

核安全

ISSN 1672 - 5360

CN11 - 5145/TL

第6期

NUCLEAR SAFETY

2020年12月第19卷总第77期

(双月刊, 2003年创刊)

主管：中华人民共和国生态环境部

主办：生态环境部核与辐射安全中心

海南昌江核电 (拍摄: 刘玄)



ISSN 1672-5360



9 771672 536203



生态环境部



国家核安全局



生态环境部核与
辐射安全中心

万方数据

◆ **监督管理**

- 1 浅谈核电工程EPC和独立监理模式下的业主质量管理 项媛媛
6 全球新冠肺炎疫情时期的核安全监管 栾海燕,封 祎,韩福春,等

◆ **辐射安全**

- 12 某高速公路绿色通道X射线车辆检查系统环境辐射剂量率计算与实测对比研究 负彦祺,任坤贤,王 强,等

◆ **核电厂实践**

- 17 浅谈核电厂工作场所放射性空气污染应对措施 徐永良
23 我国核电厂退役过程监管要求及建议 滕 磊,刘志辉,袁和川
29 某核电站高压空压机高温报警停机故障处理 吴 敏,郑佳强
36 华龙一号余热排出系统破口事故分析 盛美玲,丘锦萌,唐 辉,等
44 核电站控制室布置与盘台设计中的人因工程准则 董晓璐,孔 静,刘景宾
50 严重事故下氢气爆燃环境模拟试验 姜韶堃,赵罗生,杨志义,等
54 摇摆条件下喷淋液滴运动特性研究 吴廉巍,闫超星,杜为安,等
60 气泡幕技术在滨海核电厂取水防控中的应用 韩 瑞,段亚飞,赵懿珺,等

◆ **国际瞭望**

- 67 英国核动力厂项目法规标准体系及监管理念研究 陈玉修,王煜宏,罗海英
73 日本核损害赔偿中的替代性纠纷解决机制及其启示 胡帮达,贾 晗

◆ **公众沟通**

- 80 核与辐射安全科普展厅建设现状分析及对策建议 王桂敏,张 瀛,戴文博,等
86 我国乏燃料后处理项目公众沟通策略研究 张 瀛,王桂敏,戴文博,等

◆ **研究与探讨**

- 93 核电机设备国产化材料力学性能验收值确定方法研究 高 晨,盛朝阳,初起宝,等
99 压水堆核电厂安注管线内不凝结性气体聚集现象仿真研究 朱光昱,全峰阳,曾 骁,等
104 液化均质系统两种工艺改进方案的安全性及适用性分析比较与建议 申 红,吉 辉,张志保,等
108 核级设备抗震分析中螺栓应力的评定方法 陈一伟,黄炳臣,沈 伟,等
111 全国核电厂关键物项材料老化数据平台建设分析 孙海涛,吴彩霞,吕云鹤,等
116 ⁶⁰Co辐照装置退役存在的问题及解决对策 王 杨,王海理,蒯 瑾
121 核电厂仪控系统的网络安全等级防护研究 刘景宾,乔 宁,董晓璐,等
127 压水堆核电厂氙产生量的影响因素计算与分析 刘 健,李 帷,张 琨,等
133 核电站空调水系统弹簧式安全阀结构设计与抗震分析研究 张强升,王德军,史 强,等

◆ **限塑减塑**

- 142 微塑料污染防治的建构研究 程 芳,姜启英,阚丽萍,等

◆ **一线风采**

- 147 “核电粮仓”保障我国核电仓廩安全 中核建中核燃料元件生产发展纪实 马骞
151 核力共建自贸港 同心共创新时代 海南核电有限公司董事长、党委书记 魏国良
153 自由贸易港上的核能华章 海南昌江核电站
156 以核为始 以核为先 国家电投集团中央研究院

(执行编辑:梁晔)

