换流站运维工作违章定义介绍和典型违章清单

Introduction of definition and list of typical violations in operation and maintenance work of converter station

建设运维部

Construction Operation and Maintence Department

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目 录
Catalogue

一、编制目的 Preparation purpose

为贯彻“安全第一、预防为主、综合治理”的方针，加强安全管理基础工作，进一步提升换流站中巴方员工对违章的定义、分类等的认知。依据中国《国家电网公司安全生产反违章工作管理办法》，编制换流站运维工作违章定义介绍和典型违章清单。

To implement the policy of "safety first, prevention first, comprehensive management", strengthen the basic work of safety management, to further enhance the awareness of Chinese and Pakistani staff on the definition and classification of violations in converter stations. According to the “Measures of State Grid Corporation of China for the Administration of Work Against Violations in Production Safety”, compile the definition and list of typical violations in the operation and maintenance work of converter stations.

二、违章界定 Violation of defining

（一）定义 Definition

违章是指在电力生产活动过程中，违反国家和电力行业安全生产法律法规、规程标准，违反公司安全生产规章制度、反事故措施、安全管理要求等，可能对人身、电网和设备构成危害并容易诱发事故的管理的不安全作为、人的不安全行为、物的不安全状态和环境的不安全因素。

Violation refers to violations of national and power industry safety production laws, regulations, rules and

standards, violations of company safety production rules and regulations, anti-accident measures, safety management requirements, etc., in the process of power production activities, which may cause harm to people, power grids and equipment and are easy Unsafe actions that induce accident management, unsafe behaviors of people, unsafe conditions of things, and unsafe factors of the environment.

（二）按照性质分类 Classification by nature

违章按照性质分为管理违章、行为违章和装置违章三类。

Violations are classified into three categories: management violation, behavior violation and Device violation.

1.管理违章是指各级领导、管理人员不履行岗位安全职责，不落实安全管理要求，不健全安全规章制度，不执行安全规章制度等的各种不安全作为；

1.Management violation refers to all levels of leadership, management personnel do not perform their job safety responsibilities, do not implement safety management requirements, do not improve safety rules and regulations, do not implement safety rules and regulations and other unsafe as;

2.行为违章是指现场作业人员在电力建设、运行、检修等生产活动过程中，违反保证安全的规程、规定、制度、反事故措施等的不安全行为；

2. Behavior violation refers to the unsafe behaviors of

on-site operators in the process of production activities such as electric power construction, operation, maintenance that violate the rules, regulations, systems and anti-accident measures to ensure safety.

3.装置违章是指生产设备、设施、环境和作业使用的工器具及安全防护用品不满足规程、规定、标准、反事故措施等的要求，不能可靠保证人身、电网和设备安全的不安全状态和环境的不安全因素。

3. Device violation refers to the unsafe state in which the production equipment, facilities, environment and tools and safety protective articles used in operation fail to meet the requirements of regulations, regulations, standards and anti-accident measures, etc., and the unsafe factors in the environment can not be reliably guaranteed for the safety of people, power grids and equipment.

（三）按严重程度分类 Classification by severity

按照违章性质、情节及可能造成的后果，可分为严重违章和一般违章。

According to the nature, circumstances and possible consequences of violations, they can be classified into serious violation and general violation.

严重违章是指可能直接造成人身、电网、设备事故，或虽不直接对人身、电网、设备造成危害，但性质恶劣的违章现象。

Serious violation refers to violations that may directly

cause accidents to people, power grids, and equipment, or that do not directly cause harm to people, power grids, and equipment, but violations of a bad nature.

一般违章是指对人身、电网、设备不直接造成危害，且达不到严重违章标准的违章现象。

General violation refers to violations that do not directly cause harm to people, power grids, and equipment, and fail to meet the standards for serious violations.

三、典型违章清单 List of typical violations

（一）严重违章 Serious violations

1.管理违章 Management violation

(1) 违章指挥或干预运行人员正常操作。

(1) Command or interfere with the normal operation of operators in violation of regulations.

(2) 安排或默许无票作业、无票操作。

(2)Arrange or acquiesce to operation without ticket.

(3) 解锁钥匙不封存，不按规定程序解除闭锁。

(3) The unlocking key is not sealed, and the lock is not released according to the prescribed procedures.

