

**A Comparative Study of Public Procurement Systems and Policies in Selected  
Electricity Generation and Distribution Utilities with Special Reference to e-  
Procurement**

*A Project Report submitted in partial fulfillment of the requirements for the Degree of Master  
of Business Administration*

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## **CERTIFICATE**

This is to certify that this project titled “**A Comparative Study of Public Procurement Systems and Policies in Selected Electricity Generation and Distribution Utilities with Special Reference to e-Procurement**” submitted in partial fulfillment of the requirements for the Degree of Master of Business Administration (Executive) by Mr. Kunal Malik at Delhi School of Management, Delhi Technological University is a record of original research work carried out by him under my guidance. Any material borrowed or referred to is duly acknowledged.

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I also take this opportunity to convey sincere thanks to all the faculty members for directing and advising during the course.

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**Kunal Malik**

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# 1 Introduction

The objective of the report is to Study public procurement system in Power Generation and Distribution companies with special reference to e-procurement. In this study current practices of procurement being followed in **North Delhi Power Limited** now renamed as **Tata Power Delhi Distribution Company**(A Joint Venture between Tata Power and Delhi Govt)., **Andhra Pradesh Central Power Distribution Company Limited (APCPDCL)** and **Punjab State Electricity Board** has been done. A comparison of the practices and policies being followed in these companies is done and benefits which can be drawn from e-procurement and challenges which would come in way are discussed. These utilities have been selected for study and comparison as all the three utilities resembles in size and business and resource were available who can provide data relevant data to carry out comparison.

## 1.1 TPDDL (erstwhile NDPL) Profile

Tata Power Delhi Distribution Limited (TPDDL(erstwhile NDPL) was founded on July 1, 2002 through public/private partnership framework as a joint venture between TATA Power and Govt. of Delhi (51:49 share ratio). NDPL distributes power in North and North West areas of Delhi spread across 510 square kms. It serves a population of about 5 million people and has a registered consumer base of about 1.2 million, a peak load of 1350 MW and an annual energy consumption of 5900 MUs. It is a regulated business and follows regulations of DERC (Delhi Electricity Regulatory Commission).

TPDDL (erstwhile NDPL) has been the frontrunner in implementing power distribution reforms in the capital city and is acknowledged for its consumer friendly practices. Since privatization, the Aggregate Technical & Commercial (AT&C) losses in TPDDL (erstwhile NDPL) areas have shown a record decline. Today they stand at 13.2% (As on March 31, 2011) which is an unprecedented reduction of over 75% from an opening loss level of 53%.

On the power supply front too, TPDDL (erstwhile NDPL) areas have shown remarkable improvement. The company has embarked upon an ambitious plan to implement high-tech



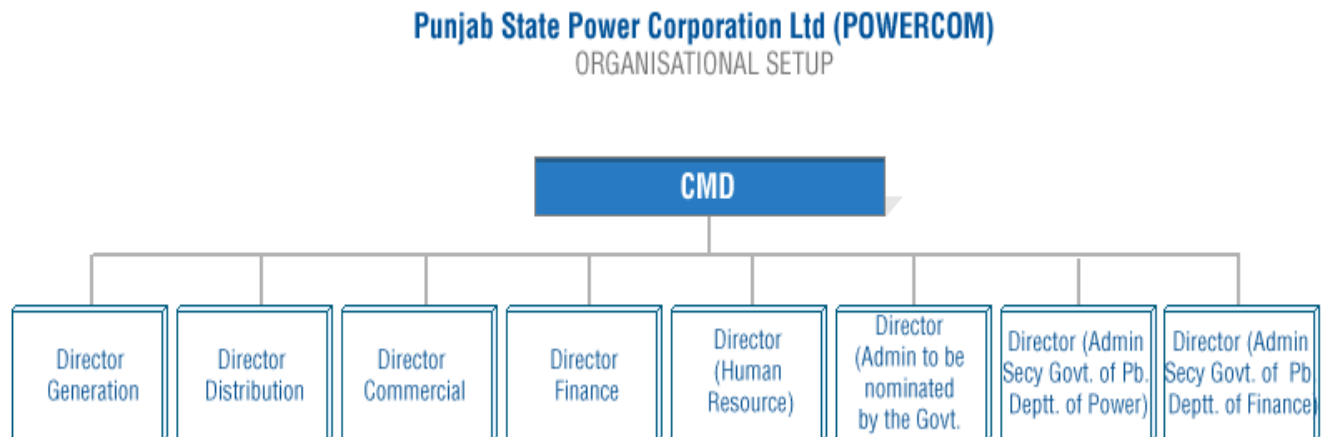
automated systems for its entire distribution network. Systems such as SCADA, GIS and OTS are the cornerstone of the company's distribution automation project. To fight the menace of power theft, modern techniques like High Voltage Distribution (HVDS) System and LT Aerial Bunch Conductor have been adopted.

## 1.2 Punjab State Power Corporation Limited (PSPCL) Profile

Punjab State Power Corporation Limited (PSPCL) prior to unbundling known as Punjab State Electricity Board (PSEB) was a statutory body formed on 1-2-1959 under the Electricity Supply Act.1948.

Subsequently it was re-organized under the Punjab Re-organization Act 1966 this firm came into existence w.e.f. 1st May, 1967. It started with the modest capacity of 62 MW, and finally the generating capacity reached to 6841 MW.

The no. of customers served by PSEB is more than 66.31 lakhs consumers comprising of approximate 54.86 lakhs.



**Figure:-1 PSEB Organizational Setup**

### **1.3 Andhra Pradesh Central Power Distribution Company Limited (APCPDCL) Profile**

With a vision to fulfill the expectations of the Government, the Central Power Distribution Company of A.P. Limited, which came into being on 1st April 2000 as a sequel to the A.P. Electricity Reforms Act. 1998, with an objective of electricity to the people at an affordable price.

It caters to the need of more than 12 million people. The facility of APCPDCL is large and infrastructure is huge.

### **1.4 Data Analysis**

Data has been collected with the help of structured personal and telephonic interview with officials of the organization under study. Mr. YS Butola DGM (Procurement) has been contacted to collect data pertaining to expenditure of the procurement department.

Er. Rupinder Supple (Sr. Xen- Tech.) PSEB. He looks after the schemes of maintenance and up gradations of Transmission lines. Er. Krishan Kumar (SDO- Procurement and Maintenance) was also contacted for understanding procedures of procurement and getting budget and expenditure details of procurement to calculate cost of procurement.

Er. M. Venkatesh CGM (P&MM) was contacted for knowing the procedures, budgeting and expenditure for cost calculation of CPCDL, Andhra Pradesh.

Data collected has been reproduced in the report.

## 2 Strategic Classification of Material

### 2.1 ABC classification

"A" – These are high priority items which need frequent follow-ups, tight controls and accurate records need to be maintained. MRP is used to plan and schedule these parts Planning and scheduling these parts. 10 % of the "A" items volume accounts for 70% of the total inventory value

\* "B" - items are the priority when low or out of stock. Control used is normal and good records need to be maintained. "B" items: It is useful and accounts for 20% of both inventory volume and value.

\* "C" – These items are low in priority and no records are required to be maintained for them. These parts represent 10% of the total value, and 70% of the volume.

Item	Items %age	Money Value
"A" Category Items	10%	70%
"B" category Items	20%	20%
"C" Category Items	70%	10%

Figure: 2 ABC categorization of Material

### 2.2 Inventory control

It is a very important thing and involves balancing both costs of holding inventory and importance of inventory. This fine line between keeping too much inventory and not enough is not the manager's only concern. Others include:

- i. Maintaining a wide assortment of stock -- but not spreading the rapidly moving ones too thin;
- ii. Increasing inventory turnover -- but not sacrificing the service level;
- iii. Keeping stock low -- but not sacrificing service or performance.

- iv. Obtaining lower prices by making volume purchases -- but not ending up with slow-moving inventory; and
- v. Having an adequate inventory on hand -- but not getting caught with obsolete items.

**2.2.1 Managing Inventories by ABC Classification:**

ABC analysis is the method of classifying items involved in a decision situation on the basis of their relative importance. Its classification may be on the basis of monetary value, availability of resources, variations in lead-time, part criticality to the running of a facility, new customer parts unique to that product, and others.

Management needs to look at a descending rupee and volume chart in order to make decisions on ABC analysis. Once the top rupee items of usage are identified, and its corresponding volume.

Parts can be coded by the proper classification.

<b>“A” Class Items (High Consumption Value)</b>	<b>“B” Class Items (Medium Consumption Value)</b>	<b>“C” Class Items (Low Consumption Value)</b>
Very Strict Control	Moderate Control	Loose Control
No Safety Stock of low safety stock	Low safety stock	High safety stock.
Maximum follow-up and expediting	Periodic follow up	No follow-up of in exceptional cases.
Rigorous value analysis	Moderate Value analysis	Minimum Value analysis
Must be handled by senior Management	Can be handled by middle management	Can be delegated to lower management.
Eg. Power Transformers	Eg. Cables	Eg. PVC tapes, Nut bolts etc.

