

**SUMMARY OF CERTAIN ASPECTS OF THE RIO TINTO AGREEMENTS –  
PUBLISHED BY THE ELECTRICITY AUTHORITY UNDER CLAUSE 16.2  
OF THE ELECTRICITY INDUSTRY PARTICIPATION CODE 2010**

1 November 2011

**TABLE OF CONTENTS**

<b>Section</b>		<b>Paragraphs</b>
1	Introduction and basis of summary	[1 - 5]
2	Part 16 of the Code – special provisions relating to the Rio Tinto agreements	[6 - 10]
3	The Rio Tinto agreements and the Rio Tinto parties	[11 - 56]
4	Clauses 7.2 and 7.11 and Parts 8, 12, and 13 of the Code	[57 - 62]
5	How the Rio Tinto agreements may affect each Rio Tinto party’s ability to comply with the Code in certain circumstances	[63 - 80]
Appendix 1	Definitions	

## SECTION 1 - INTRODUCTION AND BASIS OF SUMMARY

### **Introduction**

1. The Rio Tinto agreements are certain agreements relating to the purchase of electricity for the operation of the aluminium smelter at Tiwai Point (the **Smelter**). The Smelter is owned and operated by New Zealand Aluminium Smelters Limited (**NZAS**), a company owned 79.36% by Rio Tinto Alcan (New Zealand) Limited and 20.64% by Sumitomo Chemical Company, Limited. The amount of electricity purchased is currently in excess of 5,000 GWh per annum, approximately 12% of national demand.
2. The Electricity Industry Participation Code 2010 (**Code**) contains, in Part 16, special provisions relating to the Rio Tinto agreements.
3. These special provisions include, in clause 16.2, a requirement on the Authority to publish a summary of the cumulative effect of Rio Tinto agreements that, in the Authority's opinion, sufficiently describes how those agreements may affect each Rio Tinto party's ability to comply with clauses 7.2 or 7.11, or Parts 8, 12, or 13 of the Code in certain circumstances, but for the special provisions.
4. This summary is published by the Authority under clause 16.1(2) and 16.2(1) and (3) of the Code. The references to the Code are to the Code as at the publication date of this summary.

### **Basis of Summary**

5. It is important to note that:
  - (a) this summary is limited to the aspects set out and is itself subject to the other notes in this paragraph. It is not a summary of the Rio Tinto agreements generally, including their commercial terms, or pricing or cost implications, nor does it address any other aspect of these

agreements;

- (b) it is prepared and published under, and for the purpose of, clauses 16.1(2) and 16.2 only. The Authority accepts no other responsibility for its contents or use;
- (c) the Rio Tinto agreements are many in number and complex in many ways. Different interpretations of various provisions of the agreements, or their effect, do, and will, exist. This summary is not an interpretation by the Authority of any of the agreements, or of the Code, that is binding on itself, the Rulings Panel, any Rio Tinto party, or any other person. The descriptions in this summary of various provisions or agreements are also subject to specific definitions, qualifications, limitations, and other provisions in the Code, or in the Rio Tinto agreements themselves;
- (d) the summary is prepared on the basis of the knowledge and views of the Authority, including, and utilising, information provided by the Rio Tinto parties to the Authority. However, it is the Authority's summary and is not to be taken as necessarily the views or position of any Rio Tinto party;
- (e) the Authority is also conscious of the reference in clause 16.5 to "...the public interest of enabling the public to understand how the Rio Tinto agreements or variations may affect each Rio Tinto party's ability to comply with clause 7.2 or 7.11, or Parts 8, 12, or 13 in certain circumstances, but for this Part". The summary takes that into account;
- (f) the summary is not an analysis of all the situations which could arise involving the Rio Tinto agreements and clauses 7.2 or 7.11, or Parts 8, 12, or 13;

- (g) the summary addresses how compliance with clauses 7.2 or 7.11, or Parts 8, 12, or 13 **may** be affected. Whether, in fact or in law, compliance **is** affected by any of the Rio Tinto agreements in any particular situation, and whether the special provisions apply to any particular act or omission, are separate matters on which the Authority, in this summary, expresses no view.

