SC ALUM SA TULCEA

Approved
General Director
PhD. Eng. Gheorghe DOBRA

Plan to perform activities regarding production, maintenance, repairs and investment during the year - 2014

For 2014 there were analyzed the production schedule and the requirements regarding the works, materials, personnel costs in order to achieve the production plan and maintenance work, factory arrangements, at each installation level.

There were set specific consumptions and operating technological parameters considered the bauxite planed to be used in the production process (Sierra Leone and Boke).

A. Production and Mechanical & Electrical Departments

Considering all activities at a programmed production level for 2014, the plant number of employees was established at 680.

For the optimal production activity were carried out theoretical and practical training to all staff, both on-line training, and health and safety at work.

At present it is planned to continue and to organize new training courses for a number of activities such as: chemical operators, welders, boiler operator, steam turbine operator, crane operator, forklift driver for about 250 employees, and to achieve a second qualification of the personnel.

Work	Organization chart	Of which administrative personnel	Personnel activity
Production activity	**368**	**11**	Provides technical operations for the production of alumina
Mechanical & Electrical activity	**160**	**6**	Ensure the Maintenance and repair of equipment for the technological flow
Transportation	**45**	**3**	Ensure the grinding supply of bauxite and domestic transport needs. Rest of bauxite and alumina transport services being outsourced.
Planing	**13**	**8**	Provides production and repairs planning
Other activities	**101**	**57**	Auxiliaries and general services activities (commercial, financial, HR, IT, health and safety and environment, investment, laboratories)
TOTAL GENERAL	**687**	**85**	**Out of which 3 / 2 Administrative personnel for bauxite department**

B. Production Activity

During the year 2014 it was budget a level of production of 429,270 tones alumina, out of which 400,708 tones calcined alumina. Deliveries to Alro Slatina 368,864 tones calcined alumina. Shipping to export / others 31,670 tones alumina calcined. Other sales are in amount of 49,320 tons aluminum hydroxide.

There were established in the technological equipment used primarily in order to achieve the planned production. There were established operating parameters for Sierra Leone 935,506 tons), Kindia (88,958 tons) and Boke (195,558 tons) bauxite processing.
There are made action plans for reducing specific consumption of bauxite, caustic and thermal energy.

Also it is considered the continuation of studies for finding ways to use red mud as raw material for other industrial activities (steel, construction, agriculture etc. ...) - at present are ongoing the tests to use the red mud in cement production.

It is taken into consideration the possibility of improving the quality of new products: dry hydrate, calcined alumina containing alpha phase greater than 70%.

onth	**Calcined alumina production t / month**	**Alumina production t / month**

Jan.	**32,131**	**31,501**
Feb	**29,180**	**32,091**
Mart.	**32,160**	**32,222**
April.	**28,400**	**36,178**
May	**37,318**	**37,369**
Jun.	**33,867**	**36,494**
Jul.	**34,954**	**37,581**
Aug.	**34,954**	**37,581**
Sept.	**34,918**	**36,545**
Oct.	**32,000**	**37,581**
Nov.	**35,872**	**36,545**
Dec.	**34,954**	**37,581**
Total	**400,708**	**429,270**

C. Department Maintenance Repair Activities

C1. Maintenance and repair activities

Main activity of the Department of Maintenance and Repair is keeping in running the installation and repairing the equipments according the approved Plan for Revisions and Repairs.

The budget for these activities in 2014 has a value of **2,539,316 USD** out of which 958,475 USD represents repairs that will be performed by third companies, 1,475,589 USD represents repairs done in-house and 105,252 USD there are maintenace services.

Major repairs performed by third companies:

- Repair of electric motors and coolers – 157,623 USD
- Repair the turbo generator CKTR 12 – 50,357 USD
- Thermal insulations and tanks – 51,176 USD
- Repair the refractory for Static Kiln – 35,823 USD
- Repair the boiler C2Ap no 2, replacement of the economizer stage 1– 58,852 USD
- Reviews and repair of heavy vehicles – 68,821 USD
- Repair of turbines and compressors TK 250 – 19,037 USD
- Repairs for Grinding Mill no 5 – 25,588 USD
- Repairs hydro insulation of buildings – 25,588 USD

Major repairs performed with own forces:

- Repairs conveyor belts – 54,883 USD
- Repairs bauxite grinding mills (capital repair) – 126,697 USD
- Repairs on digestion batteries – 143,046 USD
- Repairs tanks DN 20 m – 30,800 USD
- Repairs tanks DN 35 m (major repairs) – 29,718 USD
- Repairs precipitation tanks – 18,695 USD
- Repairs alumina transport system – 21,385 USD
- Repairs on Static Calciner (1 repair) – 73,264 USD
- Repairs bag filters – 10,213 USD
- Repairs for Kelly Filters – 22,312 USD
- Repairs boilers and air compressors – 108,203 USD
- Repairs compressors – 62,067 USD

C2. Investment activities implemented with own forces

Maintenance and Repair department also develops specific activities to achieve with own forces putting into operation of approved investment.

Investments implemented with own forces

- Install 2 plate heat exchangers for heating the washing water using pregnant liquor
- Automatization works in Alum (Grinding, Red Filtration - Red mud Washing, White Filtration - Precipitation)
- Increasing the heat recovery capacity from pregnant liquor
- Increase the recirculation value in the existing cooling system (hyperbolic towers and tower EVAPCO forced circulation type) for industrial water used in cooling at grinding and Power House.

Maintenance and repair department personnel also participate in tracking and completion of the works of investments made by third companies and provide the conditions necessary for the function of these investments.

C3. Continuous Improvement Activities

Besides maintenance and repair works, alike the planned investment, the Maintenance and Repair department have activities in accordance with approved plans to continuously improve the ALUM's operation of the equipment and installations, works to reduce energy consumption (air, industrial water, air, energy Electric), works to reduce specific consumption of raw materials, work for environmental protection.

Activities performed

- Completion and commissioning the additional burner on static kiln resulting a production capacity increase
- Prepare the technological causticization line in order to test the potential use of calcined soda in the process having the effect of reducing the cost of production

D. Investments Activity

The investment plan for 2014 is in amount of **560,000 USD** and it is divided in two chapters:

- **Chapter 1** - **Investment projects currently in progress** - including one project that started in 2013 and currently in progress with a projected budget required in 2014 of **360,000 USD**
- **Chapter 2** - **New project investment** - including one new investment project with a projected budget required in 2014 of **200,000 USD**

E. Budget proposed

The Alum's budget for 2014 provides total revenue of 174,843,557 USD from the sale calcined alumina and hydrate.
Total expenditure budgeted required for the production of 429,270 tons is 169,732,211 USD.
Thus, in 2014 Alum aims to achieve a gross profit of 10,290,333 USD.

Unit production costs are budgeted at 220.14 USD/ton of hydrate and 396.78 USD/ton for calcined alumina.

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