

**REFERENCE LIST : POWER SYSTEM STUDIES**

Given below is a list of Power System Study Projects and related Scheme Engineering Jobs executed by us:

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
101.0	<b>Ambuja Cement Ltd., Bhatapara CPP</b>	The scope includes, Deputation of Sr. Technical Executive for analyzing trials taken on Governor and AVR.
100.0	<b>Indo Rama Synthetics (I) Ltd., Nagpur.</b>	Consultancy Service for addition of 11 MW STG at Butibori, Nagpur. The scope includes, a. Preparation of Key Single Line Diagram. b. Short Circuit study. c. Load flow study. d. Transient stability study. e. Relay setting and Relay Co-ordination study. f. Unit Protection of 11 MW Generator. g. Grid Islanding and Load Shedding scheme.
99.0	<b>Jindal Steel &amp; Power Ltd., Raigarh</b>	Our scope of work includes, a. Transient Stability Studies. b. Detail engineering for Grid Islanding and Load Shedding scheme (GIS-LSS). c. Preparing GIS-LSS panel Specifications. d. Technical Tender analysis of vendors offer for Grid Islanding and Load Shedding panel.

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<ul style="list-style-type: none"> <li>e. Review of vendor drawings of GIS-LSS panel.</li> <li>f. Preparing cable schedule and interconnection diagram for GIS-LSS panel.</li> </ul>
98.0	<b>Ultratech Cement Ltd., Bhavnagar</b>	<p>Checking the feasibility of providing the black start power supply to new TPP through 2 x 6 MW DG set at existing cement plant.</p> <p>This includes,</p> <ul style="list-style-type: none"> <li>a. Sizing the cables and the overhead lines, interconnecting DG set end and TPP auxiliary power supply.</li> <li>b. Sizing the transformer and its specification.</li> <li>c. Defining the grounding and earthing system.</li> <li>d. Designing the protection system for this black start link.</li> <li>e. Checking the feasibility of switching IN the largest motor on one DG set at TPP with max. running load of any one of unit auxiliary.</li> </ul>
97.0	<b>Jindal Steel &amp; Power Ltd., Raigarh</b>	<p>Power System study for hookup of new EAF at proposed 220kV switchyard.</p> <ul style="list-style-type: none"> <li>a. Carry out Load flow study</li> <li>b. Carry out Transient stability study to calculate critical clearance time for fault in, <ul style="list-style-type: none"> <li>i. New 220 kV switchyard bus</li> <li>ii. New 33 kV bus</li> </ul> </li> <li>c. Transient stability studies to identify voltage profile during switching IN and OFF of new EAF with five alternate rating</li> <li>d. Transient stability study to check the voltage profile</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		during momentary load of MLSM.
96.0	<b>Ultratech Cement Ltd., Bhavnagar</b>	<p>Relay Setting and Relay Co-ordination study for 4 x 23 MW Power plant electrical distribution system, from 220 kV GEB incomer at power plant up to 415 V MCC Incoming feeders. This includes,</p> <ol style="list-style-type: none"> <li>a. Preparation of key single line diagram with Data compilation report.</li> <li>b. Short Circuit Study.</li> <li>c. Relay Setting and Relay Co-ordination.</li> <li>d. Working out unit protection settings for, <ol style="list-style-type: none"> <li>i. Generators.</li> <li>ii. Power Distribution transformers.</li> <li>iii. Tie feeders.</li> <li>iv. 11 varieties HT Motors.</li> <li>v. 220 kV and 66 kV line.</li> <li>vi. 220 kV switchyard protection.</li> <li>vii. LT Motors capacity higher than 90 KW.</li> <li>viii. PCC and MCC incomers.</li> </ol> </li> </ol>
95.0	<b>Abu Dhabi Oil Refining Co. Takreer</b>	Our scope of work includes carrying out relay co-ordination study and provide relay setting schedule for electrical system of Abu Dhabi Oil Refinery Ruwais Sulphur Expansion Phase III project.
94.0	<b>BG Exploration and Production India Limited, Panna.</b>	<p>Consultancy services for starting of zero flare Gas compressor for Panna field.</p> <p>The scope includes,</p> <ol style="list-style-type: none"> <li>a. Preparation of wiring or control schematic drawings</li> </ol>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		b. Relay setting and Motor starting study with soft starter.
