

# *Iraqi Cement Factories Activation*

22 July 04

# *Agenda*

- ï Highlights
- ï Plant Design Data
- ï Labor Force
- ï Production
- ï Assessments
- ï Analyses

# *Symbols*

|  |              |
|--|--------------|
| <b>Annual Design Capacity</b>            | <b>ADC</b>   |
| <b>Monthly Design Capacity</b>           | <b>MDC</b>   |
| <b>Design Power</b>                      | <b>DP</b>    |
| <b>Current Power</b>                     | <b>CP</b>    |
| <b>Av. Production Per Month</b>          | <b>APM</b>   |
| <b>Av. Existing Production Per Month</b> | <b>AEPPM</b> |
| <b>Existing Efficiency</b>               | <b>EF</b>    |
| <b>Production</b>                        | <b>P</b>     |
| <b>Working Status</b>                    | <b>WS</b>    |
| <b>Conceptual Rehab Cost</b>             | <b>CRC</b>   |
| <b>Estimated Total Value</b>             | <b>ETV</b>   |
| <b>Estimated Appraised Value</b>         | <b>EAV</b>   |
| <b>Percentage Power Available</b>        | <b>PPA</b>   |
| <b>Lines of Production</b>               | <b>LOP</b>   |

# *Cement Plant Highlights*

|                                     |                   |            |
|-------------------------------------|-------------------|------------|
| <b>Total Annual Design Capacity</b> | <b>16,990,000</b> | <b>Ton</b> |
| <b>Monthly Design Capacity</b>      | <b>1,416,000</b>  | <b>Ton</b> |
| <b>Total Design Power</b>           | <b>394</b>        | <b>MW</b>  |
| <b>Total Available Power</b>        | <b>107</b>        | <b>MW</b>  |

# Iraqi Cement Plants Design Data

| Factory                           | ADC<br>Tons       | MDC<br>Tons      | LOP | WS<br>Y or N | Process<br>Type | DP<br>MW   | CP<br>MW   |
|-----------------------------------|-------------------|------------------|-----|--------------|-----------------|------------|------------|
| <b>Iraqi Cement Company</b>       |                   |                  |     |              |                 |            |            |
| Kirkuk Cement Plant               | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         |
| Kubaisa Cement Plant              | 2,000,000         | 166,700          | 2   | Y            | D               | 43         | 10         |
| Al Qaim Cement Plant              | 1,000,000         | 83,300           | 1   | Y            | D               | 22.5       | 7.5        |
| Falluga Normal Cement             | 200,000           | 16,700           | 2   | N            | W               | 10         | 0          |
| Falluga White Cement              | 300,000           | 25,000           | 3   | Y            | D               | 10         | 2.5        |
| Work Shop ( Assumed )             |                   |                  |     |              |                 |            |            |
| Head Office Employees             |                   |                  |     |              |                 |            |            |
| <b>Sub Totals</b>                 | <b>5,500,000</b>  | <b>458,400</b>   |     |              |                 | <b>121</b> | <b>30</b>  |
| <b>Northern Cement Company</b>    |                   |                  |     |              |                 |            |            |
| Old Badoosh Cement Plant          | 190,000           | 15,800           | 2   | Y            | W               | 7          | 15         |
| New Badoosh Cement Plant          | 700,000           | 58,300           | 2   | Y            | W               | 20         |            |
| Badoosh Expansion Cement Plant    | 1,000,000         | 83,300           | 1   | Y            | D               | 23         |            |
| Sinjar Cement Plant               | 1,200,000         | 100,000          | 2   | Y            | D               | 35         | 15         |
| Hammam Al Ali Cement Plant Old    | 200,000           | 16,700           | 2   | Y            | W               | 7          | 5          |
| Hammam Al Ali Cement Plant New    | 450,000           | 37,500           | 1   | Y            | W               | 15         |            |
| Work Shop                         |                   |                  |     |              |                 |            |            |
| Head Office Employees             |                   |                  |     |              |                 |            |            |
| <b>Sub Totals</b>                 | <b>3,740,000</b>  | <b>311,600</b>   |     |              |                 | <b>107</b> | <b>35</b>  |
| <b>Southern Cement Company</b>    |                   |                  |     |              |                 |            |            |
| Olds Kufa Cement Plant            | 200,000           | 16,700           | 2   | Y            | W               | 7          | 3.5        |
| New Kufa Cement Plant             | 1,800,000         | 150,000          | 4   | Y            | W               | 29         | 8.5        |
| Karbala Cement Plant              | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         |
| Muthana Cement Plant              | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         |
| Sadat Al-Hindia Cement Plant      | 200,000           | 16,700           | 2   | Y            | W               | 10         | 3          |
| Um Qasir Cement Plant             | 500,000           | 41,700           | 1   | Y            | D               | 10         | 1          |
| Al-Jinoob Cement Plant            | 450,000           | 37,500           | 1   | Y            | W               | 22         | 4          |
| Samawa Cement Plant               | 400,000           | 33,300           | 1   | N            | W               | 15         | 0          |
| Karbala Limestone Plant           | 200000            | 16700            | 2   | Y            | D               | 4          | 2          |
| Work Shop ( Assumed )             |                   |                  |     |              |                 |            |            |
| Head Office Employees ( Assumed ) |                   |                  |     |              |                 |            |            |
| <b>Sub Totals</b>                 | <b>7,750,000</b>  | <b>646,000</b>   |     |              |                 | <b>167</b> | <b>42</b>  |
| <b>Totals</b>                     | <b>16,990,000</b> | <b>1,416,000</b> |     |              |                 | <b>394</b> | <b>107</b> |

