV
 \$ FFRUGLQJ VMLV LQ QHGHG VH LP SFP HQDMRQ SURFW LW D Z KFK GL GRAGSHG RQ VH
 GSDUW HQV Z KRH IXCFRQ/ LQFOXGHG RQ SDUWVDMRQ DQG DVMVDFH DV REVLYHV , Q
 DQGRQ VH UH DUH VMUSLQ VMDVH VMH HILFH QF RI SURVFWLP SFP HQDMRQ VH SURFW
 RI SDMLQJ SURVFW DSSURYD IRU HJ DP SFP UDVMFDMRQ RI SURVFW VDMV D YH Q RQJ DQG
 FRP SDFDNG SURFW VMDVMH VPH) RUMV SXSRVH ' 5: 6 GYHBSHG D VSHDDVVMURQI RU
 VDFVQJ SURUVM YLQDWH \$ VMH EHJLQJQJ D QMARI SURUVM YLQDWH LV IRUP HG Z KHU LV LV
 QHFWQJ VR LP SFP HQV VH SURVFW DVMH ILVMVDMH D QMARI SURUVM YLQDWH LV IRUP HG EA
 VMLQVVMFN FRP SDQHV VH Q LV LV DSSURYHG DVMH GLVMFVVMH DQGVH Q DMH UHJLRQDQDVMH LV
 VH Q VDMH UHJG VR VH ' 5: 6 RQ VH ' 5: 6 VLGH VH QMARI SURUVM YLQDWH LV SURYLG VR
 GRGRU/

7KH VDFMRQ FUMUJ I RY YLQDWH I RUMH SURVFWDUH FRQLGHUHG DFRUGLQJ VR VH I RQZ LQJ
 FUMUJ

- * URXS QR UXUDOZ DMU VSSO V VMP
- * URXS YLQDWH Z KHU VMHV VMP Z DV EXLQVQ
- * URXS YLQDWH Z KHU VMHV VMP Z DV EXLQVQ VMHSHURGR
- * URXS YLQDWH Z KHU VMHV VMP Z DV EXLQVQ

\$ FFRUGLQJ VR VH VDM SURJUDP SURUVM LV JLYHQ VR JURXS DQJURXS
 \$ QG DQR LQ RUGUVR DYRLGG SDFDMRQ DQGFUJ RV FFRUGLQJ DQZ RUN DP HFKDQV I RUMH
 Z RUN RI GRGRU/LQVMH LP SFP HQDMRQRI Z DMU VSSO DQG GUJQLQJ SURVFWKD/ EH Q GYHBSHG
 EA VH GSDUW HQV Z KHU GRGRU/ DUH GLVMEXNG DP RQJ VH UHJLRQ/ RI VH FRXQV

7KH (XURSHQ %DQ I RU 5 FRQWVFRQ DQG ' HYHBSP HQV (% ' ± Z RUN LQ FVMV
 VP DQVZ QV GLVMFV DQGUHJLRQDQDVM

\$ V D Q ' H Y H B S P H Q W / D Q N \$ ' % Z R U N / L Q 1 D U Q S U R Y L Q F H
7 K H : R U G ' H Y H B S P H Q W / D Q N : % Z R U N / L Q 2 V K , W X N . X O D D G & K X L S U R Y L Q F H
, V O P I F ' H Y H B S P H Q W / D Q N , ' % D D G 6 D X G L ' H Y H B S P H Q W / X G G 6 ') ± Z R U N L Q
- D D D \$ E D G % D M H Q D D G 7 D D V / S U R Y L Q F H

5 H V X O W V

7 K U R X J K W H (X U R S H D Q % D Q N I R U 5 H F R Q W X F W R Q D D G ' H Y H B S P H Q W W H (X U R S H D Q 8 Q R Q D D G
W H 6 V D M 6 H F U H D U D W R U (F R Q R P I F 5 H D M R Q / R I W H 6 Z L W & R Q H G H U D M R Q 6 (& 2 L Q Y W P H Q W
L Q W H W M D D P R X Q / R I P L O R Q (X U R V Z H U H D M W F M G 2 X V R I W H F W W H / H L V M Q J L Q W H
U H S X E O F S U R W F W R Q W H F R Q W X F W R Q U H K D E L D M R Q D D G U H F R Q W X F W R Q R I G U I Q N L Q J Z D M U X S S O
D D G V H Z H U D J H X W M P V D U J E H L Q J I P S O P H Q M G L Q F W W H / D D G Y L O D J H V 2 I W H P
L Q S U R W F W Z H U H I P S O P H Q M G L Q F W W H / % L V K N H N S K D H 2 V K S K D H
- D D D \$ E D G S K D H 1 D U Q S K D H . D Q W S K D H 7 D D V / S K D H

