

Exhibit 1: Losses Due to Electrical Dips**Powder losses due to bad distribution:**

Losses directly after incident:		
Total Consecutive hours of production lost:	17 hrs	
Total powder lost during this phase:	35,522 kg	
Occasional Losses due to quality fluctuation and poor manageability of process		
Total number of hours affected:	19 hrs	
Total powder lost:	46,449 kg	
TOTAL LOSSES OF PRODUCT DUE TO BAD DISTRIBUTION:		81,97 kg
Cost of manufacturing per kilogram of powder:	\$ 202,00 /kg	
TOTAL COST OF LOSSES DUE TO BAD DISTRIBUTION:		\$ 16 558,14

Losses incurred due to decrease in production rate:

Total hours of production:	225 hrs	
Before incident	78 hrs	
After incident	147 hrs	
Total production of Powder:		
Actual Production Before Incident	179,90 kg	
Actual Production After Incident	290,28 kg	
Expected Production After Incident	339,04 kg	
Production rate:		
Before Incident:	2,31 kg/hr	
After Incident:	1,97 kg/hr	
Production Losses:	0,33 kg/hr	
TOTAL LOSS OF PRODUCTION: (Difference between expected and actual production after incident)		48,76 kg
Cost of manufacturing per kilogram of powder:	\$ 202,00 /kg	
TOTAL COST OF LOSSES DUE TO PRODUCTION RATE LOSS:		\$ 9 849,68

GRAND TOTAL COST OF LOSSES	\$ 26 407,83
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Exhibit 2: Revenue Losses

Costs Associated with Loss of Power

September 23, 2003

3:59:00 AM

Duration to Achieve same production level before power failure

Shut-down duration	12 hrs
Shut-down shift lost	3 hrs
Rebuild Duration	24 hrs
Start-up Duration	12 hrs
Total Hours Lost	51 hrs

Resources Costs

Superintendent	1		
Process Engineer	1		
Lab Manager	1		
Lead Operator	1		
Technicians	5		
Total Cost for resources used		\$	7 263,82

Shutdown Costs

Nitrogen consumption	70 lpm		
Duration	12 hrs		
Total Nitrogen Consumption	50,4 m3		
Consumption Cost	\$ 0,40 \$/m3		
Total Cost of Nitrogen		\$	20,16

Rebuild Costs

Consumable Costs (see attached Exhibit 1)		\$	11 895,06
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Start-up Costs

Nitrogen consumption	39 m3/hr		
Duration	12 hrs		
Total Nitrogen Consumption	468		
Consumption Cost	\$ 0,40 \$/m3		
Total Cost of Nitrogen		\$	187,20
Extra Delivery Surcharges for Nitrogen		\$	50,00
Nickel Consumption			
Nickel for start-up	46 kg		
Nickel feeding			

Duration	8 hrs		
Production rate	2,9 kg/hr		
Total powder produced	23,2 kg		
Total Nickel Feed Required	27,3 kg		
TOTAL Nickel Requirements	73,3 kg		
Nickel Price	20,72 \$/kg		
TOTAL Nickel Cost		\$	1 518,65

Electrical Consumption of Production			
Power Required	150 kVA		
Power charged	135 kW		
Duration	12 hrs		
Total Consumption	1620 kWh		
Electrical Consumption Cost	\$ 0,0372 \$/kWh		
Total Electrical Consumption Cost		\$	60,26

Extra Peak Power Charge			
Total Peak in Production	230,4 kVA		
Total Peak Charge	207,36 kW		
Peak Charge No Production	136 kW		
Difference	71,36 kW		
Peak Charge	\$ 11,97 \$/kW		
Total Extra Peak Charge		\$	<u>854,18</u>

\$ 21 849,34

Overhead Costs : 65% \$ 14 202,07

Sub-Total with OverHead \$ **36 051,41**

Profit Margin Loss Due to Power Failure

Missing to complete October order	250 kg		
Cost to produce powder	\$ 167,00 \$/kg		
Price of powder	\$ 269,00 \$/kg		
Difference	\$ 102,00 \$/kg		
TOTAL Margin loss		\$	25 500,00

TOTAL Revenue Losses \$ **61 551,41**

Exhibit 1 : Revenue Loss

1) Blackout of September 27, 2003 : Loss of 1h10 minutes

207,3 kW * 11.97\$ * 1 day / 30 days / 24 hr * 1hr 10 m

4.03

4.03

Total of Revenue loss :

4.03

Exhibit 1 : Revenue Loss

1) Blackout of September 25, 2003 : Loss of 2 hours of work

1 President :
1 Superintendant
1 Engineer and Sales
1 Process Engineer
1 Accountant
1 Lab. Manager
1 Maintenance

391.15

2) High Peak rate charged :

$207,3 \text{ kW} * 11.97 * 1 \text{ day} / 30 \text{ days} / 24 \text{ hrs} * 2 \text{ hrs} =$ 6.89

Total of Revenue loss :

398.05