## **SECTION 2 - PART 16 OF THE CODE - SPECIAL PROVISIONS RELATING TO THE RIO TINTO AGREEMENTS**

- 6. Under clause 16.1 of the Code, each of the Rio Tinto parties must comply with the Code.
- 7. The exception, in clause 16.1(1), is that clauses 7.2 and 7.11 (dealing with the principal performance obligations of the system operator in relation to common quality and dispatch, and the annual reviews of that performance), and Parts 8, 12, and 13 (dealing with common quality, transmission, and trading of electricity) do not apply to an act or omission of a Rio Tinto party “...to the extent that the act or omission is necessary to perform an obligation, or to exercise a right or power, under a disclosed provision of a Rio Tinto agreement that is in force at the time of that act or omission”. In relation to what is meant by an act or omission being “necessary” for this purpose, clause 16.1(4) states:

“(4) In this Part, an act or omission is necessary to perform an obligation, or to exercise a right or power, under a disclosed provision of a Rio Tinto agreement, if-

- (a) the Rio Tinto party reasonably believes, at the time of the act or omission, that the act or omission was necessary for that purpose; or

(b) the act or omission was, in fact, necessary for that purpose.”

8. Other elements of the special provisions provide for:
  - (a) the obligation of each Rio Tinto party to supply to the Authority copies of each Rio Tinto agreement (apart from certain pricing information) to which it is a party;
  - (b) obligations of the Authority to publish a summary as noted in section 1 above, and in respect of confidentiality;
  - (c) obligations of each Rio Tinto party to notify the Authority of acts or omissions that may be, or have been, a breach of clauses 7.2 or 7.11, or of Parts 8, 12, or 13 of the Code, but for the special provisions, and for the Authority to publish the fact of receipt of those notifications; and annual “wash-up” notifications;
  - (d) how the Authority is to deal with acts or omissions that may have been a breach of clauses 7.2 or 7.11, or of Parts 8, 12, or 13;
  - (e) appeals against certain decisions of the Authority or the Rulings Panel;
  - (f) relief from liability of NZAS, and imposition of liability on Meridian for certain costs and charges, and provision that the special provisions do not affect the liability of any Rio Tinto party that is a participant for costs or charges in other respects.
9. Similar provisions apply to certain variations of the Rio Tinto agreements.
10. However, the exception from clauses 7.2 and 7.11, and Parts 8, 12, and 13 that is provided in clause 16.1(1) does not apply to an obligation, or a right or a power, that arises because of a variation of a Rio Tinto agreement that is made after 20 May 2003 and that:

- (a) extends the term of that agreement beyond 31 December 2022; or
- (b) provides for the performance of an obligation, or the exercise of a right or a power, that would be a breach of the Code (except Parts 6 and 9) or Part 2 or Subpart 1 of Part 4 of the Act; or
- (c) provides for an increase of, or the exercise of any right to increase, the total maximum quantity of electricity to which NZAS and RTA Power are entitled under all of the Rio Tinto agreements to more than 610 MW of instantaneous and continuous supply and fluctuations above that quantity of up to 27.5 kilowatt hours in any 10 second period.

### **SECTION 3 - THE RIO TINTO AGREEMENTS AND THE RIO TINTO PARTIES**

- 11. The Rio Tinto agreements to which the special provisions apply are specified in Schedule 16.1 of the Code, and also include certain subsequent variations disclosed to the Authority under the special provisions. The Rio Tinto agreements expire on 31 December 2012 as provided in those agreements. Although RTA Power had a right to give notice to extend the term of the Agreements to 31 December 2022 under clause 2.16 of the 1993 Electricity Supply Agreement, the Authority has advised that RTA Power elected not to give that notice.
- 12. Those agreements comprise:
  - (a) **Power Agreements**, being agreements
    - (i) between Meridian, RTA Power and, in some cases, NZAS, (the **MCPAs**) under which (now) Meridian is obliged to supply electricity to RTA Power at Tiwai Point on the basis set out in these agreements up to RTA Power's total contractual entitlement

(543.75 MW). The electricity supplied must be of a contractually acceptable quality and reliability;

(ii) between RTA Power, NZAS, Meridian and Electricity Corporation of New Zealand Limited (**ECNZ**) relating to the 1995 ECNZ/Contact separation, the 1998 ECNZ split, the creation of Meridian and matters arising from them, including in relation to Meridian's obligations to supply electricity; and

(iii) between Contact and Meridian under which Contact is obliged to supply to Meridian electricity produced by the power stations at Clyde and Roxburgh on the basis set out in that agreement (the **Contact-Meridian Agreements**).

(b) **Comalco-NZAS Agreements**, being agreements between RTA Power (previously known as Comalco Power (NZ) Limited) and NZAS under which NZAS purchases the electricity supplied by Meridian to RTA Power under the MCPAs;

(c) **Connection Agreements (the TPCC)** being agreements between Transpower and Meridian in relation to the connection of NZAS' Tiwai Point assets to the national grid, the transmission of electricity to the Smelter, and the co-ordination of energy with transmission.