# Cement Plants Labor Force

| Factory                          | ADC<br>Tons       | MDC<br>Tons      | LOP | AEPPM<br>Tons  | EF            | Total Labor   |
|----------------------------------|-------------------|------------------|-----|----------------|---------------|---------------|
| <b>Iraqi Cement Company</b>      |                   |                  |     |                |               |               |
| Kirkuk Cement Plant              | 2,000,000         | 166,700          | 2   | 12541          | 7.52%         | 656           |
| Kubaisa Cement Plant             | 2,000,000         | 166,700          | 2   | 12487          | 7.49%         | 661           |
| Al Qaim Cement Plant             | 1,000,000         | 83,300           | 1   | 7285           | 8.75%         | 503           |
| Falluga Normal Cement            | 200,000           | 16,700           | 2   | 0              | 0.00%         |               |
| Falluga White Cement             | 300,000           | 25,000           | 3   | 3763           | 15.05%        | 429           |
| Work Shop ( Assumed )            |                   |                  |     |                |               | 95            |
| Head Office Employees            |                   |                  |     |                |               | 527           |
|                                  | <b>5,500,000</b>  | <b>458,400</b>   |     | <b>36,076</b>  | <b>7.87%</b>  | <b>2,871</b>  |
| <b>Northern Cement Company</b>   |                   |                  |     |                |               |               |
| Old Badoosh Cement Plant         | 190,000           | 15,800           | 2   | 100            | 0.63%         | 157           |
| New Badoosh Cement Plant         | 700,000           | 58,300           | 2   | 10,731         | 18.41%        | 403           |
| Badoosh Expansion Cement Plant   | 1,000,000         | 83,300           | 1   | 20,731         | 24.89%        | 284           |
| Sinjar Cement Plant              | 1,200,000         | 100,000          | 2   | 24,272         | 24.27%        | 673           |
| Hammam Al Ali Cement Plant Old   | 200,000           | 16,700           | 2   |                |               |               |
| Hammam Al Ali Cement Plant New   | 450,000           | 37,500           | 1   | 1,200          | 2.21%         | 529           |
| Work Shop                        |                   |                  |     |                |               | 79            |
| Head Office Employees            |                   |                  |     |                |               | 230           |
|                                  | <b>3,740,000</b>  | <b>311,600</b>   |     | <b>57,034</b>  | <b>18.30%</b> | <b>2,355</b>  |
| <b>Southern Cement Company</b>   |                   |                  |     |                |               |               |
| Olds Kufa Cement Plant           | 200,000           | 16,700           | 2   | 12,000         | 71.86%        | 1415          |
| New Kufa Cement Plant            | 1,800,000         | 150,000          | 4   | 35,000         | 23.33%        | 380           |
| Karbala Cement Plant             | 2,000,000         | 166,700          | 2   | 7,256          | 4.35%         | 874           |
| Muthana Cement Plant             | 2,000,000         | 166,700          | 2   | 18,500         | 11.10%        | 833           |
| Sadat Al-Hindia Cement Plant     | 200,000           | 16,700           | 2   | 6000           | 35.93%        | 416           |
| Um Qasir Cement Plant            | 500,000           | 41,700           | 1   | 4,800          | 11.51%        | 300           |
| Al-Jinoob Cement Plant           | 450,000           | 37,500           | 1   | 2000           | 5.33%         | 801           |
| Samawa Cement Plant              | 400,000           | 33,300           | 1   | 0              | 0.00%         | 300           |
| Karbala Limestone Plant          | 200000            | 16700            | 2   | 0              | 0.00%         | 314           |
| Work Shop ( Assumed )            |                   |                  |     |                |               | 119           |
| Head Office Employees (Assumed ) |                   |                  |     |                |               | 345           |
|                                  | <b>7,750,000</b>  | <b>646,000</b>   |     | <b>85,556</b>  | <b>13.24%</b> | <b>6,097</b>  |
|                                  |                   |                  |     |                |               |               |
|                                  | <b>16,990,000</b> | <b>1,416,000</b> |     | <b>178,666</b> | <b>12.62%</b> | <b>11,322</b> |

