

NOVE I NAPREDNE TEHNOLOGIJE, BUDUĆIH IZAZOVA U POSTROJENJIMA ZA PREČIŠĆAVANJE VODA U INDUSTRIJI ČELIKA

NEW AND ADVANCED TECHNOLOGIES OF THE FUTURE CHALLENGES IN THE STEEL INDUSTRY'S WATER TREATMENT PLANTS

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Voda je osnovna životna potreba i može izgledati nezamislivo zamisliti život bez nje. Uticaj na životnu sredinu, zajedno sa društvenim i ekonomskim uticajem tradicionalnih tretmana vode u čeličanim i neizbežnom činjenicom nestašice vode, vode i pokreću pomak ka novoj paradigmi u tretmanu vode. Danas se mnoge zajednice i zemlje približavaju granicama svojih raspoloživih zaliha vode i zbog toga se mnoge fabrike čelika suočavaju sa velikim problemom sa dostupnošću vode. Iako se recirkulacija i ponovna upotreba vode praktikuje u mnogim zemljama širom sveta, trenutni nivoi ponovne upotrebe čine mali deo ukupne zapremine proizvedenog industrijskog efluenta. Dodatno zadovoljavaju svoje rastuće potrebe vodosnabdevanja, zajednice razmatraju druge netradicionalne izvore koji bi mogli da dovedu do uštede vode. Recirkulacija vode i njeno ponovno korišćenje postali su atraktivna opcija za očuvanje i proširenje raspoloživog vodosnabdevanja potencijalnom primenom različitih rešenja zasnovanih na biološkim, hemijskim i mehaničkim rešenjima. Pošto su ovi trendovi novi razvoj u oblasti recirkulacije i ponovnog korišćenja vode, postoji veliki broj istraživanja povezanih sa ovim temama. Ovde je predloženo istraživanje potrebno da se bolje razumeju problemi prisutni u tradicionalnim postrojenjima za prečišćavanje vode u industriji za proizvodnju čelika, da se predlože i objasne inovativne tehnologije, koje unapređuju tradicionalna rešenja, da se razviju alati upotrebljivi unutar postrojenja za prečišćavanja voda, sprovođenjem uspešnih projekata recirkulacije i ponovne upotrebe vode.

Ključne reči: industrija čelika, postrojenja za prečišćavanje vode, ušteta vode, inovativna rešenja.

Water is a basic necessity of life, and it may seem inconceivable to imagine living without it. The environmental impact, together with social and the economic impact of past and traditional water treatments in the steel industry plants and inevitable fact of water scarcity are leading and driving a shift to a new paradigm in water treatments. Nowadays, many communities and countries are approaching the limits of their available water supplies and because of that, many steel industry plants are facing a big problem with water availability. Although water reclamation and reuse is practiced in many countries around the world, current levels of reuse constitute a small fraction of the total volume of industrial effluent generated. In addition, to meet their growing water supply needs, communities are considering other non-traditional sources of water which could lead to water saving. Water reclamation and its reuse have become an attractive option for conserving and extending available water supply by potentially applying different solution based on biological, chemical and mechanical improved solutions. Since these trends are emerging developments in the field of water reclamation and reuse, there are a number of research needs associated with these topics. Here proposed research is needed to better understand the issues present in traditional water treatment plants

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in steel industry plants, to propose and explain innovative technologies, which are improving traditional solutions of the water treatment plants, and to develop tools and other assistance for the steel industry plants to implement successful water reclamation and reuse projects.

Keywords: *steel industry, water treatment plants, water improvement, water savings, innovative solutions.*