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Reducing Power-Off Times Through Maintenance, Training, and Standardization

Power-off time (POFF) is a key driver in electric arc furnace (EAF) steelmaking for productivity, energy efficiency, operation costs, and CO_2 performance.
Consequently, Badische focuses on the human and organizational dimension of POFF reduction. Top equipment can only bring financial benefits when it is operated and maintained well in the long run. Improving maintenance strategies, investing in workforce capabilities, and increasing the level of operational standardization became the main drivers. The objective is to move from reactive, failure-driven maintenance toward well-prepared, predictable execution during power-off phases. Examples at Badische's steel plant in Kehl, Germany and other consultancy customers of Badische are presented in this paper.
Clear task ownership, improved coordination between operation and maintenance, standardized procedures and consistent communication routines reduced variability and dependency on individual experience. Strengthening workforce capability and alignment enabled faster and more reliable maintenance execution without major capital investment.
The experience confirms that sustainable POFF reduction is largely determined by the human factor once technical limits are reached. Meaningful improvements in furnace availability, energy efficiency, cost reduction and CO_2 performance can be achieved by focusing on people, organization, and disciplined standardization rather than additional equipment upgrades.

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