**Figure: 3 Differentiation of ABC category material**

Pros: Now this is more like it. This system doesn't set rigid standards on how many products to keep on hand; it simply tells you how long it will take to order those products. You can do the rest with the help of inventory control software.

Cons: It still requires a lot of work to maintain healthy inventory levels.

### **2.2.2 Min-Max System.**

This system tells us what is the maximum and minimum level of inventory or product units required to be held in hand for smooth flow of work. When Min is achieved we need to re-order and when Max is achieved we need to stop ordering and utilize the material in hand.

Pros: fairly simple and straight-forward method.

Cons: product may take time to reach once we wait for levels to reach minimum line.

### **2.2.3 Two-Bin System.**

There is one Main Bin and a back-up bin in this system. Main bin is frequently used and the re-ordering is done after assessing level of main bin and backup bin is used for filling orders till the time new products are received.

Pros: Spare Products are available at the time of emergency.

Cons: Obsolete nature of products in back-up bin.

### **2.2.4 Order-Cycling System.**

A frequency is set and therefore at that frequency only we order products/inventory.

Pros: This method can be avoided if there is another system in place.

Cons: Risky and costly system and involves lot of labor and manpower for trivial job.

### **2.2.5 Reorder point**

Different section in store is dedicated for different materials. Bins or Racks are kept in this section for tracking the material. Numbering and indexing is done to each bin/rack for easy identification. For example, the store has a separate section for bolts. The different sizes of bolts are kept in the different bins. To facilitate the location of section and various materials, it is better if location plans are exhibited at the entrance of the store room.

### **2.2.5.1 Stocks levels**

#### **2.2.5.1.1 Maximum and minimum stock Level**

It is very important to know the limits so that we do not overly or underly invest in the materials to be kept in store. The limits should be mentioned by management and looked after by storekeeper.

#### **2.2.5.2 Re-order level/ Point (ROP)**

This is fixed between a maximum and minimum limit and at this point they need to re-order the inventory in order to ensure smooth flow of work. It depends on:

(i) Maximum usage

(ii) Interval of Time i.e. time between issuing of orders and time when we get orders.

#### **2.2.5.3 Average stock level**

The Average stock held by a firm.

Average stock level =  $\frac{1}{2}$  [Maximum stock level + Minimum stock level] Or

Average stock level = Minimum stock level +  $\frac{1}{2}$  Re-order Quantity

#### **2.2.5.4 Economic Order Quantity**

That order quantity which is economical. It is also known as standard order Quantity (SOL).

##### **(i) Ordering cost**

The cost we are incurring in purchasing the material. It obviously depends on the size. More the size, more the cost and less the size, less the cost. It also includes cost of inspecting the material.

##### **(ii) Carrying cost**

Now that we have received material, we have to maintain it. So the cost incurred in maintaining the material is known as carrying cost.

Inventory control: The main motive is to minimize both the total cost so that cost of carry also decreases.

#### **2.2.6 TPDDL Perspective for Re-Ordering**

1. Consumption is recorded on regular / stock able on monthly basis.
2. Lead time is fixed / obtained.
3. Calculation of Safety stock, maximum level & Re-order level of each regular / critical item on the basis of consumption pattern, lead time, fluctuation in demand and experiences are done.
4. Monitoring of levels are done and based upon that RO / Purchase Requisition are placed whenever material level has reached re-order level in case of RC items and O&M consumable items.
5. MRP output is forwarded to Procurement Group.
6. Review of Re-order level, Safety Stock and maximum level are done annually so as to optimize the Inventory Level.
7. Safety stock, maximum level & Re-order level are fed in ERP system.

Re-ordering of the material is an important task for any company as more refined the process of re-ordering are, less will be the stock level which a company will maintain in its storage location and less will be money which will be blocked. One of the major KRA of the personal of stores at TPDDL is to reduce the inventory level so that minimum money of the company is blocked in the inventory at different storage locations.

#### **2.2.7 Just In Time (JIT)**

It is the most popular method for inventory control which aims at ensuring that inventory is available just in time to carry out production activities. This is very important and to ensure this most of the companies have warehouses very close to manufacturing units.

#### **2.2.8 Safety Stock System**

Everybody is concerned about their safety and the same is the case here. In order to ensure that the production work is not hampered, a Safety stock is maintained above the normal level, so

that in case the re-ordering and receiving time lag increase we have enough material in hand to carry out activities.

#### **2.2.9 Practices actually followed:**

**TPDDL:** In TPDDL procurement is done based upon MRP (Material Resource Planning). Stores compile the requirement of all the groups based upon requisition raised in SAP by end users. MRP module is run every 6 months and requirement is consolidated. Based upon requirement generated from system and previous year's avg. consumption quantity to be procured is finalized. Procurement is also initiated if any department raises a "Purchase Request" (PR) for emergency purchase or if rate contract of any item expires.

**PSEB:** Punjab being an agriculture state so its procurement cycle is based on plantation of crops. All the requirements are called for in winter months (Nov. / December) by Chief Engineer from area Section Engineers. These requirements are consolidated and handed over to draftsman. Draftsman then compared the requirement with previous month's consumption and based upon requirement and previous trends and budget allocated, quantity to be procured is finalized. Here Store is passive partner and does not come in picture anywhere from calling of requirement to finalization of procurement activity. Role of store is to receive the material and then their work starts.

**APCPDCL:** Procurement of the material is initiated based upon new projects requirements, internal estimates are made quantities are frozen. Intends are called from circles for the financial year to calculate the quantity to be procured. Based upon requirement and budget allocated and APDRP allocated budget quantity is decided.



## 3 Resources Planning System (ERP)

There are various types (6) as discussed below:

- I. **Web-based ERP (Electronic Resource Planning):** Use of technology to create PR and approving the same.
- II. **e-MRO (Maintenance, Repair and Operating):** Same as web-based ERP except that the ordered goods and services ordered are non-products of MRO i.e. indirect way of procurement
- III. **E-sourcing:** Use of ICT to identify new suppliers.
- IV. **E-tendering:** Use of ICT to send invite tenders and send responses.
- V. **E-reverse auctioning:** Use of ICT to buy goods and services from suppliers which are known or unknown to us.
- VI. **E-informing:** Use of ICT to gather meaningful information and informing the same.

Enterprise Resource Planning system (ERP) is the use of a central repository where the status of data is regularly updated by various departments and the same can be used by everyone across the company and take meaningful decisions on the basis of that. It eliminates wasting of efforts and duplication of data.

### 3.1 Benefits of ERP

Following are the benefits of the ERP systems

- I. Reduction of time
- II. Faster transaction of information
- III. Better management of finances
- IV. Making tacit process knowledge explicit

### Choose a system

There are many software systems available. Make a checklist of your requirements. For example, your needs might include:

- multiple prices for items
- prices in different currencies
- automatic updating, selecting groups of items to update, single-item updating
- using more than one warehouse
- ability to adapt to your changing needs
- quality control and batch tracking
- integration with other packages
- multiple users at the same time

### **3.2 TPDDL ERP**

TPDDL uses ERP Accelerated SAP which has a proprietary implementation methodology called as Accelerated SAP (ASAP), which will be used as the base approach for the implementation at SAP. ASAP is a solution from SAP to streamline customer implementations and deliver faster business results.

Complex Organizational structures can be mapped in SAP system. In addition to the generally valid organizational units defined in the system required for legal or organizational structuring purposes, the Logistic System contains a number of organizational units specifically for representing Logistic

The following Plants have been defined for TPDDL based upon following:

- a. Procurement
- b. Maintenance
- c. Materials planning aspect
- d. Material Valuation

## **Code Plant Description**

CORP Corporate Head Office (used by PM also for Planning)

## **PM Plants Plant Description**

SKN District Shakti Nagar  
CVL District Civil Lines  
MDT District Model Town  
KPM District Keshav Puram  
MTN District Moti Nagar  
PPR District Pitampura  
BWN District Bawana  
NRL District Narela  
MGP District Mangolpuri  
RHN District Rohini  
SMB District Shalimar Bagh  
BDL District Badli  
SNR System North  
SNW System Northwest  
421 Zone Vivekanand Puri  
422 Zone Shahjada Bagh  
425 Zone Shastri Nagar  
423 Zone Tibya College  
424 Zone Shakti Nagar  
417 Zone Kamla Nagar  
411 Zone Civil Lines  
418 Zone Timar Pur  
416 Zone Vijay Nagar  
402 Zone Gujranwala Town  
412 Zone Model Town

413 Zone Mukherjee Nagar  
415 Zone Adarsh Nagar  
501 Zone Keshav Puram  
509 Zone Wazir Pur Industrial Area B-Block  
502 Zone Wazir Pur Industrial Area A-Block  
520 Zone Jai Mata Market  
1301 Zone Rama Road  
1302 Zone Naraina  
1303 Zone Lakkad Mandi  
1304 Zone Pusa  
504 Zone Saraswati Vihar  
508 Zone Pitam Pura  
510 Zone Rani Bagh  
530 Zone Lok Vihar  
512 Zone Bawana  
513 Zone Karala  
521 Zone Pooth Khurd  
511 Zone Ali Pur  
514 Zone Narela  
522 Zone Delhi State Industrial Development Corporation - DSIDC  
517 Zone Bahaktawarpur  
515 Zone Mangolpuri  
518 Zone Sultanpuri  
519 Zone Poothkalan  
551 Zone Avantika  
561 Zone Rithala  
571 Zone Rohini  
503 Zone Bhalswa  
505 Zone Jahangir Puri

- 506 Zone Shalimar Bagh
- 531 Zone Haidar Pur
- 414 Zone Burari
- 507 Zone Samaya Pur
- 581 Zone Badli Residential
- 516 Zone Prahalad Pur

**Storage Location**

In TPDDL (erstwhile NDPL) all Plant Locations are also defined as storage location.