L Q W H P D Q Z R U N / R Q W H S U R W F W L Q 2 V K F W S K D H D D G % D M H Q F W K D V E H Q
F R P S O M G D D G S U H S O D M R Q / D U H X G G H Z D V R S X W Q R R S H U D M R Q
F R Q W X F W R Q Z R U N D U H X G G H Z D L Q F W W H / % L V K N H N S K D H . D U D 6 X X . \] \ O . L D
& K R S R Q \$ W % D O N F K 7 R N R U X O 8] J H Q 0 D O X 6 X D D G 7 R N P R N 7 K H H S U R W F W Z H U H
I P S O P H Q M G L Q W H S H U R G R I
S U R W F W L Q 1 R R D W D D G . H U E Q F W W H Z H U H U D W I L G E W H H R J R U N X . H Q H K R I W H . \ U \]
5 H S X E O F R Q 6 H S M P E H U L Q M L O D D S U R F G X U H V D U H F D U I I G R X M R U W H V L J Q J R I
6 X E J U D Q V D D G W E O D Q D U H P H Q W E H Z H H Q W H F W P D R U J V R I L F H V D D G W H 0 L Q W W R I
) L Q D Q F H

, Q D D G W R Q W U R X J K W H (% 5 ' S U R W F W L Q 7 D K . X P \ U . R N - D Q J D N . D D P N L \$ L G D U N H Q
. H P L Q 6 K R S R Y R Y D D G . D Q W F W W H S K D H Z H U H D S S U R Y H G E W H G F W R Q R I W H * R Y H L O P H Q W
R I W H . \ U \] 5 H S X E O F R Q I L V F D D D G L Q Y W P H Q A S R O F D V R I \$ X J X W W & X U H Q W W H
% D Q N K D V V H O F M G F R Q X O D Q W I R U W H H S U R W F W D D G Z R U N / R Q W H G H Y H B S P H Q W R I D I H D W E L O W
W X G D U H L Q S U R F W

7 K U R X J K W H \$ V D Q ' H Y H B S P H Q W / D Q N \$ ' % I X G G / L Q W H D P R X Q / R I P L O R Q 8 6
G R O D V Z H U H D M W F M G F R Y H U I Q Y L O D J H V R I 1 D U Q S U R Y L Q F H Z K L F K Z H U H U D W I L G 7 R E D
Z R U N / D U H X G G H Z D V R G H Y H B S G H L J Q D D G H M P D M G R F X P H Q M R Q) R U W H I L W W O W F R Y H U I Q
Y L O D J H V D F R Q W F V Z D V L J Q G Z L W W H Z L Q Q J F R P S D Q D D G Z R U N R Q G H Y H B S L Q J G H L J Q
D D G H M P D M G R F X P H Q M R Q K D V W D U M G) R U W H V H F R Q G O W F R Y H U I Q Y L O D J H V Z R U N L V E H L Q
F D U I I G R X M R W X G G U I Q N L Q J Z D M U X S S O V W M P V & R Q W X F W R Q Z R U N / Z L O E H F D U I I G R X M R Q
W H S H U R G R I

) R U W H I P S O P H Q M R Q R I W H D E R Y H P H Q M R Q G S U R W F W W H , P S O P H Q M Q D J H Q F L V W H
' H S O W F H Q W R U W H G H Y H B S P H Q W R I G U I Q N L Q J Z D M U X S S O D D G G U I Q D J H D D G W H I P S O P H Q M Q
R U J D Q J D M R Q L V W H & R P P X Q W G H Y H B S P H Q W D D G L Q Y W P H Q A D J H Q F R I W H . \ U \] 5 H S X E O F
7 K U R X J K W H \$ V D Q ' H Y H B S P H Q W / D Q N Z L M L Q W H 3 : D M Z D M U P D D J H P H Q M L Q , W X N . X O
S U R W F W Z R U K P L O R Q 8 6 G R O D V L M V S O D Q G W R P R G H Q J H D D G H S D D G H L V M Q J
Z D M Z D M U W H D F H Q W W M P V W U H Q W H Q L Q W M M R Q D O F D S F W D D G L Q F U D H W H V W M Q D E L O W
R I Z D M U X S S O D D G G U I Q D J H V H Y L F H / L Q % D O N F K D D G . D U D R O F W W H

7 R E D I R U W H H F W W H W G H U S U R F G X U H V D U H L Q S U R F W I R U W H S X U R K D H R I S X P S L Q X Q W
I R U L L U D M R Q S X P S L Q W M R Q / D W H H K R L F H R I F R P S D Q H V

3 U R W F W 6 P D O W X S S R U W R U P X O W F W R U D D F W W W H 6 P D D H S H Q G W U H I L O D Q F L O J I D F O W I R U
W H . \ U \] 5 H S X E O F 6 () ' L Q W H D P R X Q / R I P L O R Q 8 6 G R O D V Z L M L Q W H I U D P H Z R U N R I
W H) L W W X E J U D Q W F V W W Z R U N Z H U H V F F H W X O F R P S O M G R Q W H X S S O R I F K O U I C H
Q X A D Q J D M R Q H T X L S P H Q W R U W H 2] J X U G U I Q N L Q J Z D M U W H D F H Q A S O Q A D W H 2 V K G E P Z D M U
W H D F H Q A S O Q V Z K L F K D V E H H Q L Q M D D G D D G S X W Q R R S H U D M R Q