93.0	<b>Gujarat Ambuja Cements Ltd., Bhatapara.</b>	<p>Consultancy services for Grid Islanding and Load shedding scheme for GACL Bhatapara unit. This scope includes carrying out following activities.</p> <p>a. Transient stability studies.</p> <p>b. Engineering load shedding scheme.</p> <p>c. Engineering grid islanding scheme.</p> <p>d. Work out back-up under frequency load shedding block.</p> <p>e. Work out Grid Islanding scheme relay setting.</p> <p>f. Work out load shedding scheme back up under frequency relay setting.</p>
92.0	<b>ACC Limited, Kymore.</b>	<p>Our scope of work includes, carrying out power system studies for the electrical system.</p> <p>Our scope of work includes,</p> <p>a) Load flow studies.</p> <p>b) Transient stability studies.</p> <p>c) GIS and LSS settings.</p>
91.0	<b>ACC Limited, Kymore</b>	<p>Our scope of work includes carrying out relay setting and relay co-ordination for 132 kV switchyard, 2 x 25 MW CPP, cement plant,</p> <p>The scope includes,</p> <p>a) Short Circuit study.</p> <p>b) Relay co-ordination study.</p> <p>c) Work out unit protection settings.</p>
90.0	<b>Indo Rama Synthetics (I) Ltd., Nagpur.</b>	<p>Consultancy Service for addition of 37.5 MW STG at Butibori, Nagpur.</p> <p>The scope includes,</p>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<ul style="list-style-type: none"> <li>a. Checking feasibility for addition of new 37.5 MW STG and its power evacuation.</li> <li>b. Conceptualizing the electrical system through Single Line Diagram.</li> <li>c. Feasibility study for Power evacuation route.</li> <li>d. Load Flow study.</li> <li>e. Checking Feasibility of Power evacuation of 37.5 MW power plant.</li> <li>f. Short circuit study.</li> <li>g. Sizing and rating of cables, power transformers, CT, PT Switchgears.</li> <li>h. Billing and metering system for Import / Export of power.</li> <li>i. Checking layout feasibility.</li> <li>j. Estimating the requirement of earthing system.</li> <li>k. Evaluating the requirement of control, protection system.</li> </ul>
89.0	<b>Emami Paper Mills Ltd.</b> , Orissa	<p>Power System Study for existing electrical distribution system for parallel operation of two TG sets (15 MW + 5 MW) and flexibility of re-distribution. This includes,</p> <ul style="list-style-type: none"> <li>a. Short circuit study results considering parallel operation of Grid + 15 MW T.G. Set + 5MW T.G.Set</li> <li>b. Load flow study results considering parallel operation of Grid + 15 MW T.G.Set + 5 MW T.G.Set.</li> <li>c. Relay Setting and Relay Co-ordination for parallel operation of Grid + 15MW T.G.Set + 5 MW T.G.Set.</li> </ul>
88.0	<b>Monnet Ispat &amp; Energy Limited</b> , Chhattisgarh.	<p>Carrying out Power System Studies. This includes,</p> <ul style="list-style-type: none"> <li>a. Load flow study.</li> <li>b. Short circuit study.</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<ul style="list-style-type: none"> <li>c. Transient stability, Voltage drop Calculation and Harmonic Study.</li> <li>d. Transformer Protection.</li> </ul>
87.0	Essar Oil Ltd., Jamnagar	Our scope of work, carrying out Analysis for failure of 33 kV Current Transformers.
86.0	Essar Oil Ltd., Jamnagar	<p>Carrying out Transient Stability studies, our scope of work includes,</p> <ul style="list-style-type: none"> <li>a. To check the behavior / survival of Generators</li> <li>b. To calculate and provide revised under frequency Load Shedding scheme and Grid Islanding scheme backup under frequency settings.</li> </ul>
85.0	Gujarat Fluora Chemicals Ltd, Dahej	<p>Consultancy services for improving electrical system reliability and stability. This includes,</p> <ul style="list-style-type: none"> <li>a) Review of basic design of electrical system.</li> <li>b) Review of protective system, protection scheme and control logics.</li> <li>c) Carry out Power System Studies <ul style="list-style-type: none"> <li>i) Load Flow study.</li> <li>ii) Short Circuit Study.</li> <li>iii) Relay setting and Relay co-ordination study.</li> <li>iv) Unit protection settings for Motor and Generator Protection relays</li> </ul> </li> <li>d) Integration of new 11kV, 18 MW power plant and existing 11kV network (CPP + Grid).</li> <li>e) Protection system design for continuous parallel operation of existing CPP with grid power.</li> <li>f) Transient Stability studies.</li> <li>g) Engineering of Grid Islanding scheme</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		h) Engineering of Load Shedding scheme.