In TPDDL every material is codified with lags of Material Type, Description and Number Range as given below

<b>Material Type</b>	<b>Description</b>	<b>No. Range From</b>	<b>No. Range To</b>
ZEQP	Equipment	101000001	101999999
ZMTR	Meters, Boxes & Access.	201000001	201999999
ERSA	Spares	301000001	301999999
ZCAB	Cables, Joints & Access.	401000001	401999999
HIBE	Operating Supplies & Consumables	501000001	501999999
HTLT	HT&LT Line Materials	601000001	601999999
UNBW	Non-Valuated Materials	701000001	701999999

**Table: 1 Material Coding**

So with Serial no of a material all the details of the material can be mapped and this becomes the tag for tracking that type of material.

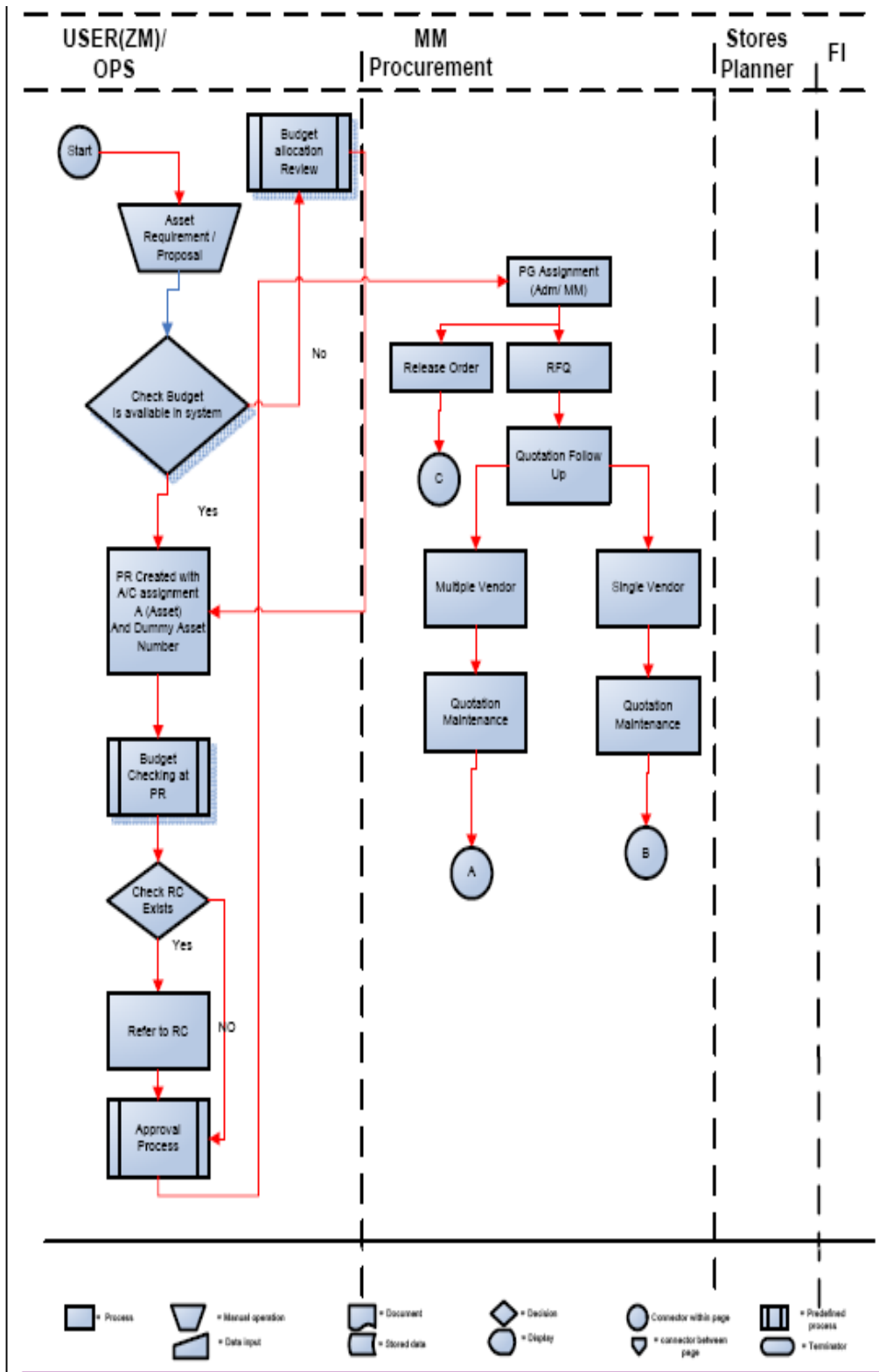


Figure: 4 Flow Chart Showing work flow in SAP (Source: SAP) Part-1

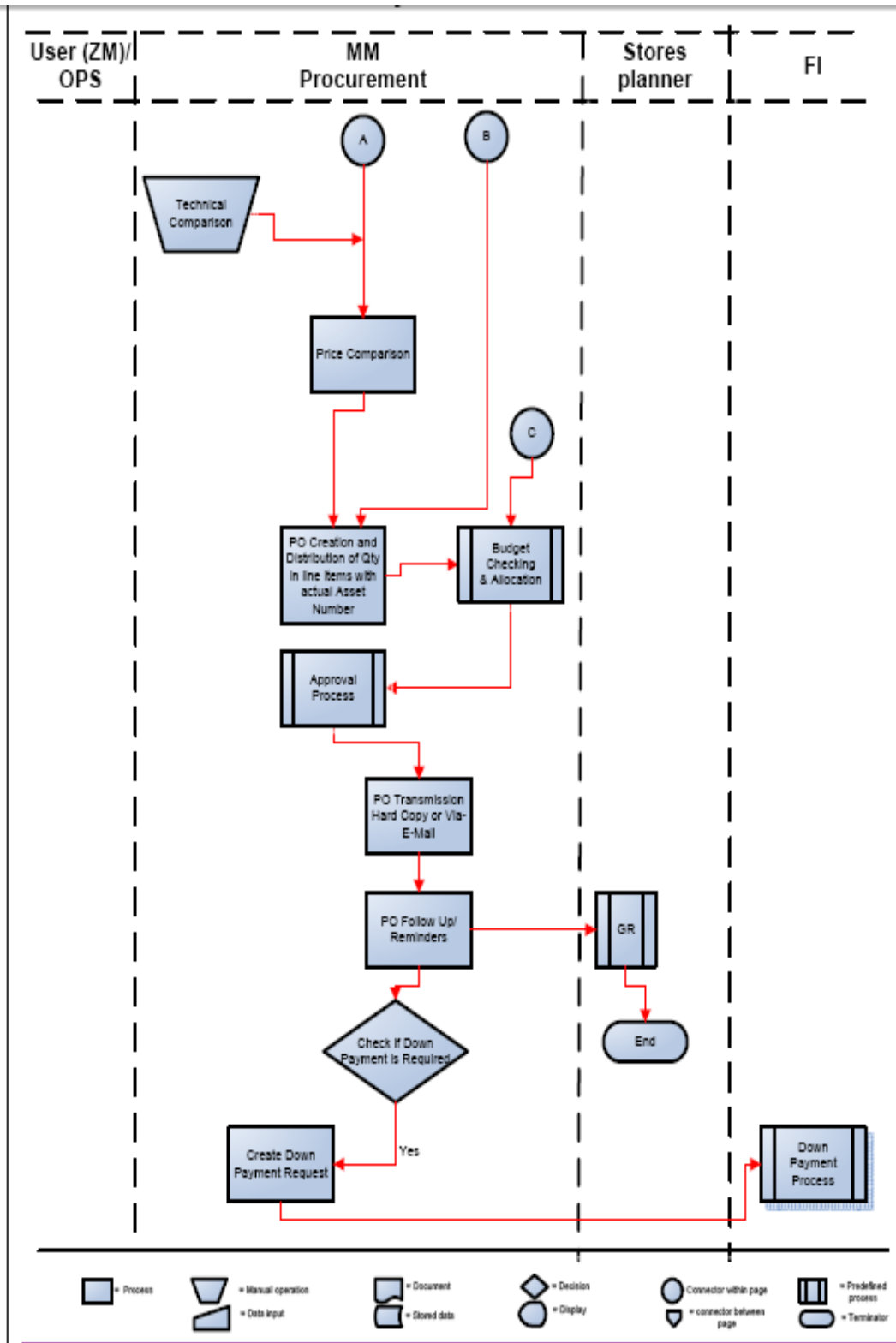


Figure: 5 Flow Chart Showing work flow in SAP (Source: SAP) Part-2

### 3.3 ERP in PSEB

In PSEC ERP system is under implementation stage. Till now there is no ERP system which is being used for operation purposes. All the procurement is done manually or e-procurement is done with the help of Ncore Solution which an IT solution provider. The website are maintained by Ncore solutions (a Mumbai based Company).

