

# PRECIOS EN BARRA DEL SEIN, PRECIOS EN BARRA Y PRECIOS EFECTIVOS DE SISTEMAS AISLADOS

TARIFAS EN BARRA (Res. N° 056-2023-OS/CD y 113-2023-OS/CD)

FIJACION AL 01/MAYO/2023

ACTUALIZADO AL 04/Julio/2023 CON REDONDEO

|                                                                          | TENSION<br>kV | PPMo<br>S./A/W.h | PEMPo<br>ctm. S./A/W.h | PEMFO<br>ctm. S./A/W.h |
|--------------------------------------------------------------------------|---------------|------------------|------------------------|------------------------|
| <b>Sistema Eléctrico Interconectado Nacional - Res. Barra (Cuadro 1)</b> |               |                  |                        |                        |
| Zorritos                                                                 | 220           | 21,77            | 23,77                  | 23,04                  |
| Talara                                                                   | 220           | 21,77            | 23,55                  | 22,87                  |
| Plura Oeste                                                              | 220           | 21,77            | 23,58                  | 22,91                  |
| Chiclayo Oeste                                                           | 220           | 21,77            | 23,35                  | 22,73                  |
| Carhuaz                                                                  | 220           | 21,77            | 23,01                  | 22,43                  |
| Carhuaz                                                                  | 138           | 21,77            | 23,01                  | 22,42                  |
| Cutervo                                                                  | 138           | 21,77            | 23,19                  | 22,55                  |
| Jen                                                                      | 138           | 21,77            | 23,36                  | 22,72                  |
| Guadalupe                                                                | 220           | 21,77            | 23,27                  | 22,68                  |
| Guadalupe                                                                | 60            | 21,77            | 23,30                  | 22,71                  |
| Cajamarca                                                                | 220           | 21,77            | 23,03                  | 22,45                  |
| Trujillo Norte                                                           | 220           | 21,77            | 23,17                  | 22,57                  |
| Chimbote 1                                                               | 220           | 21,77            | 23,03                  | 22,45                  |
| Chimbote 1                                                               | 138           | 21,77            | 23,07                  | 22,49                  |
| Paramonga Nueva                                                          | 220           | 21,77            | 22,75                  | 22,25                  |
| Paramonga Nueva                                                          | 138           | 21,77            | 22,70                  | 22,22                  |
| Paramonga Existente                                                      | 138           | 21,77            | 22,55                  | 22,15                  |
| Huacho                                                                   | 220           | 21,77            | 22,71                  | 22,22                  |
| Zapallal                                                                 | 220           | 21,77            | 22,78                  | 22,20                  |
| Ventanilla                                                               | 220           | 21,77            | 22,81                  | 22,23                  |
| Lima                                                                     | 220           | 21,77            | 22,81                  | 22,23                  |
| Cantera                                                                  | 220           | 21,77            | 22,51                  | 22,03                  |
| Chilca                                                                   | 220           | 21,77            | 22,38                  | 21,85                  |
| Independencia                                                            | 220           | 21,77            | 22,54                  | 22,11                  |
| Ica                                                                      | 220           | 21,77            | 22,53                  | 22,10                  |
| Marcona                                                                  | 220           | 21,77            | 22,87                  | 22,31                  |
| Mantaro                                                                  | 220           | 21,77            | 22,14                  | 21,61                  |
| Huayucachi                                                               | 220           | 21,77            | 22,29                  | 21,73                  |
| Pachacaca                                                                | 220           | 21,77            | 22,43                  | 21,89                  |
| Pomacocha                                                                | 220           | 21,77            | 22,47                  | 21,94                  |
| Huancavelica                                                             | 220           | 21,77            | 22,28                  | 21,77                  |
| Callahuanca                                                              | 220           | 21,77            | 22,54                  | 22,00                  |
| Cajamarquilla                                                            | 220           | 21,77            | 22,73                  | 22,16                  |
| Huancavelica                                                             | 138           | 21,77            | 22,57                  | 22,04                  |
| Viczarra                                                                 | 220           | 21,77            | 22,72                  | 22,20                  |
| Tingo Maria                                                              | 220           | 21,77            | 22,66                  | 22,13                  |
| Aguaytia                                                                 | 220           | 21,77            | 22,74                  | 22,19                  |
| Aguaytia                                                                 | 138           | 21,77            | 22,80                  | 22,24                  |
| Aguaytia                                                                 | 22,9          | 21,77            | 22,77                  | 22,22                  |
| Pucallpa                                                                 | 138           | 21,77            | 23,31                  | 22,64                  |
| Pucallpa                                                                 | 60            | 21,77            | 23,33                  | 22,64                  |
| Aucayacu                                                                 | 138           | 21,77            | 22,93                  | 22,38                  |
| Tocache                                                                  | 138           | 21,77            | 23,18                  | 22,61                  |
| Tingo Maria                                                              | 138           | 21,77            | 22,64                  | 22,11                  |
| Huancavelica                                                             | 138           | 21,77            | 22,67                  | 22,13                  |
| Paragsha II                                                              | 138           | 21,77            | 22,49                  | 21,98                  |
| Paragsha                                                                 | 220           | 21,77            | 22,43                  | 21,92                  |
| Yaupi                                                                    | 138           | 21,77            | 22,06                  | 21,58                  |
| Yuncan                                                                   | 138           | 21,77            | 22,20                  | 21,71                  |
| Yuncan                                                                   | 220           | 21,77            | 22,26                  | 21,77                  |
| Oroya Nueva                                                              | 220           | 21,77            | 22,40                  | 21,89                  |
| Oroya Nueva                                                              | 138           | 21,77            | 22,23                  | 21,76                  |
| Oroya Nueva                                                              | 50            | 21,77            | 22,30                  | 21,83                  |
| Carhuamayo                                                               | 138           | 21,77            | 22,38                  | 21,88                  |
| Carhuamayo Nueva                                                         | 220           | 21,77            | 22,38                  | 21,88                  |
| Carpa                                                                    | 138           | 21,77            | 22,13                  | 21,67                  |
| Desisela                                                                 | 220           | 21,77            | 22,53                  | 22,07                  |
| Condorocha                                                               | 138           | 21,77            | 22,16                  | 21,70                  |
| Condorocha                                                               | 44            | 21,77            | 22,16                  | 21,70                  |
| Machupicchu                                                              | 138           | 21,77            | 22,48                  | 21,86                  |
| Cachimayo                                                                | 138           | 21,77            | 22,22                  | 22,54                  |
| Ousco                                                                    | 138           | 21,77            | 23,31                  | 22,64                  |
| Compapata                                                                | 138           | 21,77            | 23,72                  | 22,99                  |
| Tintaya                                                                  | 138           | 21,77            | 24,04                  | 23,36                  |
| Avayiri                                                                  | 138           | 21,77            | 23,80                  | 23,10                  |
| Azángaro                                                                 | 138           | 21,77            | 23,65                  | 22,94                  |
| San Gaban                                                                | 138           | 21,77            | 22,43                  | 21,86                  |
| Mazuc                                                                    | 138           | 21,77            | 22,94                  | 22,12                  |
| Puerto Maldonado                                                         | 138           | 21,77            | 24,26                  | 22,40                  |
| Julica                                                                   | 138           | 21,77            | 23,83                  | 23,07                  |
| Puno                                                                     | 138           | 21,77            | 23,81                  | 23,05                  |
| Puno                                                                     | 220           | 21,77            | 23,77                  | 23,02                  |
| Callali                                                                  | 138           | 21,77            | 23,93                  | 23,26                  |
| Santuario                                                                | 138           | 21,77            | 23,60                  | 22,94                  |
| Arequipa                                                                 | 138           | 21,77            | 23,56                  | 22,88                  |
| Socabaya                                                                 | 220           | 21,77            | 23,52                  | 22,86                  |
| Cerro Verde                                                              | 138           | 21,77            | 23,62                  | 22,93                  |
| Repartin                                                                 | 138           | 21,77            | 23,77                  | 23,01                  |
| Hollendo                                                                 | 138           | 21,77            | 23,91                  | 23,12                  |
| Moquegua                                                                 | 220           | 21,77            | 23,54                  | 22,85                  |
| Moquegua                                                                 | 138           | 21,77            | 23,57                  | 22,88                  |
| llo ELS                                                                  | 138           | 21,77            | 23,77                  | 23,04                  |
| Botifaca                                                                 | 138           | 21,77            | 23,71                  | 23,02                  |
| Tropapala                                                                | 138           | 21,77            | 23,75                  | 23,07                  |
| Aricota                                                                  | 138           | 21,77            | 23,60                  | 23,03                  |
| Aricota                                                                  | 66            | 21,77            | 23,54                  | 23,02                  |
| Tacna (Los Héroes)                                                       | 220           | 21,77            | 23,63                  | 22,90                  |
| Tacna (Los Héroes)                                                       | 66            | 21,77            | 23,71                  | 22,93                  |
| La Nina                                                                  | 220           | 21,77            | 23,32                  | 22,70                  |
| Cotacuse                                                                 | 220           | 21,77            | 22,94                  | 22,33                  |
| Carabayillo                                                              | 220           | 21,77            | 22,75                  | 22,17                  |
| La Ramada                                                                | 220           | 21,77            | 22,86                  | 22,31                  |
| Lomera                                                                   | 220           | 21,77            | 22,76                  | 22,22                  |
| Asia                                                                     | 220           | 21,77            | 22,43                  | 21,92                  |
| Alto Praderas                                                            | 220           | 21,77            | 22,54                  | 21,99                  |
| La Planicie                                                              | 220           | 21,77            | 22,76                  | 22,18                  |
| Belaunde                                                                 | 138           | 21,77            | 23,39                  | 22,73                  |
| Caclic                                                                   | 220           | 21,77            | 23,25                  | 22,62                  |
| Medio Mundo                                                              | 220           | 21,77            | 22,73                  | 22,24                  |
| Tintaya Nueva                                                            | 220           | 21,77            | 23,98                  | 23,29                  |

