



Construction strategy of Urban substation under

Multi-constraints Conditions

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Abstract: from the constraints of policies and regulations, natural environment and social environment, this paper analyse s the restriction factors of substation construction, puts forward perfect planning, including specific strstecpes in dock ing mechanism, optimizing encpneering DESICP, coordination responsibilities for project localization implementation, cons Truction management Improvement, new technology of construction, in order to improve the quality and efficiency of </12

Substation Construction in center urban area. *Keywords:* Urban substation multi-constraints condition; strategy

1. Introduction

with rapid socio-economic development, City Load and Yue Increase, power grid shows high load density features . to guarantee power quality amount, meet load Power requirements, City Center area construction the voltage-level substation has become an inevitable trend for KV and above. however, Urban substation in the actual construction of the site often have difficulty locating, channel tense, Construction coordination is difficult and many other problems, causes substation constructionstruggling.

2. Constraining conditions for substation construction

2.1 Policy Restrictions

1) city Planning requirements . planning requirements for urban substations local city Planning requirements , substation site , power channel style Both and path selection are required to conform to the city's near-term planning layout . and with the city's rapid development , Scarcity of land resources and benefits highlighting , The central city can be used for the construction of substation and transmission corridor with more Intense resources .

2) Basic program Construction requirements . City Substation Construction subject to construction procedures Policy and corporate regulations , contains the project , to research , approve , tender , design , Review , Construction and acceptance phases , involves a large number of government departments , Administrative approval procedures to be processed Miscellaneous , These factors directly constrain the progress of construction projects .

2.2 natural environment constraints

1) geo-topography requirements . substation Construction subject to topography , Minerals Strict restrictions on natural conditions such as resources and engineering geology . at the end of the site address and Line channel selection , must avoid unprotected undesirable

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2) hydrometeorological . Urban substation construction subject to hydrological weather , station hydrogeological conditions for site works , station power source ,Station Area water supply bar items , Restrictions on various factors such as flood prevention and drainage .

3) traffic conditions. Transport for large equipment in substation with public Road, Traffic police, the Railways and other related departments communicate and coordinate more than once, to ensure that the transport operation scheme for bulky equipment is feasible.

2.3 social environment constraints

1) Environment Evaluation . City substation before construction , approve construction after , before formally put into use , must pass strict environmental assessment . substation Construction takes reliable , Effective measures , ensure strong EMF degrees , , noise ,, etc. meet environmental standards .

2) Removal compensation . Grid construction project site , corridor occupy Land , and give local residents or villagers certain financial compensation . due to for various reasons , Sometimes the compensation of the occupied inhabitant or villager is the same as the expected to be not appropriate , Even some outlaws take the opportunity to sit up to the starting , Diffuse Day price , and take land compensation as a lower-disturbance-blocking construction . current , remove Move , Green to lose , The big drag has become the normalization of engineering construction Q title , seriously affect the smooth conduct of grid construction , cause substation construction duration Unlimited delay . such as a city kV Substation after 8 year to be built into production , hard to imagine .

3) Public Opinion Impact . Increase the awareness of environmental protection , public all The more important to the surrounding environment , for ambient quality The requirements are also increasing . Various kinds of information from a wide variety of sources, as well as a description of very different kinds of things like invisible Killer ,Electromagnetic radiation several great dangers harm "" effect , Public to the so-called power transmission facilities solenoid Fire "" concerns and concerns enhanced . city residents for objections in the community perimeter construction substation , often take a blocking door , Meditation , Network Posting various ways to boycott substation settled .

2.4 Engineering Reference Unit management level control

grid Construction involves a wide range of links, Project from decision to fiscal

Accounts, Build Cycle long, stakeholders are numerous, includes owner, Set count unit, Construction Unit, Device Vendor, government administration and so on All things, the uncontrollable elements of the project implementation management process are also increased is subject to the experience and level of project managers, and lack of section Guidelines for project management methods, Project Construction Management process existence post not clear, process not smooth, schedule is unreasonable, shi no drawings Design depth, The issue of material supply lag is issued live, Causes the construction duration to delay, Inefficient management.

