

Annual Report for:

Due Date:

Please read the Reporting Guidelines on page 2 very carefully before completing this form.

1. Smelter

Name or Location of Smelter

2. Anode Effect Data

Potline Number	Technology Category	Cell Technology	Feed Type	Primary Aluminium Production (Tonnes)	Number of Cells Operating per Day (Average)	Number of Anode Effects per Cell Day (Average)	Average Anode Effect Duration (Minutes)	Averaged Anode Effect Over-voltage per Cell Day*	
								Over-voltage (mV)	Algebraic or Positive

* See Guideline 9

3. Anode Effect Control Procedures

(Write "All", "None" or list which potlines have the computer-based procedures)

- a. Which potlines, if any, have computer-based procedures in place to predict the beginning of an anode effect?
- b. Which potlines, if any, have automated procedures in place to terminate anode effects once they have begun? (For example: lowering and raising of anodes, tilting of anodes, automated alumina feed or blowing compressed air under anodes)

4. PFC Emission Measurements

(Only complete this Section if actual PFC Emissions have been directly measured and the resulting Tier 3 CF₄ coefficient and C₂F₆/CF₄ weight fraction used to calculate PFC Emissions per tonne of aluminium – see Guideline 10)

Year of Measurement	Potline Number	Calculated Tier 3 Data			
		Slope Method		Over-voltage Method	
		CF ₄ Emissions Coefficient	C ₂ F ₆ /CF ₄ weight fraction	CF ₄ Emissions Coefficient	C ₂ F ₆ /CF ₄ weight fraction

5. Verified by: (Please complete – see Guideline 11)

- a. Name:
- b. Appointment:
- c. Third Party:
- d. Date of verification:

Reported by: (Please complete)

Name: Tel No:
 Appointment: Fax No:
 Company: E-Mail:

Please return completed form by email or fax to:

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Reporting Guidelines

1. Data are reported by technology category and, preferably, by potline. Data for different technology categories should not be mixed.
2. If anode effect data are not available then data for technology category, cell technology, feed type, primary aluminium production and average number of cells operating per day are still reported. Anode effect frequency data should be reported, if available, even though anode effect duration or overvoltage data are not available.
3. Technology category is reported as:
 - a. PFPB - where cell technology is Centre Worked Prebake with a Point Feed System.
 - b. CWPB - where cell technology is Centre Worked Prebake with a Bar Break Feed System.
 - c. SWPB - where cell technology is Side Worked Prebake.
 - d. HSS - where cell technology is Horizontal Stud Söderberg.
 - e. VSS - where cell technology is Vertical Stud Söderberg.
4. Cell technology is the particular cell technology used (RA-300, SY300, AP18, Reynolds P19 etc.)
5. Potline number is the reference number or letter used to identify the potline. If data from two or more potlines are combined, then all relevant reference numbers or letters relating to the combined data are shown.
6. Feed type is reported as:
 - a. PF - where a Point Feed System is applied to Prebake or Söderberg technologies.
 - b. BF - where a Bar Break Feed System is used.
 - c. SF - where a manual Side Feed System is used.
7. Primary aluminium production is molten (liquid) aluminium as tapped from the pots. It is reported in tonnes (metric tons) and is that production relevant to the anode effect and cell technology type data being reported.
8. Anode effect measurements are reported to two decimal places if possible. If the reported average anode effect duration is estimated, then this is indicated by adding the letter “E” against the reported figure. When data from two or more potlines are combined, the reported average anode effect frequency, average anode effect duration and averaged anode effect over-voltage are production-weighted averages.
9. Averaged anode effect over-voltage in millivolts is only reported for Alcan Pechiney cell technology types AP18, AP30, growth versions of these two cell technologies (e.g. AP33, AP35) and applicable Alcan Pechiney technology SWPB (Side Worked Prebake) potlines. Over-voltage can also be reported as integrated anode effect over-voltage in units of mv.day per cell day. Over-voltage is reported as either positive or algebraic according to the following definitions:
 - a. Positive Anode Effect Over-voltage is the sum of the product of time and voltage above the pot target operating voltage (corresponding to the target resistance), divided by the time over which the data are collected (hour, shift, day, month etc.).
 - b. Algebraic Anode Effect Over-voltage is the sum of the product of time and voltage above and below the pot target operating voltage (corresponding to the target resistance), divided by the time over which the data are collected (hour, shift, day, month etc.).
10. Section 3 is completed only if PFC emissions have been directly measured and the resulting CF₄ emissions coefficient and C₂F₆/CF₄ weight fraction are applicable for production for the year being reported (in accordance with the USEPA/IAI *Protocol for Measurement of Tetrafluoromethane (CF₄) and Hexafluoroethane (C₂F₆) Emissions from Primary Aluminum Production* - <http://www.epa.gov/aluminum-pfc/documents/measureprotocol.pdf>). The directly measured emissions, and hence also the calculated emission coefficients, are to take account of both duct and fugitive emissions. Emission rates and emission coefficients are reported to two decimal places.
11. If Anode Effect and PFC Emissions Measurement data (where appropriate) has been verified by a Third Party (e.g. auditor, regulatory authority) then please fill in details of the verifying body (fields a-d). If third party verification of the data has not occurred then please request internal verification of the data submitted by a senior manager and fill in their details in fields (a, b & d).