TABLE A.4.1 Copper/Nickel Smelter SO₂ Control Systems

Smelter Process				SO ₂ Control System						
Technology	Relative Cost 3	Technology availability	Energy consumption ⁵	Technology	SO ₂ Control %	Estimated Cost6	Technology availability	Operating reliability	Energy consumption	By-product
Green charge or multi-hearth roaster, reverb.,	90- 110	High	High 106-118	Acid plant on converter	To 50%	52	High ⁴	High	Low	Sulfuric acid
Fluid-bed roast- er, reverb., converter (base case)	100	High	High 100	Acid plant on roaster	To 45%	33	High	High	Low	Sulfuric acid
Multi-hearth roaster, reverb., converter	110	High	High 100	Non-regenerative FGD	To 85%	134	Low	Low	High	Sulfur compound fo waste disposal
Multi-hearth roaster, reverb., converter	110	High	High 100	Regenerative FGD	To 85%	108	Low	Low	High	Sulfuric acid
Fluid-bed roast- er, electric fur- nace, converter	100	High	Very High 106-156	Acid plant on roaster, elec- tric furnace, converter	To 90%	33	High ⁴	High	Low- Med •	Sulfuric acid
Fluid-bed roast- er, reverb., con- verter	100	Hí gh	High 100	Acid plant on roaster and non- regenerative FGD on weak gas streams		83	Low	Low	High	Sulfuric acid and sulfur compound fo waste disposal
Fluid-bed roast- er, reverb., con- verter	100	High	High 100	Acid plant on roaster and re- generative FGD on weak gas streams and acid plant	90-92%	70	Low	Low	High	Sulfuric acid
Dryer, oxygen- enrishec reverb., converter	90	Med.	Med • 90-95	Acid plant	90-94%	52	High ⁴	High	Low- Med •	Sulfuric acid