

Projects to be taken up upto 2012

<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
(	1001)	
	Establishment of regional center for small hydro power	****
	Development of integrated inverters for SPV modules	CNIT
	Simulation and modelling of residential power system	DEQP
	Development of High lumen output solar street lights	NCBL
	Establishment of centre for bio energy technology	NCOT
	Power generation from coir pith	NCOT
	Solar cooking using concentrating collectors	NCSL
	National level solar radiation measurement	NCSL
(	1002)	
	High power static transfer switch	****
	Power conditioning system for fuel cell based power	NCFC
	Power electronic converters for solar power systems	NCSL
	Power conditioning systems for HVDC & FACT systems	TEIT
(	1007)	
	Noise generator for testing of transformer insulation under the influence of high frequency noise	TEIT
	Transformer protection system	TEIT
	Static power conditioner to take care of harmonic distortion as well as power factor variation	TEST
(	1009)	
	Moulded 144 sq.mm housing for digital panel meter having 3 types	CNIT
	Max. demand meter indicator in 72sq.housing	CNIT
	6 Pulse full wave controlled rectifier for float charger	CNIT
	Moulded 96 sq.mm housing for digital panel meter having 3 types	CNIT
	Analogue meter relay with high/low set point	DMTR
	True RMS power transducer using DSP & micro controller	TEST
	Power transducer using analogue optical isolator	TEST
(	1011)	
	Pulse full wave controlled rectifier for float charger	****
(	1012)	
	Adaptive voltage stabilizer for power station	****
	Development of distributed short term load forecasting programs	****
	Development of state estimation programs	****

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	Studies in contingency analysis	****
	Development of distributed state estimation programs	****
	Development of simulation techniques to determine the stability security of multi-bus power systems in developing countries	TCSW
	Adaptive controller for distance relay protection for interconnected power grids	TEIT
	Adaptive controller for Distance Relay protection for interconnected power grids	TEIT
	Studies on problems in EHV power transmission lines in developing countries	TEIT
	Investigation of voltage & power quality of rural distribution	TEST
	Investigation on voltage stability of longitudinal power supply systems i.e.. Power systems of developing countries	TEST
	Development in load flow & its further applications	TEST
(	<i>1013)</i>	
	Enhancement Of Online Diagnostic Techniques For Detection of Rotor Cracks, Bow etc Modeling of TG rotor bearing, Shaft, foundation & accessories Simulation studies on rotor dynamics	GHPM
	Material Characterisation By NDT Involving Establishment of Correlations Between Microstructure & Mechanical Properties With Characteristics of ultrasonics&eddy current in Non Destructively Service Induced Degradation In Power Plant	MTSC
	Development Of In-Service Inspection Techniques For Vessel welds, nozzle-to-vessel full penetration welds	RLAS
	Further refinement & validation of residual life estimation procedures by actual investigation on aged components	RLAS
(	<i>1014)</i>	
	Vacuum contactors	****
	Vacuum relays	****
	Vacuum interrupters for railway traction application	****
(	<i>1015)</i>	
	Smart wall blowing system for boilers	****
	Development of SCR technology	****
	Evaluation of gasification process for vacuum residue and petcoke	****
	Evaluation of blended firing of Indian & imported coal	****
	Parameters optimization of high pressure gasifier at CCDP	****
	Thermo dynamic & kinetic studies of fire side in boilers fired with fuels which in sulphur, vanadium & chloride	GTCM
	Thermo dynamic & kinetic studies of fire side corrosion boilers fired with fuels in Sulfur, Vanadium Sodium & Chloride	GTCM
	Evaluation of co-firing of low ash coal with oil	GTCN
	Low NOx separator over fire system	GTCN

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
	Technical consultancy related works for power plants in coal testing fuel & water chemistry	TEST
(	1017)	
	Digital signal processing in solid state relays	****
	Power system performance optimization using ANN,SA,GA,TS &	****
	Power plant simulator	GTGE
	FACT device modelling	TCSW
(	1018)	
	Digital signal processing at an cost of rs.38lacs & Energy Generation, its evaluation & impact on environment at cost of	GTON
(	1020)	
	Work in power system control	****
	Work on power system	****
	Work on power electronics & drives	****
	Work on conventional electrical machines	GTPE
	Work on a microprocessor based online static var compensator	TCSW
	Work on a microprocessor base online static var compensator	TCSW
	Development of a computerized generating station having a full I proof protection & control schemes	TCSW
	Development of a computeised generating station having a full proof protection & control schemes	TCSW
	Work on power system protection	TEIT
	Reactive power control mechanisms	TEIT
	Investigations on a mixed mode power system consisting of HVAC & HVDC systems	TEIT
	Investigations on grid failure to under frequency & remedy thereof	TEIT
	Investigations on a mixed mode power system consisting of HVAC & HVDC systems	TEIT
	Investigations on grid failure to uner frequency & remedy thereof	TEIT
	Work on instrumentation & measurement	TEST
(	1022)	
	Blending optimization of non-cooking coal for power generation	****
	Kinetics of gasfication of solid fuels	GTCN
	Characterization of fly ash & their bulk utilization	GTCN
	Development of pressurized fluidized bed gasifier for high ash Indian coals & study on various coals/biomass & coal pond slurry	GTCN
	Study of various coals & coal pond slurry in PFBC setup	GTCN
	The influence of coal rank, maceral & physico-chemical composition on combustion of pulverized coal	GTCN