## **Power Agreements**

### **MCPAs**

13. RTA Power contracts to purchase electricity from (now) Meridian pursuant to three long-term Power Agreements (which have been varied from time to time). The earliest dates back to 15 August 1963 and was initially between the Crown and Consolidated Zinc Proprietary Limited. The second is dated 30 April 1981 and is between the Crown and RTA Power. The third is dated 20 August 1993 and is between ECNZ and RTA Power. In 1993, at the time the third contract was negotiated, the 1963 and 1981 contracts were amended by deeds. All of the MCPAs now expire on 31 December 2012.
14. RTA Power has the right to take up to 553.75 MW of electricity until the expiry of the MCPAs. Of this, 10 MW is additional supply which may be suspended by Meridian. In the past, RTA Power and Meridian have periodically entered into short-term supplementary contracts that allow RTA Power to take an additional 66.25 MW of supplementary power for the supplementary period specified in each of those supplementary contracts. The last of these supplementary contracts expired on 31 March 2009, and no new supplementary contract has been entered into. To deal with fluctuation at the Smelter, RTA Power is also permitted to increase demand above its contractual entitlement by 27.5 kWh in any ten second period.
15. Meridian must make available and is responsible for the delivery (at the point of supply located at the Smelter) of RTA Power's total contractual entitlement.
16. The electricity made available to RTA Power under the MCPAs may be on-sold to NZAS for the purpose of aluminium smelting at the Smelter and for any other purpose ordinarily auxiliary to that. The electricity may not be sold or supplied to any other person without the prior written consent of Meridian.

17. The MCPAs include express acknowledgement by Meridian that the operations of the Smelter are sensitive to interruptions in the continuous supply of electricity.
18. Meridian must use its "... reasonable endeavours":
  - (a) to make available continuously to RTA Power at the point of supply the total contractual entitlement; and
  - (b) to supply such aggregate:
    - (i) at a nominal voltage of 220 kV. The phrase "nominal voltage" in this context means voltage in the range of 213 kV to 228 kV (except for momentary and unintentional fluctuations). Meridian further acknowledges the importance for RTA Power and NZAS of the maintenance of reliable and steady voltage and, accordingly, must endeavour to maintain a steady voltage within that range. (RTA Power has stated that any loosening of the voltage standard constitutes a significant risk and increased cost for RTA Power. It states that capacitors were installed at North Makarewa, at RTA Power's cost, partly to deal with this risk); and
    - (ii) in the form of alternating current at a normal periodicity of a nominal 50 Hz on the three-phase system, except for momentary fluctuations, within 1.5% of 50 Hz.
19. Meridian is deemed to have used its reasonable endeavours in respect of certain quality and reliability obligations if the quality and reliability of the supply of electricity to the Smelter under the MCPAs is of an equivalent standard to the quality and reliability of supply of electricity to the Smelter in the period from commencement of operation of the Smelter to 31 December 1992, subject to the following proviso:

- (a) Meridian is not to be treated as not having used its reasonable endeavours if the quality of supply is adversely affected by the Manapouri Power Station having completely ceased generating electricity on infrequent occasions for sound operational reasons relating to that station; and
  - (b) the reasonable endeavours obligation can be suspended by agreement between the parties for a purpose relating to the prudent maintenance of Transpower's capacitors, which were specifically installed for the maintenance of voltage at the point of supply.
- 20. In either of the above events, Meridian is required, nevertheless, to take all reasonable steps to maintain quality of supply.
- 21. RTA Power's contractual entitlement to quality of supply under the MCPAs can be affected if it exceeds its demand entitlement. In particular:
  - (a) if demand exceeds the total contractual entitlement but such excess demand is no greater than 27.5 kWh in any 10 seconds, then Meridian must use reasonable endeavours to maintain supply and will use reasonable endeavours to maintain the quality of supply (as described in paragraphs 18 and 19 above), but is not under any liability for a failure to maintain such quality of supply;
  - (b) if demand above the total contractual entitlement exceeds 27.5 kWh in any 10 seconds, Meridian must endeavour to maintain supply but if it experiences problems with its generation system or the transmission system, then Meridian is relieved of its obligations to supply electricity to RTA Power until it is practical, in Meridian's view, to restore supply.
- 22. As to transmission, the MCPAs envisage that Meridian may subcontract to Transpower or any other operator of the national grid in the South Island (so long as that operator has the capability to meet the quality and reliability

standards prescribed) the transmission of electricity pursuant to the MCPAs from the point or points of generation to the Smelter's point of supply.