|                                                                          | TENSION | PPM        | PEMP          | PEMF          | PCSP            | CPSEE         | (PPM+PCSP) | (PEMP + CPSEE) | (PEMF + CPSEE) | Potencia      | Energia       | Promedio      |
|--------------------------------------------------------------------------|---------|------------|---------------|---------------|-----------------|---------------|------------|----------------|----------------|---------------|---------------|---------------|
|                                                                          | kV      | S./A/W-mes | ctm. S./A.W.h | ctm. S./A.W.h | ctm. S./A.W-mes | ctm. S./A.W.h | S./A/W-mes | S./A/W-mes     | ctm. S./A.W.h  | ctm. S./A.W.h | ctm. S./A.W.h | ctm. S./A.W.h |
| Sistema Eléctrico Interconectado Nacional (SEIN) - Res. Barra (Cuadro 1) |         |            |               |               |                 |               |            |                |                |               |               |               |
| Zorritos                                                                 | 220     | 21,77      | 23,77         | 23,04         | 36,929          |               | 58,70      | 23,77          | 23,04          | 10,22         | 23,19         | 33,41         |
| Talara                                                                   | 220     | 21,77      | 23,55         | 22,87         | 36,929          |               | 58,70      | 23,55          | 22,87          | 10,22         | 23,01         | 33,23         |
| Plura Oeste                                                              | 220     | 21,77      | 23,58         | 22,91         | 36,929          |               | 58,70      | 23,58          | 22,91          | 10,22         | 23,04         | 33,27         |
| Chiclayo Oeste                                                           | 220     | 21,77      | 23,35         | 22,73         | 36,929          |               | 58,70      | 23,35          | 22,73          | 10,22         | 22,85         | 33,08         |
| Carhuaz                                                                  | 220     | 21,77      | 23,01         | 22,43         | 36,929          |               | 58,70      | 23,01          | 22,43          | 10,22         | 22,55         | 32,77         |
| Carhuaz                                                                  | 138     | 21,77      | 23,01         | 22,42         | 36,929          |               | 58,70      | 23,01          | 22,42          | 10,22         | 22,54         | 32,76         |
| Cutervo                                                                  | 138     | 21,77      | 23,19         | 22,55         | 36,929          |               | 58,70      | 23,19          | 22,55          | 10,22         | 22,68         | 32,90         |
| Jen                                                                      | 138     | 21,77      | 23,36         | 22,72         | 36,929          |               | 58,70      | 23,36          | 22,72          | 10,22         | 22,85         | 33,07         |
| Guadalupe                                                                | 220     | 21,77      | 23,27         | 22,68         | 36,929          |               | 58,70      | 23,27          | 22,68          | 10,22         | 22,80         | 33,02         |
| Guadalupe                                                                | 60      | 21,77      | 23,30         | 22,71         | 36,929          |               | 58,70      | 23,30          | 22,71          | 10,22         | 22,83         | 33,05         |
| Cajamarca                                                                | 220     | 21,77      | 23,03         | 22,45         | 36,929          |               | 58,70      | 23,03          | 22,45          | 10,22         | 22,57         | 32,79         |
| Trujillo Norte                                                           | 220     | 21,77      | 23,17         | 22,57         | 36,929          |               | 58,70      | 23,17          | 22,57          | 10,22         | 22,69         | 32,91         |
| Chimbote 1                                                               | 220     | 21,77      | 23,03         | 22,45         | 36,929          |               | 58,70      | 23,03          | 22,45          | 10,22         | 22,57         | 32,79         |
| Chimbote 1                                                               | 138     | 21,77      | 23,07         | 22,49         | 36,929          |               | 58,70      | 23,07          | 22,49          | 10,22         | 22,61         | 32,83         |
| Paramonga Nueva                                                          | 220     | 21,77      | 22,75         | 22,25         | 36,929          |               | 58,70      | 22,75          | 22,25          | 10,22         | 22,35         | 32,57         |
| Paramonga Nueva                                                          | 138     | 21,77      | 22,70         | 22,22         | 36,929          |               | 58,70      | 22,70          | 22,22          | 10,22         | 22,32         | 32,54         |
| Paramonga Existente                                                      | 138     | 21,77      | 22,55         | 22,15         | 36,929          |               | 58,70      | 22,56          | 22,15          | 10,22         | 22,23         | 32,45         |
| Huacho                                                                   | 220     | 21,77      | 22,71         | 22,22         | 36,929          |               | 58,70      | 22,71          | 22,22          | 10,22         | 22,32         | 32,54         |
| Zapallal                                                                 | 220     | 21,77      | 22,78         | 22,20         | 36,929          |               | 58,70      | 22,78          | 22,20          | 10,22         | 22,32         | 32,54         |
| Ventanilla                                                               | 220     | 21,77      | 22,81         | 22,23         | 36,929          |               | 58,70      | 22,81          | 22,23          | 10,22         | 22,35         | 32,57         |
| Lima                                                                     | 220     | 21,77      | 22,81         | 22,23         | 36,929          |               | 58,70      | 22,81          | 22,23          | 10,22         | 22,35         | 32,57         |
| Cantera                                                                  | 220     | 21,77      | 22,51         | 22,03         | 36,929          |               | 58,70      | 22,51          | 22,03          | 10,22         | 22,13         | 32,35         |
| Chilca                                                                   | 220     | 21,77      | 22,38         | 21,85         | 36,929          |               | 58,70      | 22,38          | 21,86          | 10,22         | 22,16         | 32,38         |
| Independencia                                                            | 220     | 21,77      | 22,54         | 22,11         | 36,929          |               | 58,70      | 22,54          | 22,11          | 10,22         | 22,20         | 32,42         |
| Ica                                                                      | 220     | 21,77      | 22,53         | 22,10         | 36,929          |               | 58,70      | 22,53          | 22,10          | 10,22         | 22,19         | 32,41         |
| Marcona                                                                  | 220     | 21,77      | 22,87         | 22,31         | 36,929          |               | 58,70      | 22,87          | 22,31          | 10,22         | 22,42         | 32,64         |
| Mantaro                                                                  | 220     | 21,77      | 22,14         | 21,61         | 36,929          |               | 58,70      | 22,14          | 21,61          | 10,22         | 22,17         | 32,34         |
| Huayucachi                                                               | 220     | 21,77      | 22,29         | 21,73         | 36,929          |               | 58,70      | 22,29          | 21,73          | 10,22         | 22,18         | 32,06         |
| Pachacaca                                                                | 220     | 21,77      | 22,43         | 21,89         | 36,929          |               | 58,70      | 22,43          | 21,90          | 10,22         | 22,21         | 32,23         |
| Pomacocha                                                                | 220     | 21,77      | 22,47         | 21,94         | 36,929          |               | 58,70      | 22,47          | 21,94          | 10,22         | 22,05         | 32,27         |
| Huancavelica                                                             | 220     | 21,77      | 22,28         | 21,77         | 36,929          |               | 58,70      | 22,28          | 21,77          | 10,22         | 21,87         | 32,09         |
| Callahuanca                                                              | 220     | 21,77      | 22,54         | 22,00         | 36,929          |               | 58,70      | 22,54          | 22,00          | 10,22         | 22,11         | 32,33         |
| Cajamarquilla                                                            | 220     | 21,77      | 22,73         | 22,16         | 36,929          |               | 58,70      | 22,73          | 22,16          | 10,22         | 22,27         | 32,50         |
| Huancavelica                                                             | 138     | 21,77      | 22,57         | 22,04         | 36,929          |               | 58,70      | 22,57          | 22,04          | 10,22         | 22,15         | 32,37         |
| Viczarra                                                                 | 220     | 21,77      | 22,72         | 22,20         | 36,929          |               | 58,70      | 22,72          | 22,20          | 10,22         | 22,30         | 32,53         |
| Tingo Maria                                                              | 220     | 21,77      | 22,66         | 22,13         | 36,929          |               | 58,70      | 22,66          | 22,13          | 10,22         | 22,24         | 32,46         |
| Aguaytia                                                                 | 220     | 21,77      | 22,74         | 22,19         | 36,929          |               | 58,70      | 22,74          | 22,19          | 10,22         | 22,30         | 32,52         |
| Aguaytia                                                                 | 138     | 21,77      | 22,80         | 22,24         | 36,929          |               | 58,70      | 22,80          | 22,24          | 10,22         | 22,35         | 32,57         |
| Aguaytia                                                                 | 22,9    | 21,77      | 22,77         | 22,22         | 36,929          |               | 58,70      | 22,77          | 22,22          | 10,22         | 22,33         | 32,55         |
| Pucallpa                                                                 | 138     | 21,77      | 23,31         | 22,64         | 36,929          |               | 58,70      | 23,31          | 22,64          | 10,22         | 22,44         | 33,00         |
| Pucallpa                                                                 | 60      | 21,77      | 23,33         | 22,64         | 36,929          | 1,56          | 58,70      | 24,89          | 24,20          | 10,22         | 24,34         | 34,56         |
| Aucayacu                                                                 | 138     | 21,77      | 22,93         | 22,38         | 36,929          |               | 58,70      | 22,93          | 22,38          | 10,22         | 22,49         | 32,71         |
| Toacocha                                                                 | 138     | 21,77      | 23,18         | 22,61         | 36,929          |               | 58,70      | 23,18          | 22,61          | 10,22         | 22,72         | 32,95         |
| Tingo Maria                                                              | 138     | 21,77      | 22,64         | 22,11         | 36,929          |               | 58,70      | 22,64          | 22,11          | 10,22         | 22,22         | 32,44         |
| Huancavelica                                                             | 138     | 21,77      | 22,67         | 22,13         | 36,929          |               | 58,70      | 22,67          | 22,09          | 10,22         | 22,23         | 32,45         |
| Paragsha II                                                              | 138     | 21,77      | 22,49         | 21,98         | 36,929          |               | 58,70      | 22,49          | 21,98          | 10,22         | 22,08         | 32,30         |
| Paragsha                                                                 | 220     | 21,77      | 22,43         | 21,92         | 36,929          |               | 58,70      | 22,43          | 21,92          | 10,22         | 22,02         | 32,24         |