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(Green House Gas emission studies in power generation	GTCN
	Effect of different operating parameters for NO _x ,SO _x generation in the p.f. fire power plant	GTCN
	Fuel evaluation test facility for combustion of pulverized coal	TEST
	1024) Condition monitoring of rotating machine of thermal power plant through vibration analysis	GTCE
	Metallurgical investigation in to the cause of in-service failure of thermal power plant components	MTSC
	Assessment of present state of health & service suitability of old thermal power plant components	RLA
(	Residual life assessment of aged thermal power plant components	RLA
	1029) Studies on micro mechanism of fracture in dissimilar metal joints	****
	Dry beneficiation of non-coking coal	GTCM
	Directional solidification of Ni bases Super alloy for gas turbine application	GTGM
	Development of ultrasonic nondestructive techniques for the characterization of creep & fatigue damage in high temperature structural materials	GTGM,TEST
	Development of magnetic nondestructive techniques for the characterization of creep & fatigue damage in high temperature structural materials	GTGM,TEST
	Multi-axial creep testing facility-design & development	GTOE
	Creep & creep fatigue interaction under multi axial loading modeling,testing&validation	GTOE
	Development of sensors for non-destructive characterization & damage assessment of service exposed power plant components	GTOE
	Determination off creep strength for Zr-1%Nb alloy,5.8mm diameter tube	GTOM
	Probabilistic fracture mechanics studies in high temperature structural materials	GTOM
	Studies on micro-mechanism of fracture in disimilar metal joints	GTOM
	High temperature coating materials-development characterisation of coating material & coating process	GTOM
	Biaxial creep of Zr-alloys using tubular specimens & longitudinal & transverse creep evaluation of plate type pressure tube material	GTOM
	Studies on crack arrest toughness of pressure vessel steel	GTOM,TEST
	evaluation of transverse creep & rupture behavior of Zr alloys	GTOM,TEST
	Establishment of an advanced nondestructive material characterization center	MTSC
	Development of computer software & database on remaining life assessment power plant components	RLAS,TEST
	Development of miniature specimen testing & ball indentation testing at high temperature	TEST

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Company Code

Proposed Project Description

Specialisation Code

(

1033)

Projected load demand calculation & generation planning utility	****
Design of induction furnace for gold melting(high frequency)	****
Design of sensor less vector controlled AC drives	****
Low voltage impulse generator	****
Short time over current test setup	****
Development of static single phase & three phase energy metres	****
Testing of amorphous core & CRGO core transformer under harmonic condition	****
Improvement in efficiency of the submersible pumpsets	CNIT
Design & development of energy saver for air conditioners & it comparison with presently available energy savers in market	CNIT
Design & development of battery operated environment friendly 3 wheeler & 4 wheeler electric vehicle	CNIT
Development of metal halide lamp	CNIT
Development of DC:MCB for 130 V,5kA	DEQP
Field trial of therm siphon in power transformer in GEB	DEQP
Vibration studies on hydroelectric power station	GHPM
Polycrate technology for instrument transformer manufacture	MTSC
Development of silver tin oxide contact	MTSC
Fabrication Technology for Dissimilar materials	MTSC
Corrosion problems in Generation	MTSC
New materials for Generation	MTSC
Catalyst for fuel cells	NCFC
Development of demo model of transformer oil reconditioning plant for rural area	RLAS
Development of Techniques related to remaining life assessment of power & process plants	RLAS
Study for system planning & expansion of generation & transmission system of utility	RLAS
Development of online condition monitoring instrument for transformer manufacture	RLAS
11 kV load break	TCWK
Enhancement of S.C. Level of ACB	TEIT
Microcontroller based static compensator	TEIT
DSP based on line data logger for industrial applications	TEST
Super conducting current limiters	TEST
Condition monitoring of cable installed at nuclear power plant	TEST

(

1034)