### 3.4 ERP in APCPDCL

In APCPDCL SAP system is being used. Approvals are taken in hard copy. From PO punching onwards all the activities are carried out in SAP. Activities include PO generation, Good Receipt Note and Payments are processed through SAP system.

### 3.5 Summary of Status of ERP Implementation in Selected Utilities

Point of Implementation	TPDDL	PSEB	APCPDCL
ERP	Accelerated SAP implemented and being upgraded. SAP is udder for PO generation to Payment release.	ERP under implementation	SAP is being used for PO generation and payments
e-procurement	No used as of now but background being prepared to implement e-procurement	First Tender has been floated and under technical verification. External agency Ncore is given order to maintain web-site for e-bidding	Govt. of AP has developed a web-site for all the utilities owned by State Govt to be used for e-procurement.



## **4 Consumption Analysis and Material Resource Planning (MRP) at selected Units.**

### **4.1 TPDDL Material Requirement Planning**

Material requirement planning in TPDDL is done with the help of MRP module on SAP. In MRP module all the requirements which have been uploaded in SAP system through PM, PS module by users are captured. MRP captures all the material which is required and consolidates the quantity for all, the projects and CapEx requirement and O&M material. Stores is responsible for MRP and based upon the requirement and previous year consumptions and budget allocation quantity of the material to be procured is finalized and intimated to procurement department by generation of "Purchase Requisition" (PR). Intimation of this PR is sent through and e-mail to concerned person in the department who further assigns this PR to concerned person responsible to handle that particular material. Once PR is generated then approval for procurement is taken based upon DOP. After getting the approvals, Tenders are floated and procurement action is initiated which ends in receiving of material at central stores / site office.

In TPDDL all the material which is issued and returned to the store is done online through ERP. For different material which can be drawn for the store different level of authorities are designated. A well drafted procedure is followed as mentioned below.

#### **ISSUE OF MATERIAL**

1. Reservation for O&M job & Zonal CapEx are created through ERP.
2. Reservation for projects gets generated through ERP in PS module as soon as scheme is prepared, budgeted and released. The requirement is forwarded to Censtore by project manager by way of reservation in PDF format or by Z reservation for required item & required quantity. The issue against PDF reservation is directly booked against scheme and in case of Z reservation material is transferred to project virtual storage location.

3. Officers authorizing the Reservations ensures that above procedure is adhered to.
4. Materials are issued quickly and exactly as per requisition with regards to both specification and quantity. In case, however, when a material has to be cut and the pieces left over would not be fit for further use, the whole piece is issued.
5. Store keeper can issue alternative material in case of insufficient stock or nil stock of indented item. But this should be done only with the consent of Indenting Officer after making necessary corrections in the reservation.
6. Goods issued should be posted in ERP System and Gate pass is generated from the system. As far as possible, Material is to be taken out on computerized Gate pass only.
7. (a) W.e.f. 1<sup>st</sup> July, 2004 all material to be delivered by Stores to respective locations. However to cater to emergencies and specific work order requirements, the material can be collected from Stores by the indenter personally. To deliver material, Store will follow the following system :
  - i. Receive Reservations in ERP up till 4 PM every day.
  - ii. Entry of all the received Reservations are made in Door Delivery Register and DD No. is allotted on each docket.
  - iii. Reservations are sorted out in one bunch according to the route where it has to be delivered.
  - iv. Material is issued by the store keeper on duty and it is received by the supervisor of logistic BA for door delivery. It will be joint responsibility of both the store keepers and supervisor of logistic BA to ensure correct quantity and quality of the material is issued as per the reservation.

- v. Loading, unloading and transportation of material is done through the approved Logistic BA. It is the responsibility of Logistic BA to ensure safe handling and delivery of the material.
- vi. Material should be delivered as per following schedule to the Zonal offices/sites from the time of receipt of the reservation excluding holidays as no delivery will be made on holidays.

<b>Type of Material</b>	<b>Period of Delivery from reservation</b>
O&M	Within 24 hours
Project & Capital works	Within 3 days

- vii. The material should be handed over to concerned JE / Asstt Manager / project officer or to their authorized representative. The signature should be taken on the gate pass with complete details of the employees receiving the material.
8. Material allocated for project work may be issued for O&M works & vice versa in case of emergencies. For that approval should be taken from Stores in charge.
9. Issue of material for repair/job work/ on loan :
- I. This is for issue of material to third party (BA).
  - II. These issues shall be made only against approved order in favor of BA (i.e. third party).
  - III. This material shall be issued on returnable basis and store should reconcile this statement quarterly.

#### 10. Issue of Capital item/T&P item

- a. Tool and plants required for maintenance works are issued in the individual name of the indenter.
- b. Individual withdrawing these items shall be responsible for their proper maintenance and for their availability for use at all times. In case of loss, the individual is responsible for a prompt report as to how they have lost so that the value of the same can be recovered from him or be written off the account and new ones are issued to him.
- c. The authority to write off shall be as per Delegation of Power.
- d. With regards to unserviceable tool, a prompt report is submitted and their write off obtained.
- e. Before any employee hands over charge of his duties, it is his primary duty to get a clearance certificate of all the tool entrusted to his charge. No person can leave until he has properly handed over charge of his tools and plant to his successor, or deposited the same back to stores.
- f. Before handing over the charge of his duties, the responsibility of informing the same to stores shall rest on the individual.

**Table: 2**

**RETURN OF MATERIAL:**

**A. Serviceable Materials:**

Process Steps	Transaction	Remarks	Responsibility
<b>1) Material issued in SAP</b>			
Take out print of Material Return Note, write qty. manually in column 'Qty. to Return', get approval and send to store	ZMM12	Enter original goods issue doc. No. for taking out print	Zonal manager
<b>2) Pre SAP issue or recovered material</b>			
Maintained negative qty. in maintenance order or make new maintenance order	IW31/ IW32	Select batch as "Salvaged".	Zonal manager
<b>Note down reservation No.</b>	IW31/ IW32	Can be view in Gen. Data	Zonal manager
Take out print of Material Return Note, get approval and return materials to store	IW32 or ZMM07	Write down qty. manually in ;Return Qty.' column	Zonal manager

**B. Return of Transformers:**

Process Steps	Transaction	Remarks	Responsibility
<b><u>SERVICEABLE TRANSFORMERS:</u></b>			
Serviceable transformers are to be returned to KPM Store with approved return docket and test report from Protection.	ZMM12	Take Printout of MRN by ZMM12	Zonal manager / HOG (TS&P)
<b><u>DAMAGED / DEFECTIVE TRANSFORMERS</u></b> <b>(CATEGORIES- AUGUMENTATION, LOW IR &amp; BD VALUE, DEFECTIVE U/G, DEFECTIVE MINOR REPAIR, DEFECTIVE MAJOR REPAIR AND TOTALLY DAMAGED:</b>			
1) Change the status of transformer from Installed to dismantle and change batch as <b>"DAMAGED"</b>	IE02	Change batch as <b>"DAMAGED"</b>	Zonal manager
2) Maintained negative qty. in maintenance order & batch as <b>"DAMAGED"</b>	IW32	Return from Zones	Zonal manager

2) Maintained negative qty. in WBS (Network) & batch as " <b>DAMAGED</b> "	CJ20N	For return from project WBS	HOG (TS & P)
3) Note down the reservation No.	IW32 & CJ20N	See Gen. Data	
4) Take out the print out of MRN & get approval of competent authority as per process	ZMM07		Zonal manager / HOG (TS & P)
5) Mention Equipment No, Sr.No., make, capitalized status, fault date / removal date of transformer on MRN	Manual		Zonal manager / HOG (TS & P)
6) Send to appropriate locations as per procedure along with printout of MRN.			Zonal manager / HOG (TS & P)

This method of the online issuing and return helps in tracking the inventory of the material and at any given time of year through reports one can track the status of the stock of any particular item. Moreover there are alerts also which are given by system whenever any particular item falls to the level of re-ordering. Intimation mails are automatically generated by the system to the person concerned for all the logics being built in the system as stock level low, material received at site, material dispatched from store etc.

In addition to this consumption analysis is also done to ascertain that re-ordering level defined in the system is correct or not and there is never stock out condition. If any such condition arises then an analysis of the situation is done as where there is flaw in the system. Was this sudden demand already declared in the current financial year of it has arisen due to some emergency condition not anticipated earlier and what is the likely hood of such emergency conditions to arise again. After the study of this stock out condition it is decided if the re-ordering level of the material should be changed or not.