2.行为违章 Behavior violation

(4) 进入作业现场（办公室、控制室、值班室和检修班组室除外）未正确佩戴安全帽。

(4) Safety helmet is not properly worn when entering the work site (except office, control room, duty room and

maintenance team room).

(5) 现场作业人员进入作业现场未穿全棉长袖工作服、绝缘鞋。

(5) On-site workers entered the job site without wearing cotton long-sleeved overalls and insulated shoes.

(6) 换流站单人值班或单人操作。

(6) Single person on duty or single person operation at converter station.

(7) 设备不停电时的安全距离小于下表中距离。

电压 kV	11	35	132	500	±660
安全距离 m	1.0	1.0	3	5	8.4

(7) The safety distance of the equipment without power failure is less than the distance in the table below.

Voltage kV	11	35	132	500	±660
Safe distance m	1.0	1.0	3	5	8.4

(8) 倒闸操作时未核对设备双重名称，未检查设备的实际位置。

(8) The double name of the equipment is not checked and the actual position of the equipment is not checked during the reversing operation.

(9) 倒闸操作时未按操作票的顺序进行操作，存在跳项、漏项、并项、倒项等现象。

(9) During the switching operation, the operation is not performed in the order of the operation ticket, and there are

phenomena such as skipped items, missing items, combined items, and reversed items.

(10)倒闸操作时未唱票、未执行复诵制。

(10) No votes and no repeating system were performed during the switching operation.

(11)倒闸操作，有与操作无关的行为，监护人擅自离开操作现场。

(11) Switching operation, there are actions unrelated to the operation, and the guardian leaves the operation site without authorization.

(12)操作完毕后，监护人未认真核对实际操作结果，未在相应项目后打“√”。

(12) After the operation was completed, the guardian did not carefully check the actual operation result, and did not tick “√” after the corresponding item.

(13)合接地刀闸或装设接地线前未验电；验电时未戴绝缘手套、未穿绝缘靴。

(13) No electrical test before closing the grounding switch or installing the grounding wire. Insulating gloves and boots are not worn during electrical inspection.

(14)巡视高压设备时，进行与巡视无关的工作，擅自移开或越过遮栏。

(14) When patrolling high-voltage equipment, carry out work that has nothing to do with the patrol, move away or cross

the fence without authorization.

(15)雷雨天气，需要巡视室外高压设备时，未穿绝缘靴，或靠近避雷器和避雷针。

(15) In thunderstorm weather, when you need to patrol outdoor high-voltage equipment, do not wear insulated boots, or be close to lightning arresters and lightning rods.

(16)未按要求进行现场勘察，无勘察记录、勘察记录未签字或勘察记录与现场实际不符。

(16) Failure to conduct on-site surveys as required, no survey records, unsigned survey records, or survey records inconsistent with the actual scene.

(17)无票作业、无票操作(事故应急处理和拉合断路器的单一操作除外)，或不按规定使用“两票”进行工作，不按规定签名。

(17) No ticket operation, no ticket operation (except for the emergency handling of accidents and the single operation of closing the circuit breaker), or use "work ticket and operation ticket" for work in violation of regulations, and not sign according to regulations.

(18)作业现场未按要求设置围栏，作业人员擅自穿、跨越安全围栏。

(18) Fences are not set up on the job site as required, and the workers arbitrarily cross over the safety fence.

(19)工作现场布置的安全措施与工作票不一致或不满足现

场作业条件。

(19) The safety measures arranged on the work site are inconsistent with the work ticket or do not meet the site operation conditions.

(20) 装、拆接地线的顺序错误。在装、拆导体端时，人体触及接地线和未接地的导线。

(20) The sequence of installing and removing the grounding wire is wrong. When installing or disassembling the conductor end, the human body touches the grounding wire and the ungrounded wire.

(21)擅自扩大工作范围、工作内容或擅自改变已设置的安全措施。

(21) Unauthorized expansion of the scope of work, work content, or unauthorized changes to the set safety measures.

(22) 工作负责人未对工作班成员进行安全技术交底，工作班成员未在工作票、安全技术交底上签字确认。

(22) The work leader fails to make safety technical disclosure to the working team members, and the working team members fail to sign the work ticket and safety technical disclosure for confirmation.

(23) 工作票、操作票等存在工作人员签字不全或代签字现象。

(23) Work tickets, operating tickets, such as the existence of staff signature is not complete or replace the signature

phenomenon.