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
	Battery operated temp. calibrators	CNIT
	Motor protection relays	GCPE
	Data logger transmitters auto tuning PID	TEST
(	<i>1038)</i>	
	Setting up of a computer controlled concast & rod rolling facility capable of producing "on line solution treated electrical & mechanical grade alloy rods"(6201/6061)	MTSC
	Development of ACSR/AS,TACSR/AS conductors	TCBL
	Development of aluminum alloys heat resisting Aluminum Alloy rods for manufacture of AAA conductors which will steadily operate at a constant temperature of 150 degreeC at present conductors	TCBL
	Development of complete technology , products & erection practices for upgrading & uprating of overloaded T&D lines at 33kV,66kV,132kV&220kV lines	TFER
(	<i>1047)</i>	
	Lime sludge(CaCO3) of chemical industry	GTCC
	Precast concrete	GTCC
	Masonry cement	GTCC
	Low energy cements	GTCC
	Rice husk ash	GTCN
(	<i>1048)</i>	
	Power system operation & control in post-deregulation era	****
	Application of evolutionary computing technique in power system optimization	****
	Development of software supporting open system Architecture of Energy Management System	****
	Application of multimedia in power engineering education	****
	Object oriented approach in the development of power system simulation software	****
(	<i>1052)</i>	
	Establishing interaction with leading academic institutions like IIT & IISc To keep us ahead in the global market	****
	Cavitation studies using computational tools	GHCW
	Introduce engineering plastics as material of construction for mass produced pumps	MTSC
(	<i>1054)</i>	
	Advanced FIE -rotary fuel injection pumps	****
	Catalytic converters	****
	Electronic engine management	****
	Noise vibrations & harshness	****

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
(1057) Alternate fuel for diesel engines -CNG ,dual fuel, producer gas	GTOE
(	1060) Modern Aspects Of Electrical Power System	****
	Exploitation of micro hydro generation in Arunachal Pradesh	****
	Reliable & secured operation of interconnected power system	****
	Power system SCADA	DEQP
	Generation Capacity Building & maintaining spinning reserve	GHCW
(	1064) Power system instrumentation for energy conservation &	TEST
	Clean coal technology	****
	Biomass gasification & direct coupling to gas turbine	****
	Environmental impact of IGCC plant	****
(	1067) Desulphurization of coal derived hot flue gas cleaning in an IGCC plant	GTGN
	Remote control billing of energy consumption	DMTR
	Development of anti-tamper energy meter under conditions	DMTR
	Trivector meter	DMTR
	Three phase static watt hour meter SMD. Version	DMTR
	Development of class 0.5 accuracy single phase static watt hour	DMTR
	Compact energy meter	DMTR
	Development of anti-temper energy meter under conditions	DMTR
	Remote control billing of energy consumption	DMTR
	Pre-paid energy meter	DMTR
	Trivector meter	DMTR
	Compact energy meter	DMTR
	Prepaid energy meter	DMTR
	Development of class 0.5 accuracy single phase static watt hour	DMTR
(1068) Three phase static watt hour meter SMD. Version	GTGN
	Power factor transducer	****
	Data logger	****
	Pollution control instrument	****

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	Follaphone	****
	10 A SMPS P.S.	****
	KW transducer for hazardous area	****
	Microcomputer based tempmax	****
	Smart transmitter	****
	Energy saving instrument	****
	On line PH transmitter	GTCC
(	<i>1071)</i>	
	Solar energy materials & devices	NCSL
	Application of hydrogen energy for water pump, car, air-condition & domestic cooker	****
	Hydrogen energy storage in metals & alloys	GTGS
	Research & development in various sources of energy e.g. wind energy, biogas, bioenergy ,mini & micro hydel, batteries chemical source of energy etc.	NCWD
(	<i>1073)</i>	
	Reducing energy intensity in production & processing in small & medium industries	****
	Integration of renewable energy devices into rural & industrial development programmes.	****
	Stand alone power system in size of 2kw to 5 MW to power industrial development in rural sector	NCOT
	Utilization of organic waste from urban centers industries an agriculture to produce clean gas & liquid fuels & compost	NCOT
(	<i>1074)</i>	
	Modernization of energy metering & Energy Management Systems	DMTR
	Low cost domestic metering	DMTR
	SMART meters	DMTR
	Energy metering & billing systems & services	DMTR
(	<i>1079)</i>	
	Setting up of testing facility for electrical cables & wires	TEST
	Setting up of testing facility for power relays, switches etc.	TEST
	A full fledged UPS , SMPS and inverter testing facility	TEST
	Testing facility for MCB , ELCB etc.	TEST
	Testing facility for electrical & electronic ballast	TEST
	Measurement of RF power leakage in a plastic welding plant	TEST
	Non destructive detection of flaws in soap cakes	TEST
(<i>1080)</i>	