| Yaupi                                                                    | 138     | 21,77      | 22,06         | 21,58         | 36,929          |               | 58,70      | 22,06          | 21,58          | 10,22         | 21,68         | 31,90         |
| Yuncan                                                                   | 138     | 21,77      | 22,20         | 21,71         | 36,929          |               | 58,70      | 22,20          | 21,71          | 10,22         | 21,81         | 32,03         |
| Yuncan                                                                   | 220     | 21,77      | 22,26         | 21,77         | 36,929          |               | 58,70      | 22,26          | 21,77          | 10,22         | 21,87         | 32,09         |
| Oroya Nueva                                                              | 220     | 21,77      | 22,40         | 21,89         | 36,929          |               | 58,70      | 22,40          | 21,89          | 10,22         | 21,99         | 32,16         |
| Oroya Nueva                                                              | 138     | 21,77      | 22,23         | 21,76         | 36,929          |               | 58,70      | 22,23          | 21,76          | 10,22         | 21,85         | 32,08         |
| Oroya Nueva                                                              | 50      | 21,77      | 22,20         | 21,83         | 36,929          |               | 58,70      | 22,30          | 21,83          | 10,22         | 21,92         | 32,15         |
| Carhuayacu                                                               | 138     | 21,77      | 22,38         | 21,88         | 36,929          |               | 58,70      | 22,38          | 21,88          | 10,22         | 21,98         | 32,20         |
| Carhuayacu Nueva                                                         | 138     | 21,77      | 22,38         | 21,88         | 36,929          |               | 58,70      | 22,38          | 21,88          | 10,22         | 21,98         | 32,20         |
| Cerpa                                                                    | 138     | 21,77      | 22,17         | 21,67         | 36,929          |               | 58,70      | 22,17          | 21,67          | 10,22         | 21,76         | 31,88         |
| Desierito                                                                | 220     | 21,77      | 22,53         | 22,07         | 36,929          |               | 58,70      | 22,53          | 22,07          | 10,22         | 22,16         | 32,38         |
| Condorchoca                                                              | 138     | 21,77      | 22,16         | 21,70         | 36,929          |               | 58,70      | 22,16          | 21,70          | 10,22         | 21,79         | 32,01         |
| Condorchoca                                                              | 44      | 21,77      | 22,16         | 21,70         | 36,929          |               | 58,70      | 22,16          | 21,70          | 10,22         | 21,79         | 32,01         |
| Machupichu                                                               | 138     | 21,77      | 22,48         | 21,86         | 36,929          |               | 58,70      | 22,48          | 21,86          | 10,22         | 21,98         | 32,21         |
| Chachaymo                                                                | 138     | 21,77      | 22,52         | 22,54         | 36,929          |               | 58,70      | 22,52          | 22,54          | 10,22         | 22,68         | 32,90         |
| Cusco                                                                    | 138     | 21,77      | 23,31         | 22,60         | 36,929          |               | 58,70      | 23,31          | 22,60          | 10,22         | 22,74         | 32,96         |
| Combatapa                                                                | 138     | 21,77      | 23,72         | 22,99         | 36,929          |               | 58,70      | 23,72          | 22,99          | 10,22         | 23,14         | 33,36         |
| Tintaya                                                                  | 138     | 21,77      | 24,04         | 23,36         | 36,929          |               | 58,70      | 24,04          | 23,36          | 10,22         | 23,50         | 33,72         |
| Avayari                                                                  | 138     | 21,77      | 23,80         | 23,10         | 36,929          |               | 58,70      | 23,80          | 23,10          | 10,22         | 23,24         | 33,46         |
| Puno                                                                     | 138     | 21,77      | 23,65         | 22,94         | 36,929          |               | 58,70      | 23,65          | 22,96          | 10,22         | 23,08         | 33,30         |
| San Gaban                                                                | 138     | 21,77      | 22,43         | 21,86         | 36,929          |               | 58,70      | 22,43          | 21,86          | 10,22         | 21,97         | 32,21         |
| Mazuco                                                                   | 138     | 21,77      | 22,94         | 22,12         | 36,929          |               | 58,70      | 22,94          | 22,12          | 10,22         | 22,28         | 32,50         |
| Puerto Maldonado                                                         | 138     | 21,77      | 24,26         | 22,40         | 36,929          |               | 58,70      | 24,26          | 22,40          | 10,22         | 22,77         | 32,99         |
| Julica                                                                   | 138     | 21,77      | 23,83         | 23,07         | 36,929          |               | 58,70      | 23,83          | 23,07          | 10,22         | 23,22         | 33,44         |
| Puno                                                                     | 138     | 21,77      | 23,81         | 23,05         | 36,929          |               | 58,70      | 23,81          | 23,05          | 10,22         | 23,20         | 33,42         |
| Puno                                                                     | 220     | 21,77      | 23,77         | 23,02         | 36,929          |               | 58,70      | 23,77          | 23,02          | 10,22         | 23,17         | 33,37         |
| Callalli                                                                 | 138     | 21,77      | 23,93         | 23,26         | 36,929          |               | 58,70      | 23,93          | 23,26          | 10,22         | 23,39         | 33,62         |
| Santuario                                                                | 138     | 21,77      | 23,60         | 22,94         | 36,929          |               | 58,70      | 23,60          | 22,94          | 10,22         | 23,07         | 33,29         |
| Arequipa                                                                 | 138     | 21,77      | 23,56         | 22,88         | 36,929          |               | 58,70      | 23,56          | 22,88          | 10,22         | 23,02         | 33,24         |
| Scobayta                                                                 | 220     | 21,77      | 23,52         | 22,86         | 36,929          |               | 58,70      | 23,52          | 22,86          | 10,22         | 22,99         | 33,21         |
| Cerro Verde                                                              | 138     | 21,77      | 23,62         | 22,93         | 36,929          |               | 58,70      | 23,62          | 22,93          | 10,22         | 23,07         | 33,32         |
| Repartinón                                                               | 138     | 21,77      | 23,77         | 23,01         | 36,929          |               | 58,70      | 23,77          | 23,01          | 10,22         | 23,16         | 33,38         |
| Molendo                                                                  | 220     | 21,77      | 23,91         | 23,12         | 36,929          |               | 58,70      | 23,91          | 23,12          | 10,22         | 23,28         | 33,50         |
| Moquegua                                                                 | 220     | 21,77      | 23,54         | 22,85         | 36,929          |               | 58,70      | 23,54          | 22,85          | 10,22         | 22,99         | 33,21         |
| Moquegua                                                                 | 138     | 21,77      | 23,57         | 22,88         | 36,929          |               | 58,70      | 23,57          | 22,88          | 10,22         | 23,02         | 33,24         |
| EL ELIS                                                                  | 138     | 21,77      | 23,77         | 23,02         | 36,929          |               | 58,70      | 23,77          | 23,02          | 10,22         | 23,19         | 33,41         |
| Bolifusa                                                                 | 220     | 21,77      | 23,71         | 23,02         | 36,929          |               | 58,70      | 23,71          | 23,02          | 10,22         | 23,16         | 33,38         |
| Toquepala                                                                | 138     | 21,77      | 23,75         | 23,07         | 36,929          |               | 58,70      | 23,75          | 23,07          | 10,22         | 23,21         | 33,43         |
| Aricota                                                                  | 220     | 21,77      | 23,60         | 23,03         | 36,929          |               | 58,70      | 23,60          | 23,03          | 10,22         | 23,14         | 33,37         |
| Aricota                                                                  | 66      | 21,77      | 23,63         | 22,90         | 36,929          | 0,5986        | 58,70      | 24,14          | 23,62          | 10,22         | 23,37         | 33,95         |
| Tacna (Los Héroes)                                                       | 220     | 21,77      | 23,54         | 23,02         | 36,929          |               | 58,70      | 23,53          | 22,90          | 10,22         | 23,05         | 33,27         |
| Tacna (Los Héroes)                                                       | 66      | 21,77      | 23,71         | 23,01         | 36,929          | 0,5986        | 58,70      | 24,31          | 23,53          | 10,22         | 23,69         | 33,91         |
| La Nina                                                                  | 220     | 21,77      | 23,32         | 22,70         | 36,929          |               | 58,70      | 23,32          | 22,70          | 10,22         | 22,82         | 33,05         |
| Cotacuse                                                                 | 220     | 21,77      | 22,94         | 22,33         | 36,929          |               | 58,70      | 22,94          | 22,33          | 10,22         | 22,45         | 32,67         |
| Carabaylo                                                                | 220     | 21,77      | 22,75         | 22,17         | 36,929          |               | 58,70      | 22,75          | 22,17          | 10,22         | 22,29         | 32,52         |
| La Ramada                                                                | 220     | 21,77      | 22,86         | 22,31         | 36,929          |               | 58,70      | 22,86          | 22,31          | 10,22         | 22,42         | 32,64         |
| Lemera                                                                   | 220     | 21,77      | 22,76         | 22,22         | 36,929          |               | 58,70      | 22,76          | 22,22          | 10,22         | 22,33         | 32,55         |
| Asia                                                                     | 220     | 21,77      | 22,43         | 21,92         | 36,929          |               | 58,70      | 22,43          | 21,92          | 10,22         | 22,02         | 32,32         |
| Alto Praderas                                                            | 220     | 21,77      | 22,54         | 21,99         | 36,929          |               | 58,70      | 22,54          | 21,99          | 10,22         | 22,10         | 32,34         |
| La Planicie                                                              | 220     | 21,77      | 22,76         | 22,18         | 36,929          |               | 58,70      | 22,76          | 22,18          | 10,22         | 22,30         | 32,52         |
| Belauende                                                                | 138     | 21,77      | 23,39         | 22,73         | 36,929          |               | 58,70      | 23,39          | 22,73          | 10,22         |               |               |

