

Alternative Fuels Implementation Project

Garadagh Plant, Holcim Azerbaijan ASC



Non-Technical Summary: Environmental Impact Assessment prior to AFR project implementation at Garadagh Plant.

Background

Current EIA covers:

- Environmental impact description in the area of production and beyond this area.
- Average annual concentration of harmful substances representing air pollution of the region on the basis of tables and charts specifying their annual amount.
- Description of technological process of emissions control and mitigation.
- An inventory of waste, leakage and their sources associated with execution of these works.
- Control measures for emissions and quality control.

Around 80% of alternative fuels used worldwide, are waste oils, oil sludge and non-hazardous wastes such as used tires, plastic, wood, sewage sludge and other.

General Plant Information:

Kiln capacity, t/d	4,000
Plant clinker production capacity, Kt/y	1,241
Plant cement production capacity, Kt/y	1,700
Net availability index, %	>85
Average heat consumption, kJ/kg clinker	~3200
Used tires feeding t/h (1-st stage)	~0.7
Oil sludge feeding t/h (up to)	~8.0



AFR planned and assessed for Garadagh Plant in Azerbaijan:

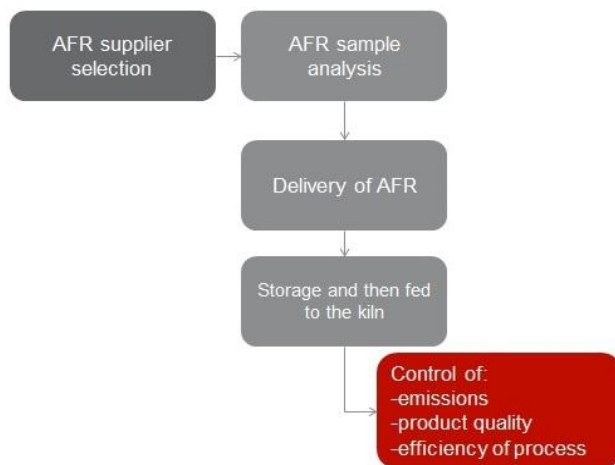
- waste oil, oil sludge, oil contaminated soil
- used tyres

Sources of AFR

AFR Co-processing, once maintained properly, is an effective solution of environmental issues like waste disposal, energy and natural resources saving.

Currently, there is a list of areas, from which the soil contaminated with oil can be delivered. Companies, operating at these areas can require effective and safe utilization of contaminated soil. Prior acceptance of the material, sampling and chemical analysis will be issued to make sure there is no significant contamination of material.

Used oil can also be delivered from various operating companies. The same procedure of acceptance to be followed prior to using the material delivered as AFR.



Emissions during AFR

Important rules of AFR Co-processing to be followed:

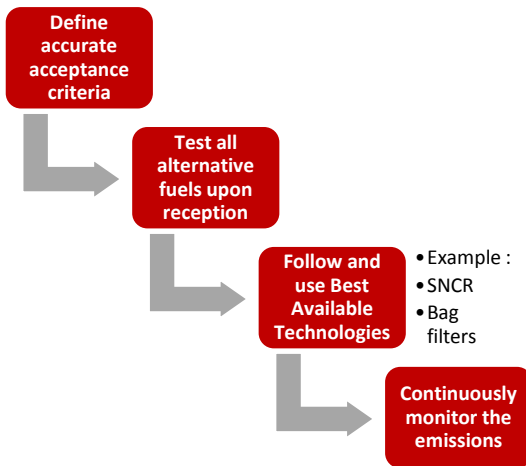
- all alternative fuels must be fed directly into the high-temperature zones of a kiln system (i.e. via main burner, mid kiln, precalciner firing)
- the same is true for alternative raw materials with elevated amounts of volatile matter (organics, sulfur)
- the concentration of pollutants in alternative materials for which the cement process has insufficient retention capability (like Hg) shall be limited

Emissions are to be monitored in order to demonstrate:

- compliance with the national regulations and agreements
- compliance with Holcim corporate rules
- the reliability of the initial quality control of the process input materials

Holcim Azerbaijan has Continuous Emissions Monitoring System (CEMS) installed, which allows plant to trace and keep under control emissions such as Dust, SO₂, HCL, NO_x, TOC and others. HAZ plant has all the instruments and knowledge to keep emissions below the limits with the implementation of Alternative Fuels. These instruments are: state of the art Alternative Fuels (AF) laboratory for quality control on the territory of the plant, SNCR installation for NO_x emissions reduction, CEMS, well defined points for introduction of AF and annual emissions monitoring campaign by certified 3-rd party company. All these guarantee that the limit for the emissions will not be exceeded.

Control methods strategy



Public complaints review

Holcim Azerbaijan systematically conducts social dialogue with communities around operation. This dialogue was structured through the Community Advisory Panel- with representation of all social groups of communities in 2008.

Also, HAZ being a member of Public Council of Garadagh District, has quarterly meetings scheduled with local society with the purpose to follow up the occurring questions or to pass information regarding Company's activities.

Organization to refer: Youth Center building in Umid settlement, Center for rehabilitation of children with special needs MUSHFIG. HAZ has been awarded by AMCHAM for CSR activities and contribution to sustainable development in 2014 and 2015.

How to learn about AFR project

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There are several ways to find out about Holcim Azerbaijan AFR project activities:

-publications in local media
-from web site (currently on ENG only)
Geocycle.az

- AFR Holcim.az

<http://www.holcim.az/en/sustainable-development/alternative-fuel-and-raw-materials.html>