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
	High temperature fuel cell system (SOFC)	NCFC
	Hydrogen storage materials	NCFC
	Material research program-nanomaterials, polymers	NCFC
	Application of PEM fuel cells in a variety of applications	NCFC
(	<i>1081)</i>	
	When the nihrika-ishan windmill become practical reality attention will be focussed on the relevant aspects	****
(	<i>1082)</i>	
	Development of designs of restoration transmission line towers	TFER
(	<i>1085)</i>	
	Management systems for energy & environment	****
	E-solutions, expert systems for world class energy efficient & quiet products	****
	Chemical reactions-combustion & emission	****
	Conjugate heat transfer & fluid flow	****
	Noise vibration & harshness measurement, analysis & reduction in plants & machinery	****
	Energy & environmental audits	****
	Environmental performance evaluation	****
	Energy conservation & pollution zero effluent discharge	****
	Design for quietness	****
	Sensors for condition monitoring of transformers, motors &	CNIT
	Utilization of waste for energy generation & recovery of useful products/resources	GTOS
	Development of cost effective electrical, magnetic materials	MTSC
	Bio-hydrogen, fuel cell	NCFC
	Energy efficient & environment friendly process technologies	NCGT
	Power System Management	TCSW
	Failure Mode Effect Analysis	TEST
	Non-Destructive Testing tools	TEST
(	<i>1086)</i>	
	The preset proposed activities will prolong for 4 to 6 years	****
(	<i>1088)</i>	
	Development of electron beam irradiation cross linked cable & cable accessories	TCBL
	Development of high temperature super conducting cable	TCBL

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
(1089)	
	Computerized condensation pattern derivation packages	****
	Upgrading vacuum products in use such as vacuum pumping system, valves, gauges etc	****
	New Generation gas, moisture & Tan Delta measurement	****
	Vacuum absorption chillers	****
	Thermopak type LDO operated systems for non electrical heating option or part of the system	****
	Automatic vacuum pressure impregnation plant for traction motors	CNIT
	Smart scavenging process	CNIT
	High temperature oil handling pumps	GTPM
	Data processing & historic events logging systems	TCSW
	End Point Analysis System for optimization of process	TCSW
	SF 6 Liquification Plant	TEIT
(	1090)	
	Diversification of new R&D project for development of high efficient vertical as well as horizontal spilt casing pumps in response to new market demand	CNIT
(	1093)	
	Use of lower capacity transformers in Distribution System	DEQP
	Online reclamation of oil for Distribution Transformers	DEQP
	Remote metering	DMTR
	Protection of induction effects in Communication Centers due to effect of power lines	TCSW
	Furon analysis in transformer oil for detection of faults of Power Transformer	TEIT
	Use of reclaimed oil in power transformer	TEIT
(	1094)	
	Low PF & High Harmonics due to use Of Low Quality CFL & Electronic Ballast In Power System	CNIT
	Evaluation Of Power Quality Problems In The Distribution System & Development Of Suitable Harmonic Filters	DEQP
	Model Distribution Management System In Kollam Electrical Division	DMTR
	Power Quality Survey of Kerala Power System	TEST
(	1098)	
	Efficiency calculations for Thermal Power Stations	****
	Performance evaluation of Oxygen Monitoring System of Boilers in Thermal Power Station (TPS)	****
	Analysis and optimization of Combustion Efficiency in Boilers Using Micro Processors	****

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<i>Company Code</i>	<i>Proposed Project Description</i>	<i>Specialisation Code</i>
	Analysis & optimization of Combustion Efficiency using micro processors	****
	Study on advantages of XLPE cables in HT. distribution transformer system over existing PVC cables	DCBL
	Further field trail of dry type cast resin distribution transformers	DEQP
	Effect of phase changers used in domestic/commercial services on distribution transformers	DEQP
	Field trial of harmonic filter	DEQP
	Study on standardization of capacitor banks & units	DEQP
	Study on advantageous of electromagnetic voltage transformer over that of capacitor couple voltage transformers	DEQP
	Study on usage of FRP cross arms on 11kV lines with modified design with reference to REC. specification 40/1985 in coastal & chemically polluted area	DEQP
	Extension of DSM activities beyond Chennai city	DMTR
	Performance evaluation of Oxygen Monitoring System of boilers in TPS	GTCM
	Evaluation of the performance of Ball Mills and suggestions for upgradation .	GTCM
	Emergency Management in Thermal Power Stations(e.g.) I.D fans trip or BFP's trip	GTCM
	Evaluation of Pollution Level Parameters in Ambient air and effluent at ETPS	GTCN
	Reduction of SPM in Flue gas using Ammonia Dosing	GTCN
	Evaluation of performance of new D.M .plant at ETPS	GTCW
	Analysis of frequent failure of FD motors at Mettur Thermal power station and suggestions for avoiding frequent failure	GTPM
	Condition monitoring of equipments(e.g.) fans or pumps	RLAS
	Standardization of earthing system & open type fuse arrangements in Distribution Transformer Structures.	TEIT

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