







build a science and technology innovation capability system which is consist of "first class and four great" science and technology development strategy, technology innovation system as the core with technology project management system as the safeguard, technological innovation investment as the driving force, and the effectiveness of science and technological innovation as the goal of technological innovation capacity building, as shown in Figure 5.

In the "Eleventh Five-Year Plan" period, SGCC has used the state's preferential policies on supporting enterprises in science and technological innovation fully, has increased investment in R&D, and the research and development cost reached a total of 24.9 billion Yuan, and the average annual growth was 24.6%. SGCC has established a S&T innovation system which focusing on science and technology team building, research resources integration, experiment and test capability improvement, application of scientific and technological achievements, intellectual property management gradually. In the S&T innovation system, the direct research units are taken as the backbone, the provincial companies as the basis, and the external research resources as collaborative system. SGCC continues to improve research and test system, and has formed the world's most advanced power transmission and distribution research and test system, has built a "four-base and two-center" (UHV AC test base, UHV DC test base, high-altitude test base, tower test base, a large grid simulation test and measurement center) as the core of research and test system, and has formed high voltage, large power experimental research system which is the world's most complete, the test capability is the strongest, the technology level is the highest in the world, and the overall performance indicators have reached world leading level. SGCC has constructed a sound technology project management system which concludes decision-making layer, management layer, operation layer, implementation layer. It uses the hierarchical classification strategy in science and technology project management, and promotes research projects intensive and standardized management.

The science and technology innovation system of SGCC has achieved remarkable progress, and the S&T innovation results are fruitful. Through the efforts, SGCC was named as the first "National Innovative Enterprise", and won the "Special scientific and technological innovation" award.

## VI. CONCLUSIONS

The world is undergoing a profound change in energy technology and the era of power-centered energy consumption is coming. The status of China's energy resources determines that China must develop modern power grid to meet the energy technology revolution vigorously. SGCC has explored a scientific way of science and technology innovation capability building which is fit for the characteristics of SGCC, and will optimize and improve the science and technology innovation system according to the development of the practice, and also will integrate and optimize the research resources so as to promote the science and technology innovation system and achieve synergy effect continuously. The science and technology innovation capability building practice of SGCC may have some reference to large central enterprises in China. We hope that more companies will build up a sound science and technology innovation system, so as to enhance the innovation capability of China's enterprises, to enhance our ability to respond to changes in energy, and ultimately enhance the national innovation capability.

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