84.0	<b>Associated Cement Cos. Ltd.</b> Wadi Cement Works, Karnatka. (CPP)	Relay co-ordination study for Existing plant, New plant and Captive power plant of ACC Wadi of 3 x 25 MW generation. This includes, i) Preparation of Single Line Diagram. ii) Short Circuit Study. iii) Relay setting and co-ordination study.
83.0	<b>Deepak Fertilizers and Petrochemicals Corp. Ltd.</b> Taloja	a) Electrical system studies This includes, i) Load Flow Study ii) Short Circuit Study. iii) Motor starting iii) Load Flow study with new system additions. iv) Feasibility of system for various option. b) Grid Islanding and Load Shedding scheme. i) Transient Stability studies ii) Prepare GIS scheme iii) Prepare LSS scheme with both MW based and frequency based. iv) Prepare specification of GIS and LSS scheme equipments. v) Relay settings of various protective relays used for GIS and LSS.
82.0	<b>Jindal Steel and Power Ltd.</b> Raigarh (Chattisgarh)	Power system design engineering at Raigarh, Chattisgarh. This includes, a) Preparation of Key Single Line Diagram b) Carrying out Short Circuit Study. c) Relay setting and Relay Co-ordination

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
81.0	<b>Indo Rama Synthetics (I) Ltd.,</b> Nagpur.	<p>Consultancy Service for Relay Setting, Relay Co-ordination and Grid Islanding &amp; Load Shedding Scheme engineering for 2 x 15.0 MW Captive Co-generation Thermal Power Plant, 3 x 13.5 MW + 3 x 4 MW DG Power Plants and Grid System at our Plant Butibori, Nagpur.</p> <p>The scope includes,</p> <ul style="list-style-type: none"> <li>a) Relay Setting and Relay Co-ordination study for electrical distribution system. <ul style="list-style-type: none"> <li>i. Short Circuit study.</li> <li>ii. Protection Review.</li> <li>iii. Relay Setting and Relay Co-ordination.</li> <li>iv. Working out Unit Protection Settings.</li> </ul> </li> <li>b) Grid Islanding and Load Shedding Scheme. <ul style="list-style-type: none"> <li>i. Load flow study.</li> <li>ii. Transient stability study.</li> <li>iii. Engineering of Grid Islanding and Load Shedding Scheme.</li> <li>iv. Working out Relay setting for Grid islanding and Load Shedding Scheme.</li> </ul> </li> </ul>
80.0	<b>Jindal Steel and Power Ltd.,</b> Raigarh	<p>Relay Setting and Relay Co-ordination study for RUBM plant and 148" Plate Mill plant electrical distribution system. This includes,</p> <ul style="list-style-type: none"> <li>a) Short Circuit Study.</li> <li>b) Relay Co-ordination study.</li> <li>c) Working out Unit Protection Settings.</li> </ul>
79.0	<b>BG Exploration and Production India Limited.,</b> Mumbai	<p>Relay Setting and Co-ordination study for electrical system of Panna Platform including.</p> <ul style="list-style-type: none"> <li>a) Short Circuit Study.</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		b) Relay Setting and Co-ordination.
78.0	<b>Jindal Steel and Power Ltd.</b> , Raigarh	Study of dynamic switching of HT Motors.
77.0	<b>ESSAR STEEL LTD.</b> , Vishakhapatnam	Study of Capacitor banks & Unit Protections, a) Carrying out Load Flow Studies for sizing of Capacitor banks and identifying their locations b) Working out Unit Protection Settings for HT and LT motors.
