

# UNDP 主楼2F 辅楼2F办公室改造

## UNDP Main 2F /Annex 2F Office Project

设计阶段： 施 工 图  
专 业： 机电设计



北京雅地东华建筑工程有限公司

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工程名称 UNDP 主楼2F 辅楼2F办公室改造  
UNDP MAIN 2F And ANNEX 2F OFFICE REMODEL

装修面积/Aera \_\_\_\_\_

工程编号/Project Number \_\_\_\_\_

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## Project

# UNDP

Title

# List of MEP drawings 机电图纸目录

### MAIN BUILDING ANNEX BUILDING

## 主楼 辅楼

# 2F

Drawn	Date	2020.08.26
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电 气 设 计 说 明

一、工程概况: Project Profile		电设备应设置明显标志。Obvious signs should be set up for fire control distribution equipment	
1、工程名称: UNDP 主楼2F 辅楼2F办公室改造	Project:UNDP MAIN 2F ANNEX 2F OFFICE REMODEL	5、建筑内的电缆井、管道井应在每层楼板处采用不低于楼板耐火极限的不燃材料或防火封堵材料封堵。建筑内的电缆井、The cable well and pipeline well in the building shall be sealed with non-combustible material or fire blocking material not lower than the fire resistance limit of the floor at each floor	
2、工程地址: 北京市朝阳区亮马桥河南路2号	Project address:Henan Road, Liangmaqiao, Chaoyang District, Beijing	管道井与房间、走道等相连通的孔洞应采用防火材料封堵。In the building, the cable wells, pipe wells and rooms, walkways and other connected pores should be closed with fireproof materials	
3、本次设计范围为主楼2F、辅楼2F室内装修。	The design scope is 2F of main building and 2F of annex building	6、消防用电设备应采用专用的供电回路,当建筑内的生产、生活用电被切断时,应仍能保证消防用电。Special power supply circuit should be adopted for the electric equipment of fire fighting. When the electric power of production and life in the building is cut off, the electric power of fire fighting should still be guaranteed	
4、本次装修未改变原有防火分区,未影响其它区域安全疏散。 This This renovation did not change the original fire zone, and did not affect the safety evacuation of other areas		备用消防电源的供电时间和容量,应满足该建筑火灾延续时间内各消防用电设备的要求。The power supply time and capacity of the standby fire-fighting power supply shall meet the requirements of all fire-fighting electrical equipment during the fire duration of the building	
二、设计依据: Design basis		7、消防控制室、消防水泵房、防烟和排烟机房的消防用电设备及消防电梯等的供电,应在其配电线路的最末一级配电箱 For the power supply of fire-fighting electrical equipment and fire-fighting elevators in the fire-fighting control room, fire-fighting water pump room, smoke prevention and	
1、《民用建筑电气设计规范》 JGJ 16-2008	Code for electrical design of civil buildings JGJ16-2008	8、《火灾自动报警系统组件兼容性要求》 GB22134-2008	
2、《建筑设计防火规范》 GB50016-2014 (2018年版)	Code for Fire Protection Design of High-rise Civil Buildings (GB50016-2014)	9、《消防安全标志 第1部分:标志》 GB 13495. 1-2015	
3、《办公建筑设计标准》 JGJ/T 67-2019	Design standards for office buildings JGJ/T 67-2019	10、《建筑机电工程抗震设计规范》 GB60981-2014	
4、《建筑照明设计标准》 GB50034-2013	Lighting design standards for buildings GB50034-2013	11、《建筑内部装修设计防火规范》 GB50222-2017	
5、《公共建筑节能设计标准》 GB 50189-2015	Energy Conservation design standards for public Buildings GB 50189-2015	12、《消防应急照明和疏散指示系统技术标准》 GB51309-2018	
6、《绿色建筑评价标准》 GB/T 50378-2019	Green building evaluation criteria GB/T 50378-2019		
7、《火灾自动报警系统设计规范》 GB50116-2013	Design specification for automatic fire alarm system GB50116-2013		
三、设计内容: Design content		六、线缆敷设与接地;Cable laying and grounding	
本次设计包括照明、应急照明、疏散、插座及消防报警系统。This design includes lighting, emergency lighting, evacuation, socket and fire alarm system		1、照明,动力支线路穿JDG管在楼板、墙内暗敷或沿桥架明敷。 Lighting, power branch are through THB DG tube in the floor, wall dark or along the bridge.	
四、照明及插座系统: Lighting and socket system		2、本工程消防用电配电线路采用JDG钢管,图中除注明外一般照明为WDZC-BYJ3*2.5阻燃无卤线, All the conduits are JDG. Unless otherwise specified, WDZC-3x2.5mm2 for lighting and socket	
1、照明功率密度(LPD)值应满足现行国家标准《建筑照明设计标准》GB50034规定的现行值。 The LPD value of lighting power density should meet the current value stipulated in the current national standard "Building Lighting Design Standard" GB50034		插座如无特殊说明均选用WDZC-BYJ 3x4.0阻燃铜芯线 导线穿线管径均为JDG-20。	