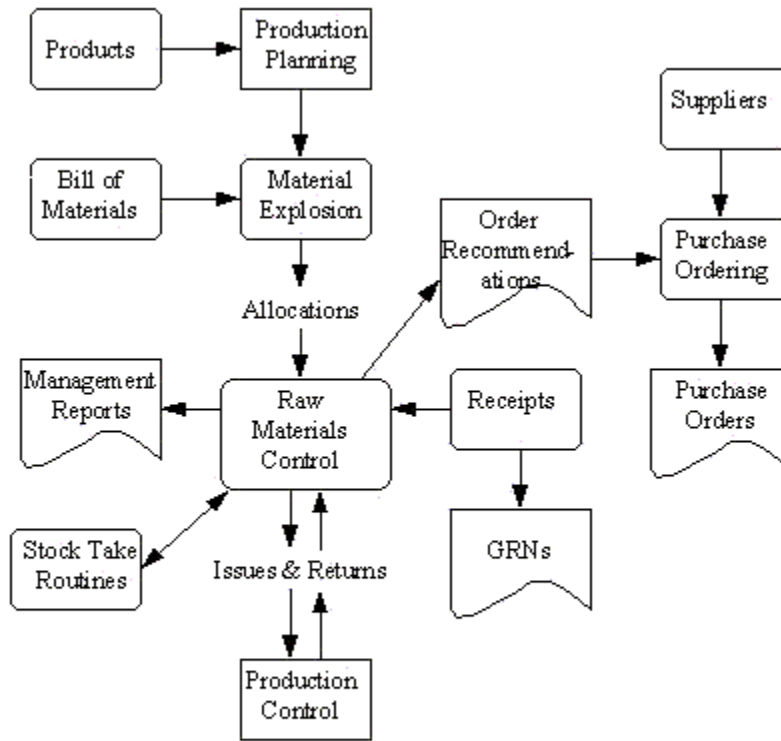
#### **4.2 PSEB Material Requirement Planning**

All the materials which are required in next year, their procurement is initiated in winter season considering that crop season will be coming in summers and at that time power supply is required to run tube well. So this condition decided the procurement cycle. Requirements are asked from all the divisional SEs for the material which will be required for next one year. All the requirements which are received are consolidated and then studied by Chief Drafts man based upon the budget allocated and previous year consumption data maintained by them. After studying the consumption patterns quantity to be procured is finalized by procurement department. Based upon the amount of tender it is decided as what process of tender will be floated. If the amount of tender is greater than 50 Lacs then e-tender is floated else conventional method is followed. The process of procurement is started. Material which procured is sent to store from where it is issued to the circles as and when required is raised. Store here looks for inventory and plays no role in deciding as what quantity of the material is to be purchased. Only data which is provided by the stores is consumption pattern of the material.

#### **4.3 APCPDCL Material Requirement Planning**

Requirements are called for, from all the circles in hard copy for all the O&M requirements and projects scheduled for next year. All the requirements are consolidated. Based upon budget of individual project requirement and previous year consumption this consolidated requirement is finalized and then quantity to be procured is finalized. Based upon this finalized quantity tenders are floated. All these tasks are handled by P&MM department. After finalizing the requirement, tenders are floated based upon the budget of the tender. Materials are procured and sent to store from where they are issued to concerned circle or projects based upon their requirements. Procurement for any item is done once in a year.

### Flow Chart for Material Resource Planning



### MATERIAL REQUIREMENTS PLANNING

Figure 6: Material Requirement Planning



## **5 Comparative Analysis of Procurement Policies of Selected Units**

### **5.1 TPDDL Policy**

Any Procurement in TPDDL is being guided by DERC guidelines of procurement.

TPDDL has prepared its guidelines which are being followed for procurement as per the guidelines of DERC mentioned on the website and handbook of Supply code and regulations. However there are different groups within the company which look for procurement of different material for O&M and projects within the company. For every procurement group hierarchy is defined based upon the amount of order value. Such hierarchy is first approved by management of the company and then are reflected in SAP. All the procurement processes are initiated with approval note duly signed by and approver based upon amount through every level of hierarchy and then same is uploaded in the system and PO is punched in SAP system and approved. In every approving hierarchy there is one pre-audit check prior to final approval level for any PO. The work of pre-audit is to check that all the processes have been followed. If there are query by pre-audit then the concerned intender has to satisfy the pre-auditor only then the PO can be approved by pre-auditor and moved to final stage for approval. This process since once takes place in hard note and then in SAP, so approvals at all the levels are taken twice.

### **5.2 PSEB Procurement Policy**

#### **5.2.1 Open Tenders**

- a. For all individual items valued at more than 1,00,000/- each and not borne on PSEB rate contract, tenders is invited through publicity, in the newspapers / journals allowing normally a period of four weeks from the date of first publication for submission of tenders. In urgent case the period may be reduced to two weeks.

- b. For PSEB rate contract is invited through publicity in the newspapers / journals allowing a period of four weeks from the date of such publications.

#### **5.2.2 Rate Contract**

- a. Item borne by PSEB rate contract are purchased from the suppliers against valid rate contract.
- b. Items borne on rate contract of Director General of the suppliers and disposal / Punjab Government may be procured from the suppliers on valid rate contract terms provided that such items may also be procured under other procedures prescribed here in case of central purchases only.

#### **5.2.3 Limited Tender**

- a. For individual item valuing upto Rs 2.5 lacs (each) tender are invited from registered firms / contractors, through letters sent by registered post “acknowledgement due” giving a minimum time period of 15 days from the date of issue letters for submission of tenders, in exceptional cases the period can be reduced as considered necessary by the purchasing authority.
- b. For Items for which manufacturers / Suppliers have been standardized approved, tenders shall be invited from such manufacturers / Suppliers only.

#### **5.2.4 Single Tenders**

For the following items single tenders are invited directly from the concerned manufacturers / suppliers:

- a) Items of Proprietary nature.
- b) Patents and special items to which tender system cannot be applied with advantage, recording reasons thereof.
- c) Insurance through Nationalized Insurance Companies.

### **5.2.5 Spot Tenders**

- a) For items of critical nature, tenders are obtained on the spot in the market by a committee of not less than three officer (including one from Accounting side) appointed by Whole-time-Members of Central Purchase Committee, Project Purchase Committee or Purchase committee (General) with specific delegation of power upto 50% of the competent authority's own power and generally following the limited tenders procedure suitably abridged to enable award of purchase order / contract on the spot. Provided in the case of Spot Purchase Committee constituted by the Central Purchase Committee, Project Purchase Committee of Purchase Committee (General), Prior Permission of the Members-in charge shall be required.

### **5.2.6 Cash Purchases**

- a) In urgent cases items valuing upto Rs. 5000/- (each) may be authorized to be purchased by Executive Engineer / Deputy Secretary against cash payment after assessing reasonability of rates from the market on the basis of at least three quotations in writing
- b) Items valuing upto Rs. 2000(each) may be purchased against cash payment after conducting oral enquiries in the market.

### **5.2.7 Special procurement**

- a. Items covered by grant or loans from foreign Government or covered by specific agreements / instructions of Central / State Government are purchased from suppliers / Agencies nominated by the representative governments' upto the value limits, if any, specified and as per special procedures laid under respective agreements / instructions.

### **5.3 APCPDCL Procurement Policy**

APCPDCL has a well-defined procurement policy. Following type of tendering methods are followed:

#### **5.3.1 Open tender:**

All the tenders with budget of more than 10 lacs are tendered through open tendering method. In this method tenders are floated on web site and are available to all for applying. These tenders are published on their website. If one qualifies the requirement then that company is free to apply for tender through the process prescribed in tender document. Generally open tenders are applied by CGM (P&MM)

#### **5.3.2 Limited Tender:**

When the budget of the tender is less than 10 Lacs the Limited tender is floated. In this case the tender information is sent to the registered vendors and previous vendors who have been supplying the material to CPCDL in previous few years. In such case notifications are not given in newspapers or on website.

#### **5.3.3 Local Procurement:**

In case when the stock is not available in the store and there is an emergency of material then concerned CE is authorized to make local purchase budgeting upto 5L through limited tenders.

## **6 Study of Existing Systems of Procurement at Selected Units**

### **6.1 TPDDL Procurement Process**

The 'Procurement' of materials/equipment/goods in TPDDL is basically a corporate function. It caters to needs of all functional groups in acquiring materials and majority of services by availing benefits of overall volumes and centralized expertise in the organization and in a manner that provides accountability. All purchases of goods and services need to be done in competitive environment and at prices which are 'fair and reasonable'. As a public institution, TPDDL is committed to developing an environment that fosters open decision-making, practices and policies. Selection of vendors and suppliers is therefore based on consideration of quality and reliability, and to obtain the best value for TPDDL. A few of the services however are procured by the field/line departments, but as per the overall policies of the Company, same need to be equally objective in all respects.

In the process, compliances to all applicable national, state and local laws, regulations, codes and ordinances is also addressed & ensured. All the procurements are governed by the guidelines given by DERC and CEA.

Systems are already in place to identify officers authorized to formulate budgets and get the same sanctioned. Expenditure Control Cell of Finance exercises overall control on budget and expenditure. It is TPDDL's policy that officers in Procurement Function shall only initiate all contractual correspondence pertaining to bids, negotiations pricing, terms, conditions, and delivery etc.

