

ANSWERS TO QUESTIONS TAKEN ON NOTICE

Indigenous Essential Services Pty Ltd

(Public Briefing, 11 October 2013)

1. Is it possible to get a list of acronyms associated with power generation, supply and demand?

- IES: Indigenous Essential Services Pty Ltd, the not-for-profit subsidiary of PWC
- kW: Kilowatts (a measure of instantaneous power)
- kWh: Kilowatt-hours (a measure of energy – the amount of power delivered over time)
- MW: Megawatts (a measure of instantaneous power)
- MWh: Megawatt-hours (a measure of energy – the amount of power delivered over time)
- GW: Gigawatt (a measure of instantaneous power)
- GWh: Gigawatt-hours (a measure of energy – the amount of power delivered over time)
- ASIM Modelling Tool: Australian Solar Institute Model Modelling Tool. Named after the funding organisation, this is a first-of-its kind, 1 second, open source tool that enables solar-diesel power station optimisation modelling.
- EE: Energy Efficiency
- RE: Renewable Energy
- SCADA: Supervisory Control and Data Acquisition (the systems used to remotely monitor and control essential service infrastructure).
- ARENA: The Australian Renewable Energy Agency. PWC has submitted an Expression of Interest to ARENA under its CARRE (Community and Regional Renewable Energy) Program seeking over \$60million to implement a 10MW solar rollout across 46 communities under a '*Northern Territory Solar Energy Transformation Program*'.
- PV: photovoltaic
- HV: high voltage
- LV: low voltage
- SIHIP: Strategic Indigenous Housing and Infrastructure Program

2. Have you got a list of the names of the communities and homelands that IES supplies power to?

Northern Territory funded Indigenous communities serviced through the Indigenous Essential Services Program.

| Ref | ID# | IES Community (RSD communities are in bold) | Population estimate from 2011 Census | Comments |
|-----|-----|--|--------------------------------------|---|
| 1 | 279 | Acacia Larrakia ² | 90 | Commercial electricity grid - Darwin |
| 2 | 202 | Ali Curung | 622 | Commercial electricity grid - Tennant Creek CED sewerage scheme. |
| 3 | 203 | Alpurrurulam | 514 | Solar system owned/managed by others |
| 4 | 622 | Amanbidji (Kildurk) | 101 | |
| 5 | 9 | Amoonguna | 322 | Commercial electricity and water grid - Alice Springs CED sewerage scheme |
| 6 | 10 | Ampilatwatja | 427 | Septic sewerage service provided by others |
| 7 | 451 | Angurugu | 963 | Commercial electricity grid - BHP mine Majority is CED sewerage scheme |
| 8 | 20 | Areyonga | 276 | |
| 9 | 42 | Atitjere (Hart Range) | 217 | Septic sewerage service provided by others |
| 10 | 580 | Barunga | 361 | Commercial electricity grid - Katherine |
| 11 | 294 | Belyuen ² | 181 | Commercial electricity grid - Darwin |
| 12 | 581 | Beswick | 588 | Commercial electricity grid - Katherine |
| 13 | 582 | Binjari | 270 | Commercial electricity grid - Katherine |
| 14 | 586 | Bulla | 153 | |
| 15 | 587 | Bulman ² | 335 | |
| 16 | 219 | Canteen Creek (Owaitilla) | 254 | Septic sewerage service provided by others |
| 17 | 591 | Daguragu | 223 | |
| 18 | 33 | Engawala | 165 | |
| 19 | 36 | Finke (Apatula) | 184 | |
| 20 | 492 | Galiwinku (Elcho Island) | 2470 | |
| 21 | 500 | Gapuwiyak (Lake Evella) | 1018 | |
| 22 | 329 | Gunbalanya (Oenpelli) | 1371 | |
| 23 | 514 | Gunyangara (Ski Beach) | 183 | Commercial electricity and water grid – Rio Tinto |
| 24 | 41 | Haasts Bluff (Ikuntji) | 175 | Septic sewerage service provided by others |
| 25 | 43 | Hermannsburg | 725 | |
| 26 | 250 | Imangara (Murray Downs) | 108 | Commercial electricity grid – Tennant Creek Septic sewerage service provided by others |
| 27 | 51 | Imanpa | 203 | |
| 28 | 593 | Jilkminggan (Duck Creek) | 322 | |
| 29 | 603 | Kalkarindji (Wave Hill) | 400 | Solar system owned/managed by others |
| 30 | 66 | Kaltukatjara (Docker River) | 331 | |
| 31 | 72 | Kintore | 527 | |
| 32 | 608 | Kybrook Farm ² | 74 | Commercial electricity – Darwin, water grid – Pine Ck |
| 33 | 609 | Lajamanu | 757 | |