(24) 工作期间，工作负责人、专责监护人不在工作现场，或虽在现场但从事与监护无关的工作。

(24) During the period of work, the person in charge of the work or the special guardian is not at the work site, or is engaged in work unrelated to the guardianship although he is on the site.

(25) 换流站和高压室内梯子、管子等长物未两人放倒搬运并与带电部分保持足够的安全距离。

(25) The converter station and the high-voltage indoor ladders, pipes and other long objects should not be put down by two people and kept a sufficient safe distance from the live parts.

(26) 在换流站的带电区域内或邻近带电线路处使用金属梯子进行作业。

(26) Work with metal ladders in the charged area of the converter station or near the charged line.

(27) 动火作业不按规定办理或执行动火工作票。

(27) Fire operation does not comply with the provisions or the implementation of fire work ticket.

(28) 在一、二级动火区和防火重点部位或场所、禁止明火区吸烟。

(28) Smoking in the first or second level hot fire area, key fire prevention parts or places, and no open fire area.

(29) 遇有 5 级及以上的大风及暴雨、雷电、大雾、沙尘暴等恶劣天气，进行露天高处作业。

(29) In case of severe weather such as strong winds and rainstorms, thunder and lightning, heavy fog and sandstorms of level 5 and above, carry out high-altitude operations in open air.

(30) 遇有 6 级以上的大风时，进行露天起重工作。当风力达到 5 级以上时，起吊受风面积较大的物体。

(30) In case of strong winds above level 6, carry out open-air lifting work. When the wind reaches level 5 or higher, lift objects with a large wind area.

(31)起重作业无专人指挥，起吊前未进行试吊，重物未绑扎牢固。吊物上站人，作业人员利用吊钩上下。

(31) There is no special person to direct the lifting operations, no trial lifting is carried out before lifting, and the heavy objects are not fastened firmly. People stand on hanging objects, and operators use hooks to go up and down.

(32) 与工作无关的人员在起重工作区域内行走、停留。吊臂、重物下有人员穿行、停留。

(32) People not related to work walk and stay in the lifting work area. There are people walking and staying under the boom and heavy objects.

(33) 起重设备起重重物长期悬在空中。有重物悬在空中时，驾驶人员离开驾驶室，进行其他工作。

(33) Lifting equipment to lift heavy objects suspended in the air for a long time. When a heavy object is suspended in the air, the driver leaves the cab to perform other tasks.

(34) 高处作业未使用全方位安全带，安全带未挂在牢固的构件上，低挂高用，转移作业位置时失去安全防护。

(34) The omni-directional safety belt is not used in the high operation, and the safety belt is not hung on a firm component. It is hung low and used high, and the safety protection is lost when the operation position is transferred.

(35) 高处作业未使用工具袋，上下抛掷物品。

(35) Throwing objects up and down without using tool bags during the high work.

(36) 使用中的氧气瓶和乙炔气瓶不垂直固定放置，氧气瓶与乙炔气瓶的距离小于 5 米，气瓶的放置地点靠近热源，距明火 10 米以内。

(36) The oxygen cylinders and acetylene cylinders in use are not fixed vertically. The distance between the oxygen cylinders and the acetylene cylinders is less than 5 meters. The cylinders are placed close to the heat source and within 10 meters of the open flame.

(37) 长期存放，SF6 气瓶未放置在阴凉干燥、通风良好、敞开的专门场所直立保存，靠近热源和油污的地方，无防潮、防阳光暴晒的措施，有水分或油污粘在阀门上。

(37) Long-term storage, SF6 cylinder is not placed in a

cool, dry, well-ventilated, open special place for upright preservation, close to the heat source and oil, there is no moisture-proof, sun-proof measures, moisture or oil stick to the valve.

(38) 使用无防护罩的砂轮；使用砂轮研磨时未戴防护眼镜或装设防护玻璃。

(38) Use a grinding wheel without a protective cover; do not wear protective glasses or install protective glasses when using the grinding wheel.

(39) 在带电设备周围使用钢卷尺、皮卷尺和线尺（夹有金属丝者）进行测量工作。

(39) Use steel tape, leather tape and wire ruler (with metal wire) around charged equipment for measurement work.

(40) 在全部或部分带电的运行屏（柜）上进行工作时，未将检修设备与运行设备前后以明显的标示隔开。

(40) When working on a fully or partially charged operating screen (cabinet), the maintenance equipment is not separated from the operating equipment by clear signs.

