ËÒ×ÌÛÜ ÍÌBÌÛÍ ÑÚBÓÛÎ×ÝB ÚÛÜÛÎBÔÛÒÒÎÙÇ ÎÛÙËÔBÌÑÎÇÝÑÓÓ×ÍÍ×ÑÒ

Ýß´·º±βº·¿²- º±θ λ²»©¿¾» Û²»βºδ°×²⁄δ σÝβÎÛ÷

^aò

ܱ⁄₄ı»¬Ò±òÛÔïðóèìóððð

Đợ½º½º½Ù¿-¿²¼Û′¾½®½Ý±³°¿²§ ͱ«¬¸¾® Ý¿´º±®°¿Û¼-±²Ý±³°¿²§ Í¿²Ü∵»¹±Ù¿-úÛ′¾½®½Ý±³°¿²§ Ý¿´°±®°;Đ«¾½Ë¬´¬»-ݱ³³·--·±²

ßÓÛÒÜÓÛÒÌÌÑ ÝÑÓĐÔß×ÒÌÛÔïðóèìÛÌßÔ

Đc® «¿²¬¬± Î «´» Î ï Î Ï ¿²¼ Î «´» Î ï ë Î ±°¬¸» ݱ³³·--·±²Ž- Î «´»-±° Đ® ½¬½» ¿²¼

```
<sup>ï</sup>yíèëòîïî Ó±¬±²-øÎ«′»îïî÷ò<u>⊤±°</u>
 Q¿÷Ù»²»Q΄®κ΄»òβ³±¬±²³¿§¾»°·′»/æe
ØÏ÷߬¿²§¬³»Ô«²′»--±¬¸»®©·-» ®±²¹⁄ѧオ⁄å
@î÷Þ$¿°&%½°¿²¬±®¿°»®±²°©¸±¸¿-°·′»¼¿¬³»′§³±¬±²¬±·²¬®³»²»°©¸½¸¸¿-²±¬¾»»²½°»²»/å
Øí÷x²¿²§ ®±/2»»1/4²¹» °1/2»°¬¿²·²°±®³¿′®«′» ³¿µ·²¹ ®±/2»»1/4²¹ò
₫⁄≄ É®¬»² ¿²¼±®;´³±¬±²Òß²§³±¬±²³«¬³¾»°.′»¼⋅²©®¬²¹ô» ⅓»°¬¬¸¿¬¬¬¸»°®»-⅓²¹±⁰⁰⅓®³¿§°»®³¬¿²
±®/ 3±7±2-±3/4» 3;1/4» ±2-, »®//±®/4/4(® 21 ; , »\® 21 ±®//±20\\®) 21/20
Ø⁄±Ý±²¬»²¬Òβ³±¬±²³«¬¹/±²¬¿·²¿½»¿®¿²¼¼±²½-»-¬;¬»³»²¬±æ
øï÷帻°;½-ن²¼′¿©©¸½¸-«°°±ۍ¬¸»³±¬±²å¿²¼
ØÎ÷Ì ,» -° »1/2°1/28» ′· »° ±88« ′· 218» ¯«» ¬»1/6
ÅÑ®%®îîëôìéÚÎ ïçðîîôÓ¿Ş íôïçèîô¿-¿³»²¼%%ŞÑ®%®îîëŠßôìéÚÎ íëçëêôß«¹òïèôïçèîåÑ®%®íéêôìç
ÚÎ î ïéðëô Ó¿Ş î íô ï çè ìÃ
<sup>Î</sup>γ (èëòîïë β³»²¼³»²¬±°°′»¿¼²¹-¿²¼¬®°°±®ç¬»°·′·²¹-øÎ«′»îïë÷ò<u>⊤±°</u>
@;÷Ù»²»®;´®κ´»-Òøï÷β²§°¿®τ½°;²Ō±®;²§°»®±²©¸±¸;-°.′»¼;¬³»´§³±¬±²¬±·²¬®³»²»©¸½¸¸;-²±¬¾»»²
1/2n<sup>2</sup>·3/16 <sup>3</sup>¿§ -»»µ + <sup>3</sup> ±/4°§ ~ °′»;/4<sup>213</sup>/8 °.′·<sup>21</sup> ¿<sup>2</sup> ¿ <sup>3</sup> »<sup>21</sup>/4<sup>3</sup> »<sup>2</sup>¬©¸ ½ 1/±<sup>20</sup>±® <sup>3</sup> - +¬¸ »® ~ ® 3 » <sup>2</sup>~ ¿°°′½/4³ » +
¬,»°′»;¹/4<sup>21</sup>¬±³/a»; 3°,2¹/a⟩¹/ô
ØÎ÷⬮™±®®¬» Ō΄΄·2¹ ³¿§¾»;³»²¼¼¼±®³±¼°»¼±±²′§;- ®±°¼¼√«²¬¸»®»¹«;¬±²-«²¼®¬¸·-½;;°¬®»β¬®™
±®®¬» <sup>0.′.21</sup> ³¿§ ²±¬¾» ¿³» ²¼»¼®» ¬¿- ¿′′±©»¼¾%§ ¬¬¬¬ю̸̀» ®±½¼¼®»- ®±°¼¼¼.4°¬¸ - -»½°±²¼± ²±¬
¿°°′§¬±¿³»²¼³»²¬±°¬¡®°°±®®¬»°.′.21-Ò
ﻫ(+ﻫ+٠×°; ﻫ+٠٠٠٠°) كا «٤٠٤٤°) $\@\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\rightarrow\disp\righta
ው÷×°¿®ም¬»²¿³»²¼³»²¬·-⁰΄٪¼√²¿®Ł½»¼²²ዕቴ®°ኒ®ቴ±°¿®Ł½»¼²¹ዕ©¸¹½¸·--»¬⁰±®¸»ኒ®²¹«²¼»®-«¾ኚኒ®ԻÜዕ
¬ ¿¬ ¿ ³ »²¹¼³ »²¬ · - »°°¾½·² » ±² ¬ »¼į¬» ° · ′¾¼±² ′§ ·° ¬ » ¿ ³ »²¼³ »²¬ · - ° · ′¾¼ ³ ±®»¬ ; ¿² ° · ² »¼į§-¾»°±®»¬ , » »№ · »® · »®±°
Ø·÷×6°²¿®ਈ⁄ᢧ᠉¼²¹ô±®°﹐®±⁴ᢧ»¼²²¹ô¬¸¿¬·--»¬°±®¸»¸®²¹«²¼®-«¾¸¿®Ûô¿®®¬»²¿³»²¼³»²¬·-°′»¼
¿°¬®¬¸»¬³»°±®°′′²¹®±²⅓¼¼«²¼®°¸®ጲ®°¸øጲਚб÷ø÷±°¬¸·--¾₂±²ô±®°°¸¿²±®√´¿³»²¼³»²¬·-³⅓»¬±¿
®>-1/4<sup>21</sup>±<sup>001</sup>/4®1/4®<sup>21</sup>¿¸»&<sup>21</sup>±®1/±<sup>20</sup>%®><sup>21</sup>/20Ô¬¸»¿³»<sup>21</sup>/4³»<sup>2</sup>¬³/41/±³»-»<sup>00</sup>/1/2·°°a»¿-¿²¿³»<sup>21</sup>/4³»<sup>2¬</sup>±²′§¿-
°®±° 1/201/4«21/2018° 2®; 1®° , Ø/#±°¬, ·--»1/2+±²ò
Ø/÷ β²-©»®Òβ²§ °¿®°½°¿²°ċ²°±®¿²§ °»®±² ©¸±¸¿- °·′»¼¿ァ³»′§ ³±¬±²¬± ·²¬®°»²» ©¸½¸¸¿- ²±¬¾»»²⅓»°²/»δ
³¿§¿²-©»®¿©®¬»²±®±®(´;³»²¼³»²¬·²;½½±®%;²½»©¬¸Î«´»îïíò
Ø⁄±Ó±¬±²±°°±-⋅²¹¿²¿³»²¼³»²òβ²§°¡®¹½°¿²ô±®¿²§°»®±²©¸±¸¿-⁰⋅′»¼¿¬³»′§³±¬±²¬±⋅²¬®⁰»²»
© ½ ;¿-²±¬¾»»²¼»²-¾6³¿§°-′»;³±¬±²±°°±--²¹¬¸»;½½°¬;²½°±°¿²§;³»²¼³»²°±т, № ;¿²;²;³»²¼³»²¬
«<sup>21</sup>/<sub>4</sub>)®°¿® ¹®°¸ αξ±αί±α÷±°¬¸·--»/2·±²ô²±¬′¿¬ν®¬¸¿² ¨¡ë¹/<sub>4</sub>;§-¿°¬ν®¬¸» °.′.²¹±°¬¸» ¿³»²¹/₄³»²-ὸ
```

ĐŒŁ⁄ͽシʹ₄®» Ýß´゚ºቴՔ゚・¿²-ºቴ®Î»²»©¿¾»Û²®'Şôײ⁄๑øÝßÎÛ÷®»¯«»-Ⴅº®³・--・±²¬±º・´»¬¸・¿³»²¼³»²¬± Ⴅĺ»°¬»³¾®ïôîðïðÚቴ®³¿´Ý±³°´¿∵²¬±°Ýß´゚ºቴՔ・¿²-ºቴ®Î»²»©¿¾»Û²®'Şô
ײ⁄๑øÝßÎÛ÷«²¼®ÛÔïðóè컬¿ô¹

Þ¿¹¼µ¹®±«²¼

Ó±^{a.21} Đౖ®+»-½±²½®»²-´Ş º.´;¾¼¿ ³±¬±² º±®»¨°¾¼¬¾¼½±²-¼®¿¬±²±°¬¸» Đ®±°±-¾¼ 廬¬´»³»²-ð ĺ°¾½°½;´´Şô¬¸»Ş®>¯«»-¬¬¸¿¬¬¬¸»¬³» °±®½±³³³»²¬-±²¬¸» Đ®±°±-¾¼ĺ»¬¬´»³»²¬¾» ®¼¾½¾4®±³ íð¼¿Ş-ô¿--»¬¬² Ϋ´» ï îòî ±°¬¸» ݱ³³·--·±²Ž- Ϋ´»-±°Đ®½²⅓» ¿²¼Đ®±⁄¾¼®»

Ø⁄≠ βУ⁄₂» °¬¿²½» ±º ¿³»²¼³»²¬Òøï÷ β² ¿³»²¼³»²¬¾¾½±³»- »⁰¾½²» ¿- ¿² ¿³»²¼³»²¬¿¬¬¸» »²¼±⁰ ¡ë½§- የ®±³ ¬.»¼¬»±°°.′.²¹ô.°°²±³±¬±²·²±°°±-¬±²¬±¬,»;¼½»°¬;²½»±°;²¿³»²¼³»²¬«²¼®°®¹®°, @;†®°+ø·+±°¬,·--»1/2·±²·-°·′»1/4©¬¸·²¬¸» ïë1/¿§°»®±/ô @î÷x°¿³±¬±²·²±°°±-¬±²¬±¬¸»;¼½»°¬;²½»±°¿²¿³»²¼³»²¬·-°·′»¼©¬¸·² ï뼿§-¿°¬®¬¸»°·′·²¹±°¬¸» ¿³»²¼³»²呛»¨½°°¬±¬¸»°¬°,≥¬¬¸¿¬¬¸»¼½-·±²¿´¿«¬¸±®¬\$Ô¾»°±®> -«½¸½¬>Ô·--«»- ¿²±®¼®®¶½⁄₂·²¹¬¸» ¿³»²¼³»²•ô©¸±´´\$±®·²°¿®ô°±®¹±±½½«-»ò ፟፟፟፟ው፦Ü®ルク፰カイム¿³»²¼³»²¬òβ¼ォ½-:±²¿′¿ᢆᡢᢩቴჅー§ô±²³±n±²ቴ®±┓٫㎏♡-»ô³¿§¼®カ⁄হ¿²§°ശም½°¿²ôቴ®¿²§°ശ®±² -»»µ·²¹¬±¾»¿°¿®\$ô¬±°·′»¿©®¬»²¿³»²¼³»²¬¬±¿³°′.°\$ô½́¿®°\$ô±®¬¾₂²²⅓¿′′\$½±®ы⁄₂¿°′»¿¼²¹ò ÅŇ®⁄a®îîëôìéÚÎïçðîîôÓ¿Şíôïçèîô¿-¿³»²¼¼¼ŞÑ®⁄a®éïìôéíÚÎëéëíèôÑ√æòíôîððèÃ ĺ»»×--«¿²½» îðïððçðïóíðíí Ò±¾» ±°½±³°′¿·²¬®» Ýß′.º蚰°ċ²-°щ®ĺ»²»©;¾» Û²»®′§ôײ½ª Đ;½°½°-¿²¼ **Û´»½®½Ý±»¬;´«¾®ÛÔïŏċèìò**¸¬¬'nãñ»´¾₽QQQÒ>®७¹±٩ñ¼³®_f\±³°³±²ñ±°»²²;¬ф;-°á°·′»×Üãïîìîèìðï ᡨᡎᢆ᠙᠙᠙᠙᠙᠙᠉ᢋ᠉ᢋ᠙᠙᠉᠉ᢋ᠉ᢋ᠙᠙᠉᠉ᢋᢀᠵᠣᢩᠻ᠁᠉᠉ᠳᠴŦℴᠴ᠈᠉ᡧ᠉ᠽ᠉ᢋ᠉ᡪ᠘᠙ᠺᡑ᠉᠈᠉ᢋ᠘᠙ᡯ᠉᠉ᢋ᠉ᢋ᠘ᡀᡯᡧ᠉᠉ᡒᢇ᠃᠈᠈ᠰᢋᢆᠰᢆᡲ Đṇ ṇͺݐᢥ ÝĐẾÝ ±² ѽ±½ν®亩îð ïð ïð ێ®¸¸²¸;´ζ¾¸ν¸, °, °, °, °, 'ÝÛĎ ĺÜÙ μÛĎ;²¼ĐÙ μÛ;¬¬¸» Ë ÎÔ´ °²μ-¾»′±©æ ÍÝÛse ¬Pañocoíò½d⁄±³ñ;<u>oñ½«½®£½»¼²¹-ò²-Yñ®³Ó;²Ð;</u>¹»áλ½¼Ú±®³ ÍÜÙ ú Ûæ ᢩ¬¬æñ©©©Ò¹¼¹»Ď⁄±³ñ®>¹«√¿¬±®§ñĬÚ¹′±У́́́́¿Ò-ͺ¬³′ ĐÙ ú Ûze_¬''aafio@@ò° ¹ »ð/z± ³ íð/ái³/ñ»² »®' §-«°° (§ñ¯«¿´.º§·² ¹º;¹/₂´¬»-ñ-»¬т´» ³ »²-ñ

«»»/ιz» ι z·-¾»«.« ω?- ¸ДДД¸ ∓-¾/\$/; Д] IJ¸, */ιz?®«。Æ® ε··-·-` | O-\$?@\$z? «μ«- ∓-N««--«»--、, z */;» ¾ 人口E人 - 1, 00 工 » - 1, 2 */; 0 1, 2 */ ッジド§«゚ヒープヒッジルヘテー -«・ー®、ロ゚゚x゚・トー๙┃゚゚x゚・トー๙┃゚゚゚。゚ジィ゚«%\¤ҳ®(゚x゚±ҳ\Ѝ «゚ピx®**ンチ**\¼\ ``«¦ヒ๙∃

ļ

άἴδî ôί ®*,٤±₹,Ν ²± -«Ի-դ-ξ*,◎

Z-3N׫´-z+-z«ε*/z«ε?*/z°?-z«ε««»??εωτο πω */z?-««´| εω«|-Z-z«ε«μ«|*/«-+οπωθ

\$\\(\(\alpha_z\)\(\overline{\overlin Q-z«ε«μ«Ι»/«-∓°±ΘΘ«[-«ε±β»°, s±·--·εε±Υ -· [-®«-%, '-s» Υ΄ΠΟΌ «[--ς»/«', 'o «/ετ±ςς?/γ

«`LQ«p+Z/«»« , z· E 77/«%/s-z« E «,L.« | */«-∓°, 780 « 'L 7-L-Z«/«/«%/» - z 7 L */, 28 « e « (8) «8 « LL? 'L

άιδιαβω, ε ω, ω, υ ο± ' 2 τ «« ε

/(«,»/(«'δ/τ §®',», (® -- L? «-Τε σΤ····ε ε ΤΑ ?Œσ,*/(«,»*/(«'δ/τ «*/¿ω·L? ε «'LL?'L*/κε? Q!Q!@! 3%/66 «E+O 2+1/4»--- «% 2+-2/4/1/«-+°+3 -Z«1/4/1/»O 3/0 «E+D - 2· 5/1/) «[--][-1/4-«»_(3)(-4)» «'-+--«·¸。«@,,z·¸,o@+o,« e, --«'---?'-'-/«--«»_-(@+-`,? --«+@}(d, ', z, *=+Ò có î'ôî céi (@4,&+z, V) ++-cè--«`» (`)

Ѳѽ±¾№ ï çô î ð ï 𠬸 » Đ®>-¹/»²¬±°¬¸ » ÝĐËÝ ¿²¼ß--·¹²»¼ßÔÖ·--«»¼¬¸ »®ß--·¹²»¼¼
ݱ³³·--·±²»® ¿²¼β¼³·²·-®¿¬³»Ô¿© Ö«¼¹»Ž-Ö±·²¬Î«′·²¹¿²¼β³»²¼¼¼Í½±°·²¹Ó»³±°±®
ݱ²-±´¹½;¬»¼Đ®±½»¾¼²¹-·²©¸¹½¸¬¸ » »¨°»¼¬¬¾¼-½¸¾¼«′» ©¿-¿°°®±³¾¼©¬¸±«¬¿²§
±°°±®«²¬§°±®¬¸ » Đ逐¬»-¬±±¾¶½ð^ë

Z ***Z** **Z** ***Z** **Z** **Z**

⟨ÝØÐ®±½®»³»²¬®±®¿³¬¸®±«¹¸ îðîð

ŠÓɬ®'»¬-

Š ÙØÙ®¾¼∜₂+±² ¬ୃ®¹»¬-

‹ Û-٦٠٠٤ ° % »- ° »© »° »®¹ § °®¹/2° ¹ ° هــــ® Ï Ú-

Š Ì® ²-¬±²-͸±® Ϋ² ߪ±½¼¼Ý±¬Û²»®¹§Ð®½²¹¬±¿³¿®µ»¬¾¿-¾¼°±®³«′¿¾§îðïë ‹Ò»©°±®³½±²®½-

Š ÝØĐ ÎÚÑ º±®³ ½±²®½

Š Ì® ²-¬±²½±²®½

ŠĐË ÎĐß½²®½°£®îð Ó É £8-3″; *®

ŠÔ»¹¿¹/§ »²»®¹§ ®½²¹; ³ »²¹/₄³ »²¬

ë <u>¬¬>#T©©©Ö½° «%%/∢ò¹±°TÛÚ ≻ÔÛTÎ ËÔÝTTÎ ETÊÉÒ,¬³</u>;¬íò ß³»²/¼³»²¬±Ý±³°′;·²¬ÛÔTÕÒÈ컬;Ö

〈Đ৻®¬»--«°°±®¬«¬´¬»-ŽÚÛÎÝĐËÎĐßÎïðø³÷¿°°′½¬±² 〈Í»¬¬´»³»²¬±°°»²¼²¹ÝĐËݽ-»-¿²¼½±‹®¬´¬¹¿¬±²

̸·--»π'»³»²¬-»»μ-¬±·²¬»²¬±²¿´´Ş¿ª±¹¼ÚÛÎÝŽ-′¿©°«´®»ª·»©±°¬¸» [»π'»³»²¬
³⁄»°±®»¬¸» ÝĐËÝ¿°°®±³»-¬-·²½»¬-°&®±°¬¸»-¬¿¬»¼°«®°±-»±°¬¸»-±ð⁄¿;´´»¼»¨°»¼σ¬»¼
®±½»--¿²¼»°°»½σ¾4Đ&®¬»-¸¿³»¸½¼²±±°°±®¬«²¬¬\$¬±³¾«°′§°&®¹½°;¬»·²¬¬,» ÝĐËÝŽ¹¼½-·±²³¿μ·²¹°®±½»--ò츷-²·±′¿¬»-ÝβÎÛŽ-®¹¸¬¬±¹¼«»°®±½»--«²¼®¾±¬¸Ú»¼м®,′¿²¼
ĺ¬¿¬»′¿©¾±¬¸³⁄»°±®¬¬¸»ÚÛÎÝ¿²¼¬¸»¹½±«®→ô⁶

β³»²¹/₄»¹/₄ݱ³°′;·²¬

x² ïíîÚÛÎÝ jêïôðì鬸»ÚÛÎÝ º±«²¼^é®»¹ੴ¼²¹¬¸»Ý¿´.º蛭º·¿Đ‹¾¼½Ë¬´·¬»-ݱ³³·--·±²øÝÐËÝ÷°»¬¬±²°蛭%¾½®¬ጭ§蛭Ум®e

) » <u>ݱ³³·--·±²Ž-¿«¬±®¬Ş«²¼»®¬</u>» ÚÐß·²½«½«¼»-¬¸»» ¼½«-·ª»¶k®-¼½±±²¬± ®»¹«´¿¬»¬¸»®¿¬»-Ô¬®³-¿²¼½±²¼¬±²-±°-¿´»-°±®®»-¿´»±°»′¾£®½»²»®¹Ş·²

^ê ÝβÎÛ·²¾»¸¿´°±°¬»´°¿²¼³»³¾ν®·Î±¼ν®°Íذ»§δ¿²¼Ó½¸¿»´Þ±§¼·²¼ª¼«¿´´§ ©¸±Ø» ΪÚýðíớè𿲼 ΪÚýðíớéê®»-°»½¬°»´§ò

