

Development of a Transport Concept for Incoming Raw Materials in Novara Production Complex of Radici Group



Project Leader

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TAGGING

Overall area of BP

X Industry Cooperation

Detailed area of BP

X between chemical company and LSP

Involved transport modes

X Railway

Region

Province Novara (Italy)

Timescale

Start: June 2007
End: --

THE BEST PRACTICE CASE

The Radici Group is one of the most important Italian chemical companies, with an annual turnover of about EUR 1 bn. The Novara production complex is substantially dedicated to the production of polymer granulate, which is used in external plants for obtaining nylon 66 with an annual quantity of about 100,000 tons. The most important raw materials used in Novara production process are: NH₃, Cycloexanol and a Nitrocompound. While the final product is not dangerous, these three raw materials are highly hazardous.

The Best Practice Case describes the planning and implementation of a transportation network for the incoming raw materials.

INITIAL SITUATION

The production is an around the clock continuous process. Initially the flow of incoming raw materials was mainly executed by road. Unfortunately delivery times and delivered quantities were not guaranteed by this transport mode, hence frequent and serious production drawbacks were caused. Therefore a high stock level, both for working and back-up purposes, was build up for each raw material.

After a careful analysis of pros and cons the procurement department found different solutions for the incoming transport and storage of raw materials. About 5 years ago (project start), they decided to construct an internal rail track with a length of one kilometer, connected with the Trenitalia network. This decision was supported by Trenitalia.

OBJECTIVES

- Improvement in safety
By far, railway is the safest transport mode and therefore huge quantities of highly dangerous goods are pushed significantly in this direction. Furthermore the rail track is located quite near to the raw material tanks. The unloading process from tank waggons to storage tanks is performed via different, dedicated unloading stations. Finally, the feeding of production units is ensured by an internal pipeline network.
- Increase of delivery reliability
In order to guarantee the requested daily supply of raw materials, which comes from different regional and supra-regional production sites, it was decided to transport these materials using full trains with appropriate time schedules.
- Fixing the availability of tank waggons
If some waggons must remain parked (full or empty) inside the plant network, this situation should not cause a shortage of transport units for Trenitalia.
- Promotion of efficient rail transport
Using only full trains, transportation by rail of such large quantities of goods is becoming highly efficient at Radici premises. In times of normal economic conditions, the costs of rail transport are competitive compared to those from other transport modes.

FINANCIAL FRAMEWORK

The investment value for this Best Practice case belongs to approximately EUR 1 m.

RESULTS AND EVALUATION

- Reduction of logistic cost
- Improvement of safety for transport of huge quantities of dangerous goods
- Guarantee of daily supply with raw materials
- Improvement of weekly distribution of products and goods in process
- Possibility of building an efficient rail track, due to the proximity of the railway network
- Excellent cooperation between Trenitalia and Radici Group

LESSONS LEARNT

The only critical point refers to penalty clauses, which, during this last semester, proved to be too heavy, in times of reduced product demand by manufacturing companies. This item must be reviewed, in order to keep a win-win cooperation. Discussions between the partners are being held on this subject.

ADDITIONAL INFORMATION

www.radicigroup.com/chemicals