76.0	<b>Jindal Steel and Power Ltd.</b> , Raigarh	Feasibility Study of Power evacuation from 4 x 135 MW Captive Power Plant at Dongamohua, Tamara, Dist : Raigarh. This includes, a) Feasibility Study for evacuation of power from 4 x 135 MW Captive Power Plant at Dongamohua, Tamnar, Raigarh to JSPL New switchyard for 3 MT steel plant. b) Load flow study & Short circuit study for Option-1, i.e. for 4 x 135 MW CPP to JPL 220 kV switchyard and JPL 220 kV switchyard to JSPL new 220 kV switchyard. c) Load flow study & Short circuit study for Option-2, i.e. for 4 x 135 MW CPP to new 220 kV switchyard at JPSL.
75.0	<b>Jindal Steel and Power Ltd.</b> Raigarh, Chattisgarh	Power System Study for the electrical system including : a. Load flow study b. Short circuit study c. Transient stability study in case of i. Tripping of 220kV incoming CSEB lines at JSPL. ii. Tripping of 250MW TG set at JPL. d. Engineering an islanding scheme.

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>e. Engineering a load shedding scheme under following conditions</p> <ul style="list-style-type: none"> <li>i. Tripping of 220kV CSEB lines at JSPL.</li> <li>ii. Tripping of 250MW set at JPL.</li> </ul> <p>f. Working out the settings for islanding relays and the load shedding blocks, for following conditions,</p> <ul style="list-style-type: none"> <li>i. Tripping of 220kV CSEB lines at JSPL.</li> <li>ii. Tripping of 250MW set at JPL.</li> </ul> <p>g. Working out over current and earth fault relay settings for,</p> <ul style="list-style-type: none"> <li>i. 220kV line from JPL to OPJIP.</li> <li>ii. 220kV line from OPJIP to JSPL.</li> <li>iii. 220kV interconnection, i.e. power evacuation route from receipt of JPL power at JSPL to CSEB lines.</li> <li>iv. JSPL TG sets power evacuation route up to 220kV bus.</li> </ul> <p>h. Working out voltage and frequency relay settings for following,</p> <ul style="list-style-type: none"> <li>i. 220kV line from JPL to OPJIP.</li> <li>ii. 220kV line from OPJIP to JSPL.</li> <li>iii. 220kV interconnection, i.e. power evacuation route from receipt of JPL power at JSPL to CSEB lines.</li> <li>iv. JSPL TG sets power evacuation route up to 220kV bus.</li> </ul>
74.0	<b>PT Indorama Tbk (Polyester)</b> . Indonesia	<p>a) Power system studies. This includes,</p> <ul style="list-style-type: none"> <li>i) Load Flow Study</li> <li>ii) Short Circuit Study.</li> <li>iii) Fault investigation and disturbance analysis for a</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>cable fault of 6.3kV tie feeder to 6.3 kV SPG 2/3 switchgear.</p> <p>iv) Power supply distribution and modification.</p> <p>b) Relay setting and co-ordination</p>
73.0	<b>Essar Steel Ltd.</b> Vizag.	<p>Power system design engineering at Vizag (A.P.). This includes, carrying out</p> <p>a) Load Flow Studies for sizing of capacitor banks and identifying their locations.</p> <p>b) Working out Unit Protection settings for HT and LT motors.</p>
72.0	<b>PT. Indorama Synthetics Tbk, Polyester Division,</b> Indonesia.	<p>Deputation of Sr. Executive to site occurrence analysis. This includes carrying out data collection, review, analysis and investigation and submission of detail analysis report.</p>
71.0	<b>GRASIM INDUSTRIES LTD, (CHEMICAL DIVISION.),</b> Nagda	<p>Power System Study for the electrical system including :</p> <p>a) Load Flow Study</p> <p>b) Short Circuit Study</p> <p>c) Relay Setting and Relay Co-ordination Study</p>
70.0	<b>Jindal Stainless Ltd.</b> Jajpur, Orissa	<p>Power System Study for the electrical system including :</p> <p>a. Prepare and submit key single line diagram (220 kV) relevant to the protection system for the following two options:</p> <p>i. Augmentation of existing yard keeping the 220 kV switchyard at the original position and</p> <p>ii. Construction of new 220 kV switchyard at suitable location.</p> <p>b. Carry out the load flow study to identify the basic rating of the equipments and to check the feasibility of the two</p>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>options technically and commercially.</p> <p>c. Work out Voltage &amp; Frequency profile at load centers for the two options under</p> <ol style="list-style-type: none"> <li>i. Steady state condition &amp;</li> <li>ii. Dynamic condition of the load.</li> </ol> <p>d. Carry out Short circuit study for three phase faults and phase to earth faults for the limited system under study.</p> <p>e. Define basic rating of the major equipments such as :</p> <ol style="list-style-type: none"> <li>i. Transformers</li> <li>ii. Cables</li> </ol> <p>f. Examine suitability of equipments already in service from view point of current carrying and short circuit withstand capacity.