3. Research on Control strategy of substation construction

3.1 perfecting the organic link between power grid planning and Urban master plan

Mechanism

should actively strengthen with relevant power companies communication government departments Department, incorporating power planning into urban and rural general planning, to build the grid with the ground Square Plan synchronous launch, Organic convergence, source control from city planning and Reserve Grid project development space . First you should know about the Construction of substation planning site conditions, to avoid dwelling as much as possible when planning Zone More sensitive areas such as schools implementation construction . initial period , Group Weaving experts and public representatives to participate in decision discussions and comments, legally Environmental impact assessment, Preparing environmental impact report. planning sites ok, strictly control perimeter sites, Place substation site, high-tension lines corridor included in



City details reserved and protected, Make sure that the power is turned site construction projects can be effectively implemented.

3.2 Optimizing Engineering

Build two Type (resource-saving , Environment-friendly industry power grid , by simplifying main wiring , using advanced miniaturization , Energy-saving devices ,Compact layout optimization Design , make substation each distribution Device Layout more reasonable , Increase building space utilization , in _ Step down the building area of the substation , improve the city center area Land Utilization . enhance the synergy between engineering design and construction , pin for selection of selected sites (If land requisition is difficult , route via mining area , To protect Zone and other sensitive areas and across the Yangtze River , high speed ,, Canyon, etc Big Cross issues multi-scheme selection , full argument , securing design from Source The implementation of the scheme and engineering total life cycle economic benefits best ^[2]. 2.3Implementing project Localization coordination Duties

Pre-issue, combined with project actual construction of substation The difficulties or risks that may occur in the process are predicted, Early development should to policy. for the construction process " removal difficult " Green indemnity, Reconcile Hard "" questions, To establish a localized, Specialization, Normalize, EfficientConstruction Coordination Working mechanism . on the one hand actively enhance public opinion guidance , on small area , Street etc carry out various ways of popular science propaganda, Front Promotion Power infrastructure construction and Environmental protection Science knowledge, Direct Public Confirmation about substation construction and self-interest one Sexual and rational . another to integrate power grid development with local economic development, is The high support of local government in power grid construction, power grid Construction projects into urban urban construction key projects "" Green channel " by all levels " The government is responsible for organizing the selection of power construction Select the grid line Land Requisition, Demolition, Beanstalk compensation etc pre-work, to promote the problem of the levy of Green compensation through administrative force resolution .

3.3 Improve construction management level

Building owner Project Responsibility, The Owner Project department is responsible for the base overall plan for building work, key point control and upload release coordination work, Domain Infrastructure Coordination Management work. Enhanced integration work mechanism up-down linkage, does the "" Clear, Week coordination, monthly assault enforce with Design Unit, General contractor, Subcontract Unit, device vendors etc Door Horizontal contact, ensures that work time nodes are coordinated with each other, Timely control of engineering security, quality, Progress, cost, etc., Analysis of problems arising in the construction process, Prompt for remediation and Corrective Action, Ensure engineering construction is advanced in an orderly manner.

3.4 New construction technology for Rice

Strengthening research on construction technology, actively adopt national network company Intelligence Line whole Substation Modular construction process mechanized construction , Increase construction efficiency . with advanced application , technology results Energy-saving setting with , material , Improve device integration . Factory-scale production , integrated tuning try , standard distribution, Improve process quality, Improve construction efficiency. innovator path construction mode, with assembly build, structure, with a modular group device, field Quick Assemble, reduce construction site wet jobs " real " now Green construction , shortening construction cycle . construction site with safety and advanced efficiency of technical equipment and construction technology Promote mechanized construction, mention High Resource utilization, reduce onsite security risk ^[3].

4. Epilogue

This article focuses on the problems of substation construction in Central city area, divide Analysis of the





restrictive conditions faced by the construction of substation in central City, and propose appropriate coping strategies and work recommendations accordingly, to resolve City District substation " Landing difficult, difficult to buildquestions provide ideas and basis.

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