^é߬°®¿®ç°¸-ê챺ïíîÚÛÎÝjêïôðìéò

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðớè컬¿δ

- 2¨¬;¬»½+33%®½¾%。«¾½«¬;¬»¬ò É É¸;» ݱ2®»--¸;-;«¬¸±®¦»¼;®±;» °±® ɬ;¬»-²-»¬¬²1©¸±;»-;»®;¬»-«²¼®DËÎĐßÔݱ²®»--¸;-²±¬;«¬¸±®¦¾¼±¬¸№ ±°°±®«²¬»-°±®∫¬;¬»-¬±-»®;¬»-°±®©¸±;»-;;»-;;»-;²-²¬®¬;¬»½з3%°%³½°°½%½«¬;¬»-ô±®·²¼½;¬¾¼¬;;¬¬¸» ݱ33·---±²Ž-;½≈±²-±®·²;½≈±²-½;²-1-²» ͬ;¬»-¬¸·-;«¬¸±®¬§ò É»¼-; ®»» ©¬¸¬¬¸½¸®½;∞®¦;¬±²+°¬¸» ÝĐËÝŽ-ßÞ ïêïíܾ½--±²-;-3%®,§»¬;¾4·-¸·²¹;²-1-;²-1-;²-1-;²-1-;» YĐËÝŽ-ßÞ ïêïíܾ½--±²-;-3%®,§»¬;¾4·-¸·²¹;²-1-;²-1-;» YĐËÝŽ-ßÞ ïêïíܾ½--±²-;-3%®,§»¬;¾4·-¸·²¹;²-1-;²-1-;» YĐËÝŽ-ßÞ ïêïíܾ½--±²-;-3%®,§»¬;¾4·-¸·²¹;²-1-;» YĐËÝŽ-ßÞ ïêïíܾ½--±²-;» ÝĐËÝŽ-ßÞ ïêïíܾ½--±²-1-;» ÝĐËÝŽ-ßÞ ïêïíܾ½--±²-1-;» ў+0-;;» ®;¬»ó-»¬²¹¾§¬¸» ÝĐËÝò Þ¾½;«-»¬» ÝĐËÝŽ-ßÞ ïêïíܾ½--±²-;®»-»¬°±®©¸±;»-;;»-;»-;»-;»-²-²¬®¬;¬» ½±³-3%®½»¾§°«¾¼½«¬;¬»-ô©»°-²¼¬;;¬¬¬»§;®»°®»»³°¬¾¼¾§¬¸» ÚĐßò
Ú⟨®¸®³±®ô;-ÚÛÎÝŽ-Ö«′§ ïëôîðĭð Ñ®¾®ïíîÚÛÎÝ êïôðìé-¬;¬¾/;¬ê뮳¹®¾²²¹

ÝĐËÝŽ-´·³¬»¼©¸±′»-¿′»®¿¬»³¿μ·²¹¿«¬¸±®¬Ş ÅįÃ́¬¸±«¹¸¬¸»ÝĐËݸ¿-²±¬¿®'«»¼¬¸¿¬¬¬ĀÃ
®±¹®¸³·-¿²·³°′»³»²-½¬±²±°ĐËÎĐßô©»°·²¼¬¸¿¬Ѣ¬±¬¸»»¨¬»²¬¬¸»ÝØĐ¹»²»®¬±®¬¸¿¬¹½²²
¬¿μ»°¿®¬²¬¸»Ãî±¹®¸³±½¼;·²ΪÚ-¬¿¬«-ô¬¸»ÝĐËÝŽ-Â𻾽°²¬¡®°°·-²±¬®»»³°¬¾¾½§¬¸»
ÚĐßôĐËÎĐß±®Ý±³³·--·±²®)¹«′¿¬±²-ðÃÃ-«¾¶½¬±½®½·²®¬¬«®°³»²¬∞∞0E̸»®°±®»¿²Ş
ÝĐËÝ¿°®±³¾ДĐĐß©±«¼¾»®ю́»³°¬¾¼¾§ÚÛÎÝŽ-¿«¬¸±®¬Ş-¸±®¬±°¬¸»ÚÛÎÝŽ-°®¬
±°°±®«²¬Ş¬±®»³»©¬¸»½±²®¼∞ò

[·²/»; ¿²§ ÝĐËÝ ¿° ®±³»¼ĐĐß ◎¬¸±«¬ÚÛ Î Ýù ®±®»³·»◎ ©±«¼²±¬¾» ′; ◎°«ô;²¼
©±«¼»¨·¬·²³·±′;¬±²±°¬¸» Ú¾»®,′ б◎»® ß½¤dÚĐß÷·°¬¸» ÝĐËÝ -»¬-; / ◎¸±′»-; / » ®½» °±®
»′¾½®½¬§±³»®¬¸» ¿³±¼¾¼½±-τὸ ß²§±°¬¸» ÝĐËÝ Ü¾₂-·±²- ′·¬¾¼·² Ýß Î ÛŽ-±®¹·²; /
[´»°¬»³¾»® ïô îð ïð ݱ³°′; ·²¬ÛÔ ïðóèì »¬; / ô³«¬¬¾»½²-·-¬»²¬◎¬¸; ²¼²±¬» ¬¾»¼4ÝĐËÝŽ⑥¸±′»-; ′»®;¬»³; / µ·²¹; ⟨¬¸±®¬§ «²¼»®ÐË ÎÐßò

Ô·μ»@·-»ô·¬·- ®½-»´§¾¾½«-» Ó±³·²¹ Đ¿®·»- -¬¿¬¬¬¸¿¬¬¬¸» ¿°°′½¬±² º±®©¿·³»®
½²²²±¬¾» º·′»¼¿¬¬¬¸» ÚÛÎÝ «²¬′¿°¬®¬¸·- ݱ³³·--·±²¿°°®±³»-¬¬¸» Đ®±°±-»¼ĺ»¬п′»³»²·Œ
⑤¸½¸ -«°°±®- ÝĐËÝŽ- ·²¬»²¬±²¿′«-‹®°¿¬±²±°ÚÛÎÝŽ-»¨½«-·³»®¬»³¿μ·²¹¿«¬¸±®¬§±³»®
⑥¸±′»-¿′»®¬»-ô¬¸¿¬ÝβÎÛ®¬¬«»-¬¬¬¸» ÚÛÎݬ±®¬³·»©¬¸·- Đ®±°±-¾¼ĺ»¬п′»³»²¬¿- ¿²
¿³»²¼³»²¬±ÝβÎÛ±®¹·²¿′½±³°′¿·²¬¬¸мВ»-²ò

_

ề rê ËòÍòYôyy èî ìô èî ì'∕ô èî ì» øî ỗỗễ÷å »ò¹òô Ó·--·--°° · б©»® ú Ô·¹¸¬Ý±ò ªò Ó·--·--°° · »¨®» ô Ó±±®>ô ì èé ËòÍò í ëì øïçèè÷ò

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðớè컬¿ô

 $\hat{1} \cdot \hat{1}_{3} - \hat{1}_{3} \cdot \hat{1}_{5} \cdot \hat{1}_{5} + \hat{1}_{5} \hat{1}_{5} \hat{1}_{5} \cdot \hat{1}_$

ײ¬¸» ÝĐËÝ ßÔÜŽ- ÑƯźษใፉ® ï ïô îð ïð®、´・²¹¨ ¬-¬;¬»- Ó±ª・²¹ Đጮ»- ¿ª»®¬¸;¬²±°;®§
⑥・´´³⁄ѧ» ⑯¶ҝใ⁄₄/ஹ¼¾%¬¸» »¨°¾/ҳ¬ӎ/Љ°²¬®°²±¬²¹¬¸;¬¬¸»§・--«¾/ҳ²±¬½»±°;-»¬т′»³»²¬
¹/±²°¬®»²½»±² ĺ»°¬»³¾№î ìô îð ïð ¿²¼ ®±ª¹¼¼/ҳ¬¸»Đ®±°±-җ¼ĺ»¬т′»³»²¬Ž- Ìӎ®³ 帻»¬;²¼ ®±
°±®³ ¿¿¹®»»³»²¬ ¿²¼¿³»²¼³»²¬±²¬¸»×ÑË-Ž©¾/ҳ¬»-±² ѽ±¼№ ìô îð ïðòײ ;¹¼/ҳ¬±²ô¬¸»§
®»-»²¬ӎ/ҳ¬¸»Đ®±°±-ӎ/₄廬т′»³»²¬;¬;-»¬т′»³»²¬¹/±²°¬®»²½»±² ѽ±½√ҳ® éô îð ïðむЕ

^ç ̸»-»¬¸®»» «¬´¬»-¿®» ²¿³ »½¿-®»-°±²½»²¬-±Ýβ ÎÛŽ-±®¹·²¿´ Í»°¬» ³³¼® ïô îðïð½±³°′¿·²¬¾»°±® ÚÛ ÎÝ·²
ܱ½μ»¬ÛÔï ἄάὲ ì°±®°¿®½°½°;¬²¹·²¿² «²′¿©°«′½±²-°®½§;²½¼½²®³¿¾» ©¬¸ ÝĐËݬ±³·±′;¬»¬¸» ÚĐβò ̸»-»
¬¸®»» «¬´¬»-Ž-¿'»-¿®»·²¬±¬¸» ©¸±′»-¿′» ³ ¿®μ»¬-±° »®¬¾¼¸§¬¸» Ý¿′·°±®²·½ ײ½»°»²√¾»²¬ ͧ-¬»³ Ѱ»®¬±®
ݱ®°±®;¬±² øÝβ×ÍÑ+¿²¼¬¸»§ ¿®»±°»®;¬²¹ «²¼»®ÚÛ ÎÝ;°°®±³¾₄©¸±′»-¿′» Ì ¿®°°-¿-©»′′¿-ÚÛ ÎÝ;«¬¸±®¦¾¼
±°»² ½½»--®;²-³·--·±²¬№°°-øÑβ Ì Ì-÷ò

ĺ»» ƯỚ Î ÝŽ- Ở±¬½» ±° ݱ ¾° ½·²¬ ¬¬ੴ» ¼®®ഈ®6¹±¾¼¾©-¾±¾³±¾±°»²²¿¬₾;-°á°·′»×Üãïîìîèìðï

 $[\]text{"$^{\frac{1}{6}}$ $$_{\underline{--}\text{loc}}^{\text{loc}}(\mathbb{C}^{\circ}, \mathbb{C}^{\circ})^3 \text{"}_{\underline{+}\text{loc}}^{\text{loc}}(\mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}^{\circ})^3 \text{"}_{\underline{+}\text{loc}}^{\text{loc}}(\mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}^{\circ}, \mathbb{C}$

[™] ___''∂**aaï**/±'/₂'Ò/2' «'∕\$У₂'ò¹±°ñ»° ′»ñÎ ËÔ×ÒÙ ĺñï î ì ëçèò°'/2'

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔϊðớè컬¿ô

\(\text{S_1}\) \(\frac{1}{4}\cdot^2\text{YB_1}\) \(\text{UZ}\text{N}\sigma_2\text{H}\) \(\text{P}\) \(\text{M}\) \(\text{P}\) \(\text{

Ѳѽ±¾®ïçôîðï𬸻Đ®>-¼»²¬±°¬¸»ÝĐËÝ¿²¼ß--·¹²»¼ßÔÖ·--«»¼¬¸»®ß--·¹²»¼
ݱ³³·--·±²»®¿²¼β¼³·²·-®;¬²»Ô;© Ö¼¼¹»Ž-Ö±·²¬Î«′·²¹¿²¼ß³»²¼⅓¼Í½±°·²¹Ó»³±°±®

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðớè컬¿δ

Q?L« (\$\$\$!QDLz·?, ° £ ±Y ±rz« £\$/1z« £ 8

- 、「レキレスが水» - いま、(18) */12? - 5.3*/1.5-... - 5/6 (4/1.18) - いまがえ、 * ** */10 + (4/12.5) * *(18) + (1/12.5) *

-z+·-»²/z于人

-»¬¬´»³»²¬¿¹®»»³»²Ō¿²±¬¸»®©蛭%+ <u>©¸»®» ÚÛÎݸ¿-¸¿¼¿²·²¬¿´±°°±®¬«²¬¸°±®»å·»©</u>Œ¬¸»®½±²®½½-±®ĐĐß-¬¸»§ ¿®»²±¬-«¾¶¾ź¬±¬¸·-½±³°´¿·²¬±®¬¸»±®¹·²¿´Í»°¬»³¾®ïôîðïð½±³°´¿·²¬ò

̱¬¸»½»1®»»¬·-©¬¸·² §±«®¼-½®»¬±²¿®§¿«¬¸±®¬§¬±½±-±ÝβÎÛ¿-μ-¬¸¿¬§±«·--«»
¿²Ñ®¾®¬¸¿¬®»¯«»-¬¬¬¸»ÝĐËݬ±-¬¿§¬¸»®±½¼¼®¿´-½¸¾¼«′»°±®¬¸»»¨½«--²»ÝĐËÝ
Đ®±°±-¾¼ĺ»¬¬́»³»²¬¼«®²¹¬¸»°»²½¿²¼§±°ÚÛÎÝŽ-®»²·»©±°ÝβÎÛŽ-¿³»²¼¾¼½±³°′¿·²¬
«²¼»®ÛÔïðóè컬¿õ«²¬′ÚÛÎݼ¾½½»-¬¸·-³¿¬¬®®ì¸¿²µ§±«ò

λ-°»½°«′′§-«¾³ ¬»½°

michael E. Boy of

Ó½; ¿»´Ûò Þ±Ş¼Đ®»-¼»²¬

Ýβ´ω∰·¿²-ω∰λ²»©;¾» Û²¾gòײ/ωμγ΄βÎÛ÷
ëì íç ͱ¬«»´Ü®³»
ͱ¬«»´ÖΥβ çĕðéí
Ð ±²ҳҳӣ̀ðè÷èçïóçêéé

Ñ⁄2±¾®îởôîðïð

Êx®º1/2;¬±²

׿³¿²±⁰⁰¹⁄₂®±⁰¬¸»Ý±³°′¿·²·²¹Ý±®°±®¬±²¸»®·²Ô¿²¼¿³¿«¬¸±®¦»¼¬±³¿μ»¬¸·a»®⁰¹⁄¿¬±²±²·¬³⁄»¸¿′°δ帻 -¬¿¬»³»²¬·²¬¸»°±®»¹±·²¹¼±½«³»²¬¿®» ®«»±°³§±©²
μ²±©′»¼¹»ô»¬¹½»°¬³¿¬¬®ô©¸¹½¸¿®»¬¸»®»·²-¬;¬»¼±²·²°±®³¿¬±²¿²¼¾»′·»°Ô¿²¼¿-¬±¬¸±-»
³¿¬¬®·×³⁄»′·»²»¬¸»³¬±³⁄» ®«»ò

 $\times \frac{1}{4} \frac{1}{2} \frac{1}{2} \times \frac{21}{4} \times \frac{$

ΑλλΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑΛΑ

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðóè컬¿δ

Ñ/ź±%»®ïìôîðïðÛ󳿷´¬±ÝÐËÝßÔÖÉ»¬¦»´´

Ú®±³æÓ½¸¿»´Û Þ±Ş¼ä¾±Ş√δ³½¸¿»´» à 1³¿·ð/±³â
[«¾¶»/æe Î »æÝ±«Թ»-Ş Û󳿷'Ò±¬°½;¬±²·² ß°°′½;¬±² ð èóï ïóððï »¬¿∂ó ßÔÖ É »¬¦»′ῦμ- Î «'·²¹
] ±æßÔØ± à °¹»ð/±³ô ß²½»®-±² Πཱ²»½-±′«¬±²-ð/±³ôþÛ«-¬;½»ô Ý′¿®»þ ä½½®»ò»«-¬;½» ི «½ð½;ò¹±³âô
ÝÚĐ»²¿ à Í »³ ®¿Ë¬′¬»-ð/±³ô ÝŐ»¾′»®à Í »³ ®¿Ù»²»®;¬±²ð/±³ô ÝĐËÝÝ¿-»- à °¹»ð/±³ô
Ý Î Ó¼à °¹»ð/±³ô Ý »²®¿Ü′·»- à Í »³ ®¿Ë¬′¬»-ð/±³ô
ÜÒ·»¸¿«- à Í »³ ®¿Ë¬′¬»-ð/±³ô ›
ÜÒ·»¸¿«- à Í »³ ®¿Ë¬′¬»-ð/±³ô ›
Ý/æ∰t-¸¸¿®®-þ 䶸¿®»- à ª±′μ»Ø;©ð/±³ âôþÞ±¼ Í ¿®³»\$þ ä-¿®³»\$/√±¼à ¿±ð/±³ âôþÓ½¸¿»′ Þ±Ş¼þ
ä³½¸¿»¾±\$/¼à -¾½¹′±½;ô²»¬â
Ü¿¬∞eì ¸«®¼¿§ô ѽ±½√»® ï ìô îð ïðô ïæf ç ßÓ

ßÔÖ É »¬¦ » °ô

 $\dot{Y}_{S}^{\circ} \underline{+} \underline{B}^{\circ} \cdot \dot{z}^{2} - \underline{Q}_{S}^{\circ} \underline{A}^{\circ} \times \underline{Q}_{S}^{\circ} \dot{z}^{2} \cdot \underline{Q}_{S}^{\circ} \dot{Y}_{S}^{\circ} \underline{A}_{S}^{\circ} \dot{Y}_{S}^{\circ} \underline{A}_{S}^{\circ} \dot{Y}_{S}^{\circ} \underline{A}_{S}^{\circ} \dot{Y}_{S}^{\circ} \underline{A}_{S}^{\circ} \dot{Y}_{S}^{\circ} \dot{Y}_$

λ-«"-±° ÝØĐ [»π"» ³ »²¬
« ÝØĐ ሜቷ/ፏ®» ³ »²¬ ሜቷ '®; ³ ¬¸ሜቷ«¹¸ îðîð
ŠÓÉ ¬¡®' »¬ŠÙØÙ ®» ¼«½½±² ¬¡®' »¬« Û-¬;¾'-¬»-²»© »²»Ø' § ®½²¹ °±® ÏÚŠ Ì®;²-¬±²- ͸±฿ Ϋ² ß²±½»¼¼Ý±-¬Û²»Ø' § Đ®½²¹ ¬± ¿ ³ ¿Φ컬¾¿-»¼°±®³ «′¿¾§ îðïë
« Ö»© °±®³ ½±²®½½¬
Š ÝØĐ ÎÚÑ °±®³ ½±²®½½¬
Š ÝØĐ ÎÚÑ °±®³ ½±²®½½¬
Š Ì®;²-¬±²½±²®½½¬
Š ĎË ÎÐß½±²®½½¬°±® îð Ó É ±®-³;′′»®
Š B-Ó;²;′;¾«»½±²®½½¬
Š Ö»¹;½§»²»Ø' § ®½²¹; ¿³ »²¼³ »²¬
« Đ;Ø»»- -«°°±® «¬´¬»-ŽÚÛ ÎÝ ĐË ÎĐß îïð ø³÷;°°′½;¬±²
« Í»¬π'» ³ »²¬±°°»²¼²²¹ ÝĐËݽ;-»-; ¿²¼½±«®´¬¹;¬±²

Ĺ·³°´Ş°«¬×½±²±¬«²¼®¬¿²¼¸±©¬¸»Ý±³³·--·±²Ž-Ϋ′»-¿®»°»®³¬¬¾¬±¾»©¿·²»¼°±®¬¸»°·²¹±°¬¸»Í»¬¬'n»³»²¬¿²¼©¿·²·²¹Ð¿®»»-±°°±®¬«²¬Ş¬±»²»²±¾¶½¬±¬¸»-¸±®»²»¼½±³³»²¬°»®±¼±±²¬¸»-¸±®»°»½½√±³³»°°¬°%±¼±±²¬¸»-√²°»°°¬°½«--²»©¸±′»-¿′»®₺¬»³¿µ·²¹¿«¬.±®¬Ş°° ©¸½²-»°½«--²»©¸±′»-¿′»®₺¬»³¿µ·²¹¿«¬,±®¬Ş°° ©¸½²-»°½«--²»©¸±′»-¿′»®₺¬»³¿µ·²¹¿«¬,±®¬Ş°° ©¸±′»-¿′»®₺¬»³¿µ·²¹

ß¼√¬±²¿´¬¸·--»π'»³»²¬-»»μ-¬±¿ª±¼ÚÛÎÝŽ-′¿©°«′®»ª»©±°¬¸» ĺ»π'»³»²¬¾ν°±®»¬¸» ÝĐËÝ
¿°°Œ±ª»-¬¿²¼»°»½¬¾Φ¿®¬»-¸¿å»¸¿¼²±±°°±®«²¬Ş¬±³»¿²·²¹°«″ξ°¿®½°¿¬»·²¬¸»Ý±³³·--·±²Ž½π½-·±²³¿μ·²¹°®±½»--Ò̸·-ª·±′¿¬»-ÝβÎÛŽ-®¹¬¬±¼«»°®±½»--«²½νδβ¾±¬¸Ú»½νδξ΄¿²¼ĺ¬;¬»′¿©ò×
®»-°»½°«″ξ⅓»³¿²¼¬¸;¬ξ±«¼&»½¬¬¸» ĺ»π'²¹Đġ®»-¬±°′»¬¸»®Đ®±°±-»¼ĺ»π'»³»²¬©¬¬¬¸»ÚÛÎÝ
°±®¬¬-²¬¿′®»²»©°®±®¬±ÝĐËÝ¿°°®±²¿′·³³»½;¬%ò

ß-ÚÛÎÝŽ-Ö«ŚŢĕÔÎðTð Ñ®¼®ŢÍÎÚÛÎÝ jêTôðÌé-¬¿¬»¼®»¹¿®¼²¹ÝĐËÝŽ-´³¬»¼◎¸±´»-¿´»
®¬¬³¿μ·²¹¿«¬¸±®¬ŚÅ¸Ã¬¸±«¹¸¬¸»ÝĐËݸ¿-²±¬;®'«»¼¬¸¿¬¬-Áذ®±¹®¿³·-¿²·³°′»³»²¬¬±²±°
ĐËÎĐßô©»°²¼¬¸;¬ð¬±¬¸»»¬»²¬¬¸»ÝØĐ¹»²»®¬¸;¬¹½;²¬¿μ»°;®¬·²¬¸»ÁŘ®±¹®;³±¾т¿·²ÏÚ
-¬;¬«-Ô¬¸»ÝĐËÝŽ-Áذ»»½6²¬;®°·-²±¬®»»³°¬»¼¾系¬¸»ÚĐßôĐËÎĐß±®Ý±³³·--·±²®»¹«´;¬±²-ÅÄíÄÄ

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðớè컬¿δ

-«¾¶»½¬±½»®½·²®»¯«®»³»²¬┅┅Œ┆¸»®»°±®»¿²ŞÝĐËÝ¿°°®±°»¼ĐĐß©±«¼¾»°®»ó»³°¬»¼¾§ÚÛÎÝŽ-¿«¬¸±®¬\$°¬¸»ÚÛÎÝŽ-°®¬±°°±®«²¬Ş¬±®»²·»©¬¸»½±²®½½°°

x² §± «® Ñ/ź±²/ω®èô îð ïð®k´:²¹ §±« --¿¬» Ó±³.²¹ Đ¿®»- ¿³ »®¬¸;¬²±° ¿®§ ©´´³/ω» ˚®M¶k/¼/ω³/¾§¬¸»
Ȭ° »¹/₄¬»¹/₄®»³•»©ô²±¬²¹¬¸;¬¬¸»§ ·--«»¹/₄²±¬¹/» ±° ¿ -»¬т'»³ »²¬¹/±²° »®»²/» ±² ĺ»°¬»³³³/ω® îìô îð ïð ¿²¹/
®±³¹/ω⁵/₄¬¸» Đ®±°±-»¹/₄ 廬т′»³ »²¬Ž- Ì»®³ 帻»¬ ¿²¹/₄ °®± °±®³ ¿ ¿¹®»»³ »²¬- ¿²¹/₄ ¿³ »²¹/₄ ;³ »²¹/₄³ »²¬- ±² ¬¸ »
xÑ Ë-Ž©»¾-¬»- ±² Ñ/ź±²/ω® iô îð ïðòײ ¿¹/¼/₄¬±²ô¬¸ »§ °®»-»²¬»¹/₄¬¸» Đ®±°±-»¹/₄ 廬т′»³ »²¬;¬; -»¬т′»³ »²¬
¹/±²°»®»²¹/» ±² Ñ/ź±²/ω® eô îð ïðoŒ ɸ;¬·²¹/₄°°»®»²¹/» ¿²¹/₄ »¨®»³ » °®M[k/¼/»¬±©;®¼- Ýß ÎÛŽ-±©² Ó;§ îïô îðòè ĐìÓ¬¸» Ó¼ ¹/½-»¬¸·-·²¬»²¼¬±¹/ω»³ ±²-®;¬»á Ý′»;®§ ©» ©»®»²Ž»³»² ¹.²°»² ¿°;®¸»;®²¹ ±² ±«® ĐìÓò