# 2002 & 2003 Production

| Factory                          | ADC<br>Tons       | MDC<br>Tons      | LOP | WS<br>Y or N | Process<br>Type | DP<br>MW   | CP<br>MW   | 2002 P<br>Tons   | 2003 P<br>Tons   | APM<br>2002    | APM<br>2003    |
|----------------------------------|-------------------|------------------|-----|--------------|-----------------|------------|------------|------------------|------------------|----------------|----------------|
| <b>Iraqi Cement Company</b>      |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Kirkuk Cement Plant              | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 700,000          | 274,952          | 58,330         | 22,910         |
| Kubaisa Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 43         | 10         | 880,000          | 202,831          | 73,330         | 16,900         |
| Al Qaim Cement Plant             | 1,000,000         | 83,300           | 1   | Y            | D               | 22.5       | 7.5        | 450,000          | 185,875          | 37,500         | 15,490         |
| Falluga Normal Cement            | 200,000           | 16,700           | 2   | N            | W               | 10         | 0          | 0                | 0                | 0              | 0              |
| Falluga White Cement             | 300,000           | 25,000           | 3   | Y            | D               | 10         | 2.5        | 165,000          | 54,110           | 13,750         | 4,510          |
| Work Shop ( Assumed )            |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Head Office Employees            |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| <b>Sub Total</b>                 | <b>5,500,000</b>  | <b>458,400</b>   |     |              |                 | <b>121</b> | <b>30</b>  | <b>2,195,000</b> | <b>717,768</b>   | <b>182,910</b> | <b>59,810</b>  |
| <b>Northern Cement Company</b>   |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Old Badoosh Cement Plant         | 190,000           | 15,800           | 2   | Y            | W               | 7          |            | 0                | 107,766          | 0              | 8,980          |
| New Badoosh Cement Plant         | 700,000           | 58,300           | 2   | Y            | W               | 20         |            | 370,000          | 137,768          | 30,830         | 11,480         |
| Badoosh Expansion Cement Plant   | 1,000,000         | 83,300           | 1   | Y            | D               | 23         | 15         | 388,700          | 148,566          | 32,390         | 12,380         |
| Sinjar Cement Plant              | 1,200,000         | 100,000          | 2   | Y            | D               | 35         | 15         | 528,000          | 167,098          | 44,000         | 13,920         |
| Hammam Al Ali Cement Plant Old   | 200,000           | 16,700           | 2   | Y            | W               | 7          |            | 85,000           |                  | 7,080          |                |
| Hammam Al Ali Cement Plant New   | 450,000           | 37,500           | 1   | Y            | W               | 15         | 5          | 84,000           | 22,095           | 7,000          | 1,840          |
| Work Shop                        |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Head Office Employees            |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| <b>Sub Total</b>                 | <b>3,740,000</b>  | <b>311,600</b>   |     |              |                 | <b>107</b> | <b>35</b>  | <b>1,455,700</b> | <b>583,293</b>   | <b>121,300</b> | <b>48,600</b>  |
| <b>Southern Cement Company</b>   |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Olds Kufa Cement Plant           | 200,000           | 16,700           | 2   | Y            | W               | 7          | 3.5        | 154,000          | 54,252           | 12,830         | 4,520          |
| New Kufa Cement Plant            | 1,800,000         | 150,000          | 4   | Y            | W               | 29         | 8.5        | 126,800          | 277,868          | 10,570         | 23,160         |
| Karbala Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 764,000          | 175,244          | 63,670         | 14,600         |
| Muthana Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 869,440          | 55,910           | 72,450         | 4,660          |
| Sadat Al-Hindia Cement Plant     | 200,000           | 16,700           | 2   | Y            | W               | 10         | 3          | 103,599          | 36,680           | 8,630          | 3,060          |
| Um Qasir Cement Plant            | 500,000           | 41,700           | 1   | Y            | D               | 10         | 1          | 0                | 0                | 0              | 0              |
| Al-Jinoob Cement Plant           | 450,000           | 37,500           | 1   | Y            | W               | 22         | 4          | 368,000          | 0                | 30,670         | 0              |
| Samawa Cement Plant              | 400,000           | 33,300           | 1   | N            | W               | 15         | 0          | 0                | 0                | 0              | 0              |
| Karbala Limestone Plant          | 200000            | 16700            | 2   | Y            | D               | 4          | 2          | 0                | 0                | 0              | 0              |
| Work Shop ( Assumed )            |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| Head Office Employees (Assumed ) |                   |                  |     |              |                 |            |            |                  |                  |                |                |
| <b>Sub Total</b>                 | <b>7,750,000</b>  | <b>646,000</b>   |     |              |                 | <b>167</b> | <b>42</b>  | <b>2,385,839</b> | <b>599,954</b>   | <b>198,820</b> | <b>50,000</b>  |
| <b>Total</b>                     | <b>16,990,000</b> | <b>1,416,000</b> |     |              |                 | <b>394</b> | <b>107</b> | <b>6,036,539</b> | <b>1,901,015</b> | <b>503,030</b> | <b>158,410</b> |