应选用高效节能照明产品,照明系统的功率因数PF≥0.9,镇流器系数PF≥0.95,波峰系数CF≤1.7。 High efficiency and energy saving lighting products should be selected, the lighting system power factor PF ≥ 0.9, ballast lumen coefficient μ ≥ 0.95, wave peak coefficient CF ≤ 1.7		3、不同电压等级的线缆不应穿入同一根保护管内,当合用统一线槽时,线槽内应有隔板分隔。 Cables of different voltage classes shall not be threaded into the same root protection tube. When the unified wire slot is used, there shall be a separator inside the slot	
办公建筑和其他类型建筑中具有办公用途场所的照明功率密度限值应符合表6.3.3的规定。 The lighting power density limits of office buildings and other types of buildings with office USES shall comply with the provisions of Table 6.3.3		4、消防配电线路应满足火灾时连续供电的需求。暗敷时,应穿管并应敷设在非燃烧结构内且保护层厚度不应小于30mm。 The fire protection distribution line shall meet the demand of continuous power supply in case of fire. In case of dark packing, the pipe shall be pierced and laid in the non-combustible structure, and the thickness of protective layer shall not be less than 30mm.	
Table 6.3.3 Limits of lighting power density for office USES in office buildings and other types of buildings		5、总线、支线必须采用阻燃电线,所有电线电缆管均采用金属管,管与管、管与接线盒之间要可靠连接,同时接地。 The bus and branch lines must be flame retardant wire, and all the wiring pipes shall be metal pipes. The pipes shall be reliably connected to the pipes and the pipes to the junction box.	
表 6.3.3 办公建筑和其他类型建筑中具有办公用途场所照明功率密度限值		电源使用做到三相平衡。	
Room and Place 房间或场所		6、金属电缆桥架及其支架和引入或引出的金属电缆导管必须	
照明标准值 (lx)	Lighting power density limit value	The metal cable tray and its supports and the metal cable conduit introduced or led out must be grounded reliably and must comply with the following provisions:	
	The current value	接地可靠,且必须符合下列规定: (1) 金属电缆桥架及其支架全长不应少于2处与接地干线相连接。(2) 非镀锌电缆	
400	40.0	(1) The metal cable tray and its supports shall be connected with the ground main at no less than 2 places of the whole length.	
500	45.0	桥架间连接板的两端跨接铜芯接地线,接地线截面不小于4mm <sup>2</sup> , 3镀锌电缆桥架间连接板的两端可不跨接接地线,但连	
400	40.0	(2) The ends of the connecting plates between non-galvanized cable bridges shall be bonded to the ground wire with a steel core with a cross-section of no less than 4mm.	
300	41.0	接板两端应设有不少于2个有防松锁紧或防松垫圈的连接固定螺栓。 The two ends of the connecting plate between the galvanized cable tray may not be connected with the ground wire. However, there shall be no less than two connection fixing bolts with a locknut or lockwasher at each end of the connecting plate.	
2、消防应急照明和疏散指示标志采用蓄电池作备用电源,电池初始容量备用时间不小于90min。 安全出口灯、疏散 The battery shall be used as the backup power for fire emergency lighting and evacuation indicator signs. The standby time of the initial capacity of the battery shall not be less than 90min		七、消防报警系统 Fire alarm system	
标志灯采用超薄型灯具,应急照明灯和疏散标志灯该不能材料制作的保护罩。 Safety exit lights and evacuation sign lights adopt ultra-thin lamps. Protective covers made of non-combustible materials shall be provided for emergency lights and evacuation sign lights		1、消防联动控制器应具有切断火灾区域及相关区域的非消防电源的功能,当需要切断正常照明时,宜在自动喷淋系统、	
3、GB51309-2018, 3.2.4规定系统应急启动后,在蓄电池电源供电时的持续工作时间应满足下列要求: GB51309 -- 2018.3.2 After the emergency start of the system, the continuous working time during the battery power supply shall meet the following requirements:		The fire linkage controller shall have the function of cutting off of the non-fire power supply in the fire area and related areas. When normal lighting needs to be cut off,	
(1) 建筑高度大于100m的民用建筑,不应小于1.5h。(2) 医疗建筑、老年人照料设施、总建筑面积大于100000m <sup>2</sup>		消防系统动作前切断。消防联动控制器应具有打开通道逃生上由门禁系统控制门的的功能。 it is appropriate to cut off the automatic sprinkler system and fire hydrant system before the action. Pin prevention linkage control Liqin should have the function of	