- 1 Owner Quality Management of Nuclear Power Engineering Under EPC and Independent Supervision Model
(Xiang Yuanyuan)
- 6 Nuclear Safety Regulation During the COVID-19 Pandemic
(Luan Haiyan, Feng Yi, Han Fujuan, Yu Shaoqing, Lu Xinhua)
- 12 Comparative Study on Calculation and Measurement of Environmental Radiation Dose Rate of X-Ray
Vehicle Inspection System in Green Channel of an Expressway
(Yun Yanqi, Ren Kunxian, Wang Qiang, Li Chenhui)
- 17 Discussion on the Countermeasures for Radioactive Air Pollution in the Workplace of Nuclear Power Plant
(Xu Yongliang)
- 23 Supervision Requirements and Suggestions on Decommissioning Process of Nuclear Power Plants in China
(Teng Lei, Liu Zhihui, Yuan Hechuan)
- 29 High Temperature Alarm Shutdown Fault Treatment of High Pressure Air Compressor in a Nuclear Power Station
(Wu Min, Zheng Jiaqiang)
- 36 Break Accident Analysis of Residual Heat Removal System of HPR1000
(Sheng Meiling, Qiu Jinmeng, Tang Hui, Yang Zhiyi)
- 44 Human Fguidelines for the Layout of Control Rooms and Workstation Design in Nuclear Power Plants
(Dong Xiaolu, Kong Jing, Liu Jingbin)
- 50 Simulation Experiments of Hydrogen Deflagration Environments for Severe Accidents
(Jiang Shaokun, Zhao Luosheng, Yang Zhiyi, Zhan Huian, Tao Zhiyong, Zhao Ning, Ding Chao)
- 54 Study on the Movement Characteristics of Spray Droplets Under Rolling Condition
(Wu Lianwei, Yan Chaoping, Du Wei'an, Zhang Yi, Liu Chengyang)
- 60 The Applications of Air Bubble Curtains in the Prevention and Control of Water Intake of Costal Nuclear Power Plants
(Han Rui, Duan Yafei, Zhao Yijun, Ji Ping, Kang Zhanshan, Wang Shaowei)
- 67 Research on Hierarchy of Legislation, Codes and Standards System and Ideas of Supervision of
UK Nuclear Power Plant Project
(Chen Yuxiu, Wang Yuhong, Luo Haiying)
- 73 Japan's Alternative Dispute Resolution Mechanism on Nuclear Damage Compensation and Its Implications
(Hu Bangda, Jia Han)
- 80 Present Situation Analysis of the Construction of the Science Popularization Exhibition Hall of
Nuclear and Radiation Safety and the Suggestions
(Wang Guimin, Zhang Ying, Dai Wenbo, Liu Ruihuan, Yu Dapeng, Li Yang)
- 86 Research on Public Communication Strategy of Spent Fuel Reprocessing Project in China
(Zhang Ying, Wang Guimin, Dai Wenbo, Liu Ruihuan, Yu Dapeng)
- 93 Study on the Method for Determining the Acceptance Value of Material Properties of Localized Material of
Nuclear Power Machinical Equipment
(Gao Chen, Sheng Zhaoyang, Chu Qibao, Ma Ruoqun, Jia Panpan)
- 99 Sation Study on Noncondensable Gas Accumulation Phenomenon in Safety Injection Piping System of PWR NPP
(Zhu Guangyu, Quan Fengyang, Zeng Xiao, Yuan Yidan)
- 104 Suggestions on the Analysis and Comparison of the Safety and Applicability of Two Process Improvement
Schemes in the Liquefaction Homogenization System
(Shen Hong, Ji Hui, Zhang Zhibao, Yang Xiaowei, Zhang Yu, Liu Yuntao, Que Ji, Zhao Shangui, Liu Tianshu)
- 108 Evaluation Method of Bolt Stress in Seismic Analysis of Nuclear Grade Equipment
(Chen Yiwei, Huang Bingchen, Shen Wei, Shi Hong, Zhang Qiangsheng)
- 111 Analysis of Nationwide Material Aging Data Platform Construction for Key Items of Nuclear Power Station
(Sun Haitao, Wu Caixia, Lv Yunhe, Zhang Yanwei, Chu Qibao, Che Shuwei, Hou Chunlin, Ma Ruoqun)
- 116 Problems Existing in the Decommissioning of the ⁶⁰Co Irradiation Device and the Countermeasures
(Wang Yang, Wang Haili, Xi Jin)
- 121 Research on Cyber Security Grade Protection of Nuclear Power Plant Instrument and Control System
(Liu Jingbin, Qiao Ning, Dong Xiaolu, Chen Zixi)
- 127 Calculation and Analysis of the Influencing Factors of Tritium Production in PWR
(Liu Jian, Li Wei, Zhang Kun, Wang Yichuan, Li Yang, Lan Bing)
- 133 Structural Design and Seismic Analysis of Spring Type Safety Valve of Air Conditioning Water System in
Nuclear Power Plant
(Zhang Qiangsheng, Wang Dejun, Shi Qiang, Chen Yiwei, Shen Wei, Li Liang)
- 142 Research on the Construction of Microplastic Pollution Prevention and Control
(Cheng Fang, Jiang Qiying, Kan Liping, Dou Yifang)