# 2004 Production

| Factory                          | ADC<br>Tons       | MDC<br>Tons      | LOP | WS<br>Y or N | Process<br>Type | DP<br>MW   | CP<br>MW   | AEPPM<br>Tons  | EF            | Total Labor   |
|----------------------------------|-------------------|------------------|-----|--------------|-----------------|------------|------------|----------------|---------------|---------------|
| <b>Iraqi Cement Company</b>      |                   |                  |     |              |                 |            |            |                |               |               |
| Kirkuk Cement Plant              | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 12541          | 7.52%         | 656           |
| Kubaisa Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 43         | 10         | 12487          | 7.49%         | 661           |
| Al Qaim Cement Plant             | 1,000,000         | 83,300           | 1   | Y            | D               | 22.5       | 7.5        | 7285           | 8.75%         | 503           |
| Falluga Normal Cement            | 200,000           | 16,700           | 2   | N            | W               | 10         | 0          | 0              | 0.00%         |               |
| Falluga White Cement             | 300,000           | 25,000           | 3   | Y            | D               | 10         | 2.5        | 3763           | 15.05%        | 429           |
| Work Shop ( Assumed )            |                   |                  |     |              |                 |            |            |                |               | 95            |
| Head Office Employees            |                   |                  |     |              |                 |            |            |                |               | 527           |
|                                  | <b>5,500,000</b>  | <b>458,400</b>   |     |              |                 | <b>121</b> | <b>30</b>  | <b>36,076</b>  | <b>7.87%</b>  | <b>2,871</b>  |
| <b>Northern Cement Company</b>   |                   |                  |     |              |                 |            |            |                |               |               |
| Old Badoosh Cement Plant         | 190,000           | 15,800           | 2   | Y            | W               | 7          |            | 100            | 0.63%         | 157           |
| New Badoosh Cement Plant         | 700,000           | 58,300           | 2   | Y            | W               | 20         |            | 10,731         | 18.41%        | 403           |
| Badoosh Expansion Cement Plant   | 1,000,000         | 83,300           | 1   | Y            | D               | 23         | 15         | 20,731         | 24.89%        | 284           |
| Sinjar Cement Plant              | 1,200,000         | 100,000          | 2   | Y            | D               | 35         | 15         | 24,272         | 24.27%        | 673           |
| Hammam Al Ali Cement Plant Old   | 200,000           | 16,700           | 2   | Y            | W               | 7          |            |                |               |               |
| Hammam Al Ali Cement Plant New   | 450,000           | 37,500           | 1   | Y            | W               | 15         | 5          | 1,200          | 2.21%         | 529           |
| Work Shop                        |                   |                  |     |              |                 |            |            |                |               | 79            |
| Head Office Employees            |                   |                  |     |              |                 |            |            |                |               | 230           |
|                                  | <b>3,740,000</b>  | <b>311,600</b>   |     |              |                 | <b>107</b> | <b>35</b>  | <b>57,034</b>  | <b>18.30%</b> | <b>2,355</b>  |
| <b>Southern Cement Company</b>   |                   |                  |     |              |                 |            |            |                |               |               |
| Olds Kufa Cement Plant           | 200,000           | 16,700           | 2   | Y            | W               | 7          | 3.5        | 12,000         | 71.86%        | 1415          |
| New Kufa Cement Plant            | 1,800,000         | 150,000          | 4   | Y            | W               | 29         | 8.5        | 35,000         | 23.33%        | 380           |
| Karbala Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 7,256          | 4.35%         | 874           |
| Muthana Cement Plant             | 2,000,000         | 166,700          | 2   | Y            | D               | 35         | 10         | 18,500         | 11.10%        | 833           |
| Sadat Al-Hindia Cement Plant     | 200,000           | 16,700           | 2   | Y            | W               | 10         | 3          | 6000           | 35.93%        | 416           |
| Um Qasir Cement Plant            | 500,000           | 41,700           | 1   | Y            | D               | 10         | 1          | 4,800          | 11.51%        | 300           |
| Al-Jinoob Cement Plant           | 450,000           | 37,500           | 1   | Y            | W               | 22         | 4          | 2000           | 5.33%         | 801           |
| Samawa Cement Plant              | 400,000           | 33,300           | 1   | N            | W               | 15         | 0          | 0              | 0.00%         | 300           |
| Karbala Limestone Plant          | 200000            | 16700            | 2   | Y            | D               | 4          | 2          | 0              | 0.00%         | 314           |
| Work Shop ( Assumed )            |                   |                  |     |              |                 |            |            |                |               | 119           |
| Head Office Employees (Assumed ) |                   |                  |     |              |                 |            |            |                |               | 345           |
|                                  | <b>7,750,000</b>  | <b>646,000</b>   |     |              |                 | <b>167</b> | <b>42</b>  | <b>85,556</b>  | <b>13.24%</b> | <b>6,097</b>  |
|                                  | <b>16,990,000</b> | <b>1,416,000</b> |     |              |                 | <b>394</b> | <b>107</b> | <b>178,666</b> | <b>12.62%</b> | <b>11,322</b> |



