Abstract:

## 1. Introduction

LHG"Uvggn"jcu"eqpvtkdwvgf"vq"vjg"cfxcpegogpv"qh"xctk/ qwu" kpfwuvtkgu." dgikppkpi" ykvj" vjg" rqyfgt" ogvcnnwti{" kpfwuvt{." cu" vjg" qpn{" fkxgtukhkgf" ktqp" rqyfgt" ocmgt" kp" Lcrcp" yjkej" rtqfwegu" dqvj" tgfwegf" ktqp" rqyfgt" cpf" cvqok|gf"uvggn"rqyfgt<sup>3</sup>:0

 $Tgfwegf" ktqp" rqy fgt" ku" rtqfwegf" d{" c" rtqeguu" kp" y jkej" ktqp" qzkfg" * 0 knn" { b m m" { b m "we $ } }$ 

eg w\_cvm g"\* f%cjkej fk

f "cykej fk ktqp" rq ggt" gtjkej f" f

rctvu." y jgtg"RO" o cejkpg" rctvu"ctg"wugf"kp"u {pejtqpk|gt" jwdu."rncpgvct {"igctu"cpf"vjg"nkmg0"Kv"ku"vjqwijv"vjcv"eqp/ uw o rvkqp" qh" RO" o cejkpg" rctvu" jcu" vgpfgf" vq" fgetgcug" fwg"vq"vjg"kpetgcug"kp" j {dtkf"xgjkengu"cpf"gpikpg" fqyp/ uk|kpi" qh" tgegpv" {gctu0" Kp" vjg" hwvwtg." crrnkecvkqp" qh" RO" vgejpqnqi {"vq" rctvu" qvjgt" vjcp" o gejcpkecn" rctvu." dgikp/ pkpi" ykvj" o qvqtu."ku"uvtqpin {"fguktgf0

Vjg"hqtgecuv"qh" inqdcn"xgjkeng" rtqfwevkqp"ku"ujqyp"kp" **Fig. 4**0"Cu"kpetgcugf" rtqfwevkqp"qh" xgjkengu"ku" cnuq"hqtg/ uggp" kp" vjg" hwvwtg." egpvgtkpi" qp" Cukc" uwej" cu" Ejkpc." Kpfkc." gve0."kpetgcugf" fgocpf"hqt"ktqp" rqyfgt"hqt" cwvq/ oqvkxg" RO" ocejkpg" rctvu" qp" vjg" inqdcn" uecng" ku" gzrgevgf0

## 2.2 Non-PM Fields of Use

Qpg"qh"pqp/RO"hkgnfu"qh"wug"hqt"ktqp"rqyfgt"ku"rtqf/ wevu" kp" y j ke j " cvvgpvkqp" ku" hqewug f" qp" v jg" tgcevkxkv {" qh" ktqp"rqyfgt0"Cu"tgrtgugpvcvkxg"gzcorngu."dqf {" y ctogtu" y jkejqf rp cqqzc g gckq" ýkfgt"ku" x ` " rkrzqq qt j â O x ) kq # p"ej" cvv b hqt r qp" b z ) kq/bqx ) ti j â "ug y

77

"ukpq

cdknkv{." cpf" Ew." y jkej" o gnvu" fwtkpi" ukpvgtkpi" cpf" uvtgpivjgpu"rctvkeng"eqpvcev"rctvu"\*pgem"rctvu+<sup>3:+0</sup> õLKR" HO3522.ö" y jkej" gpcdngu" vgpukng" uvtgpivj" qh" 3"522"ORc"d{"rgthqt o kpi"ectdwtk|kpi"chvgt" jkij"vg o/ rgtcvwtg" ukpvgtkpi." ku" c" Engcp o kz" rtqfwev" kp" y jkej" itcr jkvg" rqy fgt"ku" o kzgf" y kvj"vjg"Oq" j {dtkf"cnnq{gf" uvggn" rqy fgt" õLKR" C J 67370" ö" Fwtkpi" ukpvgtkpi." vjg" Oq/tkej" tgi kqp" hqt ou" cp" rjcug." y jkej" jcu" c" jki j" o cuu" fkhhwukqp" tcvg0"Cu" c" tguwnv."pgem" rctvu" i tqy "cpf" ctg" uvtgpivjgpgf." cpf" uk o wnvcpgqwun {" ykvj" vjku." ur jgtqkfk|kpi"cpf" tghkpg o gpv" qh" rqtgu"ctg" rtq o qvgf." tguwnvkpi "kp"ukpvgtgf"p " ukpvkt"tgk (" i

rqy fgt."cpf"tgcnk|gf"vgpukng"uvtgpivj"gswcn"vq"vjcv"qh" 6 ' Pk" cnnq{gf" uvggn" rqy fgt" d{"vjg" ghhgevu" qh" Oq." y jkej"jcu"c"nctig" o wnvkrn{kpi"hcevqt"hqt"uvggn"jctfgp/ cdknkv{." cpf" Ew." y jkej" o gnvu" fwtkpi" ukpvgtkpi" cpf" uvtgpivigpu"rctvkeng"eqpvcev"rctvu"\*pgem"rctvuL<sup>3:+</sup>0

- 35+" Wgpquqpq."Ucvqujk="Qiwtc."Mwpkcmk="Uwikjetc." Jktqujk0"Mcycucmk" Uvggn"Vgejpkecn"Tgrqtv0"4222."pq0"64."r0"636690
- 36+" Q |cmk." [wmkmq=" Qpq." Vq o qujkig=" Wpc ok." Ujkigtw0" LHG" I kjq0" 4227."pq0"9."r0"3670
- 37+" Qpq." Vq o qujkig=" Q|cmk." [wmkmq0" LHG" Vgejpkecn" Tgrqtv0" 4233." pq0"38."r0"9:6:40
- 38+" Qpq."Vq o qujkig="Q|cmk." [wmkmq0"Cduvtcevu"qh"Cwvw o p" Oggvkp i "qh" LUR O0"4235."r0"520
- 39+" Qiwtc."Mwpkcmk="Cdg."Vgtw{qujk"gv"cn0"Mcycucmk"Uvggn"Vgejpkecn" Tgrqtv0"3;::."pq0"3:."r0"886940
- $\label{eq:states} \begin{array}{l} 3:+" \ Wpc \ ok." Ujkigtw="Q|cmk." [wmkmq="Qpq." Vq \ oqujkig0"LHG" Vgejpkecn" \\ Tgrqtv0"4233."pq0"38." r0"936990 \end{array}$
- 3;+" Ocgvepk." Vqujkq=" Wpcok." Ujkigtw=" Qpq." Vqoqujkig=" Q|cmk." [wmkmq="Qiwtc."Mwpkcmk0"Cduvtcevu"qh"Cwvwop" Oggvkpi"qh"LURO0" 4235."r0"8;0
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