

较高为 12.95% 精煤损失大,错配物含量高。因此继续选用细颗粒质量分数为 80%~90% 的磁铁矿粉作为再选段加重质。

3 经济效益

2010 年上半年,选煤厂单位介耗为 1.32 kg/t。使用中细粒级磁铁矿粉后,2011 年 2 月—7 月,单位介耗降为 0.94 kg/t,单位介耗降低了 0.38 kg/t。2011 年上半年,中心选煤厂生产原煤 165 万 t,2011 全年预计生产原煤 400 万 t,上半年累计节约介质 627 t,全年预计可节省介质 1520 t,按介质价格 1500 元/t 计算,则 2011 年上半年累计节约材料费 94.05 万元,全年节约材料费 228 万元。

4 结 语

近年来,随着重介有压主再选工艺的逐步推广,中心选煤厂结合本厂实际情况,就如何从磁铁

矿粉粒度组成的选择上降低介耗做了进一步的探索研究。通过摸索实践发现,选用中细颗粒质量分数为 65%~75% 的磁铁矿粉作为主选段加重质时,选煤厂各物质带介量明显减少,介耗降低;选用细颗粒质量分数为 80%~90% 的磁铁矿粉作为再选段加重质时,精煤损失较少,错配物含量较低,具有显著的社会效益和经济效益。同时,随着大直径旋流器的推广应用,主选段是否可以采用更粗粒级的磁铁矿粉是今后研究的重点。

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Selection of size fraction of magnetite powder on dense medium main washing and recleaning process

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Abstract: The size fraction of magnetite powder has great influence on medium consumption. The finer magnetite powder be used, the more the powder and medium lost. Taking fine fraction and medium-fine fraction magnetite powder as medium, study the medium contents of main separation clean coal, coal gangue and tailings, also contrast the content of misplaced materials in middings. The results show that the medium contents and medium consumption reduce when the mass fraction of medium-fine fraction magnetite is 65%~70% during the main separation. The use of medium-fine fraction magnetite powder during the recleaning contributes to the increase of misplaced materials. In order to improve quantity efficiency and reduce possible deviation, the mass fraction of fine fraction magnetite powder need to be controlled between 80% and 90%. From February to July 2011, the medium consumption is 0.38 g/t lower than last year. In these six months, the plant has saved 0.9405 million material costs, which would reach 2.28 million the whole year.

Key words: magnetite powder; dense medium; main washing and recleaning process; size fraction; misplaced material

洁净煤技术被列为国家科技重点专项

科技部官员 2011 年 11 月 13 日透露,“十二五”科技规划拟定了科技技术研发的六大方向(包含 4 个重点专项和 6 个主题),这六大方向将获得国家 60 亿资金支持。其中,“洁净煤技术”位列四大重点专项中。据了解,该专项的重点任务主要包括突破煤炭清洁转化的核心技术和生产线关键工艺及装备,推动大规模煤基多联产工业示范,煤基清洁燃气、煤制油、煤制烯烃。突破超高参数超临界发电、IGCC 等煤炭洁净发电的关键技术及设备。