ß³»²¼³»²¬±Ý±³°′¿·²¬ÛÔïðớè컬¿δ

\$\frac{\psi_k(\sign(\s)\sign(\sign(\sign(\s)\sign(\s)\sign(\s)\sign(\s)\sign(\sign(\sign(\sign(\s)\sign(\s)\sign(\s)\sign(\s)\sign(\s)\sign(\s)\sign(\sign(\s)\

L? 《水??.?e? 《水?。-?③-,z*水(《/珊@日,z上?水,ボ-z+人*/z? Lz 《止《 | 水,ベ-+。珊@日z + - 《..。《迎水z? -Lz 《 s s +人

Ó⟨Ôε±λδ-«¬`−∃¸y® ε«Ιβ-»¸¿«·ΟU

Q€_EŦͺQ?Ŷ@⟨⟩⟩¸Ӽӷё¸«ᢞ⋌?∟¬»¸«Q<®??Уæ¸d<®?¸Дæ¸d√°,Д,Q<%,?∟¬»∩d¸°;=₹/₽,°;±+∠»,∓+²√,«;;±7,°;€;|;±+;±0,∞,±7;Q°;±7,Q°,;;;€;±2,0√;±€;| ' ε·» [-Ū,«¦-« ϶ @θθος.-« ϊδοῦΙ ϊΘόδ ε±-ζεν:° ε εττέννο-τό · ς εδΟ δ-«@»±Υσεννην» [

Q+-||SINØ-ω@?-z+.--ε-z?@--«χζ?z«, π*χ«¦@π'ω»? 、 (の - - - () () (日) (', - (、) - () - (、) - (、) - ()

ó÷δϊδîαό «--« ϊδϊόῖξί γόΙο∪όΥ ϶ڙ ΑἰΑ

<u>ĿŗóċċĕíîïñĬÚÓÔ∃ÎñŮÔÙÛñ°±'ó¿¼V»°¿VĐQQQñæç;~ ĀĵĀ</u>

ŎĬŎŸUI ‹®¸±¸◎ §``¸»¼≀¤¼²·¼¸₹¬¬¸¸¸¾`O ¾²¸ô¸«®¸I ®«¾±Ï ®«¾ε « ε ¾²¸° «¬¬ °± °¸¸ «¾ε ²· ÜĨ ΔŸ Ā∐Å

01010118w/443/W

~~zQ?%=,13/%= @*/\$=%«? 3/1. E æ?? E &U èèêçòï ⊋é ÷éδ íαæ« [≤]±, Œ Ì ĐốĐợ શY û «»¯±ĺ «°®U`«» ±I çìíë ֆÏßÝø ダ/z×袋/®ペz () 《½?②《z《 |) ●・- z ? を) かいり入 --~ (%/- (@G)*\\$∓d 9∩ .«? 5/10

Q\$_,»ۥz/;«。-« <u>[</u>

Q~«γ_{ιz}?_e«@, @+₀-z«ε z@«_e+, «'┖¿ᠮ┖ᄯ。ᠮ┖ᡬ᠈ᢀ᠈?¿ᠮ┖᠉┖╴┰Ŧ╱ᢧ»ᠮ᠃᠉᠙¿«¼ᠮ┖៧«‹᠇ᠮ-«»¿┖¿ᠮᄽ,从╗ᢗᢢ«ʿĮ،Ϙ·«υνϲ?ϲ╴᠇ˤ᠈᠔›᠈و፻¼ፇጶ¿? ℴŦ《ℴŦシィ╴≪゙Ĺ╶℀シュჀ⋗Ŧᢆ\$፼?Ϥǯィ╶Ϥ᠉╌・╻ぇッシン᠉テシぇ╴╴ᇎϢ╚┸シィℴシン⋈。╴Ϥ╶Ϥ╵┕╗┕┰Ϥ┎╣╙┸╡╙┸╻┪╚┖┰┸┰┪╚╙┰Ϥ╶╄┸ळ?╚╌ \\ \alpha \\ \sigma \\ \si

 $\times^2 \frac{1}{2} i_- \text{ } + \text{ }^\circ \text{ } \oplus \text{ }^{1} \frac{1}{4} \text{ } \text{ }^3 - \text{ } \oplus \text{ }^7 \text{ } \text{ }^7 \cdot \text{ }^2 \text{ } \text{ }^3 \text{ } \text{ }^2 \text{ }^3 \text{ }^2 \text{ }^$

Ù'¿'¼§- Óò Ü'²¹'¿-¿² ÝĐỂỸ Ñ BỔỜÑ Í Ì B Π˲¬ ÊÓæØì ï ë÷ éð íóëéé î Ú; æØì ï ë÷ éð íóï é î í ¹¼î ཰ «⅓⅓½ò¹±²

Combined Heat and Power Program Settlement

October 7, 2010

QF Summit

- Initiated in May 2009
- Goal: to resolve existing disputes and future issues associated with Combined Heat and Power (CHP) QFs
- Parties:
 - QF/CHP trade groups: CAC, EPUC, CCC, IEP
 - Consumer advocates: DRA, TURN
 - Investor-owned utilities (IOUs): PG&E, SCE, SDG&E
- Negotiations lasted 16 months
- Settlement anticipated to be filed at CPUC for adoption this year.

Settlement Overview

- Resolution of pending litigated issues before the CPUC and Courts;
- Design and development of a new State CHP Program; and
- For QFs greater than 20 MW, transition from a PURPAauthorized program to a new State CHP Program that includes competitive solicitations.

New State CHP Program Goals and Objectives

Section 1 of the Term Sheet establishes the goals and objectives of the new State CHP Program:

- > CHP Facility Owner Benefits;
- Societal Benefits;
- > Retail Customer Benefits;
- > GHG Emissions Reduction Benefits; and
- Regulatory Certainty.

Results of CHP Settlement

- CHP procurement program through 2020
 - MW targets
 - GHG reduction targets
- Establishes new energy pricing for QFs
 - Transitions Short Run Avoided Cost Energy Pricing to a marketbased formula by 2015
- New form contracts
 - CHP RFO form contract
 - Transition contract
 - PURPA contract for 20 MW or smaller
 - As-available contract
 - Legacy energy pricing amendment
- Parties support utilities' FERC PURPA 210 (m) application
- Settlement of pending CPUC cases and court litigation

CHP Procurement Program: MW Targets

- 3000 MW of CHP contracts resulting from CHP Program Procurement Processes
- Initial Program Period (2,949 MW over 4 yrs after Settlement Effective Date)

SCE: 1,402 MWPG&E: 1,387 MWSDG&E: 160 MW

- Second Program Period (end of Initial Program Period-2020):
 - SDG&E: additional 51 MW
 - All IOUs: any shortfall from the Initial Program Period Targets
 - Any additional amounts established in the long-term procurement plan (LTPP) proceeding at CPUC

CHP Procurement Program: GHG Reduction Targets

- Target is 6.7 million metric tons (MMT) of GHG annual reductions from CHP statewide, by 2020, subject to review and modification
- Targets are based on:
 - ARB's AB 32 Scoping Plan
 - Maintenance of the GHG reductions from Existing CHP facilities
 - Individual LSE targets based on percent of statewide retail sales
 - Program allocates GHG reduction targets to ESPs and CCAs
- GHG Reduction Accounting
 - The Settlement includes accounting mechanisms based on: avoided GHG emissions assumptions, facility efficiency, must-take status, new or existing capacity, repowering, conversion to prescheduled, and shut-downs with or without continuation of thermal application

Non IOU Load Serving Entity GHG Targets

- IOUs, ESPs and CCAs have GHG Targets allocated on proportional share of retail sales.
- Targets will be adjusted over Settlement term as CEC publishes data on
 - Departing or returning load and will be based on updated CEC data
 - Shift in proportional share of retail sales
- Mechanisms to meet target discussed below.

Cost Allocation and Departing Load Charges

- Settlement conditioned on CPUC Decision providing:
 - Recovery of relevant costs of this CHP Program through Non-Bypassable Charges; and
 - Cost recovery for the full term of the CHP PPA (up to 12 years)
- CPUC can choose between:
 - Plan A: ESPs and CCAs procure CHP for their customers going forward and IOUs recover any above market costs of existing CHP PPAs on a vintaged basis from future direct access (DA), CCA and all Departing Load customers, except CHP Departing Load Customers
 - Plan B: IOUs purchase CHP generation for all customers and recover the net costs after accounting for the energy and AS value of CHP generation from all bundled, DA, CCA and all Departing Load Customers, except CHP Departing Load customers, on a non-vintaged basis

Procurement Options under CHP Program

CHP MW and GHG Targets can be met through:

- RFOs
 - CHP RFOs conducted by IOUs during Settlement Term
 - Participation by Independent Evaluator, Procurement Review Group, and evaluation by CHP Auditor, where applicable.
- Optional As-Available PPAs
- PPAs for QFs 20 MW or less
- AB 1613 PPAs
- Bilaterally negotiated PPAs and amendments
- IOU-owned CHP for GHG targets, capped at 10% of GHG targets
- Utility Prescheduled Facilities
- New behind the meter CHP facilities

Energy Short-run Avoided Cost (SRAC)

SRAC heat rates transition to market-based heat rates

| <u>YEAR</u> | <u>Heat Rate (Btu/kWh)</u> | | |
|-----------------|----------------------------|--|--|
| 2011 | 8,700 | | |
| 2012 | 8,225 | | |
| 2013 and 2014 | 8,125 | | |
| 2015 and beyond | Market Heat Rate | | |

• SRAC Energy Price:

```
Energy Price $/kWh = ((Applicable HR * BTGP/1,000,000) + VOM) * TOU + LA + GHG Charges
```

Applicable Heat Rate (HR) = The Heat Rate for the specified period in the table above.

Market Heat Rate = Determined under the current MIF methodology using 12 month forward prices.

Additional energy pricing options for Legacy Contracts [See Appendix]

Energy Price During the Floor Test

If there is a cap-and-trade program in California for the regulation of GHG, then, during the Floor Test Term (3 years), the SRAC energy price will be the higher of the two formulas provided below:

1. Energy Price \$/kWh = ((Market Heat Rate * BTGP/1,000,000) + VOM) * TOU + LA

Market Heat Rate = Determined under the current MIF methodology using 12 month forward prices.

2. Energy Price \$/kWh = ((Applicable Heat Rate * (BTGP + GHG Allowance Price) /1,000,000) + VOM) * TOU + LA + GHG Charges

Applicable Heat Rate = (A) 8,225 Btu/kWh through December 31, 2012, (B) 8,125 Btu/kWh from January 1, 2013 through December 31, 2014; and (C) Actual HR from January 1, 2015 until the end of the Floor Test Term.

Actual Heat Rate = The average daily heat rate of the two year period immediately preceding the commencement of the First Compliance Period.

New Form Contracts

- CHP RFO Pro Forma Contract
- Transition Contract
- QF PURPA Contract for facilities equal to or under 20 MW
- Optional As-available Contract
- Amendment to existing Legacy Contracts

CHP RFO Pro Forma Contract

- For CHP QFs greater than 5 MW, structured for baseload CHP product
- Term: Up to 7 years for existing or expanded capacity; Up to 12 years for new or repowered capacity; expanded facilities electing to satisfy credit/ collateral terms may also get a 12 year contract
- Pricing: according to offer prices agreed to by the parties
- Project Development Security:
 - \$20/kW, 30 days after Effective Date of contract
 - \$60/kW, 18 months after Effective Date of contract
- Performance Assurance for new or repowered facilities
 - 12 months capacity payments; 5% of revenues
- Curtailment for system emergencies or limited economic conditions

Transition Contract

- Provides a bridge for CHP QFs with expired or expiring contracts to PPA options under the CHP Program or exit from IOU QF PPAs
- Term: Up to July 1, 2015
- Eligibility: CHP currently selling to IOU under QF PPA
- Capacity pricing pursuant to D. 07-09-040
 - Firm Capacity at \$91.97 / kW-yr
 - As-Available Capacity of \$41.22 / kW-yr escalating each year
- Pricing for SRAC Energy according to values and formulas in Settlement
- Updated scheduling provisions, CAISO metering

PURPA Contract for Under 20 MW

- Must take purchase obligation will continue for QFs 20 MW and under
- Term: Up to 7 years for existing capacity, Up to 12 years for new capacity
- Capacity pricing pursuant to D. 07-09-040
 - Firm Capacity at \$91.97 / kW-yr
 - As-Available Capacity of \$41.22 / kW-yr escalating each year
- SRAC Energy Pricing
- Project Development Security, Performance Assurance for New/ Repowered facilities

Optional As-Available Contract

- Intended for CHP that export less than 131400 MWh in an IOU's service territory each year.
- IOUs may but are not required to sign additional PPAs after reaching average MW delivery cap

SCE: 75 average MW
PG&E: 75 average MW
SDG&E: 10 average MW

- Term: up to 7 years, Seller's election
- Energy pricing for scheduled energy: SRAC for up to 20 MW in any hour; Day Ahead Pnode price for amounts greater than 20 MW
- Real Time Pnode price for unscheduled energy
- As-Available Capacity of \$41.22/ kW-yr escalating annually

Termination of PURPA Purchase Obligation

- Upon CPUC approval of the Settlement, the IOUs will file an application at FERC to terminate the PURPA purchase requirement under Section 210 (m) (1) (c) of the Energy Policy Act of 2005 for QFs that are larger than 20 MW
- The application will be based upon the following: (a) the MRTU day-ahead market; (b) RA Capacity market; (c) Renewable Portfolio Standard Program; and (d) CHP Program
- Settlement Parties may file comments on, but may not oppose the IOUs' application
- FERC approval of IOUs' application is a condition precedent to effectiveness of settlement agreement.

Resolution of Certain Pending Claims

QF-related claims at CPUC and Court of Appeals are withdrawn or closed:

- Retroactive Adjustment of SRAC Prices: the IOUs will withdraw with prejudice all SRAC retroactive price adjustment claims and challenges and will not raise new claims
- QFs over 20 MW will not have the right to new 5 year and 10 year PPAs ordered in D. 07-09-040
- CCC motion for an order on prospective QF program PPA options adopted in D. 07-09-040
- All retroactive claims for energy and capacity adjustments by any party
- Petition for Writ of Review of D. 07-09-040 and D. 08-07-048 at California Court of Appeals (Case B210398) and all related cross claims

Resolution of Certain Pending Claims (cont'd)

QF-related claims at CPUC and Court of Appeals are withdrawn or closed:

- All applications for rehearing of D. 09-04-032
- The CPUC shall close with prejudice its reconsideration of the Administrative Heat Rates as ordered in D. 08-11-062
- Petition for Modification of D. 07-09-040 regarding CHP Facilities on Transitional SO1 agreements or extensions
- IOUs will withdraw Advice Letters PG&E 3197-E, SDG&E 1958-E, and SCE 2200-E to implement new QF PPAs pursuant to D. 07-09-040
- IOUs will withdraw Petition for Modification of D. 07-12-052 regarding QF purchase requirements

Schedule and Process

- Submittal of Settlement to CPUC October 2010
- Settlement Effective Date as of:
 - CPUC approves Settlement
 - FERC approves IOUs' application to terminate the PURPA put obligation for > 20 MW Qualifying Facilities
- First CHP RFOs to be issued within 90 days of Settlement Effective Date

APPENDIX: Additional Options for Legacy Contracts

| Pricing Option Terms | A (SRAC) | В | C2 | C3 |
|--------------------------|---|---|--|--|
| | This is the default energy price for existing QFs and would be based on market price indices beginning 2015 | Fixed heat rate transitioning to market-based heat rate; Seller assumes all GHG risk | Discount to Option B Heat Rate; GHG costs based on a fixed emissions rate for energy delivered and an allowance price capped at \$20 per tonne | Discount to Option B Heat Rate, GHG costs based on facility specific emissions, capped at Base Year emissions, and an allowance price capped at \$12.50 per tonne. |
| 2011 Heat Rate | 8,700 | 8,700 | ~8,435 | ~8,435 |
| 2012 Heat Rate | 8,225 | 8,600 | ~8,335 | ~8,335 |
| 2013 Heat Rate | 8,125 | 8,500 | ~8,135 | ~8,135 |
| 2014 Heat Rate | 8,125 | 8,500 | ~8,135 | ~8,135 |
| 2015 - Term Heat Rate | Market Heat Rate (MHR) proxy | MHR proxy | MHR proxy | MHR proxy |
| GHG | - GHG Charges - Floor Test | N/A | Energy at 8000 Btu/ KWh | Facility Specific, up to the cap |
| Allowance Valuation | Most recent Allowance Auction Price | N/A | Lower of (i) \$20 per MT GHG, and (ii) Estimated Allowance Cost. | Lower of (i) \$12.5 per MT GHG, and (ii) Estimated Allowance Cost. |

Negotiated conversion to Utility Prescheduled facility

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

Rulemaking 04-04-003 (Filed April 1, 2004)

Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-Run and Long-Run Avoided Costs, Including Pricing for Qualifying Facilities Rulemaking 04-04-025 (Filed April 22, 2004)

Application of Southern California Edison Company (U 338-E) for Applying the Market Index Formula and As-Available Capacity Prices Adopted in D.07-09-040 to Calculate Short-Run Avoided Cost for Payments to Qualifying Facilities Beginning July 2003 and Associated Relief Application 08-11-001 (Filed November 4, 2008)

Order Instituting Rulemaking into Implementation of Public Utilities Code Section 390 Rulemaking 99-11-022 (Filed November 18, 1999)

Order Instituting Rulemaking to Integrate Procurement Policies and Consider Long-Term Procurement Plans Rulemaking 06-02-013 (Filed February 16, 2006)

JOINT MOTION
FOR APPROVAL OF QUALIFYING FACILITY AND
COMBINED HEAT AND POWER PROGRAM SETTLEMENT AGREEMENT

Michael D. Montoya Carol A. Schmid-Frazee

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, CA 91770-3714 Telephone: (626) 302-1337 Facsimile: (626) 302-1935

E-Mail: Carol.SchmidFrazee@sce.com

Attorneys for Southern California Edison Company

Georgetta J. Baker San Diego Gas & Electric Company

101 Ash Street, HQ12 San Diego, CA 92101-3017 Telephone: (619) 699-5064 Facsimile: (619) 699-5027 E-Mail: gbaker@sempra.com

Attorney for San Diego Gas & Electric Company

Jerry R. Bloom Winston & Strawn LLP 333 So. Grand Avenue Los Angeles, CA 90071-1504 Telephone: (213) 615-1700 Facsimile: (213) 615-1750 E-Mail: jbloom@winston.com

Attorney for California Cogeneration Council

Michael P. Alcantar Alcantar & Kahl 33 New Montgomery St., Suite 1850 San Francisco, CA 94105-4511 Telephone: (415) 421-4143 Facsimile: (415) 989-1263 E:mail: mpa@a-klaw.com

Attorney for the Cogeneration Association of California and The Energy Producers and Users Coalition

Dated: October 8, 2010

Mary A. Gandesbery Charles R. Middlekauff

Evelyn C. Lee

Pacific Gas and Electric Company

77 Beale Street

San Francisco, CA 94105-1814 Telephone: (415) 973-0675 Facsimile: (415) 973-5520 E-Mail: magq@pge.com

Attorney for Pacific Gas and Electric Company

Michel Peter Florio
The Utility Reform Network
115 Sansome Street, Suite 900
San Francisco, CA 94104-3624
Telephone: (415) 929-8776, ext. 302

Facsimile: (415) 929-1132 E-Mail: mflorio@turn.org

Attorney for The Utility Reform Network

Douglas K. Kerner Ellison, Schneider & Harris 2600 Capitol Avenue, Suite 400 Sacramento, CA 95816-5931 Telephone: (916) 447-2166 Facsimile: (916) 446-3512 E-Mail: dkk@eslawfirm.com

Attorney for **Independent Energy Producers Association**

Lisa-Marie G. Salvacion Division of Ratepayer Advocates 505 Van Ness Avenue San Francisco, CA 94102-3214 Telephone: (415) 703-2069 Facsimile: (415) 703-2057 E-Mail: lms@cpuc.ca.gov

Attorney for California Public Utilities Commission, Division of Ratepayer Advocates

TABLE OF CONTENTS

| | | | Page |
|------|--|---|------|
| I. | FACTUAL AND PROCEDURAL BACKGROUND | | |
| | A. | PURPA and The Commission's QF Program | 4 |
| | B. | State Policy Favoring CHP | 6 |
| | C. | CARB's Climate Change Scoping Plan | 6 |
| | D. | Description Of the Settlement Process | 7 |
| II. | SUMMARY OF THE PROPOSED SETTLEMENT AGREEMENT | | |
| | A. | Section 1 – Goals and Objectives | 8 |
| | В. | Section 2 – Settlement Periods | 8 |
| | C. | Section 3 – Transition PPA | 9 |
| | D. | Section 4 – CHP Procurement Process | 9 |
| | E. | Section 5 – MW Targets | 10 |
| | F. | Section 6 – GHG Emissions Reduction Targets | 11 |
| | G. | Section 7 – GHG Emission Accounting Methodology | 13 |
| | H. | Section 8 – Commission Jurisdictional Entities' Reporting Requirements | 13 |
| | I. | Section 9 – CHP Auditor | 14 |
| | J. | Section 10 – SRAC Energy Pricing Structure | 14 |
| | K. | Section 11 – Legacy PPA Matters for Existing QFs | 15 |
| | L. | Section 12 – CAISO Tariff Compliance | 16 |
| | M. | Section 13 IOU Cost Recovery For CHP PPAs | 16 |
| | N. | Section 14 Settlement Of Pending And Anticipated Litigation | 17 |
| | O. | Section 15 – FERC 210(m) Application | 18 |
| | P. | Section 16 – Conditions Precedent and Settlement Effective Date | 19 |
| | Q. | Section 17 – Glossary | 19 |
| | R. | Attachments | 19 |
| III. | | SETTLEMENT AGREEMENT IS REASONABLE AND IN THE PUBLIC EREST | 20 |
| | A. | The Settlement Agreement Is Reasonable And Consistent With Existing Law | 21 |
| | | 1. Consistent With State And Commission Policy, The Settlement Agreement Is Intended To Facilitate CHP Goals and Objectives | 21 |

