

Janssen Pharmaceutica: A strategy and a practical script: a handy guideline for shutdowns

Every summer, the chemical plant of Janssen Pharmaceutica in Geel is idle for 2 to 3 weeks for a shutdown. Although they have been doing this for years, they nevertheless decided to call in PDM to find out the ideal moment for carrying it out. Moreover, account had to be taken of various parameters influencing strategy. It was a job that seemed easy at first sight but was considerably more complex in practice.

Janssen Pharmaceutica, a subsidiary of the international Johnson & Johnson group, specialises in developing and producing medicines for humans and animals, as well as products to combat plant diseases. Among the products that they manufacture for humans are AIDS inhibitors, pain-killers and medicines for mental illness. Janssen Pharmaceutica employs a total of 4,500 people in Belgium who work in 3 plants, namely in Beerse, Olen and Geel. Beerse and Olen are units for pharmaceuticals production and Geel is a chemical plant. Beerse is also the headquarters of the company where the R&D department is based.

Production process

In Geel alone, there are 5 production units including a powdering unit. The active ingredients of medicines are manufactured here. “A characteristic of our multipurpose plants in Geel is that they always work in batches – small volumes varying between 2 and 6 m³ of product. Mixing raw materials with solvents in our reactors leads to a chemical process resulting in a soluble product with crystals. The crystals are separated from the liquid in a centrifuge. After that, they are dried in a desiccating plant before they go to the powdering unit. In the powdering unit, the various substances from the different production units come together and are milled into powders. Now the powders are ready for distribution to the Johnson & Johnson pharmaceutical plants worldwide for further processing. In the pharmaceutical plants such as those in Beerse and Olen, binding agents and flavouring and colorants are added to the active ingredients to make an ingestible pill, tablet or capsule,” says Jos Kenis, Plant Manager at Janssen Pharmaceutica in Geel.

Investigation

“Although we’ve been successfully carrying out shutdowns in the summer holidays in Geel for years, we still thought we



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Jos Kenis, Plant Manager, Janssen Pharmaceutica.



needed to examine our shutdown strategy,” continues Kenis. “The key question was: what is the ideal moment to carry out a shutdown? And of course there are various parameters to be taken into account such as the shutdown scope, the interdependency of the different production plants, bottleneck equipment and production planning. The fact is that if units in a particular plant are idle for 3 to 3 weeks, that can have immediate consequences for the other production units because production stages in the process do not necessarily have to take place in the same plant. That’s why we decided to call in the aid of PDM at the beginning of 2007. Their job was to test our present shutdown strategy and then, based on that, to establish the optimum shutdown strategy for the years to come.”

Approach

“We started by defining the various shutdown parameters,” says Jorgen Van Impelen, Senior Consultant at PDM. “By means of interviews, a data study and a workshop, we then made an inventory of the exact extent of each parameter’s impact on the shutdown strategy. Then, based on this result, a model was created in the form of a flow diagram with parameters that can be reused every year. By using this model to go through a future shutdown step by step, the client can see exactly how long each phase takes and also the total duration of the shutdown. Apart from producing a flow diagram for the years to come, we also defined various scenarios for the shutdown in 2008 and wrote a practical script. It’s a script that clearly explains the best way to prepare for and implement a shutdown. It includes all of the six phases from concept to evaluation.”

Finally

“At first glance, all of this seems easier than it was in practice. This had to do with the large number of parameters influencing strategy. Nevertheless, the people from PDM succeeded in producing a model and a script that we can also use as a guideline in the future for taking structured strategy decisions. At the moment, we are using these documents to prepare for a shutdown in 2008,” says Kenis. ■