An open and competitive process for procurement of goods and services is invariably to be maintained. Bids are evaluated by a team of competent officials from functions like procurement, and finance. User's views are also taken and considered, wherever necessary for modification of

specifications and enhanced performance. At the same time it is quite pertinent to involve the concerned stakeholders during bidding process but the bids once received be kept confidential until the conclusion of process.

The operations of procurement function have to a large extent been built into an innovative ERP package and being followed for Enterprise level reporting and control.

### **6.1.1 Indenting**

- a. Indents from stores/ user dept. to procurement group are planned adequately in advance, taking into account adequate processing time PLUS time for delivery of item(s) to be taken by the vendor. It is thus important that both Stores & other user(s) must work through a scientific system of assessment of needs, re-ordering level & quantities in stock etc.
- b. It is expected that indenter gives correct description of product / specifications, together with testing / safety requirements etc. in the first instance itself in the indent.
- c. Indents for items of repetitive nature should cover estimated quantities and budget for the entire period say on annual/ half yearly basis to enable finalization of rate-contracts, which result in benefit in terms of better pricing and time management. Similarly for renewal of rate contracts timely release of indents is essential.
- d. In case of emergency, where, the proposed 'processing-time' cannot be afforded, indenting department record reasons as to why it could not be anticipated in time, duly countersigned by the concerned HOD/HOG . In such a case 'Special

Emergency Action Plan' is adopted by the procurement group with the prior approval from concerned authority.

- e. Wherever indenter prefers an item from a particular source only, sufficient reasons are recorded and duly approved by a designated officials depending upon the amounts involved, and as per prevailing DOP.

#### **6.1.2 Vendor's Registration and Verification**

- a. System for vendor development, evaluation and registration in TPDDL is as per Standard Form in Annexure-1
- b. Wherever list of registered vendors include large number of parties, those vendors on whom past dealings were satisfactory need to be addressed in any case, along with certain other vendors from the list , whereby providing fair opportunity to all those registered with us.

In case vendor list does not contain sufficient names of parties for a particular item, the indenting & Procurement departments may jointly identify more vendors to be addressed so as to ensure that at least " 3 " bids are received for each tender.

If the bids received are less than "3", special efforts need to be made by contacting additional parties, to be so identified jointly by indenting / procurement groups. If this is not possible, approval of authority competent to approve such procurement as per DOP needs to taken by recording reasons thereof, before such bids are opened.

#### **6.1.3 Tendering**

In TPDDL, enquiry format is already built into "ERP package" for on-line working of Procurement Group, following additional aspects need to take care of:

- a. Two part tendering is to be adopted, whenever technical specifications/ parameters are likely to change or may need some refinements on the basis of bids received or technical discussions/clarifications etc. or where the cost of procurement to Company is expected to be more than Rs. 1 Crores, whichever, is a minimum requirement.
- b. First part of tender contains technical and commercial aspects of the bid, including Earnest Money Deposit (EMD) wherever called for. Enquiry is called for submission of bids with EMD, in order to make bidders to be serious of their commitments, or to avoid re-processing of a tender due to any bidder backing out during tender evaluation and finalization. Tenders for more than 100 Lacs, thus shall be called with EMD. The EMD is in the form of Demand draft or Bank guarantee, valid one month beyond the validity period of bid and shall be:
  - i. For around 2 ½ % the estimated contract value ( to be stipulated in round figures to nearest thousands) for tender values upto Rs. 200 lacs and;
  - ii. For around 1 ½% the estimated contract value (to be stipulated in round figures to nearest thousands) for tender values beyond Rs. 200 lacs
- c. Second part of tender contains ONLY prices in the given format and confirmation that these prices are in total compliance to 'Part One' of the tender.
- d. On/before due date, both parts of the bid are submitted by the bidder together in the sealed envelopes as per the instructions to the bidder. No price negotiation, unless with single party & that too with quoted lowest shall culminate in across the table decision, prices after negotiations in such cases are received only through the sealed envelopes.



- e. For procurement of all other items, and/or of values below as stated in 'b' above, single-bid procedure are adopted.
- f. For procurement of general nature or where provision of EMD is likely to curtail response, or for items where market is quite unstable, or depending upon vendor classification, requirement of EMD can be waived off, with the approval of the authority competent to approve the procurement.
- g. At the time of calling of bids, validity period to be asked, need to be optimally stipulated, within which TPDDL must endeavor to finalize in any case (since bidder can otherwise change prices/terms, if extension of validity of bid is subsequently asked for) At the same time too long of validity period may result in adding more cushion/firming up factor to prices, instead of being bare minimum. Default period of validity of bids can be 90 days from the due date.

Management approval for an enquiry should include all above aspects of EMD, validity, list of vendors to be addressed with reasons thereof, besides all requirements. Calling of tenders needs to be approved by an authority competent to approve the procurement.

#### **6.1.4 Bids Opening and Comparative Statement:**

- a. As per 'Instructions to bidders' of a tender, official named therein or his nominee are responsible to receive and keep all bids in sealed condition till opening, and secure the same thereafter.
- b. Bids are to be opened in house and not in presence of bidders. But bids opening may need to be by at least two representatives, as per procedure. Price bids are to be opened along with technical bids or separately is determined in consultation with GM/TS or CEO, depending upon the amounts involved, as per DOP

- c. Each of the original bids is serially numbered by the number of total bids received. Further each of pages of 'price bids' are serially numbered by the total number of pages therein. Any column left blank will be crossed and all figures and corrections are initialed by officials opening the bids.
- d. Comparative Statements, once made in procurement group, are re-checked /countersigned by another official. For tenders over Rs.50 Lacs such comparative statements are vetted by Finance also before proceeding further.
- e. Wherever revised price bids are obtained the above procedure is repeated.
- f. Bids received late or un-solicited bids or bids without EMD or bids from the party whom enquiry not issued, should normally be not considered. However for a definite reason of un-sufficient response against the tender, such bids can be considered (preferably before the bids are opened) with the prior approval of authority responsible for approval of procurement, depending upon the amount involved & DOP.

**6.1.5 Technical Commercial and Price Negotiations:**

- a. Calling of parties for price negotiations is approved by the authority competent to approve the procurement.
- b. Technical acceptability of bids is first ensured by Procurement Group in consultation with indenter /user. Any bid found not complying with tender specifications may need to be dealt with for complete technical compliance or rejected.
- c. Thereafter, the bid with the lowest price (L1) is first reviewed in the context of comparable price-level as available in the 'Comparative Statement' as well as the last purchase price-level, if available, market trends/competitors etc.

- d. Once 'reasonable' or 'best price' option is determined (so called as target price) negotiations can be commenced with all the bidders (or at least lowest 3/4 parties or so but within 20% of the lowest quoted prices, unless specifically approved by the competent authority responsible to approve the said procurement or CEO whichever is lower) Negotiations, once approved, may preferably start from the highest quoted bidder and moving towards the lowest in the end. Such negotiations should be conducted with total compliance to both technical and commercial terms of TPDDL tender document as a pre-condition. Any deviation to commercial terms need to be dealt on merit, whereas deviations to vital terms viz. payments, Bank Guarantees, Guarantees, LD etc. need to be discouraged to the fullest extent possible and all deviations need to be approved by an authority competent to approve procurement..
- e. In order to cut short the negotiation-time, while calling the parties for negotiations, all 'deviations'- technical and 'commercial' are asked to be withdrawn. Despite this if any specific deviation is not withdrawn, same can only be discussed and resolved along with price at the time of negotiations. Concept of 'loadings' for final deviations if any need to be finalized in consultation with authority competent to approve procurement. Parties are specifically informed while calling for 'negotiation meeting that this is the last opportunity being given and there may not be any further opportunity to clinch the deal.
- f. Conducting of negotiations or determination of 'best price option' as the case may be, done in procurement group, in consultation with Finance. Delegation of powers for conducting negotiations are well described
- g. However for tenders up to Rs.2 lakhs two officers in Procurement Group can directly negotiate with bidders.

- h. Alternatively, the best price option can be communicated in writing to all bidders, who can be asked to submit revised 'no regret' prices in sealed covers, by a certain date, and such bids can be opened as per procedure already outlined above. This procedure may be worthwhile when it is felt that calling negotiation meeting is not likely to serve any additional purpose and/or parties are from outside Delhi, amounts/ parties involved are such where bidders may not find it viable to incur costs in visits etc.
- i. The above procedure is also be applicable to e-procurement exercise, wherever so adopted.
- j. For splitting of ordering between two or more parties for reasons of meeting user's delivery requirements or bidder not able to supply entire tendered items/quantities, ordering may be done at different prices, provided all attempts to bring such parties at par could not succeed but in such a case distribution pattern finalize so as to optimize costs to be incurred by the Company.