# Northern Cement Plants Assessments

| Factory                        | ADC<br>Tons      | MDC<br>Tons    | LOP | WS<br>Y or N | Process<br>Type | DP<br>MW   | ETV<br>Millions \$ | EAV<br>Millions \$ |
|--------------------------------|------------------|----------------|-----|--------------|-----------------|------------|--------------------|--------------------|
| <b>Northern Cement Company</b> |                  |                |     |              |                 |            |                    |                    |
| Old Badoosh Cement Plant       | 190,000          | 15,800         | 2   | Y            | W               | 7          | 25                 | 5                  |
| New Badoosh Cement Plant       | 700,000          | 58,300         | 2   | Y            | W               | 20         | 100                | 15                 |
| Badoosh Expansion Cement Plant | 1,000,000        | 83,300         | 1   | Y            | D               | 23         | 130                | 15                 |
| Sinjar Cement Plant            | 1,200,000        | 100,000        | 2   | Y            | D               | 35         | 200                | 50                 |
| Hammam Al Ali Cement Plant Old | 200,000          | 16,700         | 2   | Y            | W               | 7          | 10                 | 5                  |
| Hammam Al Ali Cement Plant New | 450,000          | 37,500         | 1   | Y            | W               | 15         | 30                 | 10                 |
|                                | <b>3,740,000</b> | <b>311,600</b> |     |              |                 | <b>107</b> | <b>495</b>         | <b>100</b>         |

# Existing Efficiencies and % Power Available

| Factory                          | ADC<br>Tons       | MDC<br>Tons      | DP<br>MW   | CP<br>MW   | PPA           | EF            | EF/ PPA    |
|----------------------------------|-------------------|------------------|------------|------------|---------------|---------------|------------|
| <b>Iraqi Cement Company</b>      |                   |                  |            |            |               |               |            |
| Kirkuk Cement Plant              | 2,000,000         | 166,700          | 35         | 10         | 28.57%        | 7.52%         | 26%        |
| Kubaisa Cement Plant             | 2,000,000         | 166,700          | 43         | 10         | 23.26%        | 7.49%         | 32%        |
| Al Qaim Cement Plant             | 1,000,000         | 83,300           | 22.5       | 7.5        | 33.33%        | 8.75%         | 26%        |
| Falluga Normal Cement            | 200,000           | 16,700           | 10         | 0          | 0.00%         | 0.00%         | 0%         |
| Falluga White Cement             | 300,000           | 25,000           | 10         | 2.5        | 25.00%        | 15.05%        | 60%        |
| Work Shop ( Assumed )            |                   |                  |            |            |               |               |            |
| Head Office Employees            |                   |                  |            |            |               |               |            |
|                                  | <b>5,500,000</b>  | <b>458,400</b>   | <b>121</b> | <b>30</b>  | <b>24.90%</b> | 7.87%         | 32%        |
| <b>Northern Cement Company</b>   |                   |                  |            |            |               |               |            |
| Old Badoosh Cement Plant         | 190,000           | 15,800           | 7          |            |               | 0.63%         |            |