## PRECIO A NIVEL DE GENERACIÓN

VALORES BASE DEL PNG (Resolución 069-2023-OS/CD)  
FIJACIÓN AL 01/05/2023

ACTUALIZADO AL 04/Julio/2023 CON REDONDEO

| Sistema Eléctrico Interconectado Nacional (SEIN) | Res. Barra (Cuadro 1) | TENSIÓN |        | PPMo   | PEMPo      | PEMPo      |
|--------------------------------------------------|-----------------------|---------|--------|--------|------------|------------|
|                                                  |                       | kV      | S/AW-h | S/AW-h | cm. S/AW.h | cm. S/AW.h |
| Zoritos                                          | 220                   | 29,44   | 29,13  | 23,70  |            |            |
| Talara                                           | 220                   | 29,44   | 28,87  | 23,52  |            |            |
| Pura Oeste                                       | 220                   | 29,44   | 28,91  | 23,58  |            |            |
| Chiclayo Oeste                                   | 220                   | 29,44   | 28,63  | 23,39  |            |            |
| Carhuayquero                                     | 220                   | 29,44   | 28,22  | 23,08  |            |            |
| Carhuayquero                                     | 138                   | 29,44   | 28,21  | 23,07  |            |            |
| Jaen                                             | 138                   | 29,44   | 28,44  | 23,20  |            |            |
| Jaen                                             | 138                   | 29,44   | 28,65  | 23,38  |            |            |
| Guadalupe                                        | 220                   | 29,44   | 28,54  | 23,34  |            |            |
| Guadalupe                                        | 60                    | 29,44   | 28,58  | 23,37  |            |            |
| Cajamarca                                        | 220                   | 29,44   | 28,24  | 23,11  |            |            |
| Trujillo Norte                                   | 220                   | 29,44   | 28,41  | 23,23  |            |            |
| Chimbote 1                                       | 220                   | 29,44   | 28,25  | 23,11  |            |            |
| Chimbote 1                                       | 138                   | 29,44   | 28,29  | 23,15  |            |            |
| Paramonga Nueva                                  | 220                   | 29,44   | 27,89  | 22,90  |            |            |
| Paramonga Nueva                                  | 138                   | 29,44   | 27,84  | 22,87  |            |            |
| Paramonga Existente                              | 138                   | 29,44   | 27,67  | 22,80  |            |            |
| Huacho                                           | 220                   | 29,44   | 27,85  | 22,87  |            |            |
| Zapallal                                         | 220                   | 29,44   | 27,94  | 22,85  |            |            |
| Ventanilla                                       | 220                   | 29,44   | 27,98  | 22,88  |            |            |
| Lima                                             | 220                   | 29,44   | 27,97  | 22,88  |            |            |
| Canta                                            | 220                   | 29,44   | 27,62  | 22,67  |            |            |
| Chica                                            | 220                   | 29,44   | 27,45  | 22,49  |            |            |
| Independencia                                    | 220                   | 29,44   | 27,65  | 22,76  |            |            |
| Ica                                              | 220                   | 29,44   | 27,63  | 22,74  |            |            |
| Marcona                                          | 220                   | 29,44   | 28,04  | 22,96  |            |            |
| Mantero                                          | 220                   | 29,44   | 27,15  | 22,24  |            |            |
| Huaycachi                                        | 220                   | 29,44   | 27,33  | 22,37  |            |            |
| Pachachaca                                       | 220                   | 29,44   | 27,51  | 22,55  |            |            |
| Pomacocha                                        | 220                   | 29,44   | 27,56  | 22,58  |            |            |
| Huancavelica                                     | 220                   | 29,44   | 27,33  | 22,40  |            |            |
| Colahuasi                                        | 220                   | 29,44   | 27,65  | 22,64  |            |            |
| Cajamarquilla                                    | 220                   | 29,44   | 27,87  | 22,81  |            |            |
| Huallanca                                        | 138                   | 29,44   | 27,68  | 22,68  |            |            |
| Vicosma                                          | 220                   | 29,44   | 27,86  | 22,85  |            |            |
| Tingo Maria                                      | 220                   | 29,44   | 27,79  | 22,78  |            |            |
| Aguyaylla                                        | 220                   | 29,44   | 27,88  | 22,84  |            |            |
| Aguyaylla                                        | 138                   | 29,44   | 27,96  | 22,89  |            |            |
| Aguyaylla                                        | 22,9                  | 29,44   | 27,93  | 22,87  |            |            |
| Pucallpa                                         | 138                   | 29,44   | 28,58  | 23,29  |            |            |
| Pucallpa                                         | 60                    | 29,44   | 28,61  | 23,30  |            |            |
| Acayacu                                          | 138                   | 29,44   | 28,12  | 23,03  |            |            |
| Toacachi                                         | 138                   | 29,44   | 28,43  | 23,27  |            |            |
| Tingo Maria                                      | 138                   | 29,44   | 27,76  | 22,75  |            |            |
| Huánuco                                          | 138                   | 29,44   | 27,80  | 22,74  |            |            |
| Paragay II                                       | 138                   | 29,44   | 27,59  | 22,62  |            |            |
| Paragay II                                       | 220                   | 29,44   | 27,51  | 22,56  |            |            |
| Yaupi                                            | 138                   | 29,44   | 27,06  | 22,21  |            |            |
| Yuncán                                           | 138                   | 29,44   | 27,23  | 22,34  |            |            |
| Yuncán                                           | 220                   | 29,44   | 27,30  | 22,40  |            |            |
| Oroya Nueva                                      | 220                   | 29,44   | 27,47  | 22,53  |            |            |
| Oroya Nueva                                      | 138                   | 29,44   | 27,26  | 22,40  |            |            |
| Oroya Nueva                                      | 50                    | 29,44   | 27,36  | 22,47  |            |            |
| Carhuamayo                                       | 138                   | 29,44   | 27,45  | 22,52  |            |            |
| Carhuamayo Nueva                                 | 220                   | 29,44   | 27,45  | 22,52  |            |            |
| Carpa                                            | 138                   | 29,44   | 27,15  | 22,31  |            |            |
| Dewetto                                          | 220                   | 29,44   | 27,64  | 22,72  |            |            |
| Condorcocha                                      | 138                   | 29,44   | 27,18  | 22,33  |            |            |
| Condorcocha                                      | 44                    | 29,44   | 27,18  | 22,33  |            |            |
| Machupicchu                                      | 138                   | 29,44   | 27,57  | 22,49  |            |            |
| Cachimayo                                        | 138                   | 29,44   | 28,47  | 23,20  |            |            |
| Cusco                                            | 138                   | 29,44   | 28,59  | 23,26  |            |            |
| Combapata                                        | 138                   | 29,44   | 29,09  | 23,66  |            |            |
| Tintaya                                          | 138                   | 29,44   | 28,49  | 24,04  |            |            |
| Ayavi                                            | 138                   | 29,44   | 29,19  | 23,77  |            |            |
| Azángaro                                         | 138                   | 29,44   | 29,01  | 23,61  |            |            |
| San Gabán                                        | 138                   | 29,44   | 27,52  | 22,49  |            |            |
| Mazuc                                            | 138                   | 29,44   | 28,14  | 22,76  |            |            |
| Puerto Maldonado                                 | 138                   | 29,44   | 29,75  | 23,05  |            |            |
| Juliaca                                          | 138                   | 29,44   | 29,22  | 23,74  |            |            |
| Puno                                             | 138                   | 29,44   | 29,20  | 23,72  |            |            |
| Puno                                             | 220                   | 29,44   | 29,15  | 23,69  |            |            |
| Callalí                                          | 138                   | 29,44   | 29,34  | 23,93  |            |            |
| Santuario                                        | 138                   | 29,44   | 28,94  | 23,61  |            |            |
| Ancopa                                           | 138                   | 29,44   | 28,89  | 23,55  |            |            |
| Soabaya                                          | 220                   | 29,44   | 28,85  | 23,52  |            |            |
| Cerro Verde                                      | 138                   | 29,44   | 28,97  | 23,60  |            |            |
| Repación                                         | 138                   | 29,44   | 29,16  | 23,68  |            |            |
| Molendo                                          | 138                   | 29,44   | 29,33  | 23,79  |            |            |
| Moquegua                                         | 220                   | 29,44   | 28,87  | 23,52  |            |            |
| Moquegua                                         | 138                   | 29,44   | 28,90  | 23,54  |            |            |
| Is ELS                                           | 138                   | 29,44   | 29,15  | 23,71  |            |            |
| Bofilica                                         | 138                   | 29,44   | 29,08  | 23,69  |            |            |
| Toquespala                                       | 138                   | 29,44   | 29,12  | 23,74  |            |            |
| Ancota                                           | 138                   | 29,44   | 28,94  | 23,70  |            |            |
| Ancota                                           | 66                    | 29,44   | 28,86  | 23,69  |            |            |
| Tacna (Los Héroes)                               | 220                   | 29,44   | 28,98  | 23,57  |            |            |
| Tacna (Los Héroes)                               | 66                    | 29,44   | 29,08  | 23,60  |            |            |
| La Nina                                          | 220                   | 29,44   | 28,59  | 23,36  |            |            |
| Cotacusi                                         | 220                   | 29,44   | 28,13  | 22,98  |            |            |
| Carabaillo                                       | 220                   | 29,44   | 27,90  | 22,82  |            |            |
| La Ramada                                        | 220                   | 29,44   | 28,03  | 22,96  |            |            |
| Lumera                                           | 220                   | 29,44   | 27,92  | 22,87  |            |            |
| Asia                                             | 220                   | 29,44   | 27,52  | 22,56  |            |            |
| Alto Praderas                                    | 220                   | 29,44   | 27,65  | 22,63  |            |            |
| La Planicie                                      | 220                   | 29,44   | 27,92  | 22,83  |            |            |
| Belunide                                         | 138                   | 29,44   | 28,68  | 23,39  |            |            |
| Cadiz                                            | 220                   | 29,44   | 28,51  | 23,28  |            |            |
| Medio Mundo                                      | 220                   | 29,44   | 27,88  | 22,89  |            |            |
| Tintaya Nueva                                    | 220                   | 29,44   | 29,40  | 23,97  |            |            |