</p> <p>g. Stability studies to be carried out for following conditions:</p> <ol style="list-style-type: none"> <li>i. Load flow studies for different grid and captive generators operating conditions.</li> <li>ii. The effect of dynamic loads of SAF, EAF and rolling mills on the grid and Captive generators under different operating conditions.</li> <li>iii. The operations of the plant with / without GRID and with different numbers of captive generators under different operation condition of the plant.</li> </ol> <p>h. Carrying out following power system studies to develop the application of Grid islanding scheme (GIS) and load shedding scheme (LSS).</p> <ol style="list-style-type: none"> <li>i. Transient stability study.</li> <li>ii. Study to evaluate critical clearance time for fault at 220 kV Gridco Bus, 33 kV MRSS Bus and other 33 /</li> </ol>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>6.6 kV bus.</p> <p>i. Engineer a Grid islanding scheme for isolating the in-house Captive Power Plant from disturbance in Gridco.</p> <p>j. Engineer a Load Shedding Scheme, to ensure the survival of CPP on survived (balance) load. This load Shedding Scheme shall be PLC based OR back up under frequency based or both.</p> <p>k. Prepare and submit, purchase specification for GIS and LSS panel.</p> <p>Assist JSL in scrutinizing the offers received from Vendors technically. Forward the recommendation for selected vendor after obtaining various clarifications from vendor.</p> <p>l. Review of vendor drawings for GIS and LSS panel</p> <p>m. Relay setting for GIS and LSS scheme relays and relay setting and co-ordination for the equipment on power evacuation route</p>
69.0	<b>Kamal Engineering Consultants, Dubai.</b>	Carrying out Relay Setting, Relay Co-ordination and harmonic analysis for District Cooling plant project.
68.0	<b>CAIRNS ENERGY INDIA PTY LIMITED, SURAT</b>	<p>Restricted Neutral Earthing study. This includes,</p> <p>a) Design the Grounding arrangement for 415Vsystem.</p> <p>b) Review of existing electrical equipment in the electrical system for satisfactory operation in conjunction with the modified earthing system.</p> <p>c) Define the design parameters and detailed technical specifications for Neutral Grounding Resistors for procurement and installation.</p> <p>d) Design of protective relaying system with specification</p>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>of equipment such as current transformers, potential transformers, protection relays.</p> <p>e) Relay Setting and Relay Co-ordination for existing protective relays.</p>
67.0	<b>JINDAL STEEL &amp; POWER LTD.</b> , Raigarh	Study of dynamic switching of HT Motors.
66.0	<b>CHEMAF S.P.R.L., (Republic of Congo),</b> Africa	Feasibility study of Load Flow, Short Circuit and Relay Co-ordination of existing Plant electrical distribution system and upgrading the same with upcoming new requirements / projects.
65.0	<b>The Associated Cement Companies Ltd.</b> Kymore Cement Works, M.P.	<p>Power System Study for the electrical system including :</p> <p>a) Relay Setting, Relay Co-ordination and Unit Protection settings of New 25 MW captive power plant and its auxiliaries.</p> <p>b) Review of synchronizing scheme of New 25 MW captive power plant and its inter-connection with existing electrical system.</p> <p>c) Relay Setting for the emergency Power supply to NEW 25 MW CPP.</p> <p>d) Review of Grounding system of old CPP, existing 25 MW CPP, new 25 MW CPP, power distribution transformers and load centers.</p> <p>e) Relay Setting and Relay Co-ordination of entire electrical system with new operating conditions.</p> <p>f) Study of lightning arrestor installation throughout plant.</p> <p>g) Design of Load Shedding Scheme.</p>
64.0	<b>Essar Steel Limited,</b> Vishakhapatnam	<p>Power System Study for the electrical system including :</p> <p>a) Short circuit study.</p> <p>b) Relay Co-ordination study.</p> <p>c) Unit protection relay settings for Generators,</p>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>Transformers and Motors of CPP.</p> <p>d) Grid Islanding Scheme (GIS) and Load Shedding Scheme (LSS). This includes,</p> <ul style="list-style-type: none"> <li>i. Transient stability study.</li> <li>ii. Study to evaluate critical clearance time for fault at 132 kV APSEB Bus, 6.6 kV Bus and 10.5 kV CPP Bus.</li> <li>iii. Load flow study.</li> <li>iv. Engineering Grid Islanding Scheme.</li> <li>v. Engineering Load Shedding Scheme.</li> </ul>
63.0	<b>Ambuja Cement Ltd.</b> Bhatapara, Raipur Chattisgarh. (CPP)	Rationalization of Power System (Neutral Grounding) at Bhatapara.