TABLE OF CONTENTS (continued)

2. Consistent With State And Commission Policy, The Settlement Agreement Is Intended To Facilitate GHG Emissions Reductions 3. The OF/CHP Program Procurement Process Is Consistent With 4. The Energy And Capacity Prices Are Reasonable And Consistent The QF/CHP Targets Are Appropriate......26 5. 6. The Semi-Annual Reports And CHP Auditor Process Are Consistent With Commission Policies Supporting Greater Public 7. The Pro Forma PPAs and Legacy QF PPA Amendment......27 8. The Cost Recovery Proposal Is Reasonable And Consistent With California Law.....32 The Settlement Resolves Numerous Pending And Anticipated 9. Disputes......34 10. The Settlement Agreement Provides For Operationally Flexible Resources......35 B. IV. THE JOINT PARTIES HAVE COMPLIED WITH THE REQUIREMENTS OF HEARINGS ARE NOT REQUIRED......38 V. VI. TIMING FOR REVIEW OF THE SETTLEMENT AGREEMENT AND CONDITIONS PRECEDENT FOR THE SETTLEMENT AGREEMENT TO VII. CONCLUSION.......41

Page(s)

TABLE OF AUTHORITIES

| | Page(s) |
|--|----------------|
| CASES | |
| Southern California Edison v. PUC, 101 Cal.App.4 th 982 (2002) | 4 |
| FERC DECISIONS AND ORDERS | |
| New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation, 130 FERC ¶ 61,216 (2010) | 5 |
| Order No. 688 (Oct. 20, 2006) | 5 |
| CALIFORNIA PUBLIC UTILITIES COMMISSION DECISIONS AND R | ESOLUTIONS |
| Re Pacific Gas & Electric Company, D.88-12-083, 30 CPUC 2d 189 (1988) | 20 |
| D.03-12-062 | 24 |
| D.04-01-050 | 23 |
| D.04-12-048 | |
| D.05-03-022 | |
| D.06-07-029 | |
| D.07-09-040 | passim |
| D.07-12-052 | 22, 23, 26, 35 |
| D.08-09-012 | 16, 33, 34 |
| D.08-10-037 | 22 |
| D.08-11-008 | 23 |
| D.09-10-017 | 20 |
| D.09-12-042 | 32 |
| D.10-04-055 | 32 |
| D.10-06-031 | |
| Resolution E-4246 | 25 |
| STATUTES | |
| Public Utility Regulatory Policies Act, 16 U.S.C. § 796, et seq | passim |
| § 824a-3(m) | • |
| 18 CFR §292.205 | |
| Cal. Health & Saf. Code, § 38501, et seq | |
| Cal. Pub. Util. Code § 216.6 | |

TABLE OF AUTHORITIES (continued)

| | Page(s) |
|--|-----------|
| Cal. Pub. Util. Code § 365.1(c)(1) | 32 |
| Cal. Pub. Util. Code § 372(a) | 6, 21 |
| Cal. Pub. Util. Code § 8341 | 30 |
| Assem. Bill No. 1613 (2007-2008 Reg. Sess.) | 24, 32 |
| Assem. Bill No. 32 (2005-2006 Reg. Sess.) | 6, 13, 22 |
| Sen. Bill No. 695 (2009-2010 Reg. Sess.) | |
| CPUC RULES OF PRACTICE AND PROCEDURE Rule 12.1 | 2, 3 |
| Rule 12.1(b) | |
| Rule 12.1(d) | |
| MISCELLANEOUS | |
| Energy Action Plan II (Oct. 2005) | 21 |

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

Rulemaking 04-04-003 (Filed April 1, 2004)

Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-Run and Long-Run Avoided Costs, Including Pricing for Qualifying Facilities Rulemaking 04-04-025 (Filed April 22, 2004)

Application of Southern California Edison Company (U 338-E) for Applying the Market Index Formula and As-Available Capacity Prices Adopted in D.07-09-040 to Calculate Short-Run Avoided Cost for Payments to Qualifying Facilities Beginning July 2003 and Associated Relief Application 08-11-001 (Filed November 4, 2008)

Order Instituting Rulemaking into Implementation of Public Utilities Code Section 390 Rulemaking 99-11-022 (Filed November 18, 1999)

Order Instituting Rulemaking to Integrate Procurement Policies and Consider Long-Term Procurement Plans Rulemaking 06-02-013 (Filed February 16, 2006)

JOINT MOTION FOR APPROVAL OF QUALIFYING FACILITY AND COMBINED HEAT AND POWER PROGRAM SETTLEMENT AGREEMENT

The relationship among qualifying facilities ("QFs"), the investor-owned utilities ("IOUs") and ratepayer advocate groups has been contentious and litigious for most of the last thirty years. After more than a year and a half of intensive negotiations, QF representatives, the IOUs, and ratepayer advocate groups have developed a proposed combined heat and power ("CHP") settlement agreement ("Settlement Agreement") that resolves numerous outstanding

QF-related disputes and allows for a smooth transition from the California Public Utilities

Commission's ("Commission") existing QF Program to a new QF/CHP Program to preserve
resource diversity, fuel efficiency, greenhouse gas ("GHG") emissions reductions and other
benefits and contributions of CHP. In addition, the Settlement Agreement facilitates additional

CHP benefits and contributions by promoting new, lower GHG emitting CHP facilities and
encouraging the repowering, operational changes through utility pre-scheduling, or retirement of
existing, higher GHG emitting CHP facilities. Finally, the Settlement Agreement appropriately
allocates the costs of the QF/CHP Program to all customers in California who benefit from the
CHP portfolio. In short, the Settlement Agreement provides a reasonable, prudent and wellbalanced approach to the development of QFs and CHP facilities in California to ensure
customer benefits associated with CHP over the near- and long-term.

The parties to the proposed Settlement Agreement represent numerous different groups and interests. These parties include the three investor-owned utilities ("IOUs") -- Pacific Gas and Electric Company ("PG&E"), Southern California Edison Company ("SCE"), and San Diego Gas & Electric Company ("SDG&E"); cogeneration and combined heat and power qualifying facility ("CHP QF") representatives – the California Cogeneration Council ("CCC"), the Independent Energy Producers Association ("IEP"), the Cogeneration Association of California ("CAC"), and the Energy Producers and Users Coalition ("EPUC"); and statewide consumer and ratepayer groups – the Division of Ratepayer Advocates ("DRA") and The Utility Reform Network ("TURN") (the parties are referred to hereinafter individually as a "Party" and collectively as the "Joint Parties").

Pursuant to Rule 12.1 (a) of the California Public Utilities Commission's ("Commission") Rules of Practice and Procedure, the Joint Parties respectfully file this *Joint Motion for Approval of Qualifying Facility and Combined Heat and Power Program Settlement*

Agreement ("Joint Motion") proposing adoption of the attached Settlement Agreement. While each of these groups have separate interests and concerns, the Joint Parties have worked together to develop a comprehensive framework for a QF/CHP Program in California that will encourage the development of efficient CHP, provide environmental benefits through reduced GHG emissions, resolve outstanding QF disputes and provide clear direction going forward on contentious QF issues including costs. During the settlement process, the Joint Parties were required to compromise and develop solutions. None of the Joint Parties received everything it wanted, and each of the Joint Parties was required to compromise in specific areas so that an overall settlement could be reached. The resulting Settlement Agreement represents a balance of the parties' interests. Consistent with Commission Rule 12.1, the Joint Parties are providing a statement of the factual and legal considerations that are addressed in the Settlement Agreement and demonstrate that the Settlement Agreement is reasonable in light of the whole record, consistent with law, and in the public interest. For these reasons, the Joint Parties respectfully request that the Settlement Agreement be approved by the Commission without modification. ²

In addition to this Joint Motion, the Joint Parties are filing a Motion for Expedited

Consideration of Joint Motion For Approval of Qualifying Facility and Combined Heat and

Power Settlement Agreement ("Motion for Expedited Consideration"). In Section VI, below, the

Joint Parties provide a proposed schedule for Commission consideration of the Settlement

Agreement. The same schedule is included in the Motion for Expedited Consideration.

///

///

 $[\]frac{1}{2}$ The Settlement Agreement is attached as Attachment A to this motion.

² Each of the Joint Parties expressly reserves its rights to take positions contrary to the positions taken and arguments made in this motion if the Commission does not approve the Settlement Agreement without modification.

I. FACTUAL AND PROCEDURAL BACKGROUND

A. PURPA and The Commission's QF Program

In 1978, Congress enacted the Public Utility Regulatory Policies Act ("PURPA"), which was part of a national effort to promote energy independence and efficiency. Under PURPA and the Federal Energy Regulatory Commission's ("FERC") subsequent regulations implementing PURPA, qualifying cogeneration and small power production facilities were provided certain benefits and exemptions. State regulatory agencies were delegated responsibility for developing QF programs and determining avoided-cost pricing. The Commission implemented PURPA in the early 1980s by adopting for the IOUs a number of standard form power purchase agreements ("PPAs") that were available to QFs and established energy and capacity prices to be paid under these PPAs. Many QFs signed these PPAs and built cogeneration and small power production facilities to provide energy and capacity to the IOUs.

Since the Commission implemented the QF program in the 1980s, there have been disputes between the QFs, IOUs and ratepayer advocates including: contract terms, Short-Run Avoided Cost ("SRAC") pricing, capacity payments, contract extensions and terminations, and the availability of new contracts. Many of these disputes are still pending at the Commission. Section 14 of the Settlement identifies disputes pending at the Commission regarding several proceedings, including: retroactive adjustments to SRAC pricing; disputes over pricing and ability to execute PPA extensions; motions for prospective QF PPA options; SRAC disputes dating back to the 2000-2001 energy crisis; disputes concerning administrative heat rates ("AHR") used to calculate SRAC; and applications for rehearing and petitions for modification

³ 16 U.S.C. § 796, et seq.; see also Southern California Edison v. PUC, 101 Cal.App.4th 982, 986-87 (2002) (describing PURPA).

of numerous QF decisions.⁴ In addition to these disputes pending at the Commission, there are also disputes pending in the California Court of Appeal.⁵

Not only is the Commission faced with disputes regarding existing QF PPAs and the existing QF program, the Commission is also faced with challenges as to how to implement the QF program going forward. For example, in Decision ("D.") 07-09-040, the Commission recognized that it would need to address the impact of the California Independent System Operator's ("CAISO") Market Redesign and Technology Upgrade ("MRTU") on SRAC and the QF program.⁶ The Commission also has before it disputes over the terms and conditions of the new QF Standard Offer Contract ("SOC")² and disputes over the amount of QF capacity to include in the Long-Term Procurement Process ("LTPP").⁸

On the federal level, recently there have been changes to the PURPA purchase obligation. In October 2006, FERC issued Order No. 688:

... revising its regulations governing utilities' obligations to purchase electric energy produced by QFs. Order No. 688 implements PURPA section 210(m), which provides for termination of the requirement that an electric utility enter into power purchase obligations or contracts to purchase electric energy from QFs, if the Commission finds the QFs have nondiscriminatory access to markets.⁹

⁴ See Term Sheet, §§ 14.1 − 14.2.

 $[\]frac{5}{}$ *Id.* at § 14.2.4.

⁶ D.07-09-040 at p. 68.

² See e.g., Draft Resolution E-4242 and comments filed by parties concerning the draft resolution.

⁸ Joint Petition for Modification of D.07-12-052 by Southern California Edison Company (U 338-E), Pacific Gas & Electric Company (U 39-E), and San Diego Gas & Electric Company (U 902-E), filed December 17, 2008 in R.06-02-013.

 $^{^{9}}$ New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation , 130 FERC ¶ 61,216 (2010) at P. 3 (footnotes omitted).

Although the California IOUs have not yet sought from FERC a termination of their PURPA purchase obligation for QFs larger than 20 MW, the changes in PURPA further support a reexamination of California's existing QF program.

Given the numerous outstanding disputes, changes in PURPA, and challenges in determining a QF and CHP Program ("QF/CHP Program") going forward, the Joint Parties, California customers and the Commission will benefit from a Settlement that: (1) resolves the outstanding disputes; (2) sets out a clear path for the implementation of a cogeneration QF and CHP Program in California; and, (3) makes available additional PPA options for QFs under the QF/CHP Program ("CHP PPAs").

B. State Policy Favoring CHP

Public Utilities Code Section 372(a) and Energy Action Plan II both demonstrate that state policy supports the development of "efficient, environmentally beneficial" CHP. In the 2009 Integrated Energy Policy Report ("IEPR"), the California Energy Commission ("CEC") recommended the continued support and development of CHP as a means to meet state green house gas ("GHG") goals and other policy objectives. ¹⁰

C. CARB's Climate Change Scoping Plan

On December 11, 2008, the California Air Resources Board ("CARB") adopted the Climate Change Scoping Plan for California pursuant to Assembly Bill ("AB") 32 (the "CARB Scoping Plan"). In the CARB Scoping Plan, CARB noted that,

[c]ombined heat and power (CHP), also referred to as cogeneration, produces electricity and useful thermal energy in an integrated system. The widespread development of efficient CHP systems would help displace the need to develop new, or expand existing, power plants. This measure sets a target of an additional 4,000 MW of installed CHP capacity by 2020, enough to displace

 $[\]frac{10}{10}$ See, 2009 IEPR at pp. 8-9.

¹¹ See, http://www.arb.ca.gov/cc/scopingplan/doc ument/adopted scoping plan.pdf.

approximately 30,000 GWh of demand from other power generation sources. $\frac{12}{}$

Although CARB has not yet issued final GHG regulations, the CARB Scoping Plan indicates support for the development of efficient CHP.

D. Description Of the Settlement Process

Recognizing the need to resolve outstanding disputes and to establish a new CHP program for California going forward, in May 2009, the Joint Parties and Commission representatives met to lay out a settlement framework. Since that time, the Joint Parties have conducted frequent and lengthy meetings and worked diligently to negotiate the Settlement Agreement now presented to the Commission. The Joint Parties had divergent interests, many of which had been escalated in proceedings at the Commission and before the appellate court, which had to be accommodated. As a result, the Settlement Agreement represents a compromise that should be evaluated as an integrated package. The Settlement Agreement is over 75 pages long and provides a detailed and comprehensive framework for a QF/CHP Program in California. In addition to the Settlement Agreement Term Sheet ("Term Sheet"), the Joint Parties also negotiated four *Pro Forma* PPAs and standard amendments for Legacy QF PPAs for each of the IOUs that will be used as a part of the QF/CHP Program.

Taken as a whole, the Settlement Agreement, including the *Pro Forma* PPAs and amendments described in more detail below, represent a reasonable and appropriate resolution of the many QF issues presently under consideration before the Commission and in other forum. Consequently, the Commission should adopt the Settlement Agreement in its entirety and without change.

Consistent with Rule 12.1(b), the Joint Parties, on September 24, 2010, provided notice to the service lists in these proceedings of a formal settlement conference. ¹³ The conference was

¹² CARB Scoping Plan, at pp. 42-43 (footnotes omitted).

conducted on October 7, 2010. An overview of the proposed Settlement Agreement was presented, participants were able to ask questions and provide comments. Those that were interested in joining to support the Settlement Agreement were invited to do so. After the settlement conference was completed and participants were given an opportunity to review and comment on the Settlement Agreement, this Joint Motion was filed.

II. SUMMARY OF THE PROPOSED SETTLEMENT AGREEMENT

This section includes a summary of the key terms of each section of the Term Sheet, as well as the *Pro Forma* PPAs and the *Pro Forma* PPA amendments included with the Settlement Agreement. Given the length of the Settlement Agreement, this section is only intended to be a summary of key terms. Any inconsistencies between this summary and the Term Sheet should be governed by the Term Sheet.

A. Section 1 – Goals and Objectives

This section outlines the goals and objectives of the Settlement Agreement.

B. Section 2 – Settlement Periods

This section describes the three periods covered by the Settlement Agreement – the Transition Period, the Initial Program Period, and the Second Program Period. The Transition Period is designed to facilitate the transition from the existing QF Program to the new QF/CHP Program. During the Initial Program Period, which overlaps with the Transition Period, the IOUs have specific Megawatt ("MW") Targets ("MW Targets") for entering into new PPAs with

 $[\]frac{13}{2}$ Because of widespread interest in matters at issue in these proceedings, notice of potential settlement was also provided to the service lists in R.03-10-003, R.07-05-025, and R.08-06-024.

The fact that a specific provision in the Settlement Agreement is not discussed here does not explicitly or implicitly imply that any provision or term of the Settlement Agreement is more or less important. Moreover, if there is any unintended ambiguity created by the summary below as compared to specific Settlement Agreement terms, the specific provisions in the Settlement Agreement or applicable PPAs and amendments are controlling. The Settlement Agreement is an integrated package and each provision and term was carefully negotiated as a part of that integrated package.

CHP and other facilities. In the Second Program Period, the IOUs procure any portion of the MW Targets that they did not procure during the Initial Program Period and additional CHP capacity to meet GHG Emissions Reduction Targets ("GHG Targets") or other CHP procurement targets established by the Commission. SDG&E has a target to procure an additional 51 MW during the Second Program Period.

C. Section 3 – Transition PPA

This section describes the eligibility requirements for QF and CHP facilities for a PPA during the Transition Period and the pricing for Transition Period PPAs. The "Transition Standard Contract for Existing Qualifying Cogeneration Facilities" ("Transition PPA") is included as an exhibit to the Term Sheet and is an attachment to the Settlement Agreement.

D. Section 4 – CHP Procurement Process

This section describes the various aspects of the CHP procurement process under the new QF/CHP Program. First, Section 4.2 describes the new CHP Request for Offers ("CHP RFO") process under which the IOUs will procure generation from CHP facilities to meet MW Targets and GHG Targets specified in the Settlement Agreement. Section 4.2 includes eligibility requirements for CHP participating in the RFOs (Section 4.2.2), the delivery terms of PPAs resulting from the RFOs (Section 4.2.3), pricing (Section 4.2.4), and RFO evaluation and selection criteria (Section 4.2.5). In addition, the Joint Parties developed a Pro Forma power purchase agreement for CHP RFOs ("CHP RFO PPA") that will be attached as an exhibit to the Term Sheet.

Section 4 also describes the procurement processes for CHP other than through CHP RFOs that will count towards meeting MW and GHG Targets. Specifically, Sections 4.3 - 4.6

 $[\]frac{15}{1}$ Term Sheet, §§ 3.1 – 3.2.

¹⁶ The MW Targets and GHG Targets are described in Sections 5 and 6 of the Term Sheet, respectively.

describe bilaterally negotiated CHP PPAs, PPAs under the AB 1613 feed-in tariff, PPAs for QFs of 20 MW or less under PURPA, and Optional As-Available PPAs for certain large CHP facilities that have significant on-site load and specific operating characteristics. Section 4.7 addresses utility-owned CHP and limits the contribution of utility-owned facilities to ten percent (10%) of each IOU's GHG Target. IOU-owned facilities will not count toward the MW Targets in the Initial Program Period. Section 4.8 describes "utility prescheduled facilities" which are existing QF facilities that convert to IOU-dispatchable generating facilities. Finally, Section 4.9 addresses new behind-the-meter CHP facilities as one of the procurement options under the QF/CHP Program.

Section 4.10 specifies the Commission approval process required for new PPAs arising from the procurement options in the QF/CHP Program. This includes Tier 2 advice letter filings for existing CHP facilities that execute the CHP RFO PPA without material modification, and a Tier 3 advice letter process for all other CHP PPAs. CHP PPAs that are less than five years in duration do not require Commission pre-approval but will be reported in the IOUs' Quarterly Compliance Reports and CHP Program Semi-Annual Report.

Section 4.11 specifies information that CHP facilities must provide to the IOUs on an annual basis for monitoring purposes and Section 4.12 specifies the timing for commencement of deliveries from a CHP facility that has entered into a new CHP PPA.

E. Section 5 – MW Targets

Section 5 establishes a total MW Target for the IOUs of 2,949 MW during the Initial Program Period and a total MW Target of 3,000 MW for the entire QF/CHP Program. Section 5.1.2 includes a chart allocating this MW Target to three target periods for each of the IOUs. For example, the first MW Target for SCE, PG&E, and SDG&E are 630 MW, 630 MW, and 60

¹⁷ This provision in the Settlement Agreement is described in more detail in Section III.A.9, below.

MW, respectively. SDG&E has a specified MW Target during the Second Program Period. If the IOUs have not fulfilled the MW Targets assigned to them for the Initial Program Period they will also need to procure MWs during the latter period to fulfill those targets.

Section 5.1.4 provides that the IOUs are required to conduct three CHP RFOs during the Initial Program Period to seek CHP PPAs to meet the MW Targets. The number of CHP RFOs during the Second Program Period will be established in the LTPP proceedings. 18

Section 5.2 includes detailed counting rules as to how CHP PPAs executed during the Initial Program Period, whether through a CHP RFO or another procurement process, count toward the MW Targets. Section 5.3 clarifies the appropriate use of the MW counting procedure.

Section 5.4 addresses justifications for an IOU's failure to meet its MW Target. These justifications include lack of sufficient offers in the RFOs, the efficiency of CHP participating in the procurement programs, excessive offer prices 19, and the amount of GHG reductions.

F. Section 6 – GHG Emissions Reduction Targets

One of the key benefits of the Settlement Agreement is the implementation of a CHP Program designed to reduce GHG, consistent with the CARB Scoping Plan. Section 6.1 describes the Settlement Agreement strategy for reducing GHG, including maintaining existing, efficient CHP facilities, adding new, efficient CHP resources and achieving the GHG Targets by December 31, 2020. Section 6.2 addresses maintaining the GHG emissions reductions from existing CHP and establishing new targets for GHG reductions from new facilities. In particular, the Settlement Agreement establishes a GHG Emissions Reduction Target or "GHG Target" of 4.3 million-metric tons ("MMT") for the IOUs and 0.5 MMT for Energy Service Providers

¹⁸ Term Sheet, § 5.1.4.7.

 $[\]frac{19}{2}$ An IOU claiming that RFO offer prices are excessive must support its claim with information from independent or publicly available sources. *Id.*, § 5.4.1.

("ESPs") and Community Choice Aggregators ("CCA").²⁰ These targets are based on the 6.7 MMT GHG reduction attributable to CHP in the CARB Scoping Plan.²¹ Based on the current percentage of retail sales in California, the 6.7 MMT would be allocated as follows: (1) 4.3 MMT to the IOUs; (2) 0.5 MMT to ESPs and CCAs; and (3) 1.9 MMT to publicly-owned utilities ("POUs").²² The Commission does not have jurisdiction over POUs, but can set GHG Emissions Reduction Targets for the IOUs, ESPs and CCAs.

Section 6.2.2.3.3 provides for the adjustment of the allocation of the GHG Targets based on changes in retail sales during the term of the Settlement Agreement. Thus, for example, if customers depart utility service for ESPs or CCAs, the GHG Targets for the IOUs will decrease and the targets for the ESPs and CCAs will increase. The GHG Targets can also be adjusted among the IOUs.