| Sistema Eléctrico Interconectado Nacional (SEIN) | Res. Barra (Cuadro 1) | TENSIÓN |         | PPM        | PEMP       | PEMP       | PCSPPT | CPSEE      | (PPM+PCSPPT) | (PEMP + CPSEE) | (PEMP + CPSEE) | Potencia   | Energía    | Promedio   |
|--------------------------------------------------|-----------------------|---------|---------|------------|------------|------------|--------|------------|--------------|----------------|----------------|------------|------------|------------|
|                                                  |                       | kV      | S/AW-hs | cm. S/AW.h | cm. S/AW.h | cm. S/AW.h | S/AW-h | cm. S/AW.h | S/AW-h       | cm. S/AW.h     | cm. S/AW.h     | cm. S/AW.h | cm. S/AW.h | cm. S/AW.h |
| Zoritos                                          | 220                   | 29,44   | 29,13   | 23,70      | 36,929     |            |        |            | 66,369       | 29,13          | 23,70          | 11,56      | 24,78      | 36,34      |
| Talara                                           | 220                   | 29,44   | 28,87   | 23,52      | 36,929     |            |        |            | 66,369       | 28,87          | 23,52          | 11,56      | 24,58      | 36,14      |
| Pura Oeste                                       | 220                   | 29,44   | 28,91   | 23,58      | 36,929     |            |        |            | 66,369       | 28,91          | 23,58          | 11,56      | 24,64      | 36,20      |
| Chiclayo Oeste                                   | 220                   | 29,44   | 28,63   | 23,39      | 36,929     |            |        |            | 66,369       | 28,63          | 23,39          | 11,56      | 24,43      | 35,99      |
| Carhuayquero                                     | 220                   | 29,44   | 28,22   | 23,08      | 36,929     |            |        |            | 66,369       | 28,22          | 23,08          | 11,56      | 24,10      | 35,66      |
| Carhuayquero                                     | 138                   | 29,44   | 28,21   | 23,07      | 36,929     |            |        |            | 66,369       | 28,21          | 23,07          | 11,56      | 24,09      | 35,65      |
| Jaen                                             | 138                   | 29,44   | 28,44   | 23,20      | 36,929     |            |        |            | 66,369       | 28,44          | 23,20          | 11,56      | 24,24      | 35,80      |
| Jaen                                             | 138                   | 29,44   | 28,65   | 23,38      | 36,929     |            |        |            | 66,369       | 28,65          | 23,38          | 11,56      | 24,43      | 35,99      |
| Guadalupe                                        | 220                   | 29,44   | 28,54   | 23,34      | 36,929     |            |        |            | 66,369       | 28,54          | 23,34          | 11,56      | 24,38      | 35,93      |
| Guadalupe                                        | 60                    | 29,44   | 28,58   | 23,37      | 36,929     |            |        |            | 66,369       | 28,58          | 23,37          | 11,56      | 24,41      | 35,97      |
| Cajamarca                                        | 220                   | 29,44   | 28,24   | 23,11      | 36,929     |            |        |            | 66,369       | 28,24          | 23,11          | 11,56      | 24,13      | 35,69      |
| Huila Norte                                      | 220                   | 29,44   | 28,41   | 23,23      | 36,929     |            |        |            | 66,369       | 28,41          | 23,23          | 11,56      | 24,26      | 35,82      |
| Chimbote 1                                       | 220                   | 29,44   | 28,25   | 23,11      | 36,929     |            |        |            | 66,369       | 28,25          | 23,11          | 11,56      | 24,13      | 35,69      |
| Chimbote 1                                       | 138                   | 29,44   | 28,29   | 23,15      | 36,929     |            |        |            | 66,369       | 28,29          | 23,15          | 11,56      | 24,17      | 35,73      |
| Paramonga Nueva                                  | 220                   | 29,44   | 27,89   | 22,90      | 36,929     |            |        |            | 66,369       | 27,89          | 22,90          | 11,56      | 23,89      | 35,45      |
| Paramonga Nueva                                  | 138                   | 29,44   | 27,84   | 22,87      | 36,929     |            |        |            | 66,369       | 27,84          | 22,87          | 11,56      | 23,86      | 35,42      |
| Paramonga Existente                              | 138                   | 29,44   | 27,67   | 22,80      | 36,929     |            |        |            | 66,369       | 27,67          | 22,80          | 11,56      | 23,77      | 35,33      |
| Huacho                                           | 220                   | 29,44   | 27,85   | 22,87      | 36,929     |            |        |            | 66,369       | 27,85          | 22,87          | 11,56      | 23,86      | 35,42      |
| Zapallal                                         | 220                   | 29,44   | 27,94   | 22,85      | 36,929     |            |        |            | 66,369       | 27,94          | 22,85          | 11,56      | 23,86      | 35,42      |
| Ventanilla                                       | 220                   | 29,44   | 27,98   | 22,88      | 36,929     |            |        |            | 66,369       | 27,98          | 22,88          | 11,56      | 23,90      | 35,45      |
| Lima                                             | 220                   | 29,44   | 27,97   | 22,88      | 36,929     |            |        |            | 66,369       | 27,97          | 22,88          | 11,56      | 23,89      | 35,45      |
| Canta                                            | 220                   | 29,44   | 27,62   | 22,67      | 36,929     |            |        |            | 66,369       | 27,62          | 22,67          | 11,56      | 23,66      | 35,21      |
| Chica                                            | 220                   | 29,44   | 27,45   | 22,49      | 36,929     |            |        |            | 66,369       | 27,45          | 22,49          | 11,56      | 23,48      | 35,04      |
| Independencia                                    | 220                   | 29,44   | 27,65   | 22,76      | 36,929     |            |        |            | 66,369       | 27,65          | 22,76          | 11,56      | 23,73      | 35,29      |
| Ica                                              | 220                   | 29,44   | 27,63   | 22,74      | 36,929     |            |        |            | 66,369       | 27,63          | 22,74          | 11,56      | 23,71      | 35,27      |
| Marcona                                          | 220                   | 29,44   | 28,04   | 22,96      | 36,929     |            |        |            | 66,369       | 28,04          | 22,96          | 11,56      | 23,97      | 35,53      |
| Mantero                                          | 220                   | 29,44   | 27,15   | 22,24      | 36,929     |            |        |            | 66,369       | 27,15          | 22,24          | 11,56      | 23,22      | 34,78      |
| Huaycachi                                        | 220                   | 29,44   | 27,33   | 22,37      | 36,929     |            |        |            | 66,369       | 27,33          | 22,37          | 11,56      | 23,36      | 34,92      |
| Pachachaca                                       | 220                   | 29,44   | 27,51   | 22,55      | 36,929     |            |        |            | 66,369       | 27,51          | 22,55          | 11,56      | 23,54      | 35,10      |
| Pomacocha                                        | 220                   | 29,44   | 27,56   | 22,58      | 36,929     |            |        |            | 66,369       | 27,56          | 22,58          | 11,56      | 23,57      | 35,13      |
| Huancavelica                                     | 220                   | 29,44   | 27,33   | 22,40      | 36,929     |            |        |            | 66,369       | 27,33          | 22,40          | 11,56      | 23,38      | 34,94      |
| Colahuasi                                        | 220                   | 29,44   | 27,65   | 22,64      | 36,929     |            |        |            | 66,369       | 27,65          | 22,64          | 11,56      | 23,64      | 35,20      |
| Cajamarquilla                                    | 220                   | 29,44   | 27,87   | 22,81      | 36,929     |            |        |            | 66,369       | 27,87          | 22,81          | 11,56      | 23,82      | 35,38      |
| Huallanca                                        | 138                   | 29,44   | 27,68   | 22,68      | 36,929     |            |        |            | 66,369       | 27,68          | 22,68          | 11,56      | 23,86      | 35,23      |
| Vicosma                                          | 220                   | 29,44   | 27,86   | 22,85      | 36,929     |            |        |            | 66,369       | 27,86          | 22,85          | 11,56      | 23,85      | 35,41      |
| Tingo Maria                                      | 220                   | 29,44   | 27,79   | 22,78      | 36,929     |            |        |            | 66,369       | 27,79          | 22,78          | 11,56      | 23,84      | 35,40      |
| Aguyaylla                                        | 220                   | 29,44   | 27,88   | 22,84      | 36,929     |            |        |            | 66,369       | 27,88          | 22,84          | 11,56      | 23,84      | 35,40      |
| Aguyaylla                                        | 138                   | 29,44   | 27,96   | 22,89      | 36,929     |            |        |            | 66,369       | 27,96          | 22,89          | 11,56      | 23,90      | 35,46      |
| Aguyaylla                                        | 22,9                  | 29,44   | 27,93   | 22,87      | 36,929     |            |        |            | 66,369       | 27,93          | 22,87          | 11,56      | 23,89      | 35,44      |
| Pucallpa                                         | 138                   | 29,44   | 28,58   | 23,29      | 36,929     |            |        |            | 66,369       | 28,58          | 23,29          | 11,56      | 24,30      | 35,90      |
| Pucallpa                                         | 60                    | 29,44   | 28,61   | 23,30      | 36,929     | 1,56       |        |            | 66,369       | 30,17          | 24,86          | 11,56      | 25,92      | 37,48      |
| Acayacu                                          | 138                   | 29,44   | 28,12   | 23,03      | 36,929     |            |        |            | 66,369       | 28,12          | 23,03          | 11,56      | 24,30      | 35,80      |
| Toscanita                                        | 220                   | 29,44   | 28,63   | 23,27      | 36,929     |            |        |            | 66,369       | 28,63          | 23,27          | 11,56      | 24,56      | 36,16      |
| Tingo Maria                                      | 138                   | 29,44   | 27,76   | 22,75      | 36,929     |            |        |            | 66,369       | 27,76          | 22,75          | 11,56      | 23,75      | 35,31      |
