Executed in Hillsborough County, Florida

Robert C. Wong
District Air Program Administrator
Southwest District

1/26/12
Effective Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on 1/26/12 to the persons listed below.

Mr. Mike Quaka, Aercon Florida LLC
(mquaka@aerconaac.com)

Mr. Lynn F. Robinson, P.E., Southern Environmental Sciences, Inc.
(lrobinson@sesfla.com)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Carol S. Moore 1/26/12
(Clerk) (Date)

FACILITY DESCRIPTION

The existing permitted facility is an autoclaved aerated concrete products manufacturing plant. Operations include material handling, wet grinding of sand in a ball mill for sizing, concrete mixing and forming, and concrete cutting and boring. Sand, lime, cement, anhydrite and slag are the raw materials stored in silos (3) for use in batching the aerated concrete.

During the casting process, the raw materials are sent to a main mixer. Aluminum powder, which is stored in a reinforced concrete bunker away from the main plant, is pre-mixed with water and the mix added to the other raw materials in the main mixer to form the slurry. A steel cage, which helps the cast to keep its block form, is placed in the mold, and the slurry is poured into the mold. Reinforcing steel (rebar) is also inserted into the cast to provide additional strength to the block. The aluminum powder in the cast slurry causes a foaming reaction. Once the foam has fully escaped and the hydrogen bubbles are replaced by air, the aerated cast approximately doubles in size. The cast is solid enough to keep its form, but it is still very soft. The soft cast is automatically placed through a cutting/trimming process and sent to the autoclave chamber. The autoclave chamber is pressurized to approximately 300 psi and the chamber is heated by a boiler *(which is exempt from permitting – see Exempt Emission Units/Activities below)*. The pressure pushes the heat into the cast to allow the entire block to dry, harden and strengthen. The finished autoclaved aerated concrete product weighs approximately 50% less than would a standard concrete product.

The ball mill and mixer are in an enclosed building and do not exhaust directly to the atmosphere. Materials used in the process include (but are not limited to) cement, lime, slag and anhydrite.

Additional cutting and shaping operations are performed on the dried, cured concrete products in boring and cutting areas.

Particulate matter (PM) emissions from silo loading and process operations are controlled by baghouse filter dust control devices *(see Subsections A. and B. of Section 3 Emission Unit Specific Conditions for details of the baghouse control devices)*.

The existing facility consists of the following emissions units.

Facility ID No. 1050276	
ID No.	**Emission Unit Description**
002	Lime Storage Silo
003	Cement / Slag / Anhydrite Storage Silo
004	Anhydrite /Slag Storage Silo
005	Boring Area
007	Cutting Area

NOTE: *Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.*