| New Badoosh Cement Plant         | 700,000           | 58,300           | 20         |            |               | 18.41%        |            |
| Badoosh Expansion Cement Plant   | 1,000,000         | 83,300           | 23         | 15         | 30.30%        | 24.89%        | 66%        |
|                                  |                   |                  |            |            |               |               |            |
| Sinjar Cement Plant              | 1,200,000         | 100,000          | 35         | 15         | 42.86%        | 24.27%        | 57%        |
|                                  |                   |                  |            |            |               |               |            |
| Hammam Al Ali Cement Plant Old   | 200,000           | 16,700           | 7          |            |               |               |            |
| Hammam Al Ali Cement Plant New   | 450,000           | 37,500           | 15         | 5          | 22.73%        | 2.21%         | 10%        |
| Work Shop                        |                   |                  |            |            |               |               |            |
| Head Office Employees            |                   |                  |            |            |               |               |            |
|                                  | <b>3,740,000</b>  | <b>311,600</b>   | <b>107</b> | <b>35</b>  | <b>32.86%</b> | <b>18.30%</b> | 56%        |
| <b>Southern Cement Company</b>   |                   |                  |            |            |               |               |            |
| Olds Kufa Cement Plant           | 200,000           | 16,700           | 7          | 3.5        | 50.00%        | 71.86%        | 144%       |
| New Kufa Cement Plant            | 1,800,000         | 150,000          | 29         | 8.5        | 29.31%        | 23.33%        | 80%        |
| Karbala Cement Plant             | 2,000,000         | 166,700          | 35         | 10         | 28.57%        | 4.35%         | 15%        |
| Muthana Cement Plant             | 2,000,000         | 166,700          | 35         | 10         | 28.57%        | 11.10%        | 39%        |
| Sadat Al-Hindia Cement Plant     | 200,000           | 16,700           | 10         | 3          | 30.00%        | 35.93%        | 120%       |
| Um Qasir Cement Plant            | 500,000           | 41,700           | 10         | 1          | 10.00%        | 11.51%        | 115%       |
| Al-Jinoob Cement Plant           | 450,000           | 37,500           | 22         | 4          | 18.18%        | 5.33%         | 29%        |
| Samawa Cement Plant              | 400,000           | 33,300           | 15         | 0          | 0.00%         | 0.00%         | NA         |
| Karbala Limestone Plant          | 200000            | 16700            | 4          | 2          | 50.00%        | 0.00%         | NA         |
| Work Shop ( Assumed )            |                   |                  |            |            |               |               |            |
| Head Office Employees (Assumed ) |                   |                  |            |            |               |               |            |
|                                  | <b>7,750,000</b>  | <b>646,000</b>   | <b>167</b> | <b>42</b>  | <b>25.15%</b> | <b>13.24%</b> | <b>53%</b> |
|                                  |                   |                  |            |            |               |               |            |
| <b>Total Cement Plants</b>       | <b>16,990,000</b> | <b>1,416,000</b> | <b>394</b> | <b>107</b> | <b>27.16%</b> | <b>12.62%</b> | <b>46%</b> |