| Huánuco                                          | 138                   | 29,44   | 27,80   | 22,74      | 36,929     |            |        |            | 66,369       | 27,80          | 22,74          | 11,56      | 23,75      | 35,31      |
| Panglima 1                                       | 138                   | 29,44   | 27,59   | 22,62      | 36,929     |            |        |            | 66,369       | 27,59          | 22,62          | 11,56      | 23,61      | 35,17      |
| Amboyna                                          | 220                   | 29,44   | 27,51   | 22,56      | 36,929     |            |        |            | 66,369       | 27,51          | 22,56          | 11,56      | 23,60      | 35,10      |
| Yupai                                            | 138                   | 29,44   | 27,06   | 22,21      | 36,929     |            |        |            | 66,369       | 27,06          | 22,21          | 11,56      | 23,18      | 34,73      |
| Yupai                                            | 220                   | 29,44   | 27,23   | 22,34      | 36,929     |            |        |            | 66,369       | 27,23          | 22,34          | 11,56      | 23,21      | 34,87      |
| Yuncay                                           | 220                   | 29,44   | 27,30   | 22,40      | 36,929     |            |        |            | 66,369       | 27,30          | 22,40          | 11,56      | 23,40      | 34,93      |
| Oroya Nueva                                      | 220                   | 29,44   | 27,47   | 22,53      | 36,929     |            |        |            | 66,369       | 27,47          | 22,53          | 11,56      | 23,51      | 35,07      |
| Oroya Nueva                                      | 138                   | 29,44   | 27,26   | 22,40      | 36,929     |            |        |            | 66,369       | 27,26          | 22,40          | 11,56      | 23,37      | 34,93      |
| Oroya Nueva                                      | 50                    | 29,44   | 27,36   | 22,47      | 36,929     |            |        |            | 66,369       | 27,36          | 22,47          | 11,56      | 23,44      | 35,00      |
| Oroya Nueva                                      | 138                   | 29,44   | 27,45   | 22,52      | 36,929     |            |        |            | 66,369       | 27,45          | 22,52          | 11,56      | 23,52      | 35,08      |
| Carhuayquero Nueva                               | 220                   | 29,44   | 27,45   | 22,52      | 36,929     |            |        |            | 66,369       | 27,45          | 22,52          | 11,56      | 23,50      | 35,06      |
| Carpa                                            | 138                   | 29,44   | 27,15   | 22,31      | 36,929     |            |        |            | 66,369       | 27,15          | 22,31          | 11,56      | 23,27      | 34,83      |
| Oronito                                          | 220                   | 29,44   | 27,64   | 22,72      | 36,929     |            |        |            | 66,369       | 27,64          | 22,72          | 11,56      | 23,72      | 35,26      |
| Condorocha                                       | 138                   | 29,44   | 27,18   | 22,33      | 36,929     |            |        |            | 66,369       | 27,18          | 22,33          | 11,56      | 23,30      | 34,85      |
| Condorocha                                       | 44                    | 29,44   | 27,18   | 22,33      | 36,929     |            |        |            | 66,369       | 27,18          | 22,33          | 11,56      | 23,30      | 34,85      |
| Machupichu                                       | 220                   | 29,44   | 27,57   | 22,49      | 36,929     |            |        |            | 66,369       | 27,57          | 22,49          | 11,56      | 23,50      | 35,06      |
| Carhuayquero                                     | 138                   | 29,44   | 28,47   | 23,20      | 36,929     |            |        |            | 66,369       | 28,47          | 23,20          | 11,56      | 24,56      | 36,16      |
| Cusco                                            | 138                   | 29,44   | 28,59   | 23,26      | 36,929     |            |        |            | 66,369       | 28,59          | 23,26          | 11,56      | 24,52      | 36,38      |
| Comabamba                                        | 138                   | 29,44   | 29,09   | 23,66      | 36,929     |            |        |            | 66,369       | 29,09          | 23,66          | 11,56      | 24,74      | 36,80      |
| Tintimay                                         | 138                   | 29,44   | 29,09   | 23,66      | 36,929     |            |        |            | 66,369       | 29,09          | 23,66          | 11,56      | 24,74      | 36,80      |
| Yajuyi                                           | 138                   | 29,44   | 29,19   | 23,77      | 36,929     |            |        |            | 66,369       | 29,19          | 23,77          | 11,56      | 24,85      | 36,84      |
| Azúzcar                                          | 138                   | 29,44   | 29,01   | 23,61      | 36,929     |            |        |            | 66,369       | 29,01          | 23,61          | 11,56      | 24,68      | 36,21      |
| San Gabon                                        | 138                   | 29,44   | 27,52   | 22,49      | 36,929     |            |        |            | 66,369       | 27,52          | 22,49          | 11,56      | 23,49      | 35,05      |
| San Gabon                                        | 138                   | 29,44   | 28,14   | 22,76      | 36,929     |            |        |            | 66,369       | 28,14          | 22,76          | 11,56      | 24,16      | 35,66      |
| Puerto Maldonado                                 | 138                   | 29,44   | 29,75   | 23,05      | 36,929     |            |        |            | 66,369       | 29,75          | 23,05          | 11,56      | 25,38      | 35,94      |
| Julesa                                           | 138                   | 29,44   | 29,22   | 23,14      | 36,929     |            |        |            | 66,369       | 29,22          | 23,14          | 11,56      | 24,83      | 36,39      |
| Puno                                             | 138                   | 29,44   | 29,20   | 23,12      | 36,929     |            |        |            | 66,369       | 29,20          | 23,12          | 11,56      | 24,81      | 36,37      |
| Puno                                             | 220                   | 29,44   | 29,15   | 23,69      | 36,929     |            |        |            | 66,369       | 29,15          | 23,69          | 11,56      | 24,78      | 36,34      |
| Callal                                           | 138                   | 29,44   | 29,34   | 23,93      | 36,929     |            |        |            | 66,369       | 29,34          | 23,93          | 11,56      | 25,01      | 36,57      |
| Santurro                                         | 138                   | 29,44   | 28,94   | 23,61      | 36,929     |            |        |            | 66,369       | 28,94          | 23,61          | 11,56      | 24,67      | 36,23      |
| Arequipa                                         | 220                   | 29,44   | 28,89   | 23,35      | 36,929     |            |        |            | 66,369       | 28,89          | 23,35          | 11,56      | 24,56      | 36,15      |
| Scobaviva                                        | 220                   | 29,44   | 28,85   | 23,32      | 36,929     |            |        |            | 66,369       | 28,85          | 23,32          | 11,56      | 24,54      | 36,14      |
| Cerro Verde                                      | 138                   | 29,44   | 28,97   | 23,60      | 36,929     |            |        |            | 66,369       | 28,97          | 23,60          | 11,56      | 24,67      | 36,23      |
| República                                        | 138                   | 29,44   | 29,16   | 23,68      | 36,929     |            |        |            | 66,369       | 29,16          | 23,68          | 11,56      | 24,77      | 36,33      |
| Molendino                                        | 138                   | 29,44   | 29,33   | 23,79      | 36,929     |            |        |            | 66,369       | 29,33          | 23,79          | 11,56      | 24,89      | 36,45      |
| Moquegua                                         | 220                   | 29,44   | 28,87   | 23,32      | 36,929     |            |        |            | 66,369       | 28,87          | 23,32          | 11,56      | 24,58      | 36,14      |
| Moquegua                                         | 220                   | 29,44   | 28,90   | 23,34      | 36,929     |            |        |            | 66,369       | 28,90          | 23,34          | 11,56      | 24,61      | 36,17      |
| Is. E.L.S.                                       | 220                   | 29,44   | 29,15   | 23,71      | 36,929     |            |        |            | 66,369       | 29,15          | 23,71          | 11,56      | 24,79      | 36,35      |
| Bofitica                                         | 138                   | 29,44   | 29,08   | 23,69      | 36,929     |            |        |            | 66,369       | 29,08          | 23,69          | 11,56      | 24,76      | 36,32      |
| Toquepala                                        | 138                   | 29,44   | 29,12   | 23,74      | 36,929     |            |        |            | 66,369       | 29,12          | 23,74          | 11,56      | 24,81      | 36,37      |
| Arcoata                                          | 138                   | 29,44   | 28,94   | 23,70      | 36,929     |            |        |            | 66,369       | 28,94          | 23,70          | 11,56      | 24,74      | 36,30      |
| Arcoata                                          | 66                    | 29,44   | 28,86   | 23,69      | 36,929     | 0,5986     |        |            | 66,369       | 28,86          | 23,69          | 11,56      | 24,72      | 36,28      |
| Tacna (Los Héroes)                               | 220                   | 29,44   | 29,08   | 23,57      | 36,929     |            |        |            | 66,369       | 29,08          | 23,57          | 11,56      | 24,65      | 36,25      |
| Tacna (Los Héroes)                               | 66                    | 29,44   | 29,08   | 23,50      | 36,929     | 0,5986     |        |            | 66,369       | 29,08          | 23,50          | 11,56      | 24,69      | 36,21      |
| Tacna (Los Héroes)                               | 220                   | 29,44   | 28,89   | 23,36      | 36,929     |            |        |            | 66,369       | 28,89          | 23,36          | 11,56      | 24,56      | 36,26      |
| Cotacusi                                         | 220                   | 29,44   | 28,13   | 22,98      | 36,929     |            |        |            | 66,369       | 28,13          | 22,98          | 11,56      | 24,01      | 35,56      |
| Caravello                                        | 220                   | 29,4    |         |            |            |            |        |            |              |                |                |            |            |            |

