



Maximize Readiness, Relevance, and Reliability

Among 27 urea plants surveyed from 2008–2011, the average production lost over that period was 34,238 metric tons per plant, or a total of 2.6 million metric tons.

Goswami, M. Goyal, V.K, et al., "Causes of Downtime in Ammonia-Urea Plants," 2012. Indian Journal of Fertilizers, v 8 (8).market studies.

What if...

...you could cut control-related variability and keep it low?

...you could more effectively track asset health and plan maintenance?

...you could improve your control strategy, your response time, and your control loops?

Every day, you deal with problems that hold back your plant's capacity or depress its bottom line.

Equipment failures and degradation can slow the plant, shut it down, or simply sap its effectiveness—and your operators don't respond equally well to every change. Product quality problems reduce capacity too—often when abnormal conditions, weather changes, and other factors alter the dynamics of your process, particularly in finishing steps.

All the while, you need to keep production costs to a minimum. That means minimizing utility consumption and limiting how much ammonia you vent. Add the constant need for maintenance, and your costs can significantly diminish the bottom line.

EQUIPMENT AND OPERATOR EFFECTIVENESS LIMIT CAPACITY

Plant capacity is one of the key factors reflecting your job performance. But urea plants are complicated, delicate operations, with many interacting variables and interdependent loops.

When equipment failures are too frequent, or operator performance is inconsistent, the effect on your capacity can be quick and dramatic.

QUALITY PROBLEMS RESTRICT OUTPUT

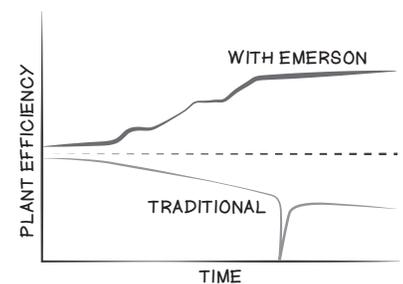
Every part of your process can proceed without a problem, but if you're making sticky prills, you'll either sell your urea at a discount, or you'll rework it—either option limits your overall capacity.

Whether you face abnormal conditions inside the plant, or changing weather outside it, unwelcome surprises introduce variability that plays havoc with your finishing area and other parts of the plant. But unless you know exactly what's going wrong—and how disturbances move through your process—it's hard to respond quickly and appropriately.

PRODUCTION COSTS ARE HIGH

Even when product quality and throughput are as good as ever, high production costs can overshadow everything, reducing the bottom line and drawing attention to how you manage the plant.

Those costs often result from high utility consumption, venting ammonia to the environment—and losing it during startups and shutdowns—as well as the regular demands of equipment maintenance.



With Emerson, you'll be able to catch equipment problems before they hurt production, capacity, and product quality.

Working with Emerson, you'll be able to face your capacity, quality, and production-cost problems head-on, rather than simply continuing to bear with them.

GET MORE FROM YOUR EQUIPMENT AND CONTROL

Reduce equipment degradation and failures by identifying developing problems, using that knowledge to schedule more effective maintenance, and spotting relief valve and steam trap issues before they get worse. Meanwhile, gain the ability to do fast, thorough turnarounds.

Enhance operator abilities by taming variability, responding to changing conditions with flexibility, and tuning poorly functioning control loops.

COLLECT THE RIGHT DATA TO SUPPORT FLEXIBLE, QUICK CONTROL

Prepare your control strategy for any abnormal condition using consistently accurate data—and device health information—from the instruments and digital valve controllers best suited to your plant. Use that data in a control strategy that responds effectively, appropriately, and automatically.

Prevent ambient conditions from affecting your process by rapidly responding to changes, fine-tuning control responses, and using the most appropriate control models—while finding and fixing control-loop problems throughout your plant.

Understand how your process is working, and what you can do to improve it, by getting a clearer idea of the problems it faces—as well as how much those problems cost. At the same time, you'll place instruments wherever you need them for a quick, thorough view that shows you how to improve production.

ECONOMIZE UTILITIES, AMMONIA, AND MAINTENANCE

Keep utility use under control by reducing the variability resulting from weathered equipment and inadequate process control. And make sure your responses are appropriate for every change in conditions by adding measurement capabilities.

Conserve ammonia—even during startups and shutdowns—by learning how much ammonia you're losing, and where it's coming from. Then use fast, flexible process control to rein in losses.

Bring down maintenance costs by revealing true equipment performance—and the price of sub-par operation. Then find out where new problems are likely to occur, and plan more effective, rapid, and inexpensive maintenance work for your next turnaround.

“Overall, we have improved plant efficiency, reduced steam losses, and improved the safety and productivity of our people.”

Tony Turp
Senior Control Engineer
Barking Power



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