**6.1.6 Repeat Ordering:**

- a. Whenever there is need to curtail tender processing time or it is felt that fresh tendering is not likely to result in any benefit, Procurement Group proceeds' with repeat ordering on the party on whom last order was placed or even with any other party (L2 or so) in the last tender, on the same prices/terms, with the approval of authority competent to approve procurement. If repeat ordering is considered necessary on higher prices, updated for technical changes or market trends in the intervening period, same needs to be done with the approval of an authority one level above who approved last procurement.

- b. No repeat ordering is done against such orders which were earlier placed on 'Emergency basis' or on higher prices for consideration of deliveries etc.
- c. Repeat ordering is done by re-negotiation of prices to the extent possible, depending upon market trends, by following the above guidelines.

#### **6.1.7 Local Procurement:**

For indents of items amounting upto INR.10,000 procurement, instead of tendering, may be done by an official in procurement Group, by contacting 2/3 parties in the local market as convenient and recording rates/ terms so obtained for countersigning by next higher officer and approval by competent authority.

Reasonableness of rates vis-à-vis last purchase prices, if available, is also certified by the concerned official himself.

#### **6.1.8 Emergency Procurement:**

Special Action Plan is adopted where normal procurement procedure/ cycle cannot be followed for the reasons to be duly recorded & approved. GM-Operations / Services / GM-Technical Services / CEO are the approving authority for such procurement under 'special action plan' Procurement group can obtain bids from the most probable parties, whom it feels can execute in time and with required quality, by contacting over phone/E-mail/fax etc. instead of formal bid-procedure/ opening etc. and go ahead with negotiations and finalize with a sole objective to cut short processing time.

Other aspects of negotiations, approval etc. remains same as above.

#### **6.1.9 Tender Terms and Conditions:**

Standardized 'terms and conditions' called "General Conditions of Contract" (GCC) in TPDDL" are adopted for all types of tendering / PO's/ WO's

No changes to GCCs are permitted, unless revisions thereto are issued with approval of CEO.

Bank Guarantees cannot be substituted by Corporate Bond/Guarantee in any case by any one (Except for group companies or approved by CEO) However coverage of guarantees on 'latent defects' can be through Corporate Bond / Performance Bank Guarantee.

Any deviation, both additions or deletions, to GCC's are duly approved by an authority competent to approve Procurement, and incorporated in POs/WOs as 'Special Terms and Conditions' to be enclosed along with applicable GCCs, with a clear stipulation that "provisions of special terms and conditions" are to supersede corresponding statements in the referred clauses of GCC, without affecting balance portions of such clauses, which will still continue to apply.

#### **6.1.10 Approval Note:**

Approval notes, besides details in the present format, also contain and seek management approval for the followings:

- a. Method of negotiation adopted;
- b. Last purchase prices or statement to the effect that no such prices available;
- c. Reasonableness of prices recommended with justification of increases if any;
- d. Deviation in commercial terms, if any

#### **6.1.11 Preparations of Purchase Orders/ Work Orders (POs / WOs):**

POs/WOs are reviewed/ pre-audited for financial/commercial compliances by the designated officials before signature of the competent official.

All POs/WOs are made on the standard TPDDL format (Annexure-2)

#### **6.1.12 Closing of Contract:**

Till further guidelines are issued in the matter, before release of last/final payment (including claims of price variations if applicable under the contract) a case for 'time extension' of completion period (i.e. waiver of LD) if considered necessary, be processed by Procurement

Group with reasons/justification in coordination with Finance & IA. Alternatively LD, in full or part, needs to be imposed. In either case, approval may be taken from the authority who initially approved such procurement.

Similarly before release of performance bank guarantee, due performance need to be certified by the indenter to Finance as well as Procurement Group. Procurement Group will take cognizance thereof for updating vendor-list accordingly and Finance will then discharge the BG and return it to vendor, under intimation to Procurement Group who will then initiate to close the case file.

Contract closing documents include SCR's (Scheme Completion Report) as per Standard Format and besides it should have a Completion Certificate duly filled in by Engineer-in-charge, responsible for execution of Contract/processing of final payment. Format for the same is being prepared by HoG (IA).

## **6.2 PSEB Procurement Process**

PSEB follows different procurement systems

### **6.2.1 Procurement Systems**

#### **1. Open Tenders**

- a. For all individual items valued at more than INR 1,00,000 each and not borne on PSEB rate contract, tenders is invited through publicity, in the newspapers / journals allowing normally a period of four weeks. But, in case of urgency the period may be reduced to two weeks.
- b. For PSEB rate contract is invited through publicity in the newspapers / journals allowing a period of four weeks from the date of such publications.

## 2. Rate Contract

- a. Item borne by PSEB rate contract is purchased from the suppliers against valid rate contract.
- b. Items borne on rate contract of Director General of the suppliers and disposal / Punjab Government may be procured from the suppliers on valid rate contract terms provided that such items are procured under other procedures prescribed here in case of central purchases only.

## 3. Limited Tender

- a. For individual item valuing upto INR 2.5 lacs (each) tender is invited from registered firms / contractors, through letters sent by registered post “acknowledgement due” giving a minimum period of 15 days from the date of issue of letters for submission of tenders, in exceptional cases the period can be reduced as considered necessary by the purchasing authority.
- b. For Items for which manufacturers / Suppliers have been standardized approved, tenders shall be invited from such manufacturers / Suppliers only.

## 4. Single Tenders

For the following items single tenders is invited directly from the concerned manufacturers / suppliers:

- a. Items of Proprietary nature.
- b. Patents and special items
- c. Insurance through nationalized Insurance Companies.

## 5. Spot Tenders

- a. For items of critical nature, tenders are obtained on the spot in the market by a committee of not less than three officer (including one from Accounting side) appointed by Whole-time-Members of Central Purchase Committee, Project Purchase Committee or Purchase committee (General) with specific delegation of



power upto 50% of the competent authority's own power and generally following the limited tenders procedure suitably abridged to enable award of purchase order / contract on the spot. Provided in the case of Spot Purchase Committee constituted by the Central Purchase Committee, Project Purchase Committee of Purchase Committee (General), Prior Permission of the Members-in charge shall be required.

#### 6. Cash Purchases

- a. In urgent cases items valuing upto INR. 5000 (each) Executive Engineer / Deputy Secretary are authorized to be purchased against cash payment after assessing reasonability of rates from the market on the basis of at least three quotations in writing
- b. Items valuing upto INR 2000 (each) can be purchased against cash payment after conducting oral enquiries in the ,market.

#### 7. Special procurement

- a. Items covered by grant or loans from foreign Government or covered by specific agreements / instructions of Central / State Government purchases from suppliers / Agencies nominated by the representative governments' upto the value limits, if any, specified and as per special procedures laid under respective agreements / instructions.

#### **6.2.2 Invitation of Tenders**

- I. On finalization of requirement of material, equipment and services and detailed technical specifications, tenders are invited by the respective Purchasing agencies by issuing Notice Inviting tender through press or "Registered Post Acknowledgement Due" letters as laid down in the tendering system relevant to the case.

- II. Copies of the Notice inviting tenders, both open and limited are displayed on the notice board of the offices of the Purchasing Agencies
- III. Any change in detailed technical specifications are made with the approval of Member / in charge.

### **6.2.3 Notice Inviting Tenders (NIT) and Tenders Specifications**

- I. Basic information to be included in the Notice Inviting Tenders/Tender specifications are specified in guidelines. These are suitably modified by the Purchasing Agency, if necessary, along with general instructions to be observed by Tenderers.
- II. Each Tender Enquiry is entered in a register maintained by each Purchasing Agency and allotted a distinct code/serial number.
- III. The names and addresses of the firms who buy tender documents/specifications is entered in a register.
- IV. Blacklisted companies are not allowed for any information regarding to tenders.
- V. NITs are published in the Newspapers as per the approved advertisement policy of the Board. Copies of the NITs are sent by post to recognized / registered / accredited suppliers.
- VI. Approximate cost of the material and quantity inviting NIT is indicated in the NIT/as well as in the corrigendum. This cost can be worked out on the basis of rates given against the purchases made during the previous years.
- VII. A stipulation be made in the NIT-conditional tenders will not be accepted.
- VIII. It is mentioned in the NIT that quantity mentioned in the NIT should be ordered on more than one supplier.
- IX. It is mentioned in the NIT/specifications that for assembly/units for project equipment, detailed drawings, part number and name of vendors will be furnished by the contractors.
- X. "No specifications/tender documents is issued to the firms who are defaulters for 25% or more quantity for more than 9 months or any quantity for more than 15 months in making

supplies against earlier purchase order placed on them at the time of issue of the documents. C.E. concerned shall circulate the list of defaulter firms”.

- XI. The sale of tender documents is stopped 72 hours or two working days preceding the due date of opening of the tenders whichever is more.

#### **6.2.4 General Terms & Conditions**

The terms and conditions for tender/contract are given in Guidelines. The terms and conditions contained in the guidelines shall be suitably modified/relaxed with the approval of the next higher authority, if considered necessary, after recording reasons necessitating the change/relaxation in writing subject to the condition that the same do not violate or are not incongruence with any other provisions in the PSEB Purchase Regulations, 1981 or any other Rules/Regulations and instructions of the Board on the subject;

Provided that:-

- I. Where the competent authority happens to be the Central Purchase Committee, Project Purchase Committee under different Chief Engineers and the Purchase Committee / General, the amendment in the terms and conditions are issued with the approval of Member-In charge.
- II. Where the competent authority happens to be the Whole-time-Members, the approval of the next higher authority is required.