\$ W H H V P H W P H L Q R U G U V R S U R Y L G H G U I Q N L Q J Z D M U R 2 V K F W D D G O N P L Q O Q H V
D D G E X L G D G E P P L O R Q 8 6 G R O D V D U H S U R Y L G H G D D G P L O R Q 8 6 G R O D V D U H S U R Y L G H G

IRU VMH FRQWKFWRQ RI NP RI ZDMU SLSHOGH LQ OQHV WDVZ HUH DSSURYHG EA VMH &RRLQCDNRQ. HQHK RI VMH. \U\] 5HSXEOF

7KURXJK VMH: RUE %DQN VMH³7D D6XX3URJUDP' LVEHQJ LP SOP HQMGLQ YLQDJH/RI 2VK &KXLDQG, WLN. XOSURYLQH/LQ VMHDP RXQ/RI P LQRQ86 GROYV/ 7R GDM VLQFHVH EHJLQLOJ RI VMH SURVFWLP SOP HQMNRQ KDV EHQ FRP SOWMGLQ YLQDJH/ FRQWKFWRQ DQG LQWQDNRQ ZRUN DQG SUHSDNRQ RI GMLJQ DQG HWMP DM GRFXP HQMNRQ FRQMXH IRU VMH UP DLOJ IDFLQHV

7KH: RUE %DQN LP SOP HQMGLQ DZ DMUVSSO SURVFWLQ. HLEHQ DQG 6XONDFLQV IRU P LQRQ86 GROYV/ Z KLFK Z DV FRP SOWMGLQ DQGSXWQ/RI RSHUDNRQ

7KURXJK VMH, VOP LF' HYHSP HQV/DQN SKDVH, LVLV SOOQHGRV SURYLGH YLQDJH/RI -DDO\$ EDG SURYLQFH Z LW FODQ GUQNLOJ Z DMU IRUDVWDDP RXQ/RI P LQRQ86 GROYV/ 7R GDM VMH GHYHSP HQ/RI GMLJQ DQG HWMP DM GRFXP HQMNRQ KDV EHQ IXOO FRP SOWMGLQ DQG FRQWKFWRQ DQG LQWQDNRQ ZRUN KDV EHQ FRP SOWMGLQ YLQDJH/ &RQWKFWRQ DQG LQWQDNRQ ZRUN FRQMXH RQ VMH UP DLOJ IDFLQHV &RQWKFWRQ ZRUN Z HUH FRP SOWMGLQ VMHSHURGR

7KURXJK VMH, VOP LF' HYHSP HQV/DQN DQG VMH6DXGL' HYHSP HQV/XGGLQ VMHDP RXQ/RI P LQRQ86 GROYV/ YLQDJH/RI %DMHQ DQG 7DDV SURYLQH/VZ HUH LQFOXG-G RI Z KLFK YLQDJH/LQ %DMHQ SURYLQH YLQDJH/LQ 7DDV SURYLQH 7KHVMH SURVFWVZ HUH UDMVHG DVMH HGG RI WQED LQ VMH YLQDJH/RI %DMHQ SURYLQH VMH SUHSDNRQ RI GMLJQ DQG HWMP DM GRFXP HQMNRQ LV DVMH FRP SOWMGLQ WDVZ FRQWKFWRQ DQG LQWQDNRQ ZRUN KDV VMUWGLQ YLQDJH/ DQG LQ VMH YLQDJH/RI 7DDV SURYLQH ZRUN RQ GHYHSPLOJ GMLJQ DQG HWMP DM GRFXP HQMNRQ DUHXGG-LZ D &RQWKFWRQ ZRUN Z LQEHFDLWJH-GRXWURP

7KURXJK VMH(XUDMDQ) XGG IRU 6VDELQ DNRQ DQG' HYHSP HQV() 6' DO HP RUDGGXP IRUD VWDDP RXQ/RI P LQRQ86 GROYV/ Z DV VLQGHZ LMLQ VMH IUP HZ RUN RI VMH GRU FRQHJHQH RQ1 RY-P EHU DQGVH & RCF-SVZ DV/VQ/VR VMH() 6'

) RUVLV SURVFW YLQDJH/RI 2VK SURYLQH DUH LQFOXG-G DV/SQVM YLQDJH/ IRUZ KLFK P LQRQ86 GROYV/LV/H SHFWG VR EH DQDFDNG 7KH SURVFWVZ DV DSSURYHGE VMH & RXQFLOR VMH * RYHQP HQ/RI VMH. \U\] 5HSXEOF RQILV FDDOGLQYHMV HQV/SROF DVRI \$XJXW DQG VMHGDV WRCF-SVZ DV/VQ/VR FRQLGHUDNRQ EA VMH() 6' %RUGRI' LWFRVU/