**PEAJES DE CONEXIÓN AL SISTEMA PRINCIPAL DE TRANSMISIÓN (PCSPT)**  
**VALORES BASE DE LOS PEAJES (Res. 056-2023-OS/CD y 113-2023-OS/CD)**

Actualizado al 04/Julio/2023 con redondeo

| Sistema de Transmisión                                                                        |                                                             | PCSPT + PTSPT (\$/kW-mes) |         |             |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------|---------|-------------|
|                                                                                               |                                                             | Valor Base (Res. Barra)   | FAPCSPT | Actualizado |
| SPT de REP                                                                                    |                                                             | 4,000                     | 1,000   | 4,000       |
| SPT de REP (Ampliación 21)                                                                    |                                                             | 0,090                     | 0,000   | 0,000       |
| SPT de Egemsa                                                                                 |                                                             | 0,003                     | 1,000   | 0,003       |
| SPT de San Gabán                                                                              |                                                             | 0,004                     | 1,000   | 0,004       |
| SPT de Antamina                                                                               |                                                             | 0,006                     | 1,000   | 0,006       |
| SPT de ISA Perú (Ex Etselesva)                                                                |                                                             | 0,134                     | 1,000   | 0,134       |
| SPT de Redesur                                                                                |                                                             | 0,750                     | 1,000   | 0,750       |
| SPT de Transmataro (Contrato BOOT, Addendum N° 5 y Addendum N° 10)                            |                                                             | 2,109                     | 1,000   | 2,109       |
| SPT de Transmataro (Addendum N° 8)                                                            |                                                             | 0,657                     | 1,000   | 0,657       |
| SPT de Transmataro (Ampliación Adicional 1)                                                   |                                                             | 0,046                     | 1,000   | 0,046       |
| SPT de ISA (contrato BOOT, ampliación 1 y 2)                                                  |                                                             | 0,546                     | 1,000   | 0,546       |
| SGT Línea Chilca -Zapallal (Tramos 1 y 2)                                                     |                                                             | 0,543                     | 1,000   | 0,543       |
| SGT Líneas Carhuamayo - Cajamarca 220 kV<br>(Tramos 1, 2, 3 y4) y SVC-Cajamarca               | LT 220 kV Carhuamayo-Paraosha v subestaciones asociadas     | 0,942                     | 1,000   | 0,942       |
|                                                                                               | L.T. Paraosha-Conococha y subestaciones asociadas – Tramo 2 | 0,000                     | 1,000   | 0,000       |
|                                                                                               | Ampliación de la Subestación Cajamarca 220 kV – SVC         | 0,000                     | 1,000   | 0,000       |
|                                                                                               | LT 220 kV Conococha-Huallanca y subestaciones asociadas –   | 0,000                     | 1,000   | 0,000       |
|                                                                                               | LT 220 kV Huallanca-Cajamarca y subestaciones asociadas -   | 0,000                     | 1,000   | 0,000       |
| SGT Línea Talara Piura 220 kV (2do circuito)                                                  |                                                             | 0,121                     | 1,000   | 0,121       |
| SGT Línea Zapallal – Trujillo 500 kV                                                          |                                                             | 1,360                     | 1,000   | 1,360       |
| SGT Línea Pomacocha - Carhuamayo 220 kV                                                       |                                                             | 0,130                     | 1,000   | 0,130       |
| SGT Línea Socabaya - Tintaya 220 kV                                                           |                                                             | 0,340                     | 1,000   | 0,340       |
| SGT Línea Chilca – Marcona –Montalvo 500 kV                                                   |                                                             | 2,498                     | 1,000   | 2,498       |
| SGT Línea Carhuauquero- Cajamarca Norte- Cacán- Moyobamba 220 kV (1)                          |                                                             | 0,864                     | 1,000   | 0,864       |
| SGT Línea Machupicchu–Quencoro–Onocora–Tintaya 220 kV (1)                                     |                                                             | 0,691                     | 0,000   | 0,000       |
| SGT Línea Tintaya - Azangaro 220 kV                                                           |                                                             | 0,087                     | 1,000   | 0,087       |
| SGT Línea La Niña - Piura 500 kV                                                              |                                                             | 0,450                     | 0,000   | 0,000       |
| SGT Pañías - Nueva Tumbes 220 kV                                                              |                                                             | 0,169                     | 0,000   | 0,000       |
| SGT Tingo María - Aquaytia 220 kV                                                             |                                                             | 0,113                     | 0,000   | 0,000       |
| SGT Línea Trujillo - Chiclayo 500 kV                                                          |                                                             | 0,862                     | 1,000   | 0,862       |
| SGT Línea Machupicchu - Abancay - Cotaruse 220 kV (1)                                         |                                                             | 0,595                     | 1,000   | 0,595       |
| SGT Línea 500 kV Mantaro- Marcona-Socabaya-Montalvo y Subestaciones Asociadas (1)             |                                                             | 2,113                     | 1,000   | 2,113       |
| Subestación Carapongo y enlaces de conexión (1er etapa) y SE Carapongo (Monto Complementario) |                                                             | 0,334                     | 1,000   | 0,334       |
| Refuerzo de Línea Trujillo - Chiclayo                                                         |                                                             | 0,000                     | 1,000   | 0,000       |
| Subestación Carapongo (Monto Complementario)                                                  |                                                             | 0,000                     | 1,000   | 0,000       |
| Reconfiguración de LT Chilca-La Planicie-Carabaylo                                            |                                                             | 0,020                     | 0,000   | 0,000       |
| 2do Transformador 500/220 kV - 600 MVA en la S.E. Chilca                                      |                                                             | 0,089                     | 0,000   | 0,000       |
| Ampliación de barras 500 kV en SE Carabaylo                                                   |                                                             | 0,013                     | 0,000   | 0,000       |
| Ampliación de la Subestación La Planicie 220 kV                                               |                                                             | 0,124                     | 0,000   | 0,000       |
| Línea Aguaytia - Pucallpa (2 circuito)                                                        |                                                             | 0,069                     | 1,000   | 0,069       |
| Línea Nueva Yanango - Nueva Huanuco 500 kV                                                    |                                                             | 0,917                     | 0,000   | 0,000       |
| Línea Mantaro - Nueva Yanango - Carapongo 500 kV                                              |                                                             | 1,120                     | 0,000   | 0,000       |
| Línea Azangaro-Juliaca-Puno 220 kV                                                            |                                                             | 0,293                     | 1,000   | 0,293       |
| Cargo Unitario por Compensación por Seguridad de Suministro (3)                               | No RF                                                       | 0,311                     | 1,000   | 0,311       |
|                                                                                               | RF de Talara                                                | 1,012                     | 1,000   | 1,012       |
|                                                                                               | RF de Ilo                                                   | 2,190                     | 1,000   | 2,190       |
|                                                                                               | RF de Pucallpa                                              | 0,242                     | 1,000   | 0,242       |
|                                                                                               | RF de Puerto Maldonado                                      | 0,139                     | 1,000   | 0,139       |
|                                                                                               | RF de Puerto Eten                                           | 1,144                     | 1,000   | 1,144       |
| Cargo por Prima                                                                               | Cogeneración Paramonga                                      | 0,108                     | 1,000   | 0,108       |
|                                                                                               | C.H. Santa Cruz II                                          | 0,054                     | 1,000   | 0,054       |
|                                                                                               | C.H. Santa Cruz I                                           | 0,049                     | 1,000   | 0,049       |
|                                                                                               | C.H. Poechos 2                                              | 0,075                     | 1,000   | 0,075       |
|                                                                                               | C.H. Roncador                                               | 0,012                     | 1,000   | 0,012       |
|                                                                                               | C.H. Carhuauquero IV                                        | 0,178                     | 1,000   | 0,178       |
|                                                                                               | C.H. Caña Brava                                             | 0,054                     | 1,000   | 0,054       |
|                                                                                               | C.H. La Joya                                                | 0,092                     | 1,000   | 0,092       |
|                                                                                               | C.T. Huaycoloro                                             | 0,137                     | 1,000   | 0,137       |
|                                                                                               | C.H. Purnacana                                              | 0,000                     | 0,000   | 0,000       |
|                                                                                               | C.H. Huasahuasi I                                           | 0,071                     | 1,000   | 0,071       |
|                                                                                               | C.H. Huasahuasi II                                          | 0,073                     | 1,000   | 0,073       |
|                                                                                               | C.H. Nuevo Imperial                                         | 0,036                     | 1,000   | 0,036       |
|                                                                                               | CS Repartición Solar 20T                                    | 0,419                     | 1,000   | 0,419       |
|                                                                                               | CS Majes Solar 20T                                          | 0,420                     | 1,000   | 0,420       |
|                                                                                               | CS Tacna Solar 20T                                          | 0,535                     | 1,000   | 0,535       |
|                                                                                               | CS Panamericana Solar 20T                                   | 0,544                     | 1,000   | 0,544       |
|                                                                                               | C.H. Yanapampa                                              | 0,028                     | 1,000   | 0,028       |
|                                                                                               | C.H. Las Pizarras                                           | 0,173                     | 1,000   | 0,173       |
|                                                                                               | C.E. Marcona                                                | 0,253                     | 1,000   | 0,253       |
|                                                                                               | C.E. Talara                                                 | 0,360                     | 1,000   | 0,360       |
|                                                                                               | C.E. Cupisnique                                             | 0,829                     | 1,000   | 0,829       |
|                                                                                               | C.H. Runatullo III                                          | 0,106                     | 1,000   | 0,106       |
|                                                                                               | C.H. Runatullo II                                           | 0,125                     | 1,000   | 0,125       |
|                                                                                               | CSF Moquegua FV                                             | 0,212                     | 1,000   | 0,212       |
|                                                                                               | C.H. Canchayillo                                            | 0,011                     | 1,000   | 0,011       |
|                                                                                               | C.T. La Gringa V                                            | 0,054                     | 1,000   | 0,054       |
|                                                                                               | C.H. Chancay                                                | 0,186                     | 1,000   | 0,186       |
|                                                                                               | C.H. Rucuy                                                  | 0,000                     | 1,000   | 0,000       |
|                                                                                               | C.E. Tres Hermanas                                          | 0,747                     | 1,000   | 0,747       |
|                                                                                               | C.H. Potrero                                                | 0,107                     | 1,000   | 0,107       |
|                                                                                               | C.H. Yarcaya                                                | 0,145                     | 1,000   | 0,145       |
|                                                                                               | C.S. Rubi                                                   | 0,278                     | 1,000   | 0,278       |
|                                                                                               | C.H. Renovandes H1                                          | 0,141                     | 1,000   | 0,141       |
|                                                                                               | C.S. Intipampa                                              | 0,035                     | 1,000   | 0,035       |
|                                                                                               | C.E. Wayra I                                                | 0,000                     | 1,000   | 0,000       |
|                                                                                               | C.B. Huaycoloro II                                          | 0,031                     | 1,000   | 0,031       |
|                                                                                               | C.H. Angel I                                                | 0,040                     | 1,000   | 0,040       |
|                                                                                               | C.H. Angel II                                               | 0,082                     | 1,000   | 0,082       |
|                                                                                               | C.H. Angel III                                              | 0,077                     | 1,000   | 0,077       |
|                                                                                               | C.H. Her                                                    | 0,003                     | 1,000   | 0,003       |
|                                                                                               | C.H. Carhuac                                                | 0,073                     | 1,000   | 0,073       |
|                                                                                               | C.H. El Carmen                                              | 0,050                     | 1,000   | 0,050       |
|                                                                                               | C.H. Zaña 1                                                 | 0,000                     | 0,000   | 0,000       |
|                                                                                               | C.H. Manta                                                  | 0,032                     | 1,000   | 0,032       |
|                                                                                               | C.T. Callao                                                 | 0,022                     | 1,000   | 0,022       |
|                                                                                               | C.H. 8 de Agosto                                            | 0,085                     | 1,000   | 0,085       |
| Cargo Unitario por FISE (3)                                                                   |                                                             | 0,438                     | 1,000   | 0,438       |
| Cargo Unitario por Capacidad de Generación Eléctrica - CT Puerto Bravo (8)                    |                                                             | 2,6950                    | 1,000   | 2,695       |
| Cargo Unitario por Capacidad de Generación Eléctrica - CT Planta N° 2 Ilo (8)                 |                                                             | 2,2010                    | 1,000   | 2,201       |
| Cargo Unitario por Compensación de la Confiabilidad en la Cadena de Suministro de Energía (4) |                                                             | 0,0090                    | 1,000   | 0,009       |
| PCSPT =                                                                                       |                                                             |                           |         | 36,929      |