(1)The height of a civil building greater than 100m should not be less than 1.5h. (2)Medical buildings, facilities for elderly care, public buildings with a total floor area of more than		消防水泵、防烟和排烟风机的控制设备,除应采用联动控制方式外,还应在消防控制室设置手动直接控制装置。 opening the control door by the access control system on the evacuation channel.For the control equipment of fire pump, smoke prevention and smoke exhaust fan, in addition to linkage	
的公共建筑和总建筑面积大于200000m <sup>2</sup> 的地下、半地下建筑,不应少于1.0h。(3) 其他建筑,不应少于0.5h。(3)Other buildings should not be less than 0.5h		消防联动控制器应能按设定的控制逻辑向各相关的受控设备及发出联动控制信号,并接受相关设备的联动反馈信号。 control mode, manual direct control device should also be set in the fire control room. The fire detector protected by short-circuit of each bus and the manual fire alarm press, such as the lead and module,	
100,000 square meters, and underground and semi-underground buildings with a total floor area of more than 20,000 square meters shall not be less than 1h		各受控设备接口的特征参数应与消防联动控制器发出的联动控制信号相匹配。 controlled devices according to the set control and return sequence, and receive linkage feedback signals from related devices. The characteristic parameters of each controlled	
集中电源蓄电池组和灯具自带蓄电池达到寿命周期后标称的剩余容量应保证放电时间满足本条第(1)款~第(3)款规定 The nominal residual capacity of the central power battery and the self-provided battery of the lamps after reaching the life cycle shall ensure that the discharge time meets the continuous working time stipulated in subparagraphs (1)-(3) of this article		2、火灾自动报警系统应设置火灾声光报警器,并应在确认火灾后启动建筑内的所有火灾声光报警器。 The automatic fire reporting system shall set up the fire sonoluminescence heat reporting system, and shall start all the fire sonoluminescence sensors in the building after confirming the fire	
的持续工作时间。		3、每个报警区域均应均匀设置火灾报警器,其声压级不应小于60dB;在环境噪声大于60dB的场所,其声压级应高于 Fire alarms shall be set up uniformly in each alarm area. Its sound pressure image should not be less than 80dB; Where the ambient noise is greater than 80dB, the pressure boost heat should	
4、照明和插座分别由不同的支路供电,照明为单相三制线,用WDZC-BYJ3*2.5阻燃铜芯线。 The lighting and socket are respectively powered by different branches. The lighting is single-phase three-wire system with WDZC -- BYJ3*2.5 flame retardant copper core		背景噪声15dB,且带有语音提示功能时,应同时设置语音同步器。 15dB higher than the background noise. With voice prompt function, the voice synchronizer should be set at the same time.	
插座为单相三制线,线缆及开关型号参见配电系统图,所有插座回路均设漏电断路器保护。 The socket is single-phase three-wire system. The cable and switch models are shown in the distribution system diagram. All the socket circuits are protected by leakage circuit breakers		4、系统总线上应设置总线短路隔离器,每只总线短路隔离器保护的火灾探测器、手动火灾报警按钮和模块等消防设备 The system bus shall be equipped with a short-circuit high divider. The fire detector protected by short-circuit of each bus and the manual fire alarm press, such as the lead and module,	
5、消防安全疏散标志通常设置在距地面高度1m~一下的墙面上,间距不应大于1米。 Fire safety evacuation signs are usually set on the walls less than 1m from the ground, and the spacing should not be more than 10m		的总数不应超过32点,总线穿越防火分区时,应在穿越处设置总线短路隔离器。 shall not be over 32 points. When the bus passes through the fire partition, the bus should be set up at the crossing point.	
6、建筑内疏散照明的地面最低水平照度应符合下列规定:对于疏散走道,不应低于1.0lx;对于人员密集场所、避难层 The floor illumination of evacuation lighting in the building shall meet the following requirements: for the evacuation corridor, it shall not be lower than 1.0lx;		八、电气节能措施	
(四)、不应低于3.0lx;对于老年人照料设施、病房楼或手术部的避难间,不应低于10.0lx;对于楼梯间、前室或合用前 For crowded places and refuge floors (between), it should not be lower than 3.0lx; For elderly care facilities, wards or surgical units, the number of refuge Spaces should not be lower		1、据《建筑照明设计标准》确定不同场所的照度及照明功率密度标准(不高于标准中规定的现行值),根据视觉作业要求,对 According to the "building lighting design standard" determine the different place of blackness and standard lighting power density (not in the current value specified in the standard),	
