## 发变组电量保护出口矩阵

|  |  |  | 60G |  |  |  |  | 跳闸出口 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 信号 |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 保护代码 | 保护名称 | PT断线闭锁 | 保护动作时限 | 出口闭锁元件 | 保护投入硬压板 | 出口方式 | 跳主变高压侧1(3)断路器线圈1 | 跳主变高压侧1(3)断路器线圈2 | 跳主变高压侧2(4)断路器线圈1 | 跳主变高压侧2(4)断路器线圈2 | 跳高厂变10kV A CB | 跳高厂变10kV B CB | 启动10kV A备用分支快切 | 启动10kV B备用分支快切 | 闭锁10kV A备用分支快切 | 闭锁10kV B备用分支快切 | 跳灭磁开关 | 减励磁 | 减出力 | 关闭主汽门 | 起动失灵 | 闭锁调压 | DCS信号 | 远方信号 | 故障录波 |
| 发电机保护 | 87G | 发电机差动 |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51VG | 发电机(记忆)复压过流 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51G | 发电机对称过负荷 |  | 定时限 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 46G | 发电机不对称过负荷 |  | 定时限 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 32A | 发电机逆功率 |  | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 32F | 发电机零功率 |  | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 32B | 发电机程序逆功率 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 | 主汽门关闭 | 闭锁 | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 24G | 发电机过励磁 |  | 定时限 |  |  | 减励磁 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 40G | 发电机失磁 | ✓ | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 | 功率元件 | 闭锁 | 减出力 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  | 机端电压 | 闭锁 | 厂用电切换 |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t3 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  |  |  |  | t4 | 系统低电压 | 闭锁 | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 81G | 发电机低频率 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t3 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 发电机高频率 |  | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 78G | 发电机失步 | ✓ | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 | 电流闭锁 | 闭锁 | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 50GS | 发电机起停机保护 |  | t |  |  | 跳灭磁开关 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  | ✓ | ✓ | ✓ |
|  | 59AG | 发电机突加电压 | ✓ | t | 电流闭锁 | 闭锁 | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 59CB | 断路器闪络 |  | t1 | 断路器常闭点 | 闭锁 | 跳灭磁开关 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  | 闭锁 | 起动失灵 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  | ✓ | ✓ | ✓ |
|  | 64R | 发电机转子接地 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 64G1 | 发电机注入式定子接地(100%) | ✓ | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 64G2 | 发电机三次谐波电压比率定子接地(100%) | ✓ | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 95G | 发电机定子匝间短路 | ✓ |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 59G | 发电机过电压 |  | t |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 27G | 发电机低电压 | ✓ | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
| 主变保护 | 87GT | 主变差动 |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51VGT | 主变(复压)过流 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51NGT | 主变零序保护 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51GT | 主变过负荷 |  | t |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
| 厂高变保护 | 87UT | 厂高变差动 |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51VUT | 厂高变高压侧复压过流 |  | t1 |  |  | 厂用电切换 |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51UT | 厂高变过负荷 |  | t |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  | 51VUTA | 厂高变低压侧A分支(复压)过流 |  | t1 |  |  | 跳A分支 |  |  |  |  | ✓ |  |  |  | ✓ |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  | 51NUTA | 厂高变低压侧A分支零序 |  | t1 |  |  | 跳A分支 |  |  |  |  | ✓ |  |  |  | ✓ |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51VUTB | 厂高变低压侧B分支(复压)过流 |  | t |  |  | 跳B分支 |  |  |  |  |  | ✓ |  |  |  | ✓ |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  | 51NUTB | 厂高变低压侧B分支零序 |  | t1 |  |  | 跳B分支 |  |  |  |  |  | ✓ |  |  |  | ✓ |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
| 励磁变保护 | 87ET | 励磁变差动 |  | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 50ET | 励磁变速断 |  | t |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51ETH | 励磁变高压侧过流 |  | 定时限 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51ET | 励磁变过负荷 |  | 定时限 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 减励磁 |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  | 51E | 励磁绕组过负荷 |  | 定时限 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | 反时限 |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## 发变组非电量保护出口矩阵

|  |  |  | 60G |  |  |  |  | 跳闸出口 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 信号 |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 保护代码 | 保护名称 | PT断线闭锁 | 保护动作时限 | 出口闭锁元件 | 保护投入硬压板 | 出口方式 | 跳主变高压侧边断路器线圈1 | 跳主变高压侧边断路器线圈2 | 跳主变高压侧中断路器线圈1 | 跳主变高压侧中断路器线圈2 | 跳高厂变10kV A CB | 跳高厂变10kV B CB | 启动10kV A备用分支快切 | 启动10kV B备用分支快切 | 闭锁10kV A备用分支快切 | 闭锁10kV B备用分支快切 | 跳灭磁开关 | 减励磁 | 减出力 | 关闭主汽门 | 起动失灵 | 闭锁调压 | DCS信号 | 远方信号 | 故障录波 |
| 热控 |  | 发电机断水 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
| 主变保护 | 63GT | 主变轻瓦斯 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 主变重瓦斯 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 26GT | 主变油温高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 主变油温超高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 49GT | 主变绕组温度高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 主变绕组温度超高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 程序跳闸 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 71GT | 主变油位 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  | 91GT | 主变压力释放 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 63GTO | 主变速动油压 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  | 主变冷却器故障 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 | 油温 | 闭锁 | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 按钮 |  | 紧急停机按钮 |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  |  | 跳灭磁开关按钮 |  |  |  |  | 跳灭磁开关 |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  | ✓ | ✓ | ✓ |
| 高厂变保护 | 63UT | 高厂变轻瓦斯 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 高厂变重瓦斯 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 91UT | 高厂变压力释放 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 26UT | 高厂变油温高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 高厂变油温超高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 高厂变切换 |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 49UT | 高厂变绕组温度高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  | 高厂变绕组温度超高 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 高厂变切换 |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |
|  | 71UT | 高厂变油位 |  |  |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
| 励磁 | 49ET | 励磁变绕组超温 |  | t1 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  | t2 |  |  | 信号 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
|  |  |  |  |  |  |  | 全停 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  |  | ✓ |  |  | ✓ | ✓ | ✓ |

说明：

1. 发变组电量保护按双重化配置，两套电量保护出口矩阵相同；发变组非电量保护按单套配置。
2. 发电机突加电压保护（59AG），发电机并网后，保护由压板退出。
3. 发电机起停机保护（50GS），发电机并网后，保护由压板退出或经断路器辅助触点闭锁。
4. 发电机频率保护（81G），发电机并网后，保护才投入。两套低频保护应具有频率记忆功能。
5. 发电机转子接地（64R），按双套配置，建议仅投运其中一套。

| 版本 | 日期 | 制图 | 设计 | 校核 | 审核 | 批准 | 备注 |
|---|---|---|---|---|---|---|---|
| 0 | 2024/07/12 |  |  |  |  |  |  |

Nwepdi
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甘肃能化庆阳2X660MW煤电项目 工程 初步 设计阶段

发变组保护及测量配置图

单位 mm 比例 1:1 图号 F23341C-D01-13 第 02 张 共 02 张 版本 0