Section 6.3 identifies the GHG Target allocated to ESPs and CCAs and indicates that it is the preference of the Joint Parties that these non-IOU load-serving entities ("LSEs") achieve these targets by entering into CHP PPAs. However, if these non-IOU LSEs are not required to enter into CHP PPAs, the IOUs will procure the appropriate amount of CHP for these LSEs to meet their GHG Target and the costs of this procurement by the IOUs will then be allocated to the customers of non-IOU LSEs. The allocation of CHP PPA costs is addressed in Section 13 of the Settlement Agreement. Section 6.4 describes the methodology for establishing the GHG Targets for each of the IOUs. Section 6.5 requires each IOU to report its progress toward meeting its GHG Target in its semi-annual CHP Program Reports that are submitted to the

 $[\]frac{20}{20}$ *Id.*, § 6.3.1.

 $[\]frac{21}{2}$ Id., §6.2.2.1.

 $[\]frac{22}{}$ Id., §6.2.2.3.

 $[\]frac{23}{2}$ See also id., § 6.3.3.

Commission. Section 6.6 states that the GHG Targets for the Second Program Period are subject to review and revision in the LTPP process.

Section 6.7 provides for revisions to the GHG Targets if CARB modifies its CHP reduction goals and provides for GHG Targets to be adjusted in the LTPP if AB 32 compliance is suspended or delayed. In Section 6.8, the Joint Parties agree to advocate at CARB in support of the Settlement Agreement, subject to certain conditions.

Finally, Section 6.9 sets out the justifications for failing to meet the GHG Targets, including the efficiency of CHP facilities participating in the IOUs' procurement programs, excessive offer prices and a lack of need for CHP resources.

G. Section 7 – GHG Emission Accounting Methodology

Section 7 establishes the accounting principles for determining the IOUs' progress toward meeting their GHG Targets. This section adopts a Double Benchmark methodology for determining GHG reductions and provides detailed accounting procedures for new, repowered, and existing CHP facilities to determine the amount of GHG emissions reductions that are attributable to these different types of facilities.

H. Section 8 – Commission Jurisdictional Entities' Reporting Requirements

Section 8 establishes reporting requirements for Commission-jurisdictional LSEs (*i.e.*, the IOUs, ESPs and CCAs). Each LSE must prepare a semi-annual report detailing progress toward meeting its MW Targets and GHG Targets.²⁴ Sections 8.2 – 8.5 describe the contents of the semi-annual reports, and specify report content for different categories of CHP generation (*e.g.*, new, legacy, terminated).

²⁴ *Id.*, § 8.1.1.

I. Section 9 – CHP Auditor

Section 9 provides for a CHP auditor ("CHP Auditor") who is to act as an advocate for CHP interests regarding the implementation of the QF/CHP Program.²⁵ The CHP Auditor is used in situations where an IOU provides notice that it does not anticipate meeting the MW Targets during a particular RFO or the GHG Targets. The CHP party or parties requesting a CHP Auditor bear the costs²⁶ and the CHP Auditor is provided with an opportunity to receive and review confidential IOU information regarding the relevant QF/CHP RFO. Section 9 includes provisions for execution of a non-disclosure agreement by the CHP Auditor (Section 9.1.4), when an IOU notice triggers an audit (Section 9.2), the time period for an audit review (Section 9.3), receipt and review of confidential information (Section 9.4), and the number of CHP Auditors, as well as rules regarding any potential conflicts of interest (Section 9.5).

J. Section 10 – SRAC Energy Pricing Structure

Section 10 establishes methodologies and formulas for SRAC to be used in Transition PPAs, Legacy PPAs, other existing QF PPAs and Optional As-Available PPAs. Section 10.2 includes a methodology for transitioning, by January 1, 2015, SRAC pricing from a formula that is based in part on administratively-determined heat rates to a formula that uses solely market heat rates. Section 10.4 includes a process for addressing market disruptions that may impact the market heat rate to be used in SRAC. Section 10.2 also includes IOU-specific time-of-use ("TOU") factors to be applied to energy prices to encourage energy deliveries during the times when the energy is most needed by customers. The SRAC formula also includes a locational adjustment based on CAISO nodal prices. Section 10.2 also includes pricing options based on

 $[\]frac{25}{1}$ Id., § 9.1.2.

 $[\]frac{26}{}$ *Id.*, § 9.1.3.

²⁷ Prices for RFO PPAs are based on competitive bids in the RFO process and bilateral PPA prices are based on negotiated prices between the IOU and the CHP party.

whether a cap-and-trade program or other form of GHG regulation is developed in California or nationally.

When such a cap-and-trade program is initially developed that applies to California,

Section 10.2 establishes a floor test which compares an energy price developed with a marketbased heat rate to an energy price developed with either a negotiated heat rate, or a heat rate from
a period prior to the start of a cap and trade program, plus the market price of GHG allowances.

The higher of the two energy prices is the one chosen as SRAC.

Section 10.3 requires the Seller under a CHP PPA to provide certain information to the IOU regarding GHG information that it has reported to CARB or another governmental authority, and information concerning the operation of its facility. Finally, Section 10.5 addresses the responsibility for GHG-related costs.

K. Section 11 – Legacy PPA Matters for Existing QFs

Under Section 11.1, QFs with existing standard offers or other PPAs ("QF PPAs") at the time of the Settlement Effective Date²⁸ will be paid for energy based on the SRAC formula specified in Section 10 (unless the QF PPA specifies a different price) or may elect to amend their standard offer QF PPA to choose one of the energy price options described in the Legacy QF Amendments, are attached as an exhibit to the Settlement Agreement. Unless otherwise specified in the QF PPA, capacity payments for QF PPAs will be based on the capacity price established by the Commission in D. 07-09-040. Section 11.2 provides for the transition from a QF PPA to a new CHP PPA and ensures that delivery from an existing CHP facility continues uninterrupted during that period. The amendments are not available to QFs participating in the Renewable Portfolio Standard program.

²⁸ The Settlement Effective Date is described in Section 16 of the Term Sheet.

Section 11.3 provides that the Seller under an existing QF PPA shall make a good faith effort to provide forecasting information to the IOU so that the IOU can more accurately schedule QF generation in the CAISO markets. This section provides specific forecasting submittal procedures.

L. Section 12 – CAISO Tariff Compliance

Section 12 provides that all CHP facilities subject to the CAISO Tariff shall comply with CAISO requirements when the facility begins deliveries under a CHP PPA. Section 12 also includes requirements for the installation of metering and telemetry equipment at existing CHP facilities within six (6) months of the execution of a CHP PPA. The Joint Parties also acknowledge that the CAISO may condition, waive or modify certain requirements for QF and CHP facilities.

M. Section 13 -- IOU Cost Recovery For CHP PPAs

Section 13 addresses cost allocation if the Commission determines that IOUs should purchase CHP generation on behalf of ESPs and CCAs.²⁹ In this circumstance, the IOUs are authorized to recover "net capacity costs" from all bundled, direct access ("DA") and CCA customers on a non-by-passable basis. Net capacity costs are the total costs paid by the IOU under the QF/CHP Program less the value of the energy and ancillary services supplied to the IOU under the program.

Section 13.1.1 recognizes that PPAs under the QF/CHP Program may be greater than ten (10) years and requires that the Commission: (1) affirmatively supersede the ten (10)-year limitation for stranded cost recovery established in D. 04-12-048 and D. 08-09-012 and (2) determine that all above-market or net capacity costs associated with the QF/CHP Program can be recovered for the entire duration of any CHP PPA.

²⁹ Term Sheet, § 13.1.2.2.

Section 13.1.2.1 provides that if the Commission determines that ESPs and CCAs are responsible for procuring CHP generation for their customers, any above-market costs associated with the QF/CHP Program can be allocated to future departing load customers who depart for DA or CCA service.

In Sections 13.1.3 and 13.1.4, the Joint Parties agree that they will not advocate the imposition of QF/CHP Program costs on CHP customer generation departing load, and in Section 13.1.5 the Joint Parties agree to advocate that CHP PPAs entered into as a result of the QF/CHP Program not be included in the existing Competition Transition Charge.

Finally, Section 13.2 provides that all payments made by the IOUs under the QF/CHP Program can be recovered in the IOUs' respective Energy Resources Recovery Account.

N. Section 14 -- Settlement Of Pending And Anticipated Litigation

Section 14 addresses the settlement of pending, as well as anticipated, claims and litigation. In Section 14.1, the IOUs agree under certain conditions to withdraw with prejudice all SRAC retroactive price adjustment claims. The Joint Parties mutually agree not to raise any new SRAC retroactive adjustment claims as long as the PURPA purchase obligation remains suspended (as described in more detail in Section 15).

In Section 14.2, the Joint Parties agree to release or withdraw a number of pending claims, rehearing applications, or motions including claims and motions at the Commission (Sections 14.2.1 – 14.2.3, 14.2.5 – 14.2.12) and pending appeals at the Court of Appeal (Section 14.2.4). Section 14 does not affect the Joint Parties' rights to advocate their respective position regarding the confidentiality of IOU procurement information. 30

 $[\]frac{30}{2}$ Id., § 14.3.2.

O. Section 15 – FERC 210(m) Application

Under Section 15, after the Commission approves the Settlement Agreement, the IOUs will submit an application to FERC requesting termination of the IOUs' PURPA purchase requirement from QFs with net capacity in excess of 20 MW, consistent with Section 210(m) of PURPA. Section 15.1 establishes a process for the CHP representatives to review the IOUs' FERC application and provides that these parties can intervene and comment on, but not protest, the IOUs' application. Under Section 15.1.10, the CHP representatives can file at FERC for reinstatement of the PURPA purchase obligation if an IOU "breaches its obligations under the Settlement [Agreement] or the CHP Program adopted in the Settlement [Agreement] is not successfully implemented, based upon the IOU's failure to meet the targets established by the CPUC pursuant to the Settlement [Agreement], without justification as provided for in the Settlement [Agreement]."

Section 15.2 addresses a circumstance where FERC reinstates the PURPA purchase obligation. In this case, SRAC pricing established under the Settlement Agreement stays in place until changed by the Commission (Section 15.2.1.1), although Joint Parties may advocate for a change to SRAC (Section 15.2.1.3). Joint Parties may also advocate for retroactive adjustments to SRAC pricing (Section 15.2.1.4). If the PURPA purchase obligation is reinstated, the IOUs' obligations to conduct CHP RFOs or to engage in alternative procurement processes and the MW Targets and GHG Targets are suspended "provided that the CPUC may on grounds other than the Settlement [Agreement] direct the procurement of CHP resources." (Section 15.2.1.7) Any procurement target to be established by the Commission in the LTPP remains in place unless and until modified by the Commission in a subsequent proceeding. The Joint Parties also agree in Section 15.2.1.8 that for purposes of Section 210(m), designated CHP PPAs constitute "legally enforceable obligations."

P. Section 16 – Conditions Precedent and Settlement Effective Date

Section 16.2 specifies that the Settlement Agreement becomes effective upon satisfaction of the following conditions precedent: (1) a final and non-appealable FERC order approving the IOUs' application to terminate their PURPA purchase obligation (Section 16.2.1); (2) a final and non-appealable Commission decision approving the Settlement, including a determination that the Settlement supersedes certain portions of existing Commission decisions (Sections 16.2.2 and 16.2.4 – 16.2.6); and (3) CARB support, in written form, for the Settlement (Section 16.2.3).

Section 16.3 provides that after the Settlement Agreement becomes effective, if CARB adopts regulations directly imposing a MW Target or GHG Emissions Target that differs from the Settlement Agreement for the Second Program Period, the IOUs' obligations to purchase from CHP to meet these targets will remain in place until such time as the Commission is able to consider such change in an LTPP or other pertinent proceeding.

Q. Section 17 – Glossary

The section includes a glossary of the defined terms used in the Settlement.

R. Attachments

The Settlement Agreement attaches the Term Sheet and Exhibits 1-11 below:

- 1. Amendment to Legacy QF PPA for PG&E
- 2. Amendment to Legacy QF PPA for SCE
- 3. Amendment to Legacy QF PPA for SDG&E
- 4. Transition PPA for existing Qualifying Cogeneration Facilities
- 5. CHP RFO Pro Forma PPA for CHP Facilities Participating in Solicitations
- 6. QF PPA for QFs 20 MW or Less;
- 7. Optional As-Available PPA for eligible As-Available Facilities;
- 8. Non-Disclosure Agreement ("NDA") for CHP Auditor;

- 9. List of Members of CAC
- 10. List of Members of CCC
- 11. List of Members of EPUC

Exhibits 1-7 containing the PPAs are described in more detail below in Section III.A.6. An additional attachment to this Joint Motion, offered for the Commission's information, is the Letter Agreement between the CAISO and the three utilities describing their understanding concerning the utilities' responsibilities concerning CHP/QF compliance with CAISO Tariffs and Protocols under the PPAs attached in Exhibits 4-7.

In addition, included as Attachment B to this Joint Motion is a letter agreement between the CAISO and the IOUs regarding implementation of the Settlement Agreement.

III. THE SETTLEMENT AGREEMENT IS REASONABLE AND IN THE PUBLIC INTEREST

The Commission will approve a settlement if it finds the settlement "reasonable in light of the whole record, consistent with law, and in the public interest." The proposed Settlement Agreement readily meets these criteria. The Joint Parties negotiated in good faith, bargained aggressively, compromised, and agreed to the Settlement Agreement as an interrelated package; the resolution of any one issue cannot be assessed discreetly. Due to the divergence of the interests of the Joint Parties that had to be accommodated, the Settlement Agreement with regard to each issue represents compromises by various Parties. The Commission, in evaluating the Settlement Agreement, should evaluate it as a package. Each element of the Settlement Agreement is related to all others, any change to the resolution of any one issue may offset the balance that the entire package strikes and represents.

³¹ Rule 12.1(d); see also D.09-10-017 (applying Rule 12.1(d) criteria).

Factors that the Commission has considered in reviewing settlements include: (1) the risk, expense, complexity and likely duration of further litigation, (2) whether the settlement negotiations were at arms-length, (3) whether major issues were addressed, and (4) whether the parties were adequately represented. In this case, the Settlement Agreement resolves complex and contentious litigation on QF and SRAC pricing matters presently before the Commission and the Court of Appeal. The lengthy settlement negotiations were at arms-length and addressed the major issues regarding the development and operation of CHP in California historically and going forward.

A. The Settlement Agreement Is Reasonable And Consistent With Existing Law

1. Consistent With State And Commission Policy, The Settlement Agreement Is Intended To Facilitate CHP Goals and Objectives.

As set forth in the Settlement Agreement, the policy objectives addressed by the Settlement Agreement include requirements under:

- Section 372(a) of the California Public Utilities Code which states: "it is the policy of the state to encourage and support the development of cogeneration technology as an efficient, environmentally beneficial, competitive energy resource that will enhance the reliability of local generation supply, and promote local business growth."
- The Energy Action Plan II which states: "The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost effective efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation."

According to the Settlement Agreement;

"The purpose of the State CHP Program is to encourage the continued operation of the State's Existing CHP Facilities, and the development, installation, and interconnection of new, clean and efficient CHP Facilities, in order to increase the diversity, reliability, and environmental benefits of the energy resources available to the State's electricity

³² Re Pacific Gas & Electric Company, 30 CPUC 2d 189, 222.

consumers."

"These policies and purposes will be achieved by a State CHP Program that procures CHP as set forth in this Settlement, retains existing efficient CHP, supports the change in operations of inefficient CHP to provide greater benefits to the State, and replaces CHP that will no longer be under contract with the IOUs with new, efficient CHP."

2. Consistent With State And Commission Policy, The Settlement Agreement Is Intended To Facilitate GHG Emissions Reductions From CHP Facilities.

When it enacted AB 32, the California Legislature declared that global warming caused by GHG emissions posed a serious threat to California.³³ AB 32 was designed to reduce California's GHG emissions. Since AB 32 was enacted, the Commission has repeatedly indicated that the reduction in GHG emissions is a key policy objective for the utility industry.³⁴ The Commission, CARB and the CEC have all recognized that efficient and clean CHP can reduce GHG emissions.³⁵ Indeed, CARB has made CHP one element in its Scoping Plan to implement AB 32 and reduce GHG emissions in California.

As stated in the Settlement Agreement: "In addition, this State CHP Program will secure additional Greenhouse Gas (GHG) emissions reduction benefits, consistent with the reduction targets of Assembly Bill (AB) 32, by adding new, efficient CHP." Consistent with state law and these policy objectives, the Settlement is intended to facilitate the reduction in GHG emissions in a number of ways.

First, under the Settlement, GHG Targets are set for all Commission-jurisdictional LSEs, including the IOUs, ESPs and CCAs. These targets are intended to facilitate the LSEs meeting

³³ Cal. Health and Safety Code, § 38501, et seq.

 $[\]frac{34}{2}$ See e.g., D.07-12-052 at pp. 2-5, 243; D.08-10-037 at pp. 2-3 (providing general overview of utility industry role in GHG reduction).

 $[\]frac{35}{2}$ D.08-10-037 at pp. 237-238 (Commission discussion of CHP); CARB Scoping Plan at pp. 43-44; 2009 IPER at pp. 97-98.

 $[\]frac{36}{}$ Term Sheet, § 6.

CARB's CHP goals by December 31, 2020.³⁷ To the extent CARB modifies its CHP goals, the Settlement provides flexibility to incorporate any modification in the CARB goals.³⁸

Second, the Settlement creates incentives for upgrading existing, inefficient CHP facilities, or, alternatively, for facilities that cannot participate or are unsuccessful in the CHP Program, the Settlement Agreement provides an orderly exit strategy. All CHP facilities will be able to participate in the CHP RFOs, and some will be able to participate in other procurement processes and obtain contracts that facilitate the financing, construction and operation of upgraded and/or new facilities. The CHP RFO PPA will explicitly include efficiency performance obligations.³⁹ The Settlement Agreement recognizes as one of the QF/CHP Program goals upgrading inefficient existing CHP facilities, or allowing them to retire, and encouraging the development of new, clean and efficient CHP.⁴⁰

Third, the Settlement Agreement includes a requirement for all Commission-jurisdictional LSEs to file semi-annual compliance reports that include GHG emissions information. This will allow the Commission and other interested parties to monitor the GHG emissions resulting from the QF/CHP Program and to determine if LSEs are obtaining the GHG benefits expected, and to address any shortfalls in expected GHG emission reduction benefits in a timely manner.

 $[\]frac{37}{4}$ *Id.*, § 6.1.

 $[\]frac{38}{10}$ Id., § 6.7

 $[\]frac{39}{4}$ Id., § 4.2.9.

⁴⁰ *Id.*, §§ 1.2.2.3 – 1.2.2.5; *see also* § 7.3 (GHG accounting methodology which takes into account GHG benefits from new facilities and retirement of inefficient existing CHP facilities).

 $[\]frac{41}{2}$ Id., § 8.

3. The QF/CHP Program Procurement Process Is Consistent With The Commission's Preference For Competitive Procurement.

The Commission has repeatedly stated a policy preference for competitive wholesale energy markets and competitive solicitations to procure new resources in those markets. 42

Currently, CHP QF contracting is not conducted through a competitive solicitation process. The Commission's early QF Program involved the issuance of standard offer contracts that a QF of any technology could sign. In recent years, the CHP QF Program has primarily been sustained by extensions of existing contracts and the availability of short-term contracting options. In D.07-09-040, however, the Commission ordered the IOUs to offer QFs five (5) year as-available and ten (10) year firm PPAs. Despite considerable efforts, those contracts have never been finalized or made available to QFs.

Under the Settlement Agreement, a new, competitive procurement process will be adopted in lieu of the Commission ordered contracts. In particular, the Settlement Agreement creates a CHP RFO process that allows the IOUs to run competitive, transparent RFOs for CHP resources. This is a significant change in CHP procurement and puts CHP resources into a process similar to the one currently used for conventional and Renewable Portfolio Standard ("RPS") procurement. This process will result in competitive prices that are ultimately subject to Commission approval.

In addition, the Commission has also provided for other methods for utility procurement, such as bilateral contracting. The Settlement Agreement provides similar additional flexibility to the IOUs in the CHP procurement process by including not only RFOs, but also other processes such as bilateral contracting, AB 1613 feed-in tariffs, a PURPA Program for QFs

⁴² D.04-01-050 at p. 63 (discussing competitive solicitations); D.07-12-052 at p. 205 (discussing development of functional competitive energy market); D.08-11-008 at p. 20 (same).

 $[\]frac{43}{2}$ Term Sheet, § 4.2.

⁴⁴ See e.g. D.03-12-062 at pp. 38-40 (approving bilateral contracting under certain conditions).

under 20 MW, utility-ownership, and other procurement options. The Settlement Agreement also includes a regulatory approval process for CHP PPAs that result from these procurement options. In short, the Settlement Agreement adopts a procurement process for QF and CHP resources that is competitive, flexible, and allows for sufficient regulatory oversight to ensure that the IOUs are able to minimize costs and select appropriate resources for California customers.

4. The Energy And Capacity Prices Are Reasonable And Consistent With Recent Commission Decisions.

There are several different pricing and contracting options in the Settlement. First, CHP PPA prices will be set on a contract-specific basis through a competitive RFO process subject to Commission approval. Allowing CHP developers to bid into the RFO will allow them to propose prices that are sufficient to finance and develop their facilities, while at the same time allowing the IOUs to pick the best offers based on a number of criteria, including price. An RFO procurement process, similar to the processes currently used for conventional and Renewable Portfolio Standard ("RPS") contracts, will result in competitive prices that are ultimately subject to Commission approval. In addition, to the extent that RFO prices are excessive, the Settlement Agreement expressly provides that an IOU may use excessive prices as a justification for failing to meet the MW Targets and GHG Targets.

Second, the Settlement Agreement establishes SRAC prices for the Transition PPAs, Legacy PPAs, QF contracts that are still available under PURPA for facilities less than 20 MW,

 $[\]frac{45}{1}$ Term Sheet, §§ 4.3 – 4.9.

 $[\]frac{46}{}$ Id., § 4.10.

⁴⁷ Bilaterally negotiated PPAs will set contract-specific prices subject to Commission regulatory approval.

⁴⁸ Term Sheet, § 5.4 and § 5.4.1 (addressing failure to meet the MW Target); § 6.9 (addressing failure to meet the GHG Targets).

and the Optional As-Available PPAs. ⁴⁹ The SRAC included in the Settlement Agreement is based on the current Commission-approved SRAC pricing formula ⁵⁰ and achieves the Commission goal of ultimately transitioning to a market heat rate to determine SRAC by January 1, 2015. ⁵¹ There is a long history of setting SRAC prices through settlements. The Settlement Agreement resolves this very contentious issue through an arms-length negotiation among adverse parties. As a result, the established SRAC prices are reasonable and in the public interest.