23. Notwithstanding the subcontracts permitted as described in the preceding paragraph for the transmission of electricity, under the MCPAs the parties acknowledge that neither Meridian nor RTA Power should be in any better or worse position in respect of their rights and obligations in relation to quality and reliability of supply under the MCPAs (including in relation to force majeure) than if Meridian was itself the owner and operator of the national grid in the South Island. To this end:
  - (a) Meridian remains liable to RTA Power for the delivery to the point of supply, in accordance with the terms of the MCPAs, of the total contractual entitlement under the MCPAs; and
  - (b) no act or omission of the grid operator under its subcontract with Meridian, and no other event or circumstance affecting the grid operator or the national grid in the South Island, can constitute an event of force majeure under the MCPAs or relieve Meridian from any obligation or liability under the MCPAs unless, if the grid operator (and not Meridian) was supplier of electricity to RTA Power under the MCPAs, the grid operator (in its capacity as such supplier) would be entitled to invoke the force majeure provisions in the MCPAs.
24. RTA Power and NZAS must use all reasonable endeavours to ensure that the power factor of NZAS is not less than 0.95 lagging. Meridian's obligations in relation to quality are suspended during any half hour when the power factor is less than 0.95 lagging, unless the parties have agreed to suspend RTA Power's power factor obligations for a purpose related to the prudent maintenance of the Smelter, in which event Meridian must nevertheless use reasonable endeavours to maintain the contractual voltage.

25. The MCPAs contain force majeure provisions excusing the respective parties from performance in the event of causes beyond their control, as set out in the MCPAs.
26. Each of Meridian's and RTA Power's ability to call force majeure is affected by certain provisions.
27. Quite separately from the force majeure provisions, other reduction in consumption provisions also apply.
28. In the event of certain insolvency-related events, or failure to pay or other persistent failure to comply, Meridian can either suspend the supply of electricity to RTA Power or terminate the MCPAs. Similarly, RTA Power is entitled to suspend the purchase of electricity or terminate the MCPAs in the event of Meridian's insolvency or significant failure.
29. On termination of the MCPAs, unless Transpower has advised Meridian in writing that Meridian will not be liable for future charges in respect of the point of supply and its connection to the national grid, Meridian is entitled to, and must on request from RTA Power, disconnect the supply of electricity to RTA Power at the point of supply.

#### **Contact-Meridian Agreements**

30. Under a deed dated 16 January 1996 and a supplementary agreement, Contact agrees to supply to Meridian, or such other person agreed between those parties in the circumstances set out in those agreements, electricity produced by the power stations at Clyde and Roxburgh for purposes relating to Meridian's obligations under the MCPAs, on the basis set out in that agreement.

#### **Comalco-NZAS Agreements**

31. These agreements provide for the on-sale by RTA Power to NZAS of electricity made available to RTA Power under the MCPAs.

### **Connection Agreements (TPCC)**

32. Under the TPCC Transpower permits NZAS' Plant (i.e. the lines, equipment and plant on NZAS' side of the point of connection necessary to convey electricity) (**NZAS' Plant**) to be connected and continue to be connected to the national grid, and to provide transmission services.
33. To permit NZAS' Plant to be connected to the point of connection (and to remain connected over the term of the TPCC) for the purpose of taking electricity from the national grid, Transpower must, in respect of the point of connection:
  - (a) provide any electric lines necessary to enable transmission to the point of connection;
  - (b) provide and maintain equipment for connection between the national grid and the plant; and
  - (c) complete the connections between the terminals of the national grid and the plant,all in accordance with the provisions of the TPCC.
34. Electricity transmitted by Transpower is deemed to have been taken by RTA Power and NZAS at the time of transmission to the point of connection.
35. RTA Power and NZAS give Transpower access to the point of supply/substation, free of charge, for the purposes of the TPCC.
36. Transpower must:
  - (a) maintain and operate the national grid; and
  - (b) if undertaking any modifications to the national grid, design and construct the same,

as a reasonable and prudent operator, in each case with the objective of maintaining the capacity of the point of connection at the maximum demand entitlement (being the total contractual entitlement under the MCPAs).