62.0	<b>Sterlite Industries (I) Ltd.</b> , Tuticorin, Tamil Nadu	Load flow study involving Generator and generator transformer vis-à-vis power evacuation to specify the basic parameters of generator transformer.
61.0	<b>PT Indorama Synthetics Tbk</b> , Indonesia	Power System Study for the electrical system including : <ul style="list-style-type: none"> <li>a) Short circuit study.</li> <li>b) Relay Setting and Co-ordination of 2 X 30 MW Power Plant.</li> <li>c) Unit protection settings</li> <li>d) Transient Stability Studies.</li> <li>e) Design Engineering of Grid Islanding Scheme (GIS) and Load Shedding Scheme (LSS).</li> </ul>
60.0	<b>Emami Paper Mills Ltd.</b> , Balasore, Orissa	Power System Study for the electrical system including : <ul style="list-style-type: none"> <li>a) Load flow, stability and motor starting study.</li> <li>b) Short circuit and Relay Co-ordination study.</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		<p>c) Unit protection relay settings for Generators, Transformers and HT Motors.</p> <p>d) Design, engineering of Grid Islanding (GIS), Load Shedding (LIS) scheme and related power system study for continuous parallel operation of T.G. with Grid supply.</p>
59.0	<p><b>Harihar Polyfibres Ltd.,</b> Harihar (Karnataka)</p>	<p>Power system study for electrical distribution system including :</p> <p>a) Load Flow Study</p> <p>b) Short Circuit Study.</p> <p>c) Relay Setting and co-ordination.</p> <p>d) Transient stability study.</p> <p>e) Design of PLC based Grid Islanding, Load Shedding scheme and backup under frequency, load-shedding scheme.</p>
58.0	<p><b>Essar Oil Ltd.,</b> Jamnagar</p>	<p>Power System Study for the electrical system including :</p> <p>a) Basic Engineering of Grid Islanding and Load Shedding Scheme for isolating in house Captive Power Plant from disturbance in GEB grid.</p> <p>b) Engineering a Load Shedding Scheme to operate after successful Grid Islanding Scheme to ensure survival of Captive Power Plant on balance load.</p> <p>c) Prepare and Submit purchase specification for GIS and LSS panel.</p> <p>d) Technical scrutinies of offers received from vendors and submit purchase recommendation.</p> <p>e) Carry out Transient Stability Studies to evaluate Critical Clearing Time (CCT).</p>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		f) Review of Vendor drawings for GIS and LSS panel. g) Relay setting for GIS and LSS scheme relay.
57.0	<b>Indian Farmers Fertiliser Copoperative Ltd., Paradeep Unit,</b> Orissa	Study of Existing system control scheme for Tripping of Generator Breakers & Turbine under various conditions of Fault.
56.0	<b>The Associated Cement Companies Ltd.</b> Kymore Cement Works, M.P.	Relay Co-ordination Study for 8 MVA Transformer and Quarry Electrical System including, a) Preparation of Key single line drawings indicating the protection system. b) Short circuit study and Relay Setting Co-ordination. c) Identifying lacunas in existing protection system and recommendation to overcome them. d) Unit Protection Setting.
55.0	<b>BG Exploration and Production India Limited., Mumbai</b>	Power system study for electrical system of Tapti Platform including. a) Short Circuit Study. b) Relay Setting and Co-ordination. c) Unit Protection Settings.
54.0	<b>Associated Cement Cos. Ltd.</b> Chanda Cement Works, Chandrapur, Maharashtra.	Power system study for electrical distribution system including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Unit Protection.