室、避难走道,不应低于10.0lx。 than 10.0lx; For stairwells, front rooms or Shared front rooms, and evacuation corridors, it should not be lower than 10.0lx		不同场所进行照明设计,并合理利用天然采光,应结合天然采光条件进行人工照明布置,具有天然采光的区域应独立分区控制。 according to the visual requirements, lighting design in different places, and use natural daylighting, & should be combined with natural light conditions for artificial Zhi Ming decorated, with the regional natural lighting should be source zone control.	
五、消防设计: Fire protection design		2、公共建筑的电能计量应按用途、物业归属、运行管理及相关专业要求设置电能计量,国家机关办公建筑及大型公共建筑 The electric energy meter of public buildings should be set up according to the requirements of measuring purpose, property ownership, operation management and related majors.	
1、木饰面上的面饰层加石棉垫做好绝热、防火、开关、插座和照明灯具靠近可燃物时,应采取隔热、散热等防火措施。The wood veneer should be insulated and fireproof with asbestos pads. When switches, sockets and lighting fixtures are near combustibles, fire prevention measures such as heat insulation and heat dissipation should be taken		的分项计量还应满足《公共机构办公建筑用能分类计量技术要求》DB11/T824的相关要求。 The itemized measurement of office buildings of state organs and large public buildings should also meet the requirements of DB/T624 of Classified Measurement Technology for Electric	
2、照明灯具及电气设备、线路的高温部位,当靠近非A级装修材料或构件时,应采取隔热、散热等防火保护措施,与A For the high-temperature part of lighting fixtures and electrical equipment and circuits, when it is close to non-A-grade decoration materials or components, fire protection measures such		对照明、景观照明、厨房等设置独立分项电能计量装置。 Energy of Office Buildings of Public Institutions. For lighting, landscape lighting, kitchen and other independent sub-electrical energy meter installed.	
饰、棉幕、幕布、软包等装修材料的距离不应小于500mm;灯饰应采用不低于B1级的材料。 as heat insulation and heat dissipation shall be adopted. The distance between lighting fixtures and decoration materials such as curtains, curtains, curtains and soft bags shall not be less than 500mm; Lighting should be made of materials at least B1 level		九、其他: Else	
3、建筑内部的配电箱、控制面板、接线盒、开关、插座等不应直接安装在低于B1级的装修材料上;用于顶棚和墙面装修 Distribution boxes, control panels, junction boxes, switches, sockets, etc. inside the building shall not be installed directly on decoration materials lower than Class B1;		1、图纸未注明部分请参见相关规范,所有弱电部分不在机电设计范围内。 Please refer to relevant specifications for parts not specified in the drawings. All weak current parts are not within the scope of electromechanical design.	
的木质类板材,当内部含有电器、电线等物体时,应采用不低于B1级的材料。不宜设置采用B3级装饰材料制成的壁 For ceiling and wall decoration of the wood plate, when the interior contains diashi, wire and other objects, should be used at least B1 level of materials		2、消防设备要有入网许可证,电气设备不得使用淘汰产品。 Fire equipment must have access to the network permit, electrical equipment shall not use full tide products.	
挂、布艺等,当需要设置时,不应靠近电气线路、火源或热源,或采取隔离措施。 Wall hanging and cloth art made of B3 decorative materials should not be set. When setting, it should not be close to electrical circuit, fire source or heat source, or take isolation measures		3、竣工时需提交3C认证及相关合格检测报告。 Late working hours shall be submitted for 3C certification and relevant qualified testing report.	
4、按一、二级负荷供电的消防设备,其配电箱应独立设置;按三级负荷供电的消防设备,其配电箱宜独立设置。消防配 The distribution box of the fire fighting equipment supplied by the first and second loads shall be set up independently. The distribution box of fire fighting equipment supplied by three-level load should be set up independently.			

Project

Title

MAIN BUILDING ANNEX BUILDING

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UNDP

Electrical Design Instruction

电气设计说明

主楼 辅楼

2F