37. The maximum demand entitlement under the TPCC is 553.75 MW.
38. In relation to Transpower, a “reasonable and prudent operator” means an operator whose standard of performance is equal to or better than good electricity transmission operating practice (determined by reference to proper and prudent engineering, economic management and safety practices which are generally recognised internationally as being applicable to an operator of a transmission network), having regard to the steps which such an operator would take to perform the operations contemplated by the TPCC in New Zealand. Further, Transpower is deemed to be a reasonable and prudent operator if the standard of performance at the point of connection provided pursuant to the TPCC is maintained at an equivalent standard to that at the point of connection in the period from the commencement of operation of the Smelter to 31 December 1992.
39. Meridian may in good faith request Transpower to perform its obligations described above so as to maintain capacity greater than the maximum demand entitlement or to perform its above obligations to a standard different from that required of a reasonable and prudent operator, and Transpower must in good faith consider such request. It is envisaged that the parties may enter into a supplementary contract to reflect any agreement reached.
40. If demand at the Smelter is exceeded, Meridian is liable for any damage caused to the national grid, recognising the importance to Transpower of the maximum demand entitlement not being exceeded.
41. In turn, Meridian must procure that NZAS provides, installs, maintains and operates NZAS’ Plant as a reasonable and prudent operator. Meridian is also required to provide, install, maintain and operate Meridian’s Plant as a reasonable and prudent operator.

42. Transpower must use its reasonable endeavours as a reasonable and prudent operator:
- (a) to maintain voltage at the point of connection at a nominal voltage of 220 kV, being, in particular, a steady voltage within the range of 213 kV to 228 kV; and
  - (b) to provide continuous transmission to the point of connection at the maximum demand entitlement.
43. For the purposes of the above, Transpower is not to be treated as not having used its reasonable endeavours as a reasonable and prudent operator, if failure to meet the quality standards referred to above arises from certain acts or omissions by Meridian.
44. If the level of demand at the point of supply exceeds the maximum demand entitlement, Transpower's obligations in relation to quality of transmission are reduced from a reasonable endeavours as a reasonable and prudent operator obligation, to an obligation to endeavour to maintain quality of supply.
45. Transpower may interrupt or reduce transmission to the Smelter if:
- (a) Transpower is using its reasonable endeavours as a reasonable and prudent operator to fulfil its obligations under the TPCC; and
  - (b) it is in the opinion of Transpower necessary to so interrupt or reduce transmission either totally or partially for any period for the purposes of testing, adding to, altering, repairing, replacing or maintaining electrical lines, cables, machinery, equipment or any other apparatus including structures and supports or for any other purpose which in the opinion of Transpower requires interruption or reduction of transmission of electricity.

46. In the event of any interruption to or reduction of transmission, Transpower must:
- (a) seek Meridian's agreement to the extent practicable so as to minimise disturbance to the business of NZAS;
  - (b) use reasonable endeavours to notify Meridian as early as reasonably practicable of its intention to interrupt or reduce transmission; and
  - (c) use all reasonable endeavours to minimise the period of the interruption or reduction.
47. However, if in Transpower's opinion (still acting as a reasonable and prudent operator) there is an immediate danger to any persons or electrical lines, cables, machinery, equipment or other plant or property of whatever kind, or the integrity of the national grid, then Transpower may, without notice to Meridian, immediately interrupt or reduce transmission either totally or partially so as to remove the danger.
48. Transpower may ask Meridian to enter into good faith negotiations with RTA Power in relation to a facility for automatic under frequency tripping at the Smelter. There is, however, no obligation under the TPCC on RTA Power or any other party to agree to the installation of AUFLS.
49. Meridian must ensure that RTA Power and NZAS observe their power factor obligations. Transpower's obligations are suspended during any half-hour when the power factor is less than 0.95 lagging.
50. Transpower (in addition to its ownership and operation of the national grid) is specified to have the function of co-ordinating the dispatch and transmission of electricity injected into the national grid, provided there is a dispatch contract or arrangement with Transpower (as the dispatcher) which remains binding and in full force and effect.

51. If at any time any person other than Transpower is a dispatcher, then Transpower is relieved of its obligations to maintain voltage and its obligations to provide continuous transmission are deemed to be replaced by an obligation on the part of Transpower to use reasonable endeavours as a reasonable and prudent operator to maintain transmission assets in respect of transmission to the point of connection at the maximum demand entitlement.
52. Certain force majeure and liability limitation provisions apply.