7KH UHSXEOFDQ EXGJHVLV GVMEXNG WKURXJKRXVMH SURYLQH/RI . \U\] WQQ IURP VMH UHSXEOFDQ EXGJHVMXGGU VMH LMP ³&DSLVDLQYHMV HQV IRUZ DMUVSSO IDFLQHV LQ VMHSHURG IURP P LQRQ VRP V Z HUH DQDFDNG FRQWKFWRQ DQG UHDELODNRQ LQ YLQDJH/VZ HUH FRP SOWMGLQ Z LW VMH DQDFDNG IXGG/

) RU P LQRQ VRP V Z HUH SOOQHGR IURP VMH UHSXEOFDQ EXGJHVMXGGU VMH LMP ³&DSLVDLQYHMV HQV RI Z KLFK

P LQRQ VRP V IRU VMH FRQMXDNRQ RI Z RUN LQ WQDNRQ DDI DFLQHV YLQDJH/ WQED P LQRQ VRP VKDYHEHQ WQDNRQ HUHGG DQG EA VMH HGGRI IDFLQHV YLQDJH/ KDVHEHQ FRP SOWMGLQ Z RUN/RQ VMH UP DLOJ IDFLQHV/DUHFDLWJH-GRXV EA VMH' HSDUW HQ/RI +RXVLQJ DQG &LYOG &RQWKFWRQ

\$ FDSLWDFRQWKFWRQ GHSDUW HQVZ DV/FUHDNG XGGU VMH' HSDUW HQV/RUMHG GHYHSP HQ/RI GUQNLOJ Z DMUVSSO DQG GUDQJH) RUVLV/SXSRVH P LQRQ VRP V DUH VR EH DQDFDNG IURP VMH UHSXEOFDQ EXGJHVMXGGU VMH LMP ³&DSLVDLQYHMV HQV IRU RI Z KLFK P LQRQ VRP VKDYHEHQ DQDFDNG Z RUN/DUH XGG-LZ D DV IDFLQHV YLQDJH/V >

'LVFXVVL RQ

\$VIRU' RGRV SURF-GXUV LQ VMH I LHGR RI GUQNLOJ Z DMU SURYLNRQ HFK' RGRU KDV LW RZ Q SROFLV DQG SURF-GXUV WDMVMH Z RUN Z LW DUXGG VMH Z RUE 7KLV HSHFDOD DSSOH VR FRGGFWQJ WQGHV DQG VDFWQJ FRQWDFRU RUDQJ DNRQ/ Z KLFK UHTXUVH FHVWLO VLOV FRQWVRQ/ DQG WPH , QWLV UHJDLG VMH LP SOP HQMNRQ RI VRP H SURVFWLV/GD HG IRUD GRU WPH

, I \ RX GRN D/VMH DP SOR I %DNV VHQVHGHLJQRI VHI (%5' SURVFWVHUSURF-GXUHV
 YHV FRP SOFDMG DGGVHI Z RUN P DGD LQ FVWV VCFH FLV UHMG-QV DUHFRQLG-UHGVR EH DEH
 VR SD VHI BDC LQ DGGVWRQ VHIUSURFHW I RUSDXLQJ DGG DSSURYLQJ VHI SURVFWV FRRLGCDMG
 Z LK VHIUHFQNDOR I LFH Z KHUHLV/Z UVMQ VQD/VHUSD P HQ/V/P DGEA VHIP XQFLSDOV DGG
 VHI DUHP HQ/VL VJQG Z LK VHI FLV Z DMU XMDVH/Z KHU VHI FLV P D RJV R I LFV DUH VHI
 JXUDQV , I \ RX GRN D/VMH VQG-USURF-GXUHV VHI (%5' VQG-U DGG SURFUXP HQ/VL FDVHG
 RXVVRXJK VHIP D RLV R I LFV

2 VHIUGRQV DGG EDQV Z RUN Z LK VHIUSXEDDQ EXGJHVZ KHU VHI JXUDQVRI UHSD P HQ/
 LV VHI* RYHCP HQ/VRI VHI. \ U \] 5 HSXEDF , Q VHI DP SOR I VHI: RUC %DN VHI VQG-U DGG
 SURFUXP HQ/V SURF-GXU VHXG EH FDVHG RXVA \$ L O \$ LP DN \$ \$ EFDVH \$ L O \$ LP DN DUH
 UHSRQLEH EXVGH VR VHI IDFWMD/VH UH DUH CR SURFUXP HQ/VSHFDV LQ \$ L O \$ LP DN VLV
 SURF-GXU LV FDVHG RXVA VHI & RP P XQV ' HYHSP HQ/V DGG, QYHV HQ/V JHCA \$ 5,6 RQ
 EHKD RI VHS \$ EXVDV DUHXOVLV/QRV \$ 5,6 EXV \$ VQD/V UHSRQLEH

