Special Session I

Special Session Basic Information:

专栏题目 Session Title	中文：新型电力系统转型关键期全要素规划关键技术 英文： Key Technologies of Total Factor Planning in Critical Period of New Power System Transformation

专栏介绍和征稿主题
Introduction and topics

中文：

近年来，电力系统进入转型关键期，新能源井喷式发展、各类电源多样化建设、特高压直流外送通道大量增加，电力系统“双高”特征凸显，系统惯量、电压支撑、频率调节能力下降，灵活调节能力不足矛盾日趋突出。此外，随着源网荷储一体化、智能微电网、虚拟电厂等新型经营主体快速发展，电价政策、责任分担、运营模式等相关配套技术手段研究相对滞后。新型电力系统转型关键期需从源、网、荷、储、技术、市场、政策等方面开展全要素规划，提升电网的灵活性、安全性和可靠性。本专栏围绕电力供需平衡、大电网安全稳定机理、政策与市场机制，对新型电力系统规划关键技术展开讨论。

征稿主题包括但不限于：

1. 新型电力系统下的供需平衡分析方法
2. 新型电力系统下的调节能力分析方法
3. 新型电力系统下的交直流电网安全稳定机理
4. 新型电力系统下的低频等柔性输电规划技术
5. 新型电力系统下的灵活性资源成本回收机制
6. 新型电力系统下的源网荷储一体化运行策略
7. 新型电力系统下的辅助服务市场机制

英文：

In recent years, the power system has entered a critical period of transformation. New energy blowout development, diversified construction of various power sources, and a large increase in UHV DC transmission channels have highlighted the ' double high ' characteristics of the power system. The system inertia, voltage support, and frequency adjustment capabilities have declined, and the contradiction between insufficient flexible adjustment capabilities has become increasingly prominent. In addition, with the rapid development of new business entities such as source-grid-load-storage integration, smart microgrids, and virtual power plants, research on related supporting technical means such as electricity price policy, responsibility sharing, and operation mode is lagging behind. In the critical period of new power system transformation, it is necessary to carry out total factor planning from the aspects of source, network, load, storage, technology, market and policy, so as to improve the flexibility, safety and reliability of power grid. This column discusses the key technologies of new power system planning around the balance of power supply and demand, the security and stability mechanism of large power grids, and the policy and market mechanism.

The solicitation topics include but are not limited to :

1.Analysis method of supply and demand balance in new power system

2.Analysis method of regulation ability under new power system

3.The security and stability mechanism of AC / DC power grid under the new power system
4.Low frequency equal flexible transmission planning technology in new power system
5.Flexible resource cost recovery mechanism in new power system
6.Source-grid-load-storage integrated operation strategy under new power system
7.Auxiliary service market mechanism under the new power system

Special Session Chair(s):

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Organizer's Brief Biography

中文：高级工程师、博士，长期从事交直流混联电网形态演变与构建关键技术方面的研究工作。
英文：As a senior engineer and doctor, he has been engaged in the research on the evolution of AC / DC hybrid power grid and the key technology of construction for a long time.

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Organizer's Brief Biography

中文：高级工程师、博士，长期从事新型电力系统下的电力供需协同规划方面的研究工作。
英文： As a senior engineer and doctor, he has been engaged in the research work of power supply and demand collaborative planning under the new power system for a long time.