Factores de Expansión de Pérdidas Medias Media Tension (Potencia y Energía)

Factores de Pérdidas en los Sistemas Secundarios de Transmisión por Áreas de Demanda según nivel de Tensión

Factor de Expansión de Pérdidas  
(Establecido en la Resolución de Peajes Secundarios)

| FPMdP           |        |        |        |        | FPMdE  |        |        |        |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Área de Demanda | MAT    | MAT/AT | AT     | AT/MT  | MAT    | MAT/AT | AT     | AT/MT  |
| 1               | 1,0004 | 1,0032 | 1,0131 | 1,0035 | 1,0004 | 1,0040 | 1,0131 | 1,0040 |
| 2               | 1,0000 | 1,0031 | 1,0113 | 1,0051 | 1,0000 | 1,0032 | 1,0103 | 1,0055 |
| 3               | 1,0023 | 1,0020 | 1,0109 | 1,0042 | 1,0021 | 1,0020 | 1,0091 | 1,0050 |
| 4               | 1,0139 | 1,0023 | 1,0084 | 1,0053 | 1,0118 | 1,0027 | 1,0077 | 1,0064 |
| 5               | 1,0009 | 1,0034 | 1,0297 | 1,0049 | 1,0007 | 1,0032 | 1,0230 | 1,0060 |
| 6               | 1,0020 | 1,0040 | 1,0059 | 1,0057 | 1,0017 | 1,0041 | 1,0048 | 1,0061 |
| 7               | 1,0006 | 1,0072 | 1,0046 | 1,0054 | 1,0007 | 1,0079 | 1,0044 | 1,0059 |
| 8               | 1,0013 | 1,0030 | 1,0233 | 1,0040 | 1,0007 | 1,0033 | 1,0159 | 1,0041 |
| 9               | 1,0035 | 1,0021 | 1,0085 | 1,0026 | 1,0025 | 1,0024 | 1,0071 | 1,0033 |
| 10              | 1,0021 | 1,0025 | 1,0094 | 1,0032 | 1,0047 | 1,0031 | 1,0124 | 1,0040 |
| 11              | 1,0004 | 1,0031 | 1,0130 | 1,0040 | 1,0007 | 1,0037 | 1,0192 | 1,0050 |
| 12              | 1,0036 | 1,0000 | 1,0000 | 1,0051 | 1,0027 | 1,0000 | 1,0000 | 1,0061 |
| 13              | 1,0000 | 1,0000 | 1,0100 | 1,0102 | 1,0000 | 1,0000 | 1,0095 | 1,0072 |
| 14              | 1,0000 | 1,0000 | 1,0037 | 1,0037 | 1,0000 | 1,0000 | 1,0031 | 1,0041 |

Factor de expansión de Pérdidas aplicable para expandir hasta MT  
(acumulados calculados) (1/)

| FPMdP           |           |               |          | FPMdE     |               |          |
|-----------------|-----------|---------------|----------|-----------|---------------|----------|
| Área de Demanda | Desde MAT | Desde AT (1/) | Desde MT | Desde MAT | Desde AT (1/) | Desde MT |
| 1               | 1,0203    | 1,0166        | 1,0000   | 1,0216    | 1,0172        | 1,0000   |
| 2               | 1,0196    | 1,0165        | 1,0000   | 1,0191    | 1,0159        | 1,0000   |
| 3               | 1,0195    | 1,0151        | 1,0000   | 1,0183    | 1,0141        | 1,0000   |
| 4               | 1,0302    | 1,0137        | 1,0000   | 1,0289    | 1,0141        | 1,0000   |
| 5               | 1,0392    | 1,0347        | 1,0000   | 1,0332    | 1,0291        | 1,0000   |
| 6               | 1,0177    | 1,0116        | 1,0000   | 1,0168    | 1,0109        | 1,0000   |
| 7               | 1,0179    | 1,0100        | 1,0000   | 1,0190    | 1,0103        | 1,0000   |
| 8               | 1,0318    | 1,0274        | 1,0000   | 1,0241    | 1,0201        | 1,0000   |
| 9               | 1,0168    | 1,0111        | 1,0000   | 1,0154    | 1,0104        | 1,0000   |
| 10              | 1,0173    | 1,0126        | 1,0000   | 1,0244    | 1,0164        | 1,0000   |
| 11              | 1,0206    | 1,0171        | 1,0000   | 1,0288    | 1,0243        | 1,0000   |
| 12              | 1,0087    | 1,0051        | 1,0000   | 1,0088    | 1,0061        | 1,0000   |
| 13              | 1,0203    | 1,0203        | 1,0000   | 1,0168    | 1,0168        | 1,0000   |
| 14              | 1,0074    | 1,0074        | 1,0000   | 1,0072    | 1,0072        | 1,0000   |