第六章 重大设备的失效分析

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目 录

6.1 核电装置的失效分析

6.1.1 典型案例分析

1. 核电厂 RCW热交换器传热钛管的失效分析与治理方案
2. 核电厂凝汽器钛管异常减薄的失效分析与解决对策
3. 核电厂汽轮机EH系统油动机密封圈意外泄漏的失效分析
4. 核电厂乏燃料储存水闸门减速器异常断裂的失效分析
5. 核电厂消氢系统工艺管道泄漏的失效分析与解决方案
6. 核电厂汽轮机系统循环水泵地脚螺栓异常断裂的失效分析
7. 核电厂汽轮机系统凝升泵角接触滚子轴承的失效分析
8. 核电厂循环水泵闸阀驱动杆异常断裂的失效分析
9. 核电厂核岛硼酸再循环泵转动轴意外断裂的失效分析
10. 核电厂冷却循环水泵磨损的失效分析与解决对策
11. 核岛用聚合物电缆材料辐照损伤的老化寿命评估
12. 核岛主泵冷却回路换热管爆裂的失效分析及治理方案
13. 不同辐照剂量对核电用电缆材料的性能影响分析

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6.1 核电装置的失效分析

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6.2 火电装置的失效分析

6.2.1 典型案例分析

1. 超超临界1000MW火电机组循环水泵断裂的失效分析
2. T91钢管异种钢焊接工艺评定与寿命评估
3. 超超临界机组T92/HR3C异种钢焊接蠕变寿命评定
4. 超超临界机组T92/Super304异种钢焊接性能评定
5. 锅炉二次过热器后屏炉管的腐蚀失效分析
6. 600MW火电机组电动机SKF滚动轴承的失效分析
7. 汽轮机EH系统油动机螺栓断裂的失效分析
8. 汽轮机DEH系统电液伺服阀异常堵塞的失效分析

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6.3 风电设备的失效分析

6.3.1 典型案例分析

1. 海上4MW风电设备变压器超温燃烧的失效分析
2. 1.5MW风电设备齿轮箱轴承异常磨损的失效分析

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6.4 石化装置的失效分析

6.4.1 典型案例分析

1. 年产109万吨聚乙烯装置急冷油/稀释蒸汽换热器管子的腐蚀失效分析
2. 高压聚乙烯装置循环气体冷却器爆裂的腐蚀失效分析
3. PTA聚酯装置干燥器的失效分析及其解决对策
4. 加氢精制PTA聚酯装置的失效分析及治理方案
5. 大型萃取塔MMA内壁异常磨损的失效分析
6. 石化装置受火损伤后HDPE管道的试验分析与寿命评定

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6.5 化工设备的失效分析

6.5.1 典型案例分析

1. 废热锅炉系统低温省煤器腐蚀泄漏的失效分析与治理方案
2. 氨气蒸发器换热管壁厚异常减薄的失效分析
3. 高硫含量循环流化床锅炉设备的腐蚀失效分析
4. 腐蚀条件下设备防腐蚀材料的制备与分析
6. 化工厂蒸汽系统管配件的腐蚀失效分析
7. 冲刷腐蚀交互作用下T型管异常泄漏的失效分析与解决对策

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6.6 冶金设备的失效分析

6.6.1 典型案例分析

1. 高炉炼焦气燃气轮机叶片的腐蚀断裂分析
2. 蠕变温度下耐热钢的碳化物析出表征及老化分析
3. 二次过热器炉管的腐蚀失效分析及对策
4. 炼铁厂起堆料机异常腐蚀的失效分析与防护方法

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6.7 交通部件的失效分析

6.7.1 典型案例分析

1. 汽车油门加速器用复合材料踏板断裂的失效分析
2. 汽车用复合材料密封填片的力学性能分析
3. 摩托车减震弹簧失效分析
4. 轨道车辆用橡胶球关节的失效分析
5. 列车制动盘弹性销开裂的失效原因分析
6. 轨道交通用齿轮箱的失效分析
7. 地铁齿轮箱吊杆过早断裂的原因分析

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6.8 电子电路的失效分析

6.8.1 典型案例分析

1. 芯片引线框架高速电镀不锈钢钢带的失效分析
2. 手机用BGA焊点及盲孔开裂的失效分析

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6.8 电子电路的失效分析

6.8.3 典型案例分析

1. 高密度PCB电镀铜互连盲孔的失效分析
2. PCB表面处理ENIG未浸润的失效分析
3. PCB 引线键合及钎焊电镀镍金表面处理的失效分析
4. 高端智能手机用PCB及PCBA的失效分析

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6.9 城市管网的失效分析

6.9.1 典型案例分析

1. 地铁附近埋地Dn1000管线异常泄漏的腐蚀失效分析
2. 冲刷腐蚀工况下不同管道的失效机理与预防方法

6.9.2 主要参考文献

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第六章 思考题

1. 概述一下核电装置RCW热交换器传热钛管失效分析的主要步骤。你认为该复杂的失效分析案例哪些方法应用得比较成功?
2. 在1000MW超超临界火电机组进口循环水泵的失效分析中，哪些经验教训应该吸取和避免?
3. 从石化装置PTA干燥器的失效案例中，简述一下在检验、维护及其管理等环节应注意什么?
4. 化工装置时常有冲刷与腐蚀的交互作用工况，试从可靠性角度论述该如何选材和防护? 采取什么措施可以缓和这种特殊形式的破坏?
5. 在冶炼设备的失效案例分析中，哪些因素会导致燃气轮机叶片发生过早的失效?
6. 通过对汽车踏板开展的失效分析，你认为复合材料结构件最会发生哪些失效机理? 产生原因主要有哪些?
7. 微电子元器件都要表面处理，从芯片电镀的高速钢带到芯片贴装的表面回流焊的失效案例中，电镀质量改善一般应控制哪些因素?
8. 印制电路板是一类层状复合材料，试从高密度互连PCB的失效案例概述通常有哪些失效机理? 如何改进?
9. 从风电设备的两个失效案例分析中，你认为应该吸取哪些教训。