### The Rio Tinto parties

53. For the purposes of the Code, each of the Rio Tinto parties is a participant and is subject (as applicable) to various provisions in clauses 7.2 and 7.11, and Parts 8, 12 and 13 of the Code. In addition, the Rio Tinto parties carry out roles in relation to the Rio Tinto agreements under clauses 7.2 and 7.11 and Parts 8, 12, and 13 of the Code as follows:

Rio Tinto Party	Specific Roles under the Code			
	Clauses 7.2 and 7.11	Part 8	Part 12	Part 13
RTA Power		ancillary service agent		ancillary service agent
NZAS		asset owner  distributor (as a direct consumer)		
Meridian		asset owner generator ancillary service agent purchaser		purchaser generator ancillary service agent
Transpower	system operator	system operator grid owner HVDC owner	system operator asset owner	system operator grid owner

Contact		asset owner generator ancillary service agent purchaser		purchaser generator ancillary service agent

54. Schedule 12.1 of Part 12, which defines the categories of designated transmission customers required to enter into transmission agreements with Transpower, exempts NZAS and RTA Power from the definition of designated transmission customer in certain circumstances while the Rio Tinto agreements are in force. This exemption does not apply:
- (a) if a variation is made to a Rio Tinto agreement that provides for an increase of, or the exercise of any right to increase, the total maximum quantity of electricity to which NZAS and RTA Power is entitled under all of the Rio Tinto agreements to more than 610 MW of instantaneous and continuous supply and fluctuations above that quantity of up to 27.5 kW hours in any 10 second period; and
  - (b) if electricity is supplied to NZAS or RTA Power outside the Rio Tinto agreements.
55. This exemption means that Transpower, NZAS and RTA Power do not have to enter into transmission agreements for the supply of transmission services at Tiwai Point that are covered by the Rio Tinto agreements, which would otherwise be required by the Code. The exception also means that the Connection Code does not apply in respect of the supply of transmission services under the Rio Tinto agreements and that various other obligations, rights and powers in Part 12 that are owed to or held by designated transmission customers do not apply in respect of the supply of transmission services under the Rio Tinto agreements.

56. In circumstances where the exemption does not apply, NZAS and RTA Power are designated transmission customers only to the extent that the variation provides for the supply of electricity above the total maximum quantity limits, or the electricity is supplied outside the Rio Tinto agreements. This means that they would have to enter into a transmission agreement for such supply, the Connection Code would apply to such supply, and other obligations, rights and powers relating to designated transmission customers in Part 12 would apply.

#### **SECTION 4 - CLAUSES 7.2 AND 7.11 AND PARTS 8, 12 AND 13 OF THE CODE**

57. Part 8 and clauses 7.2 and 7.11 of the Code relate to common quality of electricity and related obligations of the system operator. In particular, clauses 7.2 and 7.11 concern the principal performance obligations of the system operator and review of its performance. Part 8 concerns the performance obligations of the system operator and asset owners, and arrangements concerning ancillary services and technical codes.
58. Part 12 of the Code relates to transmission. It includes provisions about transmission agreements, grid reliability and industry information, the transmission pricing methodology, financial transmission rights, interconnection asset services, and the preparation of an Outage Protocol.
59. It is relevant to note that Part 12 includes several provisions that provide exemptions from Part 12 or give additional rights to the Rio Tinto parties:
- (a) as detailed in paragraph 54 above, Schedule 12.1 exempts NZAS and RTA Power from the categories of designated transmission customers required to enter into transmission agreements with Transpower in certain circumstances while the Rio Tinto agreements are in force;
  - (b) under clause 12.95(2), Transpower may impose charges additional to those set out in the transmission pricing methodology if those charges are provided for in the Rio Tinto agreements.

60. These provisions effectively limit the circumstances in which the Rio Tinto parties would need to rely on the exception from Part 12 that is set out in Rio Tinto special provisions in clause 16.1.
61. Part 13 of the Code provides for processes by which:
- (a) purchasers and generators submit and revise bids and offers for electricity, grid owners submit and revise information, ancillary service agents submit reserve offers, and the system operator collects information;
  - (b) the system operator prepares the pre-dispatch schedules, prepares and implements the dispatch schedules and prepares and publishes forecast prices, forecast reserve prices, dispatch prices and real time prices;
  - (c) the clearing manager holds must-run dispatch auctions;
  - (d) the pricing manager collects data and produces provisional prices and final prices; and
  - (e) participants provide reconciliation information and the reconciliation manager carries out the reconciliation process.
62. The full provisions of clauses 7.2 and 7.11, and Parts 8, 12 and 13 can be viewed on the Authority's website at: [www.ea.govt.nz/act-code-regs/code-regs/the-code/](http://www.ea.govt.nz/act-code-regs/code-regs/the-code/)

**SECTION 5 - HOW THE RIO TINTO AGREEMENTS MAY AFFECT EACH RIO TINTO PARTY'S ABILITY TO COMPLY WITH CLAUSES 7.2 OR 7.11 OR PARTS 8, 12, OR 13 OF THE CODE IN CERTAIN CIRCUMSTANCES**

63. The Authority addresses this under the following headings:

- Voltage
- Frequency
- Continuity of supply
- Design and construction of assets
- General

Note that obligations on Rio Tinto parties referred to in this section are qualified in a number of the Rio Tinto agreements in the ways set out in section 3. The following section should therefore be read in conjunction with the description of the relevant obligations in section 3 as well as section 1.