(41)通信系统同继电保护、安全自动装置等复用通道（包括载波、微波、光纤通道等）的检修、联动试验未按照规定将高压设备停电、停用相关保护功能。

(41) Maintenance and linkage test of multiplexed channels (including carrier, microwave, fiber channel, etc.) of communication systems with relay protection and safety

automatic devices. Fail to cut off power or disable related protection functions of high-voltage equipment in accordance with regulations.

(42)在运行设备的二次回路上进行拆、接线工作，或在对检修设备执行隔离措施时需拆断、短接和恢复同运行设备有联系的二次回路上工作，未使用二次工作安全措施票。

(42) The secondary work safety measure ticket is not used when disconnecting or wiring the secondary circuit of the operating equipment, or when disconnecting, shortening or resuming the secondary circuit that is connected with the operating equipment when implementing isolation measures for the maintenance equipment.

(43)未经审批或无人监护的情况下进行保护软件软调试。

(43) Soft debugging of protection software without approval or supervision.

(44)以拷贝方式进行交直流控保软件的修改。

(44) Modify AC/DC control and protection software by copying.

(45)使用违规设备连接控保装置。

(45) Use illegal equipment to connect to the control and protection device.

(46)更换未确认程序版本的保护板卡。

(46) Replace the protection board of the unconfirmed program version.

(47)擅自投入有异常、闭锁信号的保护装置。

(47)Unauthorized input of a protection device with abnormal or blocked signals.

(48)未经申请、批准，擅自投退保护软（硬）压板、小开关等，擅自解除运行设备连锁、报警、保护功能。

(48) Without application, approval, turn on and off the protection soft (hard) pressure plate, small switch, etc., and remove the interlocking, alarm and protection functions of the operating equipment without authorization.

(49)系统、设备的主要保护、控制和防误闭锁装置不符合投运条件时，擅自投入运行。

(49) When the main protection, control and anti-misoperation locking devices of the system and equipment do not meet the commissioning conditions, put them into operation without authorization.

(50)直流输电系统单极运行时，对停运极中性区域互感器进行注流或加压试验。

(50) When the HVDC transmission system is running single-pole, the injection flow or pressure test is carried out on the transformer in the neutral area of the outage.

(51)运行极的一组直流滤波器停运检修时，对该组直流滤波器内与直流极保护相关的电流互感器进行注流试验。

(51) When a set of DC filters with running poles is out of service for maintenance, conduct a current injection test on

the current transformers in the set of DC filters related to DC pole protection.

(52) 进入阀体前未取下安全帽及安全带上保险钩。

(52) Before entering the valve body, the safety helmet and safety hook are not removed.

(53) 阀冷系统传感器检修前，未将其退出逻辑。

(53) Before the valve cooling system sensor was overhauled, it was not withdrawn from the logic.

(54) 强行解除闭锁进行开关、刀闸的传动试验。

(54) Forcibly release the lock and carry out the transmission test of the switch and the knife switch.

(55) 继电保护、安全自动装置及自动化监控系统传动试验时，未通知运维人员和有关人员，现场无人监视。

(55) During the transmission test of relay protection, safety automatic device and automatic monitoring system, operation and maintenance personnel and related personnel were not notified, and no one was monitored on site.

(56) 短接设备二次回路时，用导线缠绕。

(56) When shorting the secondary circuit of the equipment, wind it with a wire.

(57) 在带电的电流互感器、电压互感器二次回路上工作未采取防开路、短路的安全防护措施，将回路永久接地点断开。

(57) Working on the secondary circuit of a live current transformer and a voltage transformer, safety protection

measures against open circuit and short circuit are not taken, and the circuit is disconnected from the permanent grounding point.

(58) 在互感器、变压器、电抗器等设备检修试验时，未采取防止二次反送电的措施。

(58) In the maintenance test of transformer, transformer, reactor and other equipment, no measures were taken to prevent the secondary back power transmission.

(59) 被检修设备及试验仪器从运行设备上直接取试验电源，熔丝配合不适当，造成越级熔断总电源熔丝。

(59) The overhauled equipment and test instruments directly take the test power supply from the operating equipment, and the fuse is not matched properly, resulting in the overstepping fuse of the total power supply.