# *Business Case Analysis*

| Items   | Unit      | Quantity          | \$ Unit Price  | \$ Totals            |
|---|-----------|-------------------|----------------|----------------------|
| Electric power to be provided on individual basis *   | MW        | 379               | 400,000        | 151,600,000          |
| Conceptual Rehab Cost   | LS        | 1                 | 171,000,000    | 171,000,000          |
| Interest 5% for 2 years   | LS        | 1                 | 33,066,500     | 33,066,500           |
| <b>Totals</b>   |           |                   |                | <b>355,666,500</b>   |
| * I consider a whole independent Electrical Power Generation, This will have a great input on the factories plus the power used by them will go back to the consumers through the substations, also doesn't consider the rehab of the Al Samawa factory because it is not worth it. |           |                   |                |                      |
| <b>Running Cost per ton</b>   | \$        | <b>22</b>         |                |                      |
| <b>Sell Price per ton</b>   | \$        | <b>45</b>         |                |                      |
| <b>Profit at 85% Efficiency</b>   | Tons      | <b>14,441,500</b> | <b>\$23.00</b> | <b>\$332,154,500</b> |
| <b>Profit at 75% Efficiency</b>   | Tons      | <b>12,742,500</b> | <b>\$23.00</b> | <b>\$293,077,500</b> |
| <b>Profit at 60% Efficiency</b>   | Tons      | <b>10,194,000</b> | <b>\$23.00</b> | <b>\$234,462,000</b> |
| <b>Payback period for 85% Efficiency is after</b>   | <b>31</b> | Months            |                |                      |
| <b>Payback period for 75% Efficiency is after</b>   | <b>33</b> | Months            |                |                      |
| <b>Payback period for 60% Efficiency is after</b>   | <b>36</b> | Months            |                |                      |