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
53.0	<b>Ultra Tech Cement Ltd.</b> Gujarat Cement Works, Amreli, Gujarat. (TPP)	Power system study for old STG + GTG electrical distribution system including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Transient stability study. d) Design of PLC based Grid Islanding, Load Shedding scheme and backup under frequency, load shedding scheme.
52.0	<b>Hindustan Lever Ltd.,</b> Sewri (Mumbai)	Power system study for electrical distribution system including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Unit protection for transformer.
51.0	<b>Joint Operations,</b> Wafra Kuwait through Kuwait Controls Co.	Power system study for 3.3kV, 11kV and downstream distribution system of Joint operation, Wafra including : a) Load Flow Studies b) Short Circuit Study. c) Relay Setting and co-ordination. d) Transmission Line Sag Calculation.
50.0	<b>Kuwait National Petroleum Co.,</b> Kuwait, through House of Trade Co.	Power system study for electrical distribution system of 3Nos. Frequency Converter Units, 13.8kV, 2.4kV and 480V distribution system at Mina Abdulla Refinery including : a) Short Circuit Study. b) Relay setting and co-ordination. c) Unit protection settings for Synchronous Motor, Synchronous Generator, Transformers, HT and LT Motors.

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
49.0	<b>IPCL</b> Baroda	Power system study for electrical distribution system for 6.6kV switchgear replacement including : a) Relay setting and co-ordination. b) Unit protection for Motors.
48.0	<b>Gujarat Ambuja Cement Ltd.</b> Bathinda, Punjab.	Power system study for electrical distribution system including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Unit protections for transformer, motor.
47.0	<b>Fiji Electricity Authority, Fiji Island.</b>	Our scope of work includes Power System study of Sabeto Substation electrical system including, a) Load flow study. b) Short circuit study. c) Relay setting and co-ordination. d) Unit protection settings of 33kV lines, transformers etc.
46.0	<b>Joint Operations - through Heavy Engineering Industries and Shipbuilding Co.</b>	Power system study for 34.5kV, 4.16kV and 0.48kV distribution system including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Unit protections for transformer, H.T. Motors.
45.0	<b>Hindustan Lever Ltd.,</b> Sumerpur	Power system study for electrical distribution including : a) Short Circuit Study. b) Relay Setting and co-ordination. c) Unit protections for transformer, generator.
44.0	<b>Sterlite Industries Ltd.,</b>	Power system study for electrical distribution including : a) Short Circuit Study.

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
	Tuticorin	b) Relay Setting and co-ordination. c) Unit protections for generators, transformers.
43.0	<b>Madras Aluminium Company Ltd.,</b> Mettur	Power system study for electrical distribution system based on enhanced generating capacity, this includes: <ul style="list-style-type: none"> <li>a) Transient stability study of the electrical system</li> <li>b) Fault level calculation study, from 110kV up to MCC</li> <li>c) Relay setting and relay co-ordination from 110kV up to MCC</li> <li>d) Unit Protection for Generators, Transformers.</li> <li>e) Study of electrical interlocks for plant electrical system.</li> <li>f) Review battery banks capacity and D.C. distribution system.</li> <li>g) Review of earthing and grounding system emergency power source system.</li> <li>h) Grid Islanding and under frequency load shedding scheme.</li> </ul>
42.0	<b>Hindalco Industries Ltd.,</b> Dahej	Feasibility Study for Islanded Operation of 60 MW TG set
41.0	<b>Grasim Industries Ltd.,</b> Nagda	Study of effect on entire electrical distribution system due to additional 5.515 MW TG set including, <ul style="list-style-type: none"> <li>a) Short Circuit Studies</li> <li>b) Relay setting and co-ordination</li> <li>c) Unit Protection for Generators, Transformers</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
40.0	<b>Hindalco Industries Ltd.,</b> Dahej	Power System Study for electrical distribution system of Copper-1 & 2 system including : a) Short Circuit Study b) Relay Setting and Co-ordination c) Design of PLC based Grid Islanding and Load Shedding Scheme d) Design of Interlocking Scheme of 11 KV Incomer and Bus coupler feeders e) Generator Protection Relay Settings.