(60) 工作结束后，未按“二次工作安全措施票”逐项恢复同运行设备有关的接线，未拆除临时接线，未将相关压板及切换开关位置恢复至工作许可时的状态。

(60) After the completion of the work, the wiring related to the operating equipment is not restored item by item according to the "secondary work safety measure ticket", the temporary wiring is not removed, and the position of the relevant pressure plate and switch switch is not restored to the state of the work permit.

(61)试验装置的金属外壳未可靠接地，未先接接地端，后接

装置端。

(61)The metal shell of the test device is not reliably grounded, and the grounding terminal is not connected first, followed by the device terminal.

(62) 试验加压过程中未设置封闭围栏，围栏上未向外悬挂“止步，高压危险！”标示牌。

(62) No closed fence is set in the process of test voltage, and the fence is not hung outwards "Stop, high voltage danger" sign.

(63) 加压过程中试验人员与被试设备未保持足够的安全距离，高压试验操作人未站在绝缘垫上。

(63) In the process of adding voltage, the test personnel did not keep enough safe distance from the test equipment, and the high voltage test operator did not stand on the insulation pad.

(64) 被试设备两端不在同一地点时，另一端未派人看守，加压前未得到看守人的同意。

(64) When the two ends of the device under test are not in the same place, the other end is not guarded and the consent of the guard is not obtained before voltage is applied.

(65) 变更接线或试验结束时，未断开试验电源、放电，未将升压设备的高压部分放电、短路接地。

(65) When the wiring is changed or the test is over, the test power supply or discharge is not disconnected, and the

high-voltage part of the booster equipment is not discharged or short-circuit grounded.

(66) 大电容设备未先行放电再做试验。高压直流试验，每告一段落或试验结束，未将设备对地放电数次并短路接地。

(66) The large-capacitor equipment is not tested before being discharged. High-voltage DC test, each time the test comes to an end or the test is over, the equipment is not discharged to the ground several times and short-circuited.

(67) 高压试验加压过程中未有人监护并呼唱。

(67) The high voltage test was performed without supervision and Shouting during voltage addition.

(68) 变更试验接线或试验结束时，未首先断开试验电源、放电，未将升压设备的高压部分放电、短路接地。

(68) When the test wiring is changed or the test is finished, the test power supply is not disconnected or discharged first, and the high-voltage part of the booster equipment is not discharged or short-circuit grounded.

(69) 试验结束，试验人员未拆除所有自装的接地短路线，被试设备未恢复到试验前的状态，试验负责人未进行确认。

(69) At the end of the test, the test personnel did not dismantle all self-installed short grounding routes, the test equipment did not restore to the state before the test, and the test leader did not confirm.

(70) 晶闸管试验时，与试验带电体距离小于 0.7 米。

(70) When the thyristor is tested, the distance from the test charged body is less than 0.7 meters.

(71)直流穿墙套管或换流变高压试验时,阀塔上未采取隔离措施。

(71) No isolation measures are taken on the valve tower during the high voltage test of DC wall bushing or converter transformer.

(72) 换流变阀侧套管加压试验,网侧人员未撤离且绕组未可靠接地。

(72) The voltage test was applied to the bushing on the converter transformer valve side. The personnel on the grid side were not evacuated and the winding was not reliably grounded.

(73) 作业时，起重机臂架、吊具、辅具、钢丝绳及吊物等与架空输电线及其他带电体的最小安全距离小于下表要求规定,且未设专人监护。

电压 kV	<1	1~10	11	35	132	500	±660
最小安全距离 m	1.5	3.0	4.0	4.0	6.0	8.5	12

(73) During operation, the minimum safe distance between the crane boom, lifting tools, auxiliary tools, steel wire rope and lifting objects and overhead transmission lines and other charged bodies is less than the requirements in the table below, and there is no special person to supervise.

Voltage kV	<1	1~10	11	35	132	500	±660

Minimum safety distance m	1.5	3.0	4.0	4.0	6.0	8.5	12

3.装置违章 Device violation

(74) 安全工器具（安全带、操作杆等）有明显破损，未定期校验，未粘贴合格标签。

(74) Safety tools (safety belts, operating rods, etc.) are obviously damaged, have not been checked regularly, and have not been pasted with qualified labels.