Finally, the Settlement Agreement includes capacity prices that have already been approved by the Commission in D.07-09-040 or are already incorporated in existing contracts. 52

5. The QF/CHP Targets Are Appropriate.

The Settlement establishes MW Targets for each IOU. 53 These MW Targets are the result of heated and protracted negotiations among parties with divergent interests. The CPUC has recognized that a settlement of contested issues among parties with divergent interests is reasonable and in the public interest. In addition, the Settlement Agreement establishes a GHG Target for all Commission-jurisdictional LSEs. These targets are consistent with the CHP targets included in CARB's Scoping Plan, but can also be adjusted to reflect changes by CARB in CHP targets for GHG emissions reductions and if there is a lack of need is asserted by an IOU and determined by the Commission. 54

⁴⁹ *Id.*, § 10.1.

⁵⁰ D.07-09-040 at p. 67; Resolution E-4246 (issued July 10, 2009) (adopting Market Index Formula).

 $[\]frac{51}{2}$ D.07-09-040 at p. 68 (indicating intent to transition from administrative heat rates to market heat rates).

⁵² See e.g., Term Sheet, § 3.2.1 (capacity pricing for Transition PPAs); § 4.6.2.2 (capacity pricing for Optional As-Available PPA); and § 11.1 (capacity prices for existing Legacy PPAs).

 $[\]frac{53}{}$ Term Sheet, § 5.

⁵⁴ *Id.*, §§ 6.7 (addressing changes to CARB CHP targets); 6.9.3 (lack of need as a justification for not meeting the GHG Targets).

6. The Semi-Annual Reports And CHP Auditor Process Are Consistent With Commission Policies Supporting Greater Public Information And Transparency.

The Commission has encouraged transparency in RFO and procurement processes. The Settlement Agreement includes several provisions that promote transparency. First, Commission-jurisdictional LSEs are required to submit semi-annual reports concerning their progress toward achieving the MW Targets and GHG Targets. The Settlement Agreement contains detailed requirements for the type of information to be included in the semi-annual reports. This will provide the Commission and interested parties with information concerning the progress of the QF/CHP Program, and will provide this information with sufficient frequency that the Commission will have an opportunity to address issues and concerns as they arise, rather than waiting until the end of the program to address these issues.

Second, the Settlement Agreement provides for a CHP Auditor to be used for the CHP RFOs if an IOU does not or anticipates that it will not meet its MW Targets or GHG Targets. ⁵⁷ The CHP Auditor provisions provide the auditor with access to confidential IOU information, to review the CHP RFO process, while including appropriate safeguards to prevent the disclosure of confidential information. The CHP Auditor can review the results of the IOU CHP RFOs, and raise any concerns about the RFOs to the Commission or the Energy Division. This provides an additional level of transparency in the implementation of the OF/CHP Program.

7. The Pro Forma PPAs and Legacy QF PPA Amendment.

The Commission has previously approved the use of *Pro Forma* PPAs for QFs, as well as for use in RFOs for conventional and RPS resources. The Settlement Agreement includes the

 $[\]frac{55}{2}$ See e.g. D.07-12-052 at pp. 148-151 (discussing transparency in RFO process).

 $[\]frac{56}{}$ Term Sheet, § 8.

 $[\]frac{57}{}$ *Id.*, § 9.

following four *Pro Forma* PPAs that were developed for specific circumstances and a *Pro Forma* Legacy QF PPA Amendment for each IOU:

- Legacy QF PPA Amendment -- These *Pro Forma* Amendments offer QFs under unexpired Legacy QF PPAs as of the Settlement Effective Date ("Legacy QFs") the option of amending the energy payment terms of their QF PPAs by selecting one of several payment options and executing the Legacy Amendment within 180 days of the Settlement Effective Date.
- Transition PPA This *Pro Forma* PPA offers an existing CHP facility whose existing QF PPA or extension thereof is scheduled to expire prior to 2015 the option to continue existing deliveries until July 1, 2015.
- CHP RFO PPA This *Pro Forma* PPA will be issued in the CHP RFOs to
 procure deliveries from CHP and other eligible generators larger than five (5)
 MW.
- Optional As-Available CHP PPA This *Pro Forma* PPA offers gas-fired CHP facilities with nameplates greater than 20 MW, but annual average deliveries less than 131,400 MWh, the option to make as-available deliveries to meet criteria specified in the Settlement Agreement.
- PPA for QFs of 20 MW or Less This *Pro Forma* PPA offers QFs of 20 MW or less, including small power producers and renewable energy resources, the option to make firm or as-available sales to the IOUs.

a. Legacy QF PPA Amendments.

The Legacy PPA Amendments allow a QF under a currently effective PPA, excluding those executed in the Renewable Portfolio Standard ("RPS") program, to amend the energy price formula by selecting one of the defined energy pricing options within 180 days of the effective date of the Settlement Agreement. Each of the energy price options is generally based on the SRAC energy pricing structure established by the Settlement ("Settlement SRAC"), as described in Section II.J, above. The energy pricing options differ in terms of the negotiated heat rates and the risk assumed by Seller for the recovery of GHG costs:

• Option A: Option A is identical to the Settlement SRAC pricing structure described in Section II.J, above.

- Option B: Option B employs the same formula for calculating the energy price as used for Option A. However, the negotiated heat rate is higher than Option A until it becomes market-based in 2015 and GHG compliance costs are the responsibility of the Seller.
- Option C1: The Seller's selection of Option C1 triggers a 90-day negotiating period, following the Amendment Effective Date, where parties may agree to a tolling agreement pursuant to which Seller will cause the generating facility to be dispatchable, and Buyer will purchase dispatchable electricity. If Option C1 is selected, the Seller must check a fallback option which shall apply in the absence of a Tolling Agreement.
- Option C2: In addition to making energy payments to the Seller based on a negotiated heat rate that is 265 Btu/kWh lower than in Option B, in the event of a cap-and-trade GHG control program is established, the Buyer will make payments of \$20 per metric ton ("MT") to Seller based on a fixed emission rate for GHG compliance costs. In exchange, the Seller is solely responsible for all GHG compliance costs.
- Option C3: The energy pricing terms of C3 are identical to those of C2, except that GHG costs are based on facility-specific emissions, capped at Base Year emissions, and an allowance price capped at \$12.50/MT. Annual heat rates are identical to those in Option C2.

The availability of the Legacy QF PPA Amendments is subject to the Commission Approval of the Settlement Agreement and FERC approval of the California IOUs' request to waive the PURPA must-take procurement obligation. This *Pro Forma* amendment incorporates the Joint Parties' settlement of the SRAC pricing issues and offers QFs flexibility to manage the risk of GHG compliance cost.

b. Transition PPA.

The Transition PPA is available to CHP facilities currently selling to an IOU under a Legacy PPA or an extension thereof that is due to expire during the Transition Period. A CHP facility may only enter into a Transition PPA with the same IOU that it currently delivers electricity to under a Legacy PPA or an extension thereof. The term of the Transition PPA begins upon the expiration of the CHP facility's existing PPA and may be terminated upon 180 days' notice when a CHP facility has executed a PPA resulting from either a solicitation or

bilateral negotiation. The Seller may provide firm, as-available, or both forms of capacity. The Transition PPA provides firm capacity payment at the rate of \$91.97/kW-yr and as-available capacity payment at \$41.22/kW-yr escalating annually. Energy is priced at the Settlement SRAC.

The Transition PPA requires a delivery schedule, the installation of a CAISO-approved meter within 180 days of contract execution, and agreements to curtail power production upon notification of CAISO or transmission owner instruction.

Although deliveries are generally limited to historic levels under the Legacy PPA, both capacity and energy levels may be modified, provided that any CHP facility modification does not increase the Buyer's GHG costs. Certain CHP facilities with unique operational constraints may negotiate an amendment to the Transition PPA to deliver a standard additional capacity product that meets Commission and /or CAISO requirements for resource adequacy and CAISO protocols.

c. CHP RFO PPA.

The CHP RFO PPA is used to solicit competitive offers from certain CHP generators. Within 90 days of the Settlement Effective Date, each IOU will initiate a CHP RFO and issue this CHP RFO PPA to establish the terms and conditions by which existing, new or expanded CHP facilities located within California may offer to sell firm or as-available capacity to the IOU. To be eligible to participate in the CHP RFO, the CHP facility must, among other things, be larger than five (5) MW, must meet the definition of "cogeneration" under Cal. Pub. Util. Code §216.6, must satisfy the Emissions Performance Standard established by Cal. Pub. Util. Code §8341, and must satisfy the definition of "cogeneration facility" under 18 CFR §292.205. Utility Prescheduled Facilities are also eligible to bid into the CHP RFO

 $[\]frac{58}{1}$ The same CHP RFO PPA will be used in subsequent CHP solicitations as well.

Under the CHP RFO PPA, the delivery term for existing facilities and expanded facilities that elect not to satisfy the credit and collateral requirements of the RFO is up to seven (7) years; for new, repowered or expanded facilities that elect to meet the credit and collateral requirements in the RFO, the term is up to 12 years. Terms in the CHP RFO PPA may be modified on a bilateral basis during negotiations for a particular CHP PPA. If the Seller's offer is accepted, the offer will establish the terms of the PPA.

d. Optional As-Available CHP PPA.

The As-Available CHP PPA is one of several commercial alternatives available to new, existing, or repowered gas-fired CHP facilities with nameplates greater than 20 MW that meet certain requirements, including the following: the CHP facility's average annual deliveries may not exceed 131,400 MWh; the project host(s) must consume at least 75% of the total electricity generated by a Topping Cycle CHP Facility or at least 25% of the total electricity generated by a Bottoming Cycle CHP Facility; and for Topping Cycle or Bottoming Cycle with supplemental firing, the facility must meet a 60% efficiency standard. ⁵⁹

Seller will be paid an as-available capacity price set forth in Exhibit D, Section 3, and a time of delivery ("TOD") energy price set forth in Exhibit D, Section 2. If the generating facility is a new CHP facility, it must maintain Development Security and Performance Assurance in accordance with scheduled amounts or as negotiated between Seller and Buyer. Seller may terminate the Agreement if Seller's facility is selected in a competitive solicitation.

As-available capacity payments will be paid for deliveries of up to 20 MW in any hour. The Seller is required to schedule all deliveries with the IOU on a day-ahead basis sufficiently in advance to allow the IOU to schedule energy into the CAISO day-ahead market. Energy scheduled on a day-ahead basis and delivered up to 20 MW per hour will be priced at Settlement

 $[\]frac{59}{2}$ There is no efficiency requirement for a Bottoming Cycle CHP Facility with no supplemental firing.

SRAC. Energy scheduled on a day-ahead basis and delivered at a rate in excess of 20 MW per hour will be priced at the MRTU Day-Ahead market PNode energy price. Unscheduled energy incremental to scheduled energy will be purchased by the IOU at the MRTU real time PNode price, while the Seller will bear CAISO charges and receive all CAISO revenues for such deliveries. The Seller may designate a delivery term of up to seven (7) years.

e. PPA for QFs of 20 MW or Less.

The PPA for QFs of 20 MW or Less will be available to QFs with firm or as-available capacity of 20 MW or less under the Commission's continuing PURPA program, regardless of whether the QF has submitted an offer in the CHP RFO or seeks alternative contracting options. The PPA for QFs of 20 MW or Less contains standard terms and conditions and incorporates the capacity prices established in D. 07-09-040, and employs the Settlement SRAC price for energy. There are few terms subject to negotiation. New or repowered facilities must post project development security and performance assurance.

8. The Cost Recovery Proposal Is Reasonable And Consistent With California Law.

The Commission has repeatedly determined that where DA and CCA customers benefit from procurement, these customers should pay their share of the procurement costs. For example, the Commission authorized the allocation of new generation resource costs to DA and CCA customers because these customers benefitted from the system reliability provided by the new generation resources. The Commission also allocated GHG compliance costs and certain locational costs associated with CHP facilities developed under AB 1613 to DA and CCA customers because these customers benefitted from the AB 1613 program.

⁶⁰ D.06-07-029 at p. 7.

 $[\]frac{61}{1}$ D.09-12-042 at pp. 21-25, aff'd, D.10-04-055 at pp. 11-18.

Here, one of the purposes of the Settlement Agreement is to develop a QF/CHP Program that can facilitate meeting CARB's CHP goal as specified in its Scoping Plan. The CARB CHP goal is not limited to the IOUs, but applies to all LSEs in California. Section 365.1(c)(1) of the Public Utilities Code, enacted as part of Senate Bill 695 (2009), requires this Commission to "ensure" that ESPs and CCAs "are subject to the same requirements that are applicable to the state's three largest electrical corporations under any programs or rules adopted by the commission to implement . . . the requirements for the electricity sector adopted by the State Air Resources Board." Under the Settlement Agreement, the CARB CHP goal is equitably allocated among Commission-jurisdictional LSEs based on their respective percentage of total retail sales. This allocation is used to establish GHG Targets for all LSEs, including the IOUs, ESPs and CCA.

As part of its decision on this Settlement Agreement, and based upon input from the parties, including ESPs and CCAs, the Commission will decide whether these entities will be required to meet their portion of the GHG Target by procuring CHP resources, which is the approach the Joint Parties prefer. However, if the Commission determines that ESPs or CCAs are unable or unwilling to meet their portion of the GHG Targets by contracting with CHP facilities, the IOUs have agreed under the terms of the Settlement Agreement to procure CHP resources on behalf of these entities. In this case, however, ESP and CCA customers will be responsible for the costs of CHP resources procured on their behalf by the IOUs. This is consistent with the Commission's recent decisions on cost allocation when ESP and CCA customers benefit from IOU procurement on their behalf.

 $[\]frac{62}{1}$ Term Sheet, §§ 6.2 – 6.3.

 $[\]frac{63}{}$ Id., § 6.3.2.

 $[\]frac{64}{}$ Id., § 13.1.2.2.

As an alternative to the allocation of costs for CHP resources procured on behalf of ESP and CCA customers, if these entities are required to procure their own CHP resources, then the Settlement Agreement provides for the allocation of any stranded CHP costs to future DA and CCA departing load customers. This allocation of costs is consistent with the Commission's recent departing load cost allocation decisions. However, because PPAs under the Settlement Agreement can have up to a 12-year duration, a condition precedent of the Settlement Agreement becoming effective is that the Commission affirmatively supersede the 10-year limitation in D.08-09-012⁶⁷ and determine that PPA above-market costs can be recovered from departing load customers for the entire 12-year term.

9. The Settlement Resolves Numerous Pending And Anticipated Disputes.

The Commission has a long-standing policy of supporting settlements. The Commission favors settlements because they generally support worthwhile goals, including reducing the expense of litigation, conserving scarce Commission resources, and allowing parties to reduce the risk that litigation will produce unacceptable results. In this case, rather than resolving a single dispute, the Settlement Agreement resolves numerous disputes pending at both the Commission and in the California Court of Appeal. These disputes involve QF pricing, QF SOC terms and conditions, the amount of QF/CHP capacity included in long-term planning, retroactive SRAC price adjustments dating back to 2000, and numerous other disputes

⁶⁵ *Id.*, § 13.1.1.

 $[\]frac{66}{2}$ See e.g. D.04-12-048 at pp. 56-58; D.08-09-012 at p. 37 (allocating new QF contract costs to DA and CCA departing load customers).

⁶⁷ D.08-09-012 at pp. 52-55 (discussing 10-year limitation).

 $[\]frac{68}{}$ Term Sheet, § 16.2.5.

⁶⁹ D.05-03-022 at pp. 7-8; D.10-06-031 at p. 12.

 $[\]frac{70}{10}$ D.10-06-031 at p. 12.

 $[\]frac{71}{}$ Term Sheet, § 14.

Agreement effectively resolves pending disputes by requiring the Joint Parties to either withdraw pending motions and applications, or release certain claims. In addition, the Settlement Agreement precludes the Joint Parties from raising new retroactive SRAC adjustment claims as long as certain conditions are met. Thus, the Settlement not only resolves past disputes, but it also limits potential future disputes regarding SRAC energy prices.

The Settlement Agreement also resolves future potential disputes at FERC concerning an application by the IOUs for waiver of the PURPA purchase obligation by clearly defining what type of application the IOUs will file, and the type of disputes or filings that can be made by the CHP Representatives. But for the Settlement Agreement, the Joint Parties would likely have expended considerable time and resources litigating at FERC the waiver of the PURPA purchase obligation.

10. The Settlement Agreement Provides For Operationally Flexible Resources.

Recognizing the amount of intermittent, renewable resources that will be added in California as a result of the RPS requirements, the Commission has recently encouraged the development of operationally flexible conventional resources to assist with renewables integration. One of the challenges for CHP facilities is that these facilities are often operated as baseload facilities and/or need to operate consistent with the needs of a thermal host such that these facilities lack significant operational flexibility. Under the Settlement Agreement, the IOUs can contract with a limited group of existing CHP facilities that convert from a QF facility

⁷² *Id.*, § 14.1.1.

⁷³ *Id.*, § 15.1.

⁷⁴ See e.g. D.07-12-052 at pp. 106, 111-112, 115.

to a dispatchable generation facility. The dispatchable generating facility is referred to in the Settlement Agreement as a "Utility Prescheduled Facility." This aspect of the Settlement Agreement has several benefits.

First, if an existing CHP facility converts to a dispatchable facility, it gives the IOU the ability to dispatch the resource when it is needed, rather than the facility providing baseload generation or operating based on a thermal host's needs. This is similar to the contracts the IOUs have with peaking and other existing conventional generation facilities.

Second, conversion to a dispatchable facility may ultimately result in GHG emission reductions. If an existing CHP facility operates as a baseload facility, and is not efficient, its GHG emissions may be higher than a new conventional facility or other resource options. By giving the IOU the flexibility to dispatch a facility, the utility can optimize its GHG emissions reductions by choosing to operate facilities with the lowest total GHG emissions.

B. The Settlement Agreement Is In The Public Interest

The Settlement Agreement is clearly in the public interest for a number of reasons. First, the Settlement Agreement resolves numerous pending disputes, motions and applications and will likely limit disputes in the future. As explained above, settlements of disputes benefit the public by reducing the costs and expense of litigation and conserving Commission resources. In addition, because there are pending disputes at the California Court of Appeal and likely will be disputes at FERC, the Settlement Agreement also preserves the resources of the courts and FERC.

Second, the Settlement Agreement creates a framework for a QF/CHP Program going forward that is much more closely aligned with other Commission-approved procurement processes. For example, under the Settlement Agreement, the IOUs will initiate a CHP RFO

⁷⁵ Term Sheet, § 4.8.

process, which is similar to how conventional and RPS resources are now procured. The Settlement Agreement also includes *Pro Forma* PPAs, which will allow CHP developers and the IOUs to reduce transaction costs and resources, which they would otherwise be expended in the time-consuming process of negotiating individual PPAs.

Third, the Settlement Agreement will encourage the continued operation of the State's existing CHP facilities, and the development, installation and interconnection of new, clean and efficient CHP facilities in order to increase the diversity, reliability and environmental benefits of the CHP energy resources available to the State's electricity consumers.

Fourth, the Settlement Agreement creates a framework for achieving CARB's current CHP goals for the reduction of GHG emissions. GHG emissions pose a serious threat to the California economy, environment and the health and welfare of California's citizens. By providing a framework for the implementation of one aspect of the CARB Scoping Plan, the Settlement Agreement will facilitate efforts for California to meet its ambitious AB 32 goals. The Settlement Agreement encourages the retirement of existing, inefficient CHP facilities or repowering existing CHP facilities to make them more clean and efficient, and the development of new, clean and efficient CHP.

Fifth, the Settlement Agreement adopts a methodology for determining SRAC energy prices that is consistent with Commission decisions. The Settlement Agreement also provides for CHP PPA energy prices that are determined as a part of a competitive process, so that the prices accurately reflect a market price. Customers will benefit from clearly established SRAC prices, or prices determined through a competitive process. In addition, the capacity prices adopted in the Settlement Agreement have already been approved by the Commission.

Sixth, the Settlement Agreement creates a transparent procurement process. The Commission, interested parties and the public all benefit from a transparent procurement process with appropriate protections for confidential IOU information.

Seventh, the Settlement Agreement establishes clear rules for pricing and treatment of existing QF PPAs. For example, under the Settlement, QFs with existing PPAs are encouraged to provide forecasting information to the IOUs so that the IOUs can more accurately forecast QF generation. QFs also have greater certainty as the SRAC formula is clearly established rather than being subject to continued and ongoing disputes.

Finally, the Settlement Agreement provides for the equitable allocation of costs associated with the QF/CHP program to all Commission-jurisdictional LSEs.

IV. THE JOINT PARTIES HAVE COMPLIED WITH THE REQUIREMENTS OF RULE 12.1(B)

Commission Rule 12.1(b) requires parties to provide a notice of a settlement conference at least seven (7) days before a settlement is signed. On September 24, 2010, the Joint Parties notified all of the parties on the service list in these proceedings of a settlement conference and subsequently convened the settlement conference on October 7, 2010 to describe and discuss the terms of the proposed Settlement Agreement. Representatives of the Joint Parties participated in the settlement conference. After the settlement conference was concluded, the Settlement Agreement was finalized and executed on October 8, 2010.

V. HEARINGS ARE NOT REQUIRED

The Joint Parties respectfully request that the Commission approve the Settlement
Agreement without evidentiary hearings as there are no disputed issues of material fact related to
the Settlement Agreement that require hearings. In addition, hearings would prevent the
expeditious approval of the Settlement Agreement. Should evidentiary hearings be deemed

necessary, the Joint Parties request that such hearings be held at the earliest opportunity, and concluded in a speedy and efficient manner.

VI. TIMING FOR REVIEW OF THE SETTLEMENT AGREEMENT AND CONDITIONS PRECEDENT FOR THE SETTLEMENT AGREEMENT TO BECOME EFFECTIVE

In a separate Motion for Expedited Consideration, which is being filed concurrently with this Motion, the Joint Parties have requested the Commission expeditiously review and approve the Settlement Agreement. Expeditious review and approval of the Settlement Agreement will allow the IOUs to proceed with filing of the FERC application described in Section 15 of the Settlement Agreement and to obtain written support from CARB. FERC approval of an application for termination of the PURPA purchase obligation and CARB written support are conditions precedent to the Settlement Agreement becoming effective. However, because the IOUs cannot file an application at FERC until after the Commission approves the Settlement Agreement, ⁷⁶ expeditious review of the Settlement Agreement by the Commission is a necessary first step in satisfying all of the conditions precedent.

One of the conditions precedent for the Settlement Agreement to become effective is a Commission decision approving the Settlement Agreement "as submitted for approval without revisions unacceptable to any Party or in an alternative form that is acceptable to all Parties." The Joint Parties strongly urge the Commission to adopt the Settlement Agreement as is, without modification, and to select one of the two identified options for participation by ESPs and CCAs and their customers. If a Commission decision proposes modifications to the Settlement Agreement, the Joint Parties will then need to review and agree to the modifications before the condition precedent of Commission approval is satisfied. Given that it has taken the Joint Parties

⁷⁶ Term Sheet, § 15.1.6.