2 Q VHI R V H J K DGG Z K LVV FDVHG GRVA VHI \$ 5,6 DGG QRV \$ L CRN R V VLV LV GXHV VHI
 IDFWMD/VHI: % FRQDFV DODUHP HQ/V VDM VDM VHI LP SOR HQ/V DJHCA VHXG EH \$ 5,6
 DGG VHI* RYHCP HQ/VHXG EH UHSUHQMG EA VHI' HSDV HQ/V RUMHG-HYHSP HQ/VRI GULQJ
 Z DMUVSSO DGG GULQJH D/VH UH DUH CR R V H V P LQ UERGH/LQ VLV/VSKUH H V

, Q VHI EDQJ H Q V R Q P HQ/V VHI UH DUH YHV KJK UHXUHP HQ/V I R V H P M Q FRQDFV
 ' H S U M VHI IDFWMD. \ U \] VQD K V D / D Z 3 2 Q SXED SURFUXP HQ/V GRQV VMDFRGGV
 VQG-V DFRRLGQ VR VHIUGHLJQ DGG SURF-GXU/I R V H P M Q VSSOHV DGG FRQDFV FRRVH
 FRQDFV VHI P VHYV EXVQ VHI FDVRI SFRUTXOV Z RUN DGG DQXQVXG VFRQDFV LQ
 VHI HGG VHI* RYHCP HQ/VRI . \ U \] VQD LV UHSRQLEH I R V VLV LQFOGQ DDFR P HQV RQ
 I D Q U H / Z K L F L V Q R V R U H V

\$ Q R S H Q T X H M R Q D U H / L X O P D M D R X U V D M E H D V U H S R Q L E D W I R U V H V F F H V R I V H I
 LP SOR HQMG SURVFWVHQ LVLV QFHVDV I R V H * R Y H C P H Q V ' H S D V H Q V V R G Y H S D G G
 O E E V H U R Z Q G H L J Q R I V H 3 U R F G X U S R O A ' I R U V H I P S O P H Q D M R Q R I S U R V F W V D U V Q J
 Z L K V H F R R L G C D M R Q R I V H S U R V F W E H Q J L P S O P H Q M G I R U V H V H P M R Q D G G D S S U R Y D O R I
 F R Q D F V Z K L F Z L O D O Z V R H Q M U H V F F H W X O F R R L G C D M G V L Q A Z R U N V D A Z L O E H P R U H
 V O U G I R U X V D G V F F H W X O R U G R Q V V L V L V H H R O Z D V R D K L Y H R X U R O Y

7 R G R V L V L V Q F H V D V V R V O Y V H S U R E O P U H D M G V R V H V A K F M U H V V D A Z R U N R Q Z D M U
 V S S O V H V H D U H D J D Q U X D S X E O F G U L Q J Z D M U F R Q X P H V X Q R Q / 5 3 ' : & 8 Z K L F Z H U H
 F U D M G D V H U H T X H W R I ' R C R V D G G D U H F R Q M G H G X Q V V Q D E H D G G P X Q F L S D O H M S U I H V
 V D A Z L O C R V E H D E H V R I X O G H L C H V H L V A K F M U H Z L K Y H V O Z X Q U D R D E H V D U I I V D V F D C R V
 F R Y H V H V I P S O I J L V M Q F R I Z D M U V S S O V A K F M U H

7 D U I I V H V A E O F D O X M R U M H Y D V L Q G U I H U Q V L C O D J H / D G G D U H X X O D V J Q U I F D Q O O Z H U
 V D Q V H F R W R I V H Y L F H / 5 D M Q J V D U I I V V L Q G V R E H G U I L F X O V D G G V H S U R F H W L V R I V Q
 S R O M F J H G D G U H S U H Q D M Y H / R O F D O F R X C F L Q D U H R S S R V G V R S U I H L C F U H D H / 7 K L V G R P V H
 V F V U Z L K X C F O D U V D U I I V H M Q J S U R Y L V R Q / D G G S R O M F J D M R Q R I V D U I I V , Q P R V F D H V V H
 Z L O Q J Q H V R S D D P R Q J V H S R S X O M R Q L V K J K H V M Q D V H D F M O D U I I U D M V X E M F V R V H
 S U R Y L V R Q R I T X O D V Z D M U V S S O V H Y L F H

7 D U I I S R O F U H R L P L V R C H R I V H P R V I P S R U D Q V H O P H Q V R I V H V D M U \ D G G V L V S R O F
 / R F D O H Y L F H S U R Y L G H V Z L O E H L C F Q M Y J H G V R J U D G D O L C F U H D H V D U I I V R D O M H O X I I L F H Q V R
 F R Y H V H F R W R I S U R S H R S H U D M R Q D G P D Q M C Q F H Z K L O U H S F M Q V H D E L W R I F R Q X P H V
 V R S D V A K V D U I I V