| Ref | ID# | IES Community (RSD communities are in bold) | Population estimate from 2011 Census | Comments |
|-----|-----|---|--|---|
| 34 | 86 | Laramba | 289 | Septic sewerage service provided by others |
| 35 | 362 | Maningrida | 2680 | |
| 36 | 595 | Manyallaluk (Eva Valley) | 121 | CED sewerage scheme to part of the community, Septic sewerage service provided by others |
| 37 | 374 | Milikapiti (Snake Bay) | 521 | |
| 38 | 531 | Milingimbi | 1259 | |
| 39 | 532 | Milyakburra (Bickerton Is) | 201 | |
| 40 | 375 | Minjilang (Croker Island) | 359 | |
| 41 | 624 | Minyerri | 562 | |
| 42 | 112 | Mt Liebig | 180 | Septic sewerage service provided by others |
| 43 | 397 | Naiyu (Daly River) | 522 | Electricity services also includes Wooliana Road |
| 44 | 404 | Nganmarriyanga (Palumpa) | 434 | CED sewerage scheme |
| 45 | 633 | Ngukurr | 1225 | |
| 46 | 127 | Nturiya | 122 | Commercial electricity grid-Ti Tree Septic sewerage service provided by others |
| 47 | 549 | Numbulwar | 796 | |
| 48 | 128 | Nyirripi | 243 | |
| 49 | 131 | Papunya | 484 | CED sewerage scheme |
| 50 | 410 | Peppimenarti | 215 | CED sewerage scheme |
| 51 | 639 | Pigeon Hole | 145 | |
| 52 | 411 | Pirlangimpi | 434 | |
| 53 | 138 | Pmara Jutunta (Ti Tree 6 Mile) | 224 | Commercial electricity grid-Ti Tree |
| 54 | 550 | Ramingining | 971 | |
| 55 | 641 | Rittarangu | 115 | |
| 56 | 258 | Robinson River | 300 | Septic sewerage service provided by others |
| 57 | 145 | Santa Teresa | 650 | Commercial electricity grid - Alice Springs |
| 58 | 264 | Tara | 66 | Septic sewerage service provided by others |
| 59 | 148 | Titjikala | 235 | Septic sewerage service provided by others |
| 60 | 555 | Umbakumba | 510 | |
| 61 | 426 | Wadeye | 2461 | |
| 62 | 174 | Wallace Rockhole | 79 | Septic sewerage service provided by others |
| 63 | 429 | Warruwi | 494 | |
| 64 | 654 | Weemol ² | 82 | Septic sewerage service provided by others |
| 65 | 186 | Willowra | 253 | CED sewerage scheme |
| 66 | 187 | Wilora | 128 | Septic sewerage service provided by others |
| 67 | 400 | Wurrumiyanga (Nguiu) | 1779 | |
| 68 | 227 | Wutunugurra (Epenarra) | 238 | Septic sewerage service provided by others |
| 69 | 658 | Yarralin | 304 | |
| 70 | 576 | Yirrkala | 982 | Commercial electricity grid – Rio Tinto Mine |

| Ref | ID# | IES Community (RSD communities are in bold) | Population estimate from 2011 Census | Comments |
|-----------------------------------|-----|--|--------------------------------------|----------|
| 71 | 197 | Yuelamu | 235 | |
| 72 | 198 | Yuendumu | 789 | |
| Total Community Population | | | 36720 | |

Outstations provided with services¹

| Location | ID # | Outstation Name | 2010 Population | Services Supplied |
|------------------------------------|------|------------------------------|-----------------|--|
| Northern Region Outstations | | | | |
| Nguiu Outstation | 1006 | 4 Mile Camp | 30 | Electricity - HV, access to water grid |
| Demed Outstations | 391 | Kungarrewarl (Clancy's Camp) | 5 | Electricity - HV |
| Palumpa Outstations | 1026 | Nama * | 5 | Electricity (HV & LV) Water and sewerage* |
| Palumpa Outstations | 435 | Wudapuli * | 10 | Electricity (HV & LV) Water and sewerage* |
| Ramingining Outstations | 542 | Ngangalala | 40 | Electricity - HV |
| Ramingining Outstations | 838 | Wulkabimirri | 30 | Electricity - HV |
| Ramingining Outstations | 571 | Yathalamarra | 70 | Electricity - HV |
| Katherine Outstations | 598 | Jodetluk (Gorge Camp) | 45 | Electricity – HV, Water |
| Katherine Outstations | 642 | Rockhole | 5 | Electricity – HV |
| Timber Creek Outstations | 597 | Gilwi | 30 | Electricity - HV |
| Timber Creek Outstations | 648 | Muruning (Darby's Camp) | 21 | Electricity - HV |
| Timber Creek Outstations | 678 | Myatt | 81 | Electricity - HV |
| Borrooloola Outstations | 256 | Wandangula (Police Lagoon) | 20 | Electricity - HV |
| Southern Region Outstations | | | | |
| Tennant Creek Outstations | 244 | Mungkarta (McLaren Creek) | 80 | Electricity - HV |
| Papunya Outstations | 25 | Blackwater * | 12 | Electricity (HV & LV)* |
| Papunya Outstations | 760 | Ulambara * | 5 | Electricity (HV & LV)* |
| Papunya Outstations | 180 | 3 mile * | 3 | Electricity (HV & LV)* |
| Papunya Outstations | 759 | 5 mile * | 20 | Electricity (HV & LV)* |
| Tjuwanpa Outstations | 79 | Armstrong's | 10 | Electricity (HV & LV) |