 $[\]frac{77}{2}$ Id. at § 16.2.2.

more than a year and a half to negotiate the Settlement, and the Settlement Agreement involves a complex series of compromises and agreements, a Commission modification of the Settlement Agreement is likely to result in months of additional delay and may ultimately result in the Joint Parties being unable to agree to the modifications and the Settlement Agreement terminating. In light of the substantial benefits of the Settlement Agreement, the Commission should approve the Settlement Agreement as is, without modification, to avoid further delay negotiating the modifications or, potentially, termination of the Settlement Agreement as a result of the proposed modifications being unacceptable to the Joint Parties.

The Joint Parties are proposing in their Motion for Expedited Consideration the following schedule for consideration of the Settlement Agreement:

| Event | Dates Per The Commission's Rules | Proposed Dates |
|--|--|-----------------------|
| Motion for Approval of Settlement Agreement | | Filed October 8, 2010 |
| Comments on Motion for Approval of Settlement Agreement (Rule 12.2.) | November 8, 2010 | October 25, 2010 |
| Reply Comments on Motion for Approval of Settlement Agreement (Rule 12.2.) | November 23, 2010 | November 1, 2010 |
| ALJ's Proposed Decision (Rule 14.2.) | | November 16, 2010 |
| Comments on Proposed Decision (Rule 14.3(a).) | 20 days after Proposed Decision | December 6, 2010 |
| Reply comments on Proposed Decision (Rule 14.3(d).) | 5 days after opening comments on Proposed Decision | December 13, 2010 |
| Commission vote on Proposed Decision | | December 16, 2010 |

VII. CONCLUSION

As demonstrated above, the Settlement Agreement is reasonable in light of the whole record, consistent with law, and in the public interest. Thus, the Joint Parties respectfully request that the Commission: (1) approve the Settlement Agreement without modification; (2) approve the *Pro Forma* PPAs attached to the Settlement Agreement without modification; and (3) determine that the decision approving the Settlement Agreement supersedes certain existing Commission decisions identified in Sections 16.2.4, 16.2.5 and 16.2.6 of the Settlement Agreement.

///

///

///

Respectfully submitted,

Michael D. Montoya

Carol A. Schmid-Frazee

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, CA 91770-3714 Telephone: (626) 302-1337 Facsimile: (626) 302-1935

E-Mail: Carol.SchmidFrazee@sce.com

Attorneys for Southern California Edison Company

Georgetta J. Baker

San Diego Gas & Electric Company

101 Ash Street, HQ12 San Diego, CA 92101-3017 Telephone: (619) 699-5064 Facsimile: (619) 699-5027 E-Mail: gbaker@sempra.com

Attorney for San Diego Gas & Electric Company

Jerry R-Bloom

Winston & Strawn LLP 333 So. Grand Avenue

Los Angeles, CA 90071-1504

Telephone: (213) 615-1700 Facsimile: (213) 615-1750 E-Mail: jbloom@winston.com

Attorney for California Cogeneration Council

Mary A. Gandesbery

Charles R. Middlekauff

Evelyn C. Lee

Pacific Gas and Electric Company

77 Beale Street

San Francisco, CA 94105-1814 Telephone: (415) 973-0675 Facsimile: (415) 973-5520

E-Mail: magq@pge.com

Attorney for Pacific Gas and Electric Company

Michel Peter Florio

The Utility Reform Network 115 Sansome Street, Suite 900 San Francisco, CA 94104-3624 Telephone: (415) 929-8776, ext. 302

Facsimile: (415) 929-1132

E-Mail: mflorio@turn.org

Attorney for The Utility Reform Network

Douglas K. Kerner

Ellison, Schneider & Harris 2600 Capitol Avenue, Suite 400 Sacramento, CA 95816-5931

buc Kterkle

Telephone: (916) 447-2166 Facsimile: (916) 446-3512 E-Mail: dkk@eslawfirm.com

Attorney for Independent Energy Producers Association

Michael P. Alcantar Alcantar & Kahl

33 New Montgomery St., Suite 1850

San Francisco, CA 94105-4511

Telephone: (415) 421-4143 Facsimile: (415) 989-1263 E:mail: mpa@a-klaw.com

Attorney for the Cogeneration Association of California and The Energy Producers and Users Association

Lisa-Marie G. Salvacion

Division of Ratepayer Advocates

505 Van Ness Avenue

San Francisco, CA 94102-3214

Telephone: (415) 703-2069 Facsimile: (415) 703-2067 E-Mail: lms@cpuc.ca.gov

Attorney for California Public Utilities Commission, Division of Ratepayer Advocates

October 8, 2010

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

Rulemaking 04-04-003 (Filed April 1, 2004)

Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-Run and Long-Run Avoided Costs, Including Pricing for Qualifying Facilities Rulemaking 04-04-025 (Filed April 22, 2004)

Application of Southern California Edison Company (U 338-E) for Applying the Market Index Formula and As-Available Capacity Prices Adopted in D.07-09-040 to Calculate Short-Run Avoided Cost for Payments to Qualifying Facilities Beginning July 2003 and Associated Relief Application 08-11-001 (Filed November 4, 2008)

Order Instituting Rulemaking into Implementation of Public Utilities Code Section 390

Rulemaking 99-11-022 (Filed November 18, 1999)

Order Instituting Rulemaking to Integrate Procurement Policies and Consider Long-Term Procurement Plans Rulemaking 06-02-013 (Filed February 16, 2006)

MOTION FOR EXPEDITED CONSIDERATION OF JOINT MOTION FOR APPROVAL OF QUALIFYING FACILITY AND COMBINED HEAT AND POWER PROGRAM SETTLEMENT AGREEMENT

Michael D. Montoya Carol A. Schmid-Frazee

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, CA 91770-3714 Telephone: (626) 302-1337 Facsimile: (626) 302-1935

E-Mail: Carol.SchmidFrazee@sce.com

Attorneys for Southern California Edison Company

Georgetta J. Baker San Diego Gas & Electric Company

101 Ash Street, HQ12 San Diego, CA 92101-3017 Telephone: (619) 699-5064 Facsimile: (619) 699-5027 E-Mail: gbaker@sempra.com

Attorney for San Diego Gas & Electric Company

Jerry R. Bloom Winston & Strawn LLP 333 So. Grand Avenue Los Angeles, CA 90071-1504 Telephone: (213) 615-1700 Facsimile: (213) 615-1750 E-Mail: jbloom@winston.com

Attorney for California Cogeneration Council

Michael P. Alcantar Alcantar & Kahl 33 New Montgomery St., Suite 1850 San Francisco, CA 94105-4511 Telephone: (415) 421-4143 Facsimile: (415) 989-1263 E:mail: mpa@a-klaw.com

Attorney for the Cogeneration Association of California and The Energy Producers and Users Coalition

October 8, 2010

Mary A. Gandesbery Charles R. Middlekauff

Evelyn C. Lee

Pacific Gas and Electric Company

77 Beale Street

San Francisco, CA 94105-1814 Telephone: (415) 973-0675 Facsimile: (415) 973-5520 E-Mail: magq@pge.com

Attorney for Pacific Gas and Electric Company

Michel Peter Florio
The Utility Reform Network
115 Sansome Street, Suite 900
San Francisco, CA 94104-3624
Telephone: (415) 929-8776, ext. 302
Facsimile: (415) 929-1132

Facsimile: (415) 929-1132 E-Mail: mflorio@turn.org

Attorney for The Utility Reform Network

Douglas K. Kerner Ellison, Schneider & Harris 2600 Capitol Avenue, Suite 400 Sacramento, CA 95816-5931 Telephone: (916) 447-2166 Facsimile: (916) 446-3512 E-Mail: dkk@eslawfirm.com

Attorney for Independent Energy Producers Association

Lisa-Marie G. Salvacion
Division of Ratepayer Advocates
505 Van Ness Avenue
San Francisco, CA 94102-3214
Telephone: (415) 703-2069
Facsimile: (415) 703-2057
E-Mail: lms@cpuc.ca.gov

Attorney for California Public Utilities Commission, Division of Ratepayer Advocates

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

Rulemaking 04-04-003 (Filed April 1, 2004)

Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-Run and Long-Run Avoided Costs, Including Pricing for Qualifying Facilities Rulemaking 04-04-025 (Filed April 22, 2004)

Application of Southern California Edison Company (U 338-E) for Applying the Market Index Formula and As-Available Capacity Prices Adopted in D.07-09-040 to Calculate Short-Run Avoided Cost for Payments to Qualifying Facilities Beginning July 2003 and Associated Relief Application 08-11-001 (Filed November 4, 2008)

Order Instituting Rulemaking into
Implementation of Public Utilities Code
Section 390

Rulemaking 99-11-022 (Filed November 18, 1999)

Order Instituting Rulemaking to Integrate Procurement Policies and Consider Long-Term Procurement Plans Rulemaking 06-02-013 (Filed February 16, 2006)

MOTION FOR EXPEDITED CONSIDERATION OF JOINT MOTION FOR APPROVAL OF QUALIFYING FACILITY AND COMBINED HEAT AND POWER PROGRAM SETTLEMENT AGREEMENT

Pursuant to California Public Utilities Commission ("Commission") Rule
11.1, Pacific Gas and Electric Company ("PG&E"), Southern California Edison
Company ("SCE"), San Diego Gas & Electric Company ("SDG&E"), the California
Cogeneration Council ("CCC"), the Independent Energy Producers Association
("IEP"), the Cogeneration Association of California ("CAC"), the Energy Producers

and Users Coalition ("EPUC"), the Division of Ratepayer Advocates ("DRA"), and The Utility Reform Network ("TURN") (the parties are referred to hereinafter collectively as the "Joint Parties") request that the Assigned Administrative Law Judge ("ALJ") and the Commission expedite consideration of the Joint Motion For Approval Of Qualifying Facility And Combined Heat And Power Program Settlement Agreement ("Joint Motion") that is being filed concurrently with this Motion for Expedited Consideration of Joint Motion for Approval of Qualifying Facility and Combined Heat and Power Program Settlement Agreement ("Motion to Expedite"). The Joint Parties request that the Assigned ALJ issue an order adopting the expedited schedule provided below.

As explained in detail in the Joint Motion, there are several conditions precedent to the Settlement Agreement becoming effective. The first condition precedent is Commission approval of the Settlement Agreement. After Commission approval, the investor-owned utilities ("IOUs") will submit an application to the Federal Energy Regulatory Commission ("FERC") seeking waiver of their Public Utility Regulatory Policies Act ("PURPA") obligations under Section 210(m) of the Federal Power Act. The Settlement Agreement does not become effective until after FERC approves the PURPA waiver application. Because the IOUs cannot file an application at FERC until after the Commission approves the Settlement Agreement, expeditious review is a necessary first step in satisfying the

¹ See Settlement Agreement, § 16.

² Id., § 15.1.6.

³ *Id.*, § 16.2.1.

⁴ *Id.*, § 15.1.6.

conditions precedent. Given the substantial benefits of the Settlement Agreement, as explained in detail in the Joint Motion, expeditious consideration and review is warranted.

In addition, no party will be prejudiced by expedited review. The Joint Parties issued a settlement conference notice on September 24, 2010 and provided the Settlement Agreement term sheet and *pro forma* agreements and amendments on the IOUs' websites on October 4, 2010. Thus, non-settling parties have been on notice of the Settlement Agreement and have had copies of the term sheet and associated *pro forma* agreements and amendments before the Joint Motion was filed. In addition, the Joint Parties presented the Settlement Agreement at a settlement conference held on October 7, 2010.

The Joint Parties are proposing the following schedule for consideration of the Settlement Agreement:

| Event | Dates Per The Commission's | Proposed Dates |
|--|---|-----------------------|
| Joint Motion For Approval of Settlement Agreement | Rules | Filed October 8, 2010 |
| Comments on Joint Motion for Approval of Settlement Agreement (Rule 12.2.) | November 8, 2010 | October 25, 2010 |
| Reply Comments on Joint Motion for Approval of Settlement Agreement (Rule 12.2.) | November 23, 2010 | November 1, 2010 |
| ALJ's Proposed Decision (Rule | | November 16, 2010 |
| 14.2.) Comments on Proposed Decision (Rule 14.3(a).) | 20 days after Proposed Decision | December 6, 2010 |
| Reply comments on Proposed Decision (Rule 14.3(d).) | 5 days after opening comments on Proposed | December 13, 2010 |
| Commission vote on Proposed Decision | Decision | December 16, 2010 |

Based on the foregoing, the Joint Parties respectfully request that the Assigned ALJ adopt the schedule proposed in this Motion to Expedite.

//

//

Respectfully submitted,

Michael D. Montoya

Carol A. Schmid-Frazee

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, CA 91770-3714 Telephone: (626) 302-1337

Facsimile: (626) 302-1337

E-Mail: Carol.SchmidFrazee@sce.com

Attorneys for Southern California Edison Company

Georgetta J. Baker

San Diego Gas & Electric Company

101 Ash Street, HQ12 San Diego, CA 92101-3017 Telephone: (619) 699-5064 Facsimile: (619) 699-5027

E-Mail: gbaker@sempra.com

Attorney for San Diego Gas & Electric Company

Jerry R. Bloom

Winston & Strawn LLP 333 So. Grand Avenue

Los Angeles, CA 90071-1504

Telephone: (213) 615-1700 Facsimile: (213) 615-1750 E-Mail: jbloom@winston.com

Attorney for California Cogeneration Council

Mary A. Gandesbery

Charles R. Middlekauff

Evelyn C. Lee

Pacific Gas and Electric Company

77 Beale Street

San Francisco, CA 94105-1814 Telephone: (415) 973-0675 Facsimile: (415) 973-5520

E-Mail: magq@pge.com

Attorney for Pacific Gas and Electric Company

Michel Peter Florio

The Utility Reform Network 115 Sansome Street, Suite 900 San Francisco, CA 94104-3624

Telephone: (415) 929-8776, ext. 302

Facsimile: (415) 929-1132 E-Mail: mflorio@turn.org

Attorney for The Utility Reform Network

Douglas K. Kerner

Ellison, Schneider & Harris

2600 Capitol Avenue, Suite 400

Sacramento, CA 95816-5931

Telephone: (916) 447-2166 Facsimile: (916) 446-3512 E-Mail: dkk@eslawfirm.com

Attorney for Independent Energy Producers
Association

Michael P. Alcantar Alcantar & Kahl

33 New Montgomery St., Suite 1850 San Francisco, CA 94105-4511

Telephone: (415) 421-4143 Facsimile: (415) 989-1263 E:mail: mpa@a-klaw.com

Attorney for the Cogeneration Association of California and The Energy Producers and Users Coalition

October 8, 2010

Lisa-Marie G. Salvación

Division of Ratepayer! Advocates

505 Van Ness Avenue

San Francisco, CA 94102-3214 Telephone: (415) 703-2069

Facsimile: (415) 703-20**5**7 E-Mail: lms@cpuc.ca.gov

Attorney for California Public Utilities Commission, Division of Ratepayer Advocates

CERTIFICATE OF SERVICE BY ELECTRONIC MAIL OR U.S. MAIL

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is Pacific Gas and Electric Company, Law Department B30A, 77 Beale Street, San Francisco, CA 94105.

I am readily familiar with the business practice of Pacific Gas and Electric Company for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence is deposited with the United States Postal Service the same day it is submitted for mailing.

On the 8th day of October, 2010, I caused to be served a true copy of:

MOTION FOR EXPEDITED CONSIDERATION OF JOINT MOTION FOR APPROVAL OF QUALIFYING FACILITY AND COMBINED HEAT AND POWER PROGRAM SETTLEMENT AGREEMENT

[XX] By Electronic Mail – serving the above via e-mail transmission to each of the parties listed on the official service list for R.99-11-022, R.04-04-003, R.04-04-025, R.06-02-013 and A.08-11-001.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 8th day of October, 2010, at San Francisco, California.

PAMELA I DAWSON-SMITH

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Southern California Edison Company (U 338-E) for Applying the Market Index Formula and As-Available Capacity Prices Adopted in D.07-09-040 to Calculate Short-Run Avoided Cost for Payments to Qualifying Facilities Beginning July 2003 and Associated Relief

Application 08-11-001 (Filed November 4, 2008)

Order Instituting Rulemaking to Integrate Procurement Policies and Consider Long-Term Procurement Plans **Rulemaking 06-02-013** (Filed February 16, 2006)

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning Rulemaking 04-04-003 (Filed April 1, 2004)

Order Instituting Rulemaking to Promote Consistency in Methodology and Input Assumptions in Commission Applications of Short-Run and Long-Run Avoided Costs, Including Pricing for Qualifying Facilities Rulemaking 04-04-025 (Filed April 22, 2004)

Order Instituting Rulemaking into Implementation of Public Utilities Code Section 390 Rulemaking 99-11-022 (Filed November 18, 1999)

CHP PROGRAM SETTLEMENT AGREEMENT

The parties to this CHP Program Settlement Agreement¹ are Pacific Gas and Electric Company ("PG&E"), a California corporation, Southern California Edison Company ("SCE"), a California corporation, and San Diego Gas & Electric Company ("SDG&E"), a California corporation (hereinafter collectively referred to as "Investor Owned Utilities" or "IOUs"), The Utility Reform Network ("TURN") and the Division of Ratepayer Advocates ("DRA") (hereinafter collectively referred to as "Consumer Interest Groups"), and California Cogeneration Council and all of its members ("CCC"),

¹ The term Settlement Agreement as used herein includes the CHP Program Settlement Term Sheet and Exhibits 1 through 11 listed below.

Cogeneration Association of California and all of its members ("CAC"), Energy Producers and Users Coalition and all of its members ("EPUC"), and the Independent Energy Producers Association ("IEP") (hereinafter collectively referred to as qualifying facilities ("QF") parties ("QF Parties")). All of these entities are hereinafter referred to collectively as the "Parties" or individually as a "Party."

RECITALS

The IOUs are all investor-owned public utilities in the State of California and all are subject to the jurisdiction of the California Public Utilities Commission ("Commission") with respect to providing electric service to their customers.

The Consumer Interest Groups consist of DRA and TURN. DRA is an independent division of the Commission that advocates solely on behalf of utility ratepayers. TURN is an independent, non-profit consumer advocacy organization that represents the interests of residential and small commercial utility customers.

The QF Parties consist of CCC, CAC, EPUC, and IEP. The QF Parties are organizations that represent, *inter alia*, the interests of cogeneration Qualifying Facility operations and combined heat and power ("CHP") facilities in the State of California. On September 20, 2007, the Commission issued D.07-09-040, in R.04-04-025/R.04-04-003, that established Short-Run Avoided Cost ("SRAC") energy and as-available and firm capacity pricing for QFs and ordered the IOUs and QF Parties to work together to develop a Standard QF Contract through negotiations in which the Commission's Energy Division took an active role. On August 1, 2009, the SRAC energy and as-available capacity pricing established in D.07-09-040 was implemented pursuant to Resolution No. E-4246, dated July 9, 2009.

On October 25, 2007, the IOUs and TURN filed an Application for Rehearing of D.07-09-040, CAC and EPUC filed an Application for Rehearing of D.07-09-040, and CCC filed an Application for Rehearing of D.07-09-040. In response to these

Applications for Rehearing, the Commission issued D.08-07-048, modifying D.07-09-040. In response to D.08-07-048, SCE and TURN filed a Petition for Writ of Review with the California Court of Appeals.

D.08-07-048 allowed the IOUs to seek retroactive application of the energy and as-available capacity pricing for QFs adopted in D.07-09-040. On October 3, 2008, the QF Parties filed a Petition for Modification requesting that the Commission modify D.08-07-048 to eliminate the opportunity for the IOUs to seek retroactive application of the energy and as-available capacity pricing adopted in D.07-09-040 as modified by D.08-07-048. D.08-07-048 established a deadline of November 4, 2008 for the IOUs to file applications for retroactive application of the SRAC energy and as-available capacity pricing.

On November 4, 2008, SCE filed its SRAC Update Application (A.08-11-001) which, pursuant to requests of the QF Parties, was ultimately held in abeyance until after issuance of a decision on the QF Parties' October 3 Petition for Modification of D.08-07-048. On that same date, November 4, 2008, PG&E and SDG&E filed notices of reservations of rights to later file claims to recover amounts exceeding the SRAC energy and as-available capacity pricing adopted on September 20, 2007, but indicating that they would not request recovery of any such amounts paid prior to September 20, 2007.

In December 2008, pursuant to Assembly Bill ("AB") 32, the California Air Resources Board ("CARB") adopted the Climate Change Scoping Plan. In part, that plan embraced a statewide target to reduce 6.7 million metric tons ("MMT") of Greenhouse Gas ("GHG") from the incremental development of Combined Heat and Power ("CHP") facilities.

On January 26, 2009, Administrative Law Judge ("ALJ") DeBerry issued a ruling suggesting proposed principles as a way of resolving the dispute over the reasonableness of PG&E's and SCE's payments to QFs during the period December 2000 through March 2001 ("Proposed Principles"). This dispute was remanded to the Commission by the

California Court of Appeal in Southern California Edison Co. v. Public Utility

Commission, 101 Cal.App 4th 982 (2002) (Remand Dispute). On May 1, 2009, Opening

Comments on the Proposed Principles were filed with the Commission, and, on May 15,

2009, Reply Comments on the Opening Comments were filed with the Commission.

On April 16, 2009, the Commission issued D.09-04-032 which modified D.08-07-048 concerning the showing that the IOUs must make in support of any requests for retroactive application of changes to SRAC. D.09-04-032 also allowed SCE to amend its SRAC Update Application by May 7, 2009 which SCE did, and gave PG&E and SDG&E 45 days to submit their applications. On May 7, 2009, SCE filed its amended SRAC Update Application. PG&E and SDG&E have requested and been granted by the Commission's Executive Director multiple extensions for the filing of their applications to accommodate settlement negotiations.

The IOUs plan to submit an application to the Federal Energy Regulatory Commission ("FERC") pursuant to Section 210(m) of the Public Utility Regulatory Policies Act ("PURPA") to terminate the IOUs' QF purchase obligation.

On May 18, 2009, the Parties commenced settlement negotiations of outstanding QF and CHP issues before the Commission and FERC, and resulting from the CARB AB 32 Scoping Plan. These negotiations continued for over a year. This Settlement Agreement is the result of those negotiations.

TERMS OF AGREEMENT

In consideration of the mutual obligations, promises, covenants, and conditions contained herein, the Parties agree to the terms and conditions of this Settlement Agreement and agree to support its approval by the Commission.

Each Party shall review any Commission orders regarding this Settlement

Agreement to determine if the Commission has changed, modified, or severed any
portion of the Settlement Agreement, deleted a term, or imposed a new term. If a Party is

unwilling to accept such change, modification, severance, deletion, or addition of a new term of the Settlement Agreement, that Party shall so notify the other Parties within ten (10) business days of issuance of any such Commission order regarding this Settlement Agreement. The Parties shall thereafter promptly discuss each change, modification, severance, deletion or new term found unacceptable and negotiate in good faith to achieve a resolution acceptable to all Parties and promptly seek Commission approval of the resolution so achieved. Failure to resolve such change, modification, severance, deletion, or new term to this Settlement Agreement to the satisfaction of all Parties within ninety (90) calendar days of notification, and to obtain Commission Approval of such resolution promptly thereafter, shall cause this Settlement Agreement to terminate.