\$ V H I P R P H Q V D G U W D Z 3 2 Q G U L Q J Z D M U V S S O D G G U L Q J H K V E H Q S U H S D J G
 Z L K V H Z D M U V S S O G S D V H Q A Z L K V H V S S R U V R I V H : % 7 K L V G U D W D Z S U R K L E W V H
 D S S U R Y D O R I D V D U I I E H O Z F R V S U I F H L V D V V D V I D V D U I I L V D S S U R Y H G D A F R V S U I F H V H Q V H
 O F D O X M R U M P X V F R P S H Q D M L V U R P R M H V R X U H V , V K R X G E H Q R M G V D V M L V G U D W D Z
 S U R Y L G H / Q R V R O I R U Z D M U V S S O E X V D O R I R U G U L Q J H V C F H E H R U H V L V V H U H Z D V / Q R / D Z R Q
 G U L Q J H

, Q RUG-U VR HOP LQDM FROM/RQ/ DOG JDSV/LQ UHXDARU @U DODFW UHXDARU UHDMRQ/LQ VMH
 ILHG RI KRKXKRCG DOG GUICNLOJ Z DMU VSSO VR VMH SRSXDMRQ DOG HQXUQJ VMH TXDDW RI
 GUICNLOJ Z DMU VMH 6VDM \$ JHCF IRU \$ UFKLAFMUH & RQMKFMRQ DOG + RXVLOJ DOG & RP P XQDO
 6HUYLFV XCG-U VMH & DELQVRI 0 LQVMU/ RI VMH. \U\] 5HSXECF KHUHQDMU UHUUHG VR DV
 * RVMR Z LK VMH VSSRUVR VMH: RUGEDGN DQZ GUDW DZ RI VMH. \U\] 5HSXECF³2 Q
 GUICNLOJ Z DMU VSSO DOG GUDQJH KDV EHQ SUHSDUH Z KLFK SURYLGH DP RQJ RHFUMLQJ
 IRU VMH DSSURYDOR VDUU IV GRVZ HUVDQ FRVSWUH VMH UH SRQMELOV RI @FDDKMRUMH IRU
 DSSURYLOJ VDUU IV DVMH @YHORI HJ SHQH FRVSWUH DV Z HODV DNLQ LQAR DFRXQVMHFRVVR
 SURHMLRQDQWFKQFDDG YH@SP HQVRI VMH GUICNLOJ Z DMU VSSO DOG GUDQJH VFRUJ/KP DQ
 UHFRUJH/SRMOQDQZ KLFK LV DVMH DSSURYDQWJH

6LQFH LQ VMH QHJKERUQJ FRXQW 8] EHNVDQ VMH VDUU IV DSSURYHG E VMH 0 LQVM RI
 + RXVLOJ DOG & RP P XQDO 6HUYLFV DOG LQ RXU FRXQW VDUU IV DUH DSSURYHG E ' HXMH/ RI VMH
 / RFD. HQHK DOG & LW. HQHK Z KR LQVMQ GR GRVMDH UH SRQMELOV DOG UFP DQXCGXQVKG
 GAVR Z KLFK VMH DFFSWFRGRP LFDQ XQVMWLG VDUU IV DV DUHXOVR Z KLFK VMH VFKFUMH/VMDV
 Z RUN RQ Z DMU VSSO Z LQGRVH DE@VR DFKLHYH SURUVELOV ,I VMLV GUDW DZ LV DGRSNG LV
 Z LQD P DNH Z DMU VSSO VFKFUMH/ P RUH HILFHQVDOG DFKLHYH SURUVELOV 7KHU LV D
 UHTXUHP HQV/Q VMH: % FRQVMRQ/VMDV/LQ RUG-U VR HQXUHXVMDQDELOV LVA/QFHWDU VR DGRSV
 DQFRGRP LFDQ VMWLG VDUU

, VVKRXC@DOR EHQRMG VMDV/RQD VMH V VAP RI VDM P DQJHP HQVRI Z DMU UHFRUJH/V/LQDQ
 HJ VHP HD GULFXQVRQGVNRQ

7KH VDM ERG UH SRQME@ IRU GUICNLOJ Z DMU VSSO DOG VMHP DQ ERG RI SURVFW EHQJ
 IP S@P HQMGLQ VMH. \U\] 5HSXECF Z DVMH' HSDUHQV RUMHG YH@SP HQVRI GUICNLOJ Z DMU
 VSSO DOG GUDQJH DOG Z DV XCG-U VMH 6VDM \$ JHCF IRU \$ UFKLAFMUH & RQMKFMRQ DOG
 + RXVLOJ DOG & RP P XQDO 6HUYLFV XCG-U VMH & DELQVRI 0 LQVMU/ RI VMH. \U\] 5HSXECF 7KL
 ERG KDV XCG-U RQH P DQ VFKFUMD DOG IXQVRQD@FQDQJH/ Z KLFK KDYH @G VR LQXILFHQV
 IP S@P HQDMRQ P RQVUQJ RI SURVFW DOG FRRLQDMRQ Z LK GRQV/ RQ Z DMU UHFRUJH/
 P DQJHP HQV