¹ Services on outstations marked *, are carried out on a cost recovery basis because these assets are not vested in IES Pty Ltd

| Location | ID # | Outstation Name | 2010 Population | Services Supplied |
|----------------------|-------------|------------------------------|------------------------|--|
| Tjuwanpa Outstations | 21 | Arrkapa Bore | 26 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 52 | Importna | 8 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 56 | Injartnama | 25 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Injartnama Bore | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | 771 | Ipalala | 5 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Ipalala Bore | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | 67 | Kaporilya | 20 | Electricity (HV & LV), access to water grid |
| Tjuwanpa Outstations | 92 | Ltira | 10 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Ltira Bore | | Electricity (HV & LV) |
| Tjuwanpa Outstations | 94 | Lyilyalanama | 4 | Electricity (HV & LV), access to water grid Hermannsburg |
| Tjuwanpa Outstations | 872 | Merral Ntarrakala | 8 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 106 | Motna's | 6 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 770 | Ntakarra | 10 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 700 | Old Station | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Old Station Bore | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | 5 | Red Sandhill | 20 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Red Sandhill Bore | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | 861 | Rutjingka | 6 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 149 | Tjamangkurra | 12 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Tjamangkurra Bore | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | - | Tjuwanpa (Resource Centre) | n/a | Electricity (HV & LV), access to water grid Hermannsburg |
| Tjuwanpa Outstations | 154 | Tnawurta Bore | 4 | Electricity (HV & LV) |
| Tjuwanpa Outstations | 155 | Tnyimipurta | 10 | Electricity (HV & LV) |
| Tjuwanpa Outstations | n/a | Tnyimipurta Tanks | n/a | Electricity (HV & LV) |
| Tjuwanpa Outstations | 772 | Ulpunda | 12 | Electricity (HV & LV), access to water grid Hermannsburg |
| Tjuwanpa Outstations | 984 | Yakala | 2 | Electricity (HV & LV) |
| Utopia Outstations | 104 | Amengernterneah (Clinic) | 35 | Electricity (HV & LV) |
| Utopia Outstations | 170 | Ankerrapw (Utopia Homestead) | 1 | Electricity (HV & LV) |
| Utopia Outstations | 147 | Arawerr | 60 | Electricity (HV & LV) |
| Utopia Outstations | 7 | Arlparra | 70 | Electricity (HV & LV) |
| Utopia Outstations | 168 | Arlparra (Utopia Store) | 90 | Electricity (HV & LV) |
| Utopia Outstations | 22 | Artekerr (3 Bores) | 4 | Electricity (HV & LV) |
| Utopia Outstations | 729 | Atheley | 30 | Electricity (HV & LV) |
| Utopia Outstations | 27 | Atneltyey (Boundary Bore) | 80 | Electricity (HV & LV) |

| Location | ID # | Outstation Name | 2010 Population | Services Supplied |
|---|-------------|-----------------------------|----------------------------|--------------------------|
| Utopia Outstations | 728 | Camel Camp | 20 | Electricity (HV & LV) |
| Utopia Outstations | 15 | Indaringinya (Antarrengeny) | 20 | Electricity (HV & LV) |
| Utopia Outstations | 726 | Inkawenyerre (New Camp) | 80 | Electricity (HV & LV) |
| Utopia Outstations | 82 | Inkwelaye (Kurrajong Bore) | 40 | Electricity (HV & LV) |
| Utopia Outstations | 63 | Irrultja | 96 | Electricity (HV & LV) |
| Utopia Outstations | 727 | Iylentye (Mosquito Bore) | 4 | Electricity (HV & LV) |
| Utopia Outstations | 126 | Ngkwarlerlanem | 18 | Electricity (HV & LV) |
| Utopia Outstations | 730 | Pungalindum | 70 | Electricity (HV & LV) |
| Utopia Outstations | 23 | QuartPot | 12 | Electricity (HV & LV) |
| Utopia Outstations | 146 | Soakage Bore (Atnarara) | 12 | Electricity (HV & LV) |
| Utopia Outstations | 970 | Tommyhawk Swamp | 2 | Electricity (HV & LV) |
| Alice Springs Outstations | 65 | Iwupataka (Jay Creek) | 20 | Electricity – HV & LV |
| <u>Total Outstation Population</u> | | | <u>1494</u> | |