This Settlement Agreement is the result of extended negotiations. It represents a compromise of disputed claims between the Parties, which are identified in Section 14 of the Term Sheet. The Parties have reached this Settlement Agreement after taking into account the possibility that each Party may or may not prevail on any given issue. This Settlement Agreement is reasonable in light of the whole record, consistent with law, and in the public interest.

As provided under Rule 12.5 of the Commission's Rules of Practice and Procedure, the Parties request that the Commission expressly find the Settlement Agreement Term Sheet is precedential.

This Settlement Agreement includes the CHP Program Settlement Agreement

Term Sheet ("Term Sheet") and Exhibits 1-11, each of which is attached and incorporated

by reference into this document. Exhibits 1-11 are as follows:

- Amendment to Legacy QF Power Purchase Agreement ("PPA") for PG&E;
- 2. Amendment to Legacy QF PPA for SCE;
- 3. Amendment to Legacy QF PPA for SDG&E;
- 4. Transition PPA;

- 5. CHP Request for Offer ("RFO") Pro Forma PPA;
- 6. QF PPA for QFs 20 MW or Less;
- 7. Optional As-Available PPA;
- 8. Non-Disclosure Agreement ("NDA") for CHP Auditor;
- 9. List of Members of CAC;
- 10. List of Members of CCC; and
- 11. List of Members of EPUC.

The Settlement Agreement contains the entire agreement and understanding between the Parties as to the subject matter of this agreement, and supersedes all prior agreements, commitments, representations, and discussions between the Parties. In the event there is any conflict between the terms and scope of the Settlement Agreement and the terms and scope of the accompanying *Joint Motion for Approval of the Qualifying Facility and Combined Heat and Power Settlement Agreement*, the Settlement Agreement shall govern. In the event there is any conflict between the terms and scope of the Term Sheet on contract issues and the attached PPAs (Exhibits 1-7), the PPAs shall govern.

None of the provisions of this Settlement Agreement shall be considered waived by any Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Settlement Agreement or to take advantage of any of their rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

This Settlement Agreement shall be interpreted, governed and construed under the laws of the State of California, including Commission decisions, orders and rulings as if executed and performed wholly within the State of California.

| PACIFIC GAS and ELECTRIC | SAN DIEGO GAS & ELECTRIC |
|--|----------------------------|
| COMPANY | COMPANY |
| A California Corporation | A California Corporation |
| 0110010 | - |
| By Mysophis / John | By |
| Title President | Title |
| Date 10/8/10 | Date |
| | |
| SOUTHERN CALIFORNIA EDISON | THE UTILITY REFORM NETWORK |
| COMPANY | |
| A California Corporation | By |
| | Title |
| By Man A Chill | Date |
| Title Nice President Renewable & Alternation | |
| Date 10/8/2010 Power | |
| | |
| | |
| INDEPENDENT ENERGY | DIVISION OF RATEPAYER |
| PRODUCERS ASSOCIATION | ADVOCATES |
| | |
| By | By |
| Title | Title |
| Date | Date |

| PACIFIC GAS and ELECTRIC | SAN DIEGO GAS & ELECTRIC |
|--|--|
| COMPANY | COMPANY |
| A California Corporation | A California Corporation |
| By | By Man Rushhard Title VP-Elect & Fuel Procurement Date 10/8/10 |
| SOUTHERN CALIFORNIA EDISON COMPANY | THE UTILITY REFORM NETWORK |
| A California Corporation | By |
| - | Title |
| Ву | Date |
| Title | |
| Date | |
| INDEPENDENT ENERGY PRODUCERS ASSOCIATION | DIVISION OF RATEPAYER ADVOCATES |
| FRODUCERS ASSOCIATION | ADYUCATES |
| ByTitle | By Title |
| Date | -Date |

| PACIFIC GAS and ELECTRIC COMPANY A California Corporation | SAN DIEGO GAS & ELECTRIC COMPANY A California Corporation |
|--|---|
| By | By |
| SOUTHERN CALIFORNIA EDISON COMPANY A California Corporation By Title Date | By Floric Title Senior Attorney Date October 8, 2010 |
| INDEPENDENT ENERGY PRODUCERS ASSOCIATION | DIVISION OF RATEPAYER ADVOCATES |
| ByTitleDate | By |

| PACIFIC GAS and ELECTRIC COMPANY A California Corporation | SAN DIEGO GAS & ELECTRIC COMPANY A California Corporation |
|--|--|
| By | By Title Date |
| SOUTHERN CALIFORNIA EDISON COMPANY A California Corporation By Title Date | ByTitleDate |
| INDEPENDENT ENERGY PRODUCERS ASSOCIATION By Title Date | By Action Director Division of Representations of R |

| PACIFIC GAS and ELECTRIC COMPANY | SAN DIEGO GAS & ELECTRIC COMPANY |
|--|-------------------------------------|
| A California Corporation | A California Corporation |
| By | Ву |
| Title | Title |
| Date | Date |
| SOUTHERN CALIFORNIA EDISON COMPANY | THE UTILITY REFORM NETWORK |
| A California Corporation | Ву |
| Ì | Title |
| By | Date |
| Title | , |
| Date | |
| INDEPENDENT ENERGY PRODUCERS ASSOCIATION | DIVISION OF RATEPAYER ADVOCATES |
| D. Carlo | P. |
| Title A to war for | By |
| | Title |
| Date 10 / 05 / 10 | Date |

| COGENERATION ASSOCIATION OF | CALIFORNIA COGENERATION |
|-----------------------------|----------------------------|
| CALIFORNIA | COUNCIL |
| By Michael A May 10 | By Sh. 1860m |
| Title COONSIEL | Title Course |
| Date October 7,2010 | Date october 7 2010 |
| | , |
| | ENERGY PRODUCERS AND USERS |
| | COALITION A |
| | By Window Hearta |
| | Title Coorsel |
| | Date October 7, 2010 |

NONDISCLOSURE AGREEMENT

RECITALS

| Pursuant to Section 9 of the Combined Heat and Power (CHP) Program Settlement Agreement ("Settlement") adopted by the California Public Utilities Commission ("CPUC") Decision ("D."), the CPUC has directed IOU to provide for a CHP Auditor. |
|--|
| Pursuant to Section 9.1.2 of the Settlement, the purpose and role of a CHP Auditor is to be an informed advocate for CHP interests regarding the implementation of the CHP Program. CHP Auditor(s) will only be designated to conduct a CHP Program audit if, upon written notice the IOU does not, or anticipates it will not, meet any of the following: a MW Target established by the Settlement; a GHG Emissions Reduction Target established by the Settlement; any MW Target or GHG Emissions Reduction target established by the CPUC after the Settlement Effective Date (collectively, "Target" or "Targets"). |
| Pursuant to Section 9.1.4.1 of the Settlement the CHP Auditor, before the CPUC, and all divisions thereof, and before an IOU's procurement review group (PRG) report on the IOU's conduct of and procurement decisions arising from a particular IOU Request for Offer (RFO), may use any information, including Confidential Information obtained by the CHP Auditor from the IOU. |
| On, IOU provided written notice to those CHP Parties on the CPUC service list [docket] that it will not meet, or anticipates that it will not meet a Target, associated with a particular RFO. |
| Except as otherwise provided in the Settlement, any Confidential Information (as defined below) that is provided to the CHP Auditor during the audit process will be kept confidential by the CHP Auditor and specified support staff. |
| AGREEMENT |
| NOW, THEREFORE, in consideration of these recitals and the agreements contained herein, the Parties, intending to be legally bound, agree as follows: |
| THIS NON-DISCLOSURE AGREEMENT (this "Agreement") is made as of, 201 ("Effective Date") and entered into between ("IOU"), and ("CHP Auditor"). |
| In consideration of the mutual covenants set forth below, the parties hereby agree as follows: |
| 1. "Confidential Information" shall mean, collectively, all agreements and associated documents (regardless of whether such agreement(s) and associated documents are executed or in draft form), and technical, financial and business information of any kind whatsoever including, where appropriate and without limitation, all data, specifications, technology, ideas, know-how, improvements, maps, technical drawings, inventions (whether or not patentable or copyrightable), trade secrets, that are provided |

1

by or on behalf of IOU, and without limiting the foregoing, any other information as well as any and all tangible and intangible embodiments thereof of any kind whatsoever that would reasonably be considered the confidential or proprietary information of IOU, its parent company, its subsidiaries or affiliates and/or third parties who have licensed or provided such information to IOU given the nature of the information or manner of disclosure, in each case disclosed by or on behalf of IOU to CHP Auditor or obtained by CHP Auditor through observation or examination of the foregoing, regardless of whether such information or embodiment has been marked as confidential or proprietary. Confidential Information shall not include information that:

- (a) has been publicly known prior to disclosure by IOU of such information to CHP Auditor;
- (b) has become publicly known, without fault on the part of CHP Auditor or, subsequent to disclosure by IOU of such information to CHP Auditor;
- (c) has been or is received by CHP Auditor at any time on a non-confidential basis from a source, other than IOU, lawfully having possession of and the right to disclose such information; or
- (d) has been independently developed by CHP Auditor, which may include the written records of CHP Auditor, without use of Confidential Information.
- Pursuant to Section 9.5.3 of the Settlement, at the initiation of the CHP audit for the subject RFO the CHP Auditor certifies that he/she is not currently engaged, and will not engage for a period of twenty four (24) months beginning on the date of delivery of Confidential Information associated with the subject CHP RFO directly in: (a) a transaction for the generation, purchase, sale or marketing of electrical energy, capacity, and/or related products, including but not limited to electricity related financial products (meaning derivatives, swaps or options), at wholesale in the State of California, (b) a transaction for the purchase, sale or marketing at wholesale of natural gas commodity, assets, including but not limited to natural gas related financial products, for electric generation purposes in the State of California, (c) preparing bids and/or bidding strategies, bidding on, or purchasing of power or power plants in the State of California (or the substantive supervision of any employee(s) whose duties include such responsibilities with regard to those activities, subject to the following Section 3), or (d) mergers and/or acquisitions of entities that own or control electric generation and/or natural gas assets or commodity associated with electric generation in the State of California, (e) consulting with or advising others in connection with any activity set forth in subparagraphs (a), (b), (c) or (d).
- 3. As provided in Section 9.5.4 of the Settlement, the CHP Auditor(s) may not share the Confidential Information with any third party, including any co-worker or employee, except to provide necessary technical, administrative and clerical support of no more than three (3) individuals for the Auditor's work; provided that such party is also subject to this Agreement. The CHP Auditor may directly supervise employees, office

colleagues or co-workers, but shall establish rules to eliminate any substantive supervision of activities identified in Section 2, above. A supervisor, employee, office colleague or co-worker of a CHP Auditor shall not have any substantive involvement in reviewing, providing guidance to or reviewing the results of the analysis derived from the Confidential Information

- 4. In the course of an audit, IOU may disclose certain Confidential Information to CHP Auditor. Each such disclosure shall be subject to the terms and conditions of this Agreement, provided that the limitations on engaging in specified activities in Section 2 shall begin on the date of initial delivery of any Confidential Information.
- 5. Subject to Sections 9.1.4.1, 9.1.4.2 and 9.1.4.3 of the Settlement, the CHP Auditor shall not disclose Confidential Information. CHP Auditor shall hold the Confidential Information in strict confidence and shall not, subject to Sections 9.1.4.1, 9.1.4.2 and 9.1.4.3 of the Settlement, directly or indirectly, without the prior written consent of IOU, disclose the Confidential Information to any third party other than CPUC Commissioners, Staff or Procurement Review Group ("PRG") members. Moreover, disclosure of Confidential Information to the CPUC Commissioners, Staff or PRG members shall be accompanied by an appropriate declaration concerning its confidentiality. IOU acknowledges that CHP Auditor shall have the right to convey Confidential Information to CPUC Commissioners, Staff and PRG members. CHP Auditor shall keep the Confidential Information in a safe and secure location.
- 6. Notwithstanding the foregoing, in the event that CHP Auditor becomes legally compelled by notice of deposition, interrogatory, request for documents, subpoena, civil investigative demand or similar process to disclose any of the Confidential Information, CHP Auditor shall give IOU prompt prior written notice of such requirement so that IOU may seek a protective order or other appropriate remedy and/or waive compliance with the terms of this Agreement and if such protective order or other remedy is not obtained, or IOU waives compliance with the terms hereof, CHP Auditor agrees to provide only that limited portion of the Confidential Information that it is required by the legal request and to ensure that all Confidential Information that is so disclosed will be accorded confidential treatment. Prior to disclosure, CHP Auditor shall work with IOU to determine whether or not such information shall be marked confidential before being disclosed.
- 7. When the Confidential Information is no longer needed for the purpose of auditing the CHP RFO associated with a Target or due to a violation of this Agreement, the IOU may request in writing and the CHP Auditor shall promptly return all tangible items relating to Confidential Information, including all written material, photographs, models, compounds, compositions and the like made available or supplied by IOU to CHP Auditor, and all copies and derivatives thereof. CHP Auditor agrees that all Confidential Information shall, together with any copies, reproductions and other records, thereof, in any form, and all information and materials developed by CHP Auditor therefrom, be returned to IOU or destroyed by CHP Auditor, as IOU shall instruct, when no longer needed for the performance of CHP Auditor's services or due

- to a violation of this Agreement. CHP Auditor shall provide IOU with a written certification of return or destruction signed by the CHP Auditor.
- 8. As between IOU and CHP Auditor, IOU's Confidential Information will remain the property of IOU. Nothing contained in this Agreement will be construed as obligating IOU to disclose Confidential Information to CHP Auditor, or as granting to or conferring on CHP Auditor, expressly or by implication, any rights to use the Confidential Information other than in the CHP Auditor's conduct of his/her duties under this Agreement, or pursuant to provisions of the Settlement, including Sections 9.1.4.1, 9.1.4.2 and 9.1.4.3 of the Settlement.
- 9. CHP Auditor is aware of the restrictions imposed by the United States securities laws on the purchase or sale of securities by any person who has received material, non-public information from the issuer of such securities.
- 10. Subject to Sections 9.1.4.1, 9.1.4.2 and 9.1.4.3 of the Settlement, CHP Auditor will not disclose any information or make any news release, advertisement, public communication, response to media inquiry or other public statement regarding this Agreement, the Confidential Information, any transactions, potential transactions, or bids contained in the Confidential Information and/or the potential commercial relationship between the parties or CHP Auditor's performance hereunder without the prior written consent of IOU.
- 11. This Agreement shall last until and cover Confidential Information received by the CHP Auditor for five (5) years following the Effective Date. Notwithstanding the foregoing, all of the CHP Auditor's duties of confidentiality and non-use shall, with respect to Confidential Information, continue until such time that Confidential Information is no longer deemed confidential by IOU or falls within one of the exceptions set forth in Section 1.
- 12. CHP Auditor may not transfer or assign all or part of this Agreement, whether by operation of law or otherwise, without the prior written consent of IOU.
- 13. IOU makes no express or implied warranty or representation relating to the Confidential Information (including as to completeness) or its use, provided that, consistent with Section 9.4.2 of the Settlement, at a minimum the Confidential Information shall include all information provided to the subject RFO's Independent Evaluator. Notwithstanding anything to the contrary in this Settlement, the CHP Auditor is not entitled to review any proprietary models used by an IOU in an RFO, provided that all inputs and outputs of the model used in the RFO shall be provided to the CHP Auditor. IOU provides the Confidential Information on an "as is" basis and CHP Auditor's use of the Confidential Information shall be at its own risk.
- 14. This Agreement represents the entire agreement between the parties regarding the subject matter hereof and shall supersede all previous communications, representations, understandings, acknowledgements and agreements, whether oral or written, by or

- between the parties with respect to Confidential Information, whether heretofore or hereafter disclosed between the parties.
- 15. No change, modification, extension, termination or waiver of this Agreement, or any of the provisions herein contained, shall be valid unless made in writing and signed by a duly authorized representative of the IOU and by the CHP Auditor.
- 16. CHP Auditor shall be responsible for any breach of the provisions of this Agreement by it and its support staff pursuant to Section 3. In the event that CHP Auditor learns of any unauthorized use or disclosure of Confidential Information or any other breach of this Agreement by the CHP Auditor or its support staff or reasonably believes such use, disclosure or breach has occurred, CHP Auditor shall immediately notify IOU in writing, and shall cooperate with IOU in every reasonable way to help IOU regain possession of such Confidential Information and to prevent its further unauthorized use.
- 17. This Agreement shall be construed and interpreted in accordance with the laws of the State of California, excluding any choice of law rules which may direct the application of the laws of another jurisdiction. Any controversy or claim arising out of or in any way relating to this Agreement which cannot be amicably settled without court action shall be litigated in a California State Court of competent jurisdiction; or if jurisdiction over the action cannot be obtained in a California State Court, in a Federal Court of competent jurisdiction situated in the State of California.
- 18. CHP Auditor understands and agrees that, because of the unique nature of the Confidential Information, IOU and/or CHP RFO Participants will suffer irreparable harm if CHP Auditor fails to comply with any of its obligations under this Agreement, and monetary damages will be inadequate to compensate IOU for such breach. Accordingly, CHP Auditor agrees that IOU shall, in addition to any other remedies available to IOU at law or in equity, be entitled to injunctive relief to enforce the terms of this Agreement without posting a bond or other undertaking. It is further understood and agreed that no failure or delay by IOU in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power or privilege hereunder.
- 19. If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.
- 20. This Agreement has been negotiated by both parties and shall not be strictly construed against either party.

21. This Agreement may be executed in one or more original or faxed counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

Intending to be legally bound, each of the undersigned Parties has executed this Agreement, which is effective on the last date indicated below.

| Name of IOU | CHP Auditor |
|-------------|-------------|
| Ву: | By: |
| Printed: | Printed: |
| Title: | Title: |
| Date: | Date: |
| | |

Exhibit 9 – List of Members of Cogeneration Association of California

Coalinga Cogeneration Company
Mid-Set Cogeneration Company
Kern River Cogeneration Company
Sycamore Cogeneration Company
Sargent Canyon Cogeneration Company
Salinas River Cogeneration Company
Midway Sunset Cogeneration Company
Watson Cogeneration Company

Exhibit 10: California Cogeneration Council Members

Applied Energy, LLC

Badger Creek Ltd.

Bear Mountain Ltd.

Berry Petroleum Company

Chalk Cliff Ltd.

Corona Energy Partners Ltd.

CP Kelco

Double C Ltd.

EF Oxnard Ltd.

EIF Mojave, LLC

Goal Line, L.P.

Graphic Packaging International, Inc.

High Sierra Ltd.

International Paper Company

Kern Front Ltd.

Live Oak Ltd.

Martinez Cogen Limited Partnership

McKittrick Ltd.

Oildale Energy, LLC

O.L.S. Energy - Chino

PE-Berkeley, Inc.

Temple-Inland (TIN, Inc.)

The Proctor & Gamble Paper Products Company

United Cogen, Inc.

U.S. Borax, Inc.

Exhibit 11: List of Members of Energy Producers and Users Coalition

Aera Energy LLC, BP West Coast Products LLC Chevron U.S.A. Inc. ConocoPhillips Company ExxonMobil Power and Gas Services Inc. Shell Oil Products US THUMS Long Beach Company Occidental Elk Hill, Inc.

÷-@r2«r2±Ý r2«ε»ς/±Ü

϶δϊὸ϶δϊόόόόόόόόόοόοόοὑÜÜdò-϶Ͷx ΝἶκδΥίδ «ͺϲ ͻ««Φϲ«Φ κε««Թ٬Ω Β«κτκΟ α ελίζειβ •δ ϊ ὸ ὁ δ ϊ ό ό ό ό ό ό ό ό ό ό ό ό ό ό ὑ Ü Ϥ Ó - Β « - Ξ ¼ ' ξ · ¼ ± B Φ \$ ' Β « · Û ° ± - - · Ô ϊ ϊ - · ¼· · ¨ Û i θδϊὸθδϊόόόόόόόόόόόόόόόὑÜŒός»±Υ΄ς±·Γ;Βαςκ'±Υ΄;Υ΄ς ΔΑ ωξεκΟ'ς Γ-·Αν. ΒαςκεκΟ'ς Ε-·Ο' δι Γ·μν. "Û θδϊὸθδϊόόόόόόόόόόόόόόόοὑÜΘΦΦΥ+--8 2+·Γ,βM«2«'+Υ' θ+ --β«λξε«Ò °+ Γ-·Δ ρ Γ·μξ· "Û ίδϊὸθδϊόόόόόόόόόόόὑÜΘΦδΥςὑ «`μες`.', ελ-ελ «`με·'·'« ®±° λΟΘΟ ΘΟΥ `,ς±·⊢°Й è ⊢·με·ͺ"Û δροίδιόοοοοοοοοοοοοοοοίθυθο Β΄ --«` ®±° εθΕ β-·`·είδυ 'ε·β··`.» Εθ - ·λ·είθο δροίδιοοοο δδϊὸῖδϊόόόόόόόόόόόὑÜGÓGQÝ ®±° ΩGG ςεω±Ùò±®G -®«°°Й ®±Ù --«»¯«ἳ GQÝ ë -·¼· ε"Û ΪδΙὸΙδΙόόόόόόόόόόόὑÜΘός«'±Ϋ 's·δ°·`, »Ϊ 'ε·Γ-·"« ®±° ΩΘΘ ε±·Γ·-ε, ®∫ ί Γ·,ξ·, "Û ĵδϊὸίδϊόόόόόόόόόόόόόόόόόόόὑΰΦοΰΰΰἷ ®±° ΩΦΦ ὑΪ δχίς'κΟ ±Γ ΓςκελγακεΩ Ι Γ·λξ· ͺ"Ü $\text{$$\tilde{\Gamma} = \tilde{\Gamma} = \mathbb{R}^{6} \cdot \mathbb{$ ίδϊὸθδϊόόόόόόόόόόόόόόόόόόόόόὑÜŒόÜÜŒ ®±° ΩŒŒ ÙÏ δχίς'«Ο ±Γ Γς«εμςς«εΩ Τ Γ·μς· π"Û ϶δϊὸ϶ͽόόοόοόοόοόοοοόοοοόοοοοοοοοοοοοοοούÜÜGors«ε««®ԻΩ гs«ε«`rr«) Ω гs«ε ενίζιτα $\tilde{\theta} = \tilde{\theta} + \tilde{\theta} +$ âìòëïóóóóóóóóóóóóóóóóóóóóóóóóóóóóóóóóóóöíðïðàòðï²±·r;r²«-«®°r²«°«`rr«-ŒŊÝ íΤὸΤόόόόόόόόόόόόόόόόόόόόόόόόόόόὑÜŒόrs·ś`°ε±Ϋ ±r rs«ε¾s«εΩ `; r« ίθὸδΤÔÜ