, Q XCG-U VMH LQVMKMRQ RI VMH \$ @P LQVMDMRQ RI VMH 3UHLG-QVRI VMH. \U\] 5
 HSXECF VMH 0 LQVM RI \$ JUIFXMUH RI VMH. \U\] 5HSXECF LQVDMG VMH GUDW DMU & RGR RI
 VMH. \U\] 5HSXECF LQ D QZ HQVNRQ Z KLFK FRQLGHUH VMH LVXHV RI HMDQKLOJ JH@UDO
 UHTXUHP HQVIRUMHG HJ QDQD FRQVMKMRQRI HJ VMDQZ DMU VSSO V VAP V DOG SURYLQJ VMH
 SRSXDMRQ Z LK VDH GUICNLOJ Z DMU GUDW RI UHXDARU VFKQFDDFW 57\$ LQ VMH ILHG RI
 GUICNLOJ Z DMU VSSO DOG GUDQJH & RQMKFMRQ GRP V DOG UK@V & 15 61 L3

%VMH @MD SUHMQM FRQLUP VMH @HG VR VMHQVMHQ FRRLQDMRQ RI VMH DVMRQ/ RI
 JRYH@P HQV ERGHV @FDD P DQJHP HQVRI RUDQJ DMRQ/ DOG HQMSUMH/ UH SRQME@ IRU
 P DQJLQJ Z DMU UHFRUJH/ Z DMU VSSO GUDQJH VQDMRQ V VAP V DOG SURVFWRQ RI Z DMU
 VSSO VRUJH/

, VLV QFHWDU VR VMHQVMHQ KP DQ UHFRUJH/SRMOQDQ VMH ILHG RI GUICNLOJ Z DMU VSSO
 DOG GUDQJH GYH@S DOG DSSURYH VUHMVUZ LK VMH 0 LQVM RI (GXFDMRQ DOG 6FLH@FRI VMH
 . \U\] 5HSXECF DOG VMH 0 LQVM RI / DERU 6RFDQ: HODUH DOG 0 LUDMRQ RI VMH. \U\] 5
 HSXECF D 3URJUD IRU VMH SURHMLRQD DOG VFKQFDDG YH@SP HQVRI VMH VFRU DV D
 IXG@P HQMDGRFP HQVGLQLOJ VMH JRDV REMFVYH/ DOG P DQ GUFWMRQ/ RI SURHMLRQD DOG
 VFKQFDDG YH@SP HQVRI VMH VFRU DV Z HODV D5 R@P DS IRULVLP S@P HQDMRQ XQND
 & XUHQ@ * RVMR LV Z RUNLOJ Z LK VMH: RUG%@Q DOG \$ 5.6 VR UHROYH VMH LVXHVRI ILQDGLQJ
 VMH XUMHLP S@P HQDMRQRI VMH 3URJUD DOG VMHUR@P DS IRULVLP S@P HQDMRQ

7KH JRYH@P HQV XWVGFLGH KRZ VR LQF@GH QDMRQD S@DQLOJ SURFVH/ SR@LH/ DOG
 VMDUHLV LQAR SURVFWLP S@P HQDMRQ DOG VMLW RZ Q REMFVYH/ VNLQ LQAR DFRXQV@FDD
 FRQVMRQ/

& UDM SDU@HUKLSV RQ VMH 333 3@MRUP Z LK VMH SDU@LSDMRQ RI D@VMDKRGHV DOG
 VMHQVMHQ IRU VMLQVXV DFFHWELOV DOG GYH@SP HQVRI VRVMRQ/ VR DFKLHYH VMDQDE@
 GYH@SP HQV/Q VMH ILHG RI Z DMU VSSO & DU VMWMLQUDM P DQJHP HQVRI Z DMU VSSO

DFWYLVH/ LQMJUDNRQ RI VHZ DMUVFVUDQG VHZ DMUXVHVFVUDV/DZ KROH SRCF I RUP DNRO
Z LWK VHSUWVLSMNRQRI DDMONKROHUV

) LQGFHZ DMUVSSO EDVGRQDQZ SURWFVP SOP HDMRQGHJQ Z KHUHVHUVLQGFUDVH
HILFHF RI H LVNQ I LQGFDOUHXUHV DQ VHP RELQ DNRO RI DGGVRCDDQG LGGRYDHYH
IRUP VRI LQMGDDQGLQMGDMRQDQ LQGFQJ

(QXUH SXEF SDUWVSDNRQ SXEF SDUWVSDNRQ IQ GFVLRQ P DNQJ SURFHV EUQJV P DQ
E-CHLV EXVHVVUP HMRG/RI P HDXUQJ VHTXDDV DGHIFVYHCHWRI VFK SDUWVSDNRQDUH
QHGHGUDMFLUDDQJHDLQJ RQVHXQP EHURI SXEF P HP EHVLQYROYH