(75) 作业现场的起重机具（吊带、手拉葫芦等）有明显变形或严重磨损。

(75) The hoisting equipment (slings, chain hoists, etc.) on the job site are obviously deformed or severely worn.

(76) 检修电源、施工临时电源未安装剩余电流动作保护器（漏电保护器）。

(76) Maintenance of power supply and temporary power supply for construction without residual current action protector (leakage protector).

(77) 高压电气设备及其附属装置（含设备网门、接地端等）未装设完善的防误闭锁装置或防误闭锁装置失灵。

(77) High-voltage electrical equipment and its auxiliary devices (including equipment net doors, grounding terminals, etc.) are not equipped with a complete anti-misoperation locking device or the anti-misoperation locking device fails.

(78) 连接电动机械及电动工具的电气回路未单独设开关或

插座，未装设漏电保护器，金属外壳未接地。电动工具未做到“一机一闸一保护”。

(78) The electrical circuit connecting the electric machinery and the electric tools is not equipped with a separate switch or socket, no leakage protector, and the metal shell is not grounded. Power tools do not achieve "one machine, one switch, one protection".

(79) 消防设施失去消防功能。

(79) Fire-fighting facilities lose their fire-fighting function.

（二）一般违章 General violation

1.管理违章 Management violation

(80) 设备变更后相应的规程、制度、资料未及时更新。

(80) After the equipment change, the corresponding procedures, systems and data are not updated in time.

(81)未按规定严格审核现场运行主接线图，主接线图不与现场设备一致。

(81) The main wiring diagram of the field operation is not strictly reviewed according to the regulations, and the main wiring diagram is not consistent with the field equipment.

2.行为违章 Behavior violation

(82) 现场作业人员的工作服衣领、袖口未扣好。

(82) Collars and cuffs of the work clothes of the field workers are not buttoned properly.

(83) 安全工器具（安全带、操作杆等）未按编号存放、未定置管理。

(83) Safety tools (safety belt, operating lever, etc.) are not stored according to the number, not fixed management.

(84) 在门型构架的线路侧进行停电检修，如工作地点在接地线外侧，且工作地点与所装接地线的距离大于 10m，未另装接地线。

(84) Perform power outage maintenance on the line side of the door frame. If the work site is outside the grounding wire and the distance between the work site and the installed grounding wire is greater than 10m, no extra grounding wire is installed.

(85) 移动式电动机械和手持电动工具的单相电源线未使用三芯软橡胶电缆。

(85) Three-core soft rubber cables are not used for single-phase power cords of mobile electrical machinery and hand-held power tools.

(86) 变电站后台监控机不具备挂牌功能或功能不完善。

(86) Substation backstage monitor does not have the listing function or the function is not perfect.

(87) 主控楼、高压室、站用电室、蓄电池室、控制室、保护小室、通信机房等未按规定加装挡鼠板或挡鼠板未正确放置。

(87) The main control building, high voltage room, station power room, battery room, control room, protection room,

communication room, etc. are not installed in accordance with the regulations or the mouse block is not placed correctly.

(88) 作业现场防火防爆气瓶无防晒、防倾倒措施，防护帽、防震圈不齐全。

(88) There is no sun protection and anti-dumping measures for fire and explosion-proof gas cylinders at the job site, and the protective cap and shock-proof ring are not complete.

(89) 操作票填写时未使用规范的操作术语。

(89) The operation ticket did not use standardized operation terms when filling in.

(90) 倒闸操作未全程录音。

(90) The whole process of switching operation is not recorded.

(91) 现场进行滤油工作未安排专人看管，未做好防漏、防火措施，工作中断或工作结束未将电源切断。

(91) The oil filtration work on site is not supervised by special person, leakage prevention and fire prevention measures are not taken, and the power supply is not cut off when the work is interrupted or the work is finished.

(92) 使用校验仪检验继电保护装置、自动化监控设备、安全自动装置时，未将校验仪可靠接地。

(92) When using a calibrator to test relay protection devices, automatic monitoring equipment, and safety automatic devices, the calibrator is not reliably grounded.

(93) 二次工作，被检修设备及试验仪器未使用试验电源。

(93) In the second work, the overhauled equipment and test instruments do not use test power.

(94) 清扫运行设备和二次回路时，未采取防止振动、防止误碰的措施，未使用绝缘工具。

(94) When cleaning operating equipment and secondary circuits, no measures are taken to prevent vibration or accidental collision, and no insulating tools are used.