**Voltage**

64. The voltage range specified under the MCPAs to be supplied to RTA Power by Meridian is 213 kV - 228 kV.
65. Under Part 8 of the Code a wider voltage range of 198 kV (-10.0%) - 242 kV (+10%) is specified as the range within which:
- (a) Transpower as grid operator is to ensure its relevant assets are capable of being operated;
  - (b) NZAS as a distributor, and Meridian and Contact as asset owners, are to ensure their respective relevant assets are capable of being operated, and do operate.
66. The Authority is informed by RTA Power that the Smelter is not capable of operating at the wider voltage range, and that system voltages outside the 213-228 kV range would cause equipment overloads, with the potential to require demand reduction and/or protective equipment trips. The resultant

instability in supply is stated by RTA Power as affecting the smelting process, resulting in lost production, inefficiency and an increased safety risk to personnel.

67. To provide voltage at the tighter range of 213-228 kV, under the TPCC Transpower, as system operator, may have to act differently from its obligations under Part 8 in relation to voltage range. This means that the system operator may have less flexibility in the way it operates the voltage range in other parts of the grid in the lower South Island.

### **Frequency**

68. The frequency range specified and included in Meridian's obligations under the MCPAs for electricity to be supplied to Comalco by Meridian is, except for momentary and unintentional fluctuations assessed at the point of supply with reference to the circumstances set out in the MCPAs, between 49.25 to 50.75 Hz (both inclusive).
69. Clause 7.2 of the Code specifies, in relation to the frequency objective of Transpower's reasonable and prudent system operator obligations, a normal frequency range of between 49.8-50.2 Hz. This is, save for momentary fluctuations, for which the range in the South Island is 45-55 Hz (both inclusive), assessed on a statistical basis across the whole grid.
70. Save for momentary fluctuations, the obligations in respect of the narrower frequency band specified in clause 7.2 ordinarily should not be affected by the MCPAs or TPCC.

### **Continuity of supply**

71. Under, and subject to, the MCPAs, Meridian is required to use its reasonable endeavours to make the total contractual entitlement available (within the relevant voltage and frequency ranges) continuously to RTA Power at the point of supply. This has been categorised by Meridian as, in essence, a direct physical supply obligation.

72. Under, and subject to, the TPCC, Transpower is required to use its reasonable endeavours as a reasonable and prudent operator to provide the continuous transmission of the specified entitlement to the point of connection.
73. Those obligations may affect:
- (a) the system operator's obligations as a reasonable and prudent system operator under clause 7.2 or Part 8 in respect of any requirements it may make of Meridian in relation to limiting the magnitude of any instantaneous changes in off-take of electricity, and net rates of change in off-take;
  - (b) Meridian's obligations to comply with any such requirements of the system operator;
  - (c) in the event of the power systems failing, the system operator's obligations as a reasonable and prudent system operator under clause 7.2 or Part 8 in relation to priority of restoration of supply;
  - (d) the exercise by the system operator of its discretion not to dispatch assets (power) of Meridian or Contact where it is not satisfied that the assets comply with the relevant obligations of Meridian or Contact as asset owners under Part 8;
  - (e) the exercise by the system operator of its discretion to request NZAS, as a distributor, or itself as grid owner, or Meridian or Contact, to reduce demand, or require the disconnection of demand, or take other reasonable action in grid emergencies, or where frequency, or grid voltage, are outside the requisite range;
  - (f) the obligations of those persons to comply with any such requirement of the system operator;

- (g) the obligations of Transpower, as grid owner, under Part 8 in respect of South Island automatic under-frequency load shedding;
- (h) the obligation of Transpower as grid owner to ensure its assets are capable of being operated between the defined voltage range, support voltage to prevent system collapse, and are designed and configured consistently with Part 8 and clause 7.2;
- (i) the obligations of Transpower as the HVDC owner to meet its obligations to contribute assets to support frequency during an under-frequency event;
- (j) the obligation of the system operator to meet its dispatch obligations under Part 13, including in respect of preparation and implementation of dispatch schedules;
- (k) the obligation of Meridian and Contact to comply with dispatch instructions received by them under Part 13;
- (l) the obligation of Meridian and Contact to comply with provisions of Part 13, relating to revisions or departures from the bids and offers provision.