' HYHBS VHLQVMMRQDQDFSDFLWRI RUDQJ DNROVMDVZ RUNLQVHILHGR Z DMUVSSO DQG
GUDQJH

8 VHP DVVWFKRGRUHV VP DVVWFKRGRUHVFDQLP SURYHDDVSHFVRI P DQJHP HQVRI Z DMU
VSSO DVZ HODVDDQV DQGGK JIHQF DFWYLVH

& R Q F O X V L R Q

\$ VVHHP RP HQV VHZ DMUVSSO VFAVRI VH. \U\ 5 H SXEF LV H SHUHQFQJ LQXILFHQV
I LQGFDOUHXUHV VRI RSHUDM DQG HQXUH XQQLXSYNG RSHUDNRQ RI Z DMUVSSO V VAP V LVW/
QHFWQJ VRI UDVH DZ DUHQW DP ROJ VHSRSDNRQ DERXVVH QHG VR SD I RUVH SURYLVRO RI
Z DMUVSSO VHYLVH DQG HMDQK VUUV VMDVFRYHVHFRVRI SURYLGQJ Z DMUVSSO DQG
GUDQJHVHYLVH

, QVMMRQDQVXHV DUHKOP SHUQ VHVFAVUDVHCDNRQDQDQGFDDQHY 7 KHUHVXQFQJ
GVWEXNRQ RI URQV DP ROJ VONKROHUV DQG VHVH DUH DOR JDSV LQ FFRUGDNRO DQG
DFRFXQDELQW 6KRUVRP LQJVLQFQGH DP ROJ RHFUMLQJV P DQJHP HQVSDFLW XQFRP SHUWYH
VDDUHV LQXILFHQVQXP EHURI SURHMDQDZ LW VFAVUH SHUWYH JDSV LQ UHSRQMEQW DQG
DWHVZ CHUKS HV

&XUHQ VHV VDM EXGHVGRHV GRVQDYH VILFHQVXQGV I RU FSDUDDQYHVF HQV LQ VLV
VFAVUDV/DUHXQVRI Z KFK VHVXSSRUVRI LQMGDMRQDQGRUV/LVQHGHGLOVHIXMUH \$ FFRUGQJ
VR LQGHGHQV VMDQDQGDNRQDQ SHUWYDHFV HQVHHP RQVRI LQVHVF HQVUHTXUHGVR
IP SURYH VHV XUDSRSXDNROJ DFFHV VR Z DMUVSSO VHYLVH/LV P RUH VMDQ ELQDQ
P LQDQVVP V

, QRUGVUR IP SURYH VHV GDMEDVRI VHV GUQNQJ Z DMUVSSO DQG GUDQJHVFAVUSRSHVH
E VHV: RUG%DN VHVQZ LQ RUP DNROV VAP I RUSQVQJ DQGLP SOP HQVNRQ GDVDFRQFNRQ
36, \$6\$5' UHTXUHVHVUQVHP HGGI LQGFHV

5 H I H U H Q F H V

' UDW6SHFDQHSRUVRI VHV2 P EXGP DQ \$ N LNDVRI RI VHV. \U\ 5 H SXEF³7 KHUWKV
RI FVYHQVRI DFFHVVR FQDQGUQNQJ Z DMUDQVDDQVNRQ - DQXUJ

[KMSV RP EXGP DQNU LQGH SKS' RSNRQ FRP BFRQMV YLHZ DUWQJ](#)

3URJUDP I RUVHGHYHDSP HQVRI GUQNQJ Z DMUVSSO DQG GUDQJHV VAP VLQSRSDMG
DUHDVRI VHV. \U\ 5 H SXEF XQMD [KMS FEGP LQXVWRYNU DFWYLVH UXUX](#)

, QRUP DNROV VHZ RUNGRQVRI SURYLGHSRSDMG DUHDVRI VHV. \U\ 5 H SXEF Z LWK
GUQNQJ Z DMUVSSO DQG GUDQJH D VRI ' LVFAVRI VHV' HSDUW HQV RUVH

GHYHDSP HQVRI GUQNQJ Z DMUVSSO DQG GUDQJHVXGGHVMH* RVMR 0 RP XQRY
6DLSGQ

5 HSRVQVHHP SOP HQVNRQRI VHV3URJUDP I RUVHGHYHDSP HQVRI Z DMUVSSO DQG
GUDQJHV VAP VLQSRSDMG DUHDVRI VHV. \U\ 5 H SXEF XQMD D VRI) HUXDUJ

' HXW GUFAVRI VHV' HSDUW HQV RUVHGHYHDSP HQVRI GUQNQJ Z DMUVSSO DQG
GUDQJHV 6KQDQ DQRY

+ DQGRNRI UHXQVRI DQGDYVRI GRFXP HQV LQVHILHGR GUQNQJ Z DMUVSSO
VDDQVNRQ DQG GUDQJHRI VHV. \U\ 5 H SXEF