39.0	<b>Hindalco Industries Ltd.,</b> Dahej	Feasibility Study for starting of 3 Nos 7.75 MW motors
38.0	<b>Hindalco industries Ltd.,</b> Dahej	Feasibility Study for starting of 2 Nos 4 MW motors
37.0	<b>Oswal Chemicals and Fertilizers Limited,</b> Paradeep - Orissa	Working out Motor Protection Relay Settings for 6.6 kV Motors
36.0	<b>Hindustan Lever Ltd.,</b> Daman	Power System Study for electrical distribution system including a) Short Circuit Studies b) Relay setting and co-ordination
35.0	<b>Hindalco industries Ltd.,</b> Dahej	Detail engineering for hookup of Oxygen plant electrical system with existing MRSS system.
34.0	<b>Hindustan Lever Limited,</b> Nashik	Power System Study for electrical distribution system including : a) Short Circuit Studies b) Relay setting and co-ordination

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		c) Unit Protection Studies.
33.0	<b>Hindustan Lever Limited,</b> Andheri, Mumbai	Power System Study for electrical distribution system including : a) Short Circuit Studies b) Relay setting and co-ordination c) Unit Protection Studies.
32.0	<b>The Associated Cement Companies Ltd.</b> Jamul Cement Works, Chattisgarh.	Power System Study for electrical distribution system including : a) Short Circuit Study b) Relay Setting and Co-ordination c) Work out Unit Protection Settings of Transformer, HT Motors, and Generator Protection Relays.
31.0	<b>The Associated Cement Companies Ltd.</b> Kymore Cement Works, M.P.	Power System Study of electrical distribution system including : a) Short Circuit Study b) Relay Setting and Co-ordination c) Work out Unit Protection Settings of Transformer, HT Motors and Generator Protection Relays.
30.0	<b>Hindustan Lever Limited,</b> Andheri - Mumbai	a) Preparation of detail Single Line Diagram of 11kV and 415 V electrical distribution system. b) Electrical system safety audit from the view point of, <ul style="list-style-type: none"> <li>• Electrical system adequacy from operation view point. equipments</li> <li>• Review of installed / supplied and in operation.</li> <li>• Compliance of statutory requirements.</li> </ul>

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
29.0	<b>Schenectady Herdillia Limited,</b> Navi Mumbai	Electrical System study of entire electrical distribution system including a) Short Circuit studies b) Relay settings and Relay co-ordination c) Unit protection review and settings
28.0	<b>Ambuja Cement Eastern Limited.</b> Rawan, Chattisgarh. (CPP)	Electrical System study for 28.55 MW CPP electrical distribution system including a) Short Circuit studies b) Relay settings and Relay co-ordination c) Unit protection review and settings
27.0	<b>The Associated Cement Cos. Ltd,</b> Madukarai Cement Works, Coimbatore.. (CPP)	Power System study of electrical distribution system including a) Short Circuit studies b) Relay settings and Relay co-ordination c) Unit protection review and settings
26.0	<b>ESSAR Steel Limited,</b> Hazira	System study of electrical system of HBI Plant, including: a) Short Circuit Study & Relay Setting Relay Co-ordination b) Generator protection Relay Setting for 20 MW GTG and 10 MW STG c) Review of Class A-B-C trip logics of 20 MW GTG and 10 MW STG d) Transformer Unit protection relay settings for 135 MVA 220 / 33 kV and 100 MVA 220 / 33 kV Transformers
25.0	<b>Steel Authority Of India Limited,</b> Rourkela	Electrical System study of entire electrical distribution system including a) Short Circuit studies

SR. NO.	NAME OF THE COMPANY	DETAILS OF JOB EXECUTED
		b) Relay settings and Relay co-ordination c) Voltage Dip Studies d) Stability Studies e) Design of Grid islanding and load Shedding scheme. f) Load flow studies g) Unit protection review and settings h) Auto Changeover Scheme i) Mesh Distribution System j) Review of Neutral Grounding and Protection System
24.0	<b>Ruchi Soya Industries Ltd.,</b> Indore	Feasibility study for 7.5 MW co-generation power plant.
23.0	<b>Atul Ltd.,</b> Valsad	Electrical System study of entire electrical distribution system including a) Relay setting, Relay co-ordination of existing system. b) Modifications of Grid Islanding and Load shedding scheme due to change of operating mode.