### **General**

- 74. The Authority notes that the operation of the Rio Tinto agreements at any time may involve acts or omissions, the detail or nature of which will not always be capable of being known in advance, and the circumstances of which may vary widely.
- 75. These include matters which may affect compliance with various provisions of clauses 7.2 or 7.11, or Parts 8, 12, or 13 where they involve:
  - (a) timing and notification of particular acts or omissions;

- (b) a Rio Tinto party acting in respect of its own assets in order to perform an obligation under a Rio Tinto agreement;
  - (c) what may be different standards, or measurements of performance between a Rio Tinto agreement and clauses 7.2 or 7.11 or Parts 8, 12, or 13. Whether, and if so the extent to which, the standards imposed on the Rio Tinto parties (e.g. in respect of “reasonable endeavours”, or acting as a “reasonable and prudent operator”) differ as between the agreements or from those under the Code, will itself be a matter for consideration with regard to a particular act or omission.
76. The special provisions recognise these matters by providing a general exclusion in respect of clauses 7.2 and 7.11 and Parts 8, 12, and 13 in the circumstances set out in clause 16.1 where the act or omission “... is necessary to perform an obligation, or to exercise a right or power ...” under the relevant agreement.
77. Importantly, however, that general exception is accompanied by an obligation on the parties to notify the Authority of acts or omissions that may be, or have been, a breach of clauses 7.2 or 7.11 or Parts 8, 12, or 13. That notification is to be as soon as practicable after the party became aware, or should reasonably have become aware, that an act or omission may be, or have been, such a breach. If the Authority so consents, where a breach is likely to occur frequently, notification may be given in advance of the breach occurring.
78. From the information available to the Authority at this stage, it appears that in practical terms, compliance with clauses 7.2 or 7.11 or Parts 8, 12, or 13 may more likely be affected as described in section 5 in circumstances where operations of the Smelter, particularly major or sudden increases or reductions in load, necessitate procedures and timing which differ from certain procedures which would otherwise be followed under Part 13.

79. In circumstances (which the Authority expects will be relatively rare) involving:

(a) restoration of power to the Smelter when there has been an outage; or

(b) where reduction or shedding of load is required;

the provisions of the Rio Tinto agreements may give Comalco/NZAS a priority over that resulting from compliance, but for the special provisions, with Part 8 by the Rio Tinto parties.

80. Whether any act, omission or priority is available to a Rio Tinto party, what that involves, and how different in practice it would be from compliance with clauses 7.2 or 7.11 or Parts 8, 12, or 13, but for the special provisions, will also depend on the circumstances of that matter.

## APPENDIX 1 - DEFINITIONS

In this document, unless the context otherwise requires:

**Act** means the Electricity Industry Act 2010

**Authority** means the Electricity Authority established under section 12 of the Act

**Code** means the Electricity Industry Participation Code 2010

**Comalco-NZAS Agreements** means the agreements referred to in paragraph 12(b) of this document

**Connection Agreements** means the agreements referred to in paragraph 12(c) of this document

**Contact** means Contact Energy Limited

**Contact-Meridian Agreements** means the agreements referred to in paragraph 12(a)(iii) of this document

**ECNZ** means Electricity Corporation of New Zealand

**Meridian** means Meridian Energy Limited

**Meridian's Plant** means the lines, equipment and plant on Meridian's side of a point of connection to the national grid necessary to convey electricity

**MCPAs** means the agreements referred to in paragraph 12(a)(i) of this document

**NZAS** means New Zealand Aluminium Smelters Limited

**NZAS' Plant** means the lines, equipment and plant on NZAS' side of the point of connection necessary to convey electricity

**Power Agreements** means the agreements referred to in paragraph 12(a) of this document

**Rio Tinto agreements** means

- (a) the agreements described in Schedule 16.1 of the Code; and
- (b) includes any agreement that varies or has the effect of varying an agreement referred to in (a),

in both cases supplied to the Authority under Part 16 of the Code

**Rio Tinto party** means a party to a Rio Tinto agreement

**RTA Power** means RTA Power (NZ) Limited (previously known as Comalco Power (NZ) Limited)

**Rulings Panel** means the Panel established by regulation 160 of the Electricity Governance Regulations 2003, and continued pursuant to section 23 of the Act

**Smelter** means the aluminium smelter at Tiwai Point referred to in paragraph 1 of this document

**TPCC** means the Connection Agreements referred to in paragraph 12(c) of this document