* 变电设备各在线监测类型的关键评价指标阈值和权重设计如下。

1）油中溶解气体监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **TotalHydrocarbon** | 20 | 3 | 3 | 30 | 30 | 1.5 | 30 | 30 | 12 | 2 |
| **H2** | 20 | 3 | 3 | 30 | 30 | 1.5 | 30 | 30 | 12 | 2 |
| **CO** | 20 | 3 | 3 | 30 | 30 | 1.5 | 30 | 30 | 12 | 2 |
| **C2H2** | 20 | 3 | 3 | 30 | 30 | 1.5 | 30 | 30 | 12 | 2 |
| **CH4** | 20 | 3 | 3 | 30 | 30 | 1.5 | 30 | 30 | 12 | 2 |

采集间隔：12或24小时；特征数据集：365；滑窗长度：365d；

2）微水监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **Moisture（水分）** | 30 | 3 | 10 | 50 | 30 | 1.5 | 30 | 1 | 15 | 3 |

采集间隔：1小时；特征数据集：360；滑窗长度：15d

3）铁芯接地电流监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **TotalCoreCurrent**  **（全电流）** | 20 | 5 | 10 | 30 | 30 | 1.3 | 30 | 0.5 | 7 | 2 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

4）顶层油温监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **OilTemperature**  **（顶层油温）** | 30 | 3 | 5 | 50 | 30 | 1.3 | 30 | 0.5 | 7 | 3 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

5）容性设备绝缘监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **TotalCurrent**  **（全电流）** | 20 | 3 | 5 | 50 | 30 | 1.3 | 30 | 0.5 | 7 | 2 |
| **UnbalanceCurrent（三相不平衡电流）** |  |  |  |  |  |  |  |  |  |  |
| **UnbalanceVoltage**  **（三相不平衡电压）** |  |  |  |  |  |  |  |  |  |  |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

6）避雷器绝缘监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **TotalCurrent**  **（全电流）** | 20 | 3 | 5 | 50 | 30 | 1.3 | 30 | 1 | 15 | 2 |
| **ResistiveCurrent**  **（阻性电流）** | 20 | 3 | 5 | 50 | 30 | 1.3 | 30 | 1 | 15 | 2 |

采集间隔：1小时；特征数据集：360；滑窗长度：15d

7）断路器局部放电监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **DischargeCapacity**  **（放电量）** | 30 | / | / | / | / | / | / | 1 | 15 | 4 |

采集间隔：1小时；特征数据集：360；滑窗长度：15d；

权重设置：Wi=

注：通过c1判断数据是否中断。

8) 分合闸线圈电流波形监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| Phase | 30 | / | / | / | / | / | / | 0.5 | 7 | 4 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

注：通过c1判断数据是否中断。

9）SF6气体压力监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **Pressure20C**  **（压力）** | 30 | / | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 3 |
| **Density**  **（密度）** | 30 | / | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 3 |
| Temperature | 20 | 3 | 5 | 50 | 30 | 1.3 | 30 | 0.5 | 7 | 2 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

10）SF6气体水分监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **MOISTURE**  **（水分）** | 30 | / | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| TEMPERATURE | 30 | 3 | 5 | 50 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

11）储能电机工作状态监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| ChargeTime | 30 | / | / | 20 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d

* 输电线路各在线监测类型的关键评价指标阈值和权重设计如下

2）覆冰监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **Equal\_IceThickness** | 30 | / | / | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |
| Tension | 30 | / | / | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |
| Tension\_Difference | 30 | / | / | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |
| Windage\_Yaw\_Angle | 30 | 3 | 10 | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |

采集间隔：1小时；特征数据集：360；滑窗长度：15d

注：非覆冰季，装置处于合理的停运状态。

3）导线温度监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| Line\_Temperature1 | 30 | 1 | 3 | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |
| Line\_Temperature2 | 30 | 1 | 3 | 30 | 30 | 1.5 | 30 | 1 | 15 | 3 |

采集间隔：1小时；特征数据集：360；滑窗长度：15d

7）杆塔倾斜监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **Inclination** | 30 | 3 | 5 | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 3 |
| Inclination\_X | 30 | 3 | 5 | 30 | 30 | 1.1 | 30 | 0.5 | 7 | 3 |
| Inclination\_Y | 30 | 3 | 5 | 30 | 30 | 1.1 | 30 | 0.5 | 7 | 3 |
| Angle\_X | 30 | 3 | 5 | 30 | 30 | 1.1 | 30 | 0.5 | 7 | 3 |
| Angle\_Y | 30 | 3 | 5 | 30 | 30 | 1.1 | 30 | 0.5 | 7 | 3 |

采集间隔：0.17小时；特征数据集：1008；滑窗长度：7d

8）现场污秽度监测

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 状态量阈值 | c1/% | c21/d | c22 | c3/% | c4/% | c51 | c52/% | f/d | k | j |
| **ESDD** | 30 | / | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| **NSDD** | 30 | / | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| Daily\_Max\_Temperature | 30 | 3 | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| Daily\_Min\_Temperature | 30 | 3 | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| Daily\_Max\_Humidity | 30 | 3 | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |
| Daily\_Min\_Humidity | 30 | 3 | / | 30 | 30 | 1.2 | 30 | 0.5 | 7 | 4 |

采集间隔：0.5小时；特征数据集：336；滑窗长度：7d