



CSIR-Structural Engineering Research Centre

CSIR Campus, CSIR Road, Taramani, Chennai – 600113

Tele: 044-22549145; Email: bkmd@serc.res.in

Press Release

CSIR-SERC, Chennai develops indigenous Emergency Retrieval System for Power Lines

Chennai, 12th November 2020. Council of Scientific and Industrial Research (CSIR)'s Chennai based constituent laboratory Structural Engineering Research Centre (SERC) has developed an indigenous technology, Emergency Retrieval System (ERS), for quick retrieval of power transmission in the event of failure of transmission line towers. CSIR-SERC has signed an agreement for licensing of the ERS technology with M/s Advait Infratech, Ahmedabad. The agreement was signed in the presence of Prof. Santosh Kapuria, Director, CSIR-SERC, Chennai and Shri S.K. Ray Mohapatra, Chief Engineer (PSE & TD), Central Electricity Authority, New Delhi.

ERS is a lightweight modular system that is used as temporary support structure to restore power immediately after the collapse of transmission line towers during natural calamities such as cyclone/earthquake, or manmade disruptions. ERS can be assembled quickly at the disaster site for restoration of power in 2-3 days, whereas the permanent restoration may take several weeks. This development is very significant as failure of transmission lines severely impact lives of common people and causes huge monetary loss to the power companies. As the total losses/damages are directly proportional to the outage duration, time is a crucial factor in reinstating or remediating the damaged/fallen structures. At present the ERS systems are imported. There are very few manufacturers across the world and the cost is relatively high. This technological development will enable the manufacturing in India for the first time, which will be an import substitute and will cost about 40% of imported systems.

Made of structurally highly stable box sections, ERS is lightweight, modular and reusable. It provides complete solution from member connections up to the foundation for different type of soil conditions. The system is verified through rigorous structural tests. Basic knowledge and tools are enough to assemble and install ERS at the disaster site. Suitable configurations for different voltage-class of transmission line systems are possible. The system is compact and yet provides full functionality on erection. It is designed as a scalable system for 33 to 800 kV class of power lines and can help in building a disaster resilient society. ERS has huge market requirement in India as well as in SAARC

and African countries. Hence, this technological development is a big leap forward towards Atma Nirbhar Bharat and Make in India.



Typical view of the ERS developed



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