(95) 变电站内外工作场所的井、坑、孔、洞或沟道，未覆以与地面齐平而坚固的盖板。在检修工作中需将盖板取下时，未设临时围栏。临时打的孔、洞，施工结束后，未恢复原状。

(95) The well, pit, hole, hole or channel in the work place inside or outside the substation is not covered with a solid cover plate flush with the ground. When the cover plate needs to be removed in the maintenance work, there is no temporary fence. The holes and holes made temporarily are not restored to their original state after the completion of construction.

(96) 电气试验需要断开设备二次接线时，拆前未做好记录，恢复后未核对并签名确认。

(96) When the secondary wiring of the equipment needs to be disconnected in the electrical test, the record was not made before the disassembly, and the verification and signature were not confirmed after the restoration.

(97) 试验装置的电源开关，没有明显断开点。

(97) The power switch of the test device has no obvious breaking point.

(98) 使用梯子进行工作无有效固定措施时未设专人扶持。

(98) When working with ladder without effective fixed measures, there is no special person to support.

(99) 单梯距梯顶 1m 处未设限高标志，人字梯无限制开度的措施。梯子上有人时移动梯子。

(99) There is no height limit sign at 1m from the top of the single ladder, and there are no measures to limit the opening of the herringbone ladder. Move the ladder when there are people on the ladder.

(100) 外来工作人员未正确佩戴临时工作证或临时工作证不规范。

(100) The external staff does not wear the temporary work permit correctly or the temporary work permit is not standardized.

(101) 变电站内使用中的起重机械、高空作业车未可靠接地。接地线未采用多股软铜线，其截面不满足接地短路容量的要求或小于 16mm^2。

(101) Lifting machinery and aerial work truck used in substation are not reliably grounded. The grounding wire does not use multi-strand flexible copper wire, and its section does not meet the requirements of grounding short-circuit capacity or is less than 16mm2.

(102) 接地线装设在带有油漆或绝缘层等接地体上。

(102) The grounding wire is installed on the grounding body with paint or insulation layer.

(103) 用电设备的电源引线长度大于5m时，未设移动开关箱。

(103) When the power lead length of electrical equipment is greater than 5m, there is no moving switch box.

(104) 将运行中转动设备的防护罩打开；将手伸入运行中转动设备的遮栏内；戴手套或用抹布对转动部分进行清扫或进行其他工作。

(104) Open the protective cover of the rotating equipment in operation. Put your hand into the screen of the rotating device in operation. Wear gloves or use a cloth to clean the rotating part or do other work.

(105) 电气设备操作后的位置检查应以设备各相实际位置为准，无法看到实际位置时，应通过间接方法，如设备机械位置指示、电气指示、带电显示装置、仪表及各种遥测、遥信等信号的变化来判断。判断时，至少应有两个非同样原理或非同源的指示发生对应变化，且所有这些确定的指示均已同时发生对应变化，方可确认该设备已操作到位。以上检查项目未填写在操作票中作为检查项。

(105) The position inspection of electrical equipment after operation shall be based on the actual position of each phase of the equipment. If the actual position cannot be seen,

it shall be judged by indirect methods, such as the change of mechanical position indication, electrical indication, live display device, instrument and various telemetry, remote signal and other signals. When judging, at least two non-identical principles or non-homologous indicators should have corresponding changes, and all these determined indicators have corresponding changes at the same time, before confirming that the equipment has been operated in place.The above inspection items are not filled in the operation ticket as the inspection items.

(106) 堆土应距坑边 1m 以内，高度超过 1.5m。

(106) The mound should be within 1m from the pit edge with a height of more than 1.5m.

3.装置违章 Device violation

(107) 开关设备无双重名称。

(107) Switchgear has no dual tags.

(108) 设备标识牌不清楚、脱落或与设备名称不符。

(108) Equipment identification plate is not clear, falls off or does not match the equipment name.

(109) 消防棚内消防器材不方便取用，未定置管理。

(109) The fire equipment in the fire shed is inconvenient to access and has not been fixed for management.

(110) 机械设备转动部分无防护罩。

(110) The rotating part of mechanical equipment has no

protective cover.

(111) 电气设备外壳无接地。

(111) Electrical equipment shell is not grounded.

(112) 临时电源无漏电保护器。

(112) Temporary power supply without leakage protector.