#### **6.2.5 Submission of Tenders**

The tenders will be submitted as per NIT/Tender Specifications complete in all respects and deviation from Notice Inviting Tender/Tender Specification shall be clearly brought out by the Tenders. No post tender development shall be allowed regarding any change in terms of prices or technical specification.

### **6.2.6 Opening of Tender**

- I. The tender should open on the due date, time and place in the presence of tenderers or their authorized representatives on production of letter of authority and they will append their signature in tender register in token of their presence.
- II. In case the due date happens to be a holiday, the tender shall be open on same time and place on next working day.
- III. The tender shall be opened by the officer / Official inviting tenders or by an officer deputed by him for the purpose in the presence of another officer. In the case of Board Sectt., Central Purchase organization, Procurement cell of Transformer repair workshop, Design Dept., and field officer under project / power Plant, an officer of Accounts organization, wherever provided or nominated shall also be associated in opening the tenders.
- IV. Tenders submitted by the firms who did not purchase a set of tender document / specifications as required shall not be opened and words "Ineligible Tender-Specification not Purchased" shall be written on the envelop and kept in safe custody
- V. The envelope containing earnest money shall be opened first and in case the deposited of earnest money is in accordance with the terms of tender specification, only then the envelope containing detailed offer shall be opened. In case there is no indication regarding earnest money on the envelope it shall be opened, but the tender shall be read out only if earnest money is found in the envelope, otherwise it will be resealed. The words "Without Earnest money-invalid Tender" shall be recorded on the envelopes of such tenders and kept under safe custody. However where less than 3 eligible tenders are received with earnest money all other tenders received without earnest money may be opened after obtaining approval of the member/ Finance and Accounts and Member concerned where value of purchase proposal is beyond Rs 2.5 Lacs. In case the purchase proposal value of which is upto Rs. 2.5 lacs, the tenders received without earnest Money may, however be opened with the approval of C.E. Concerned / Secretary.

- VI. The salient particulars viz. brief description / specifications of items, quantities, prices and delivery period offered in each tender, shall be read out before the tenderers / their authorized representative present.
- VII. After opening the tenders, the originals shall be handed over to the officer / official deputed for processing the case and his acknowledgement recorded in the Tender Register. The second copy of the tender duly signed shall be retained in safe custody with office superintendent / Head Clerk / Sub division clerk concerned.

#### **6.2.7 Late Tenders**

Tenders received after due date and time fixed for opening of tenders shall be rejected. These shall, however be entered in the register of the tender and the words "Tender not to be considered" shall be written on the envelope.

#### **6.2.8 Rejection of Tender**

Following type of tenders should be rejected:

- I. Tenders from firms / contractors who are blacklisted or with whom business dealing are suspended.
- II. The tenders submitted by the firm who did not purchase a set of tendering documents / specifications as required.
- III. Tender submitted by a person directly or indirectly connected with service, under the Government, Board or Local Authority.
- IV. Tenders not accompanied by the required amount of earnest money.

#### **6.2.9 Re-invitation of Tenders**

Tenders may be re-invited by the Contracting / Purchasing Agency after approval by the competent authority in the event of:

- I. Any subsequent change necessitated in technical specification
- II. Inadequacy of number of tenders
- III. Unsuitability of Offers

- IV. Pronounced change in market trends, when it is felt that the rates of tender received are too high.
- V. Any other compelling reasons to be recorded in writing.

**6.2.10 Processing of Tender**

- I. The tenders which are found valid at the time of opening shall be studied and compared with the requirement of the Notice Inviting the tender / tender specifications for assessing their suitability from technical and delivery angles.
- II. A comparative statement shall be prepared showing the quoted and comparative prices on an equitable basis as per Notice Inviting tender / tender specifications.
- III. The security of tender shall be done by officers / officials as below and comparative statements shall prepared and signed by them:-

Board Secretariat	Superintendent
Central Purchase Organization / Design Directorates	Assistant Purchase Officer, Asstt. Director /Extra Assistant Directors
Circles	Assistant Engineer / Circle Head Draftsman
Divisions	Assistant Engineer / Division Head / Draftsman (DHD)
Sub Division	Junior Engineer, Line Superintendent / Sectional Officer.

**Table: 3 DOP at different Level for Tender Scrutiny**

- IV. The comparative and other statement and proposal for acceptance of tender shall be made as per guidelines, if any, approval by the board from time to time.
- V. The comparative statement shall be checked by another officer/ officer of higher rank and countersigned by him in token of such checking. In case of Sect., Central purchase

organization, Procurement call of transformer repair workshop, Design Directorates and Field Officer under Projects / Power Plant, the comparative statement shall also be checked / pre-audited by an officer of Accounts Organization, where ever pointed / nominated and duly signed by him as a token of check / pre-audit.

- VI. Name of the manufacturer / suppliers to whom tender documents were not issued shall be indicated in the purchase proposal
- VII. Offers which do not quote ceiling on price variation should loaded at the standard rate of 10% per annum for the duration of the contract with proportionate percentage being determined for par of the year.

#### **6.2.11 Acceptance of Tender**

- I. Acceptance of Tender shall be accorded by the competent authority in writing in noting sheets in the case file of in the minutes book, if the competent Authority is the Board / Whole-Time-members.
- II. In emergency case the Competent Authority may authorize advance action to be taken by the Purchasing Agency in anticipation of receipt of formal decision.
- III. In case of Proprietary / Patent items, the rate shall the rate shall be accepted subject to the Supplier / Contractor certifying that the rates applicable are / would be same as for all Government / Semi Government Departments.
- IV. The competent Authority may dilute the quantities and give different to different vendors.
- V. "The present Practice offering counter offers shall continue with the conditions that the rates for trial order should not be considered as counter offer rates.

#### **6.2.12 Negotiations**

Normally no negotiations affecting prices on basis features of N.I.T / Specifications shall be conducted with the tenderers / after opening of tenders except under specific orders

of the Competent Authority, with reasons to be recorded. The negotiation can only be held with L-1 (lowest Tenderer).

#### **6.2.13 Award of Order / Contract**

- I. On receipt of decision of Competent Authority, the purchasing agency shall convey to the tenderer through a letter of telegram brief description of the items accepted along with rates and special conditions if any.
- II. There after a detailed order / contract shall be drafted giving all necessary details, terms and conditions governing the contract in relation to the N.I.T./ Tender Specification and firm's offer.
- III. In case of Board Secretariat, Central purchase organization, Procurement call of transformer repair workshop, Design Directorates and Field Officer under Projects / Power Plant, detailed purchase order / contracts shall be got pre-audited from an officer of Accounts Organization wherever provided nominated before final issue to the firm.
- IV. The purchase order / contract issued from Central Purchase Organization / Design directorates, shall be signed on behalf of the Board by purchase officers, Deputy Directors and the orders issued from Board Secretariat by Deputy Secretaries, Under Secretaries.
- V. Each purchase order / Contract shall be entered in a Register maintained by the Purchasing Agency and allotted a distinct code / serial number before issue.
- VI. Ordinarily, a detailed order issued in accordance with agreed terms and conditions and accepted/acknowledged by the firm shall form a valid contract along with subsequent amendments, if any and shall be constructed and operated as such in items of the Indian Contract Act, 1872, as amended upto date.



### **6.3 APCDCL Procurement Process (Andhra Pradesh Central Power Distribution Company Limited)**

Procurement of the material is handled by CGM (P&MM). Procurement of the material is done on yearly basis based upon the cost sheet of project / internal estimate with +/- 10 % of quantity. Material to be procured is calculated based upon intends received from circles, budget of the year and previous year consumptions

#### **6.3.1 Indenting**

- I. Intends are asked for from all the circles for materials which are required for O&M and projects of the next year.
- II. All the requirements are consolidated at P&MM office based upon the intended quantity / previous consumption and budgeted amount.
- III. Budget of any project is bifurcated as 70% for material and 30 % for labor.

#### **6.3.2 Vender's Registration and Addressed**

Venders which are interested in participating in tendering register themselves free of cost on website [www.eprocurement.gov.in](http://www.eprocurement.gov.in). In addition to this CPCDL also maintained the record of the regular venders who supplies material to the company. In case of Limited order this record is utilized in sending queries to the vendors.

#### **6.3.3 Tendering**

- I. All tenders above 10 Lacs are processed through e-procurement only. For this purpose tenders are published at government owned websites. Detailed tenders are floated on the site and venders
- II. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website [www.eprocurement.gov.in](http://www.eprocurement.gov.in).

- III. Bidders can log-in to e-procurement platform in secure mode only by signing with the Digital certificates.
- IV. The bidders who are desirous of participating in e-procurement submit their technical bids, price bids as per the standard formats available at the e-market place. This standard format helps later on in preparing the comparative of all the items which have are to be procured.
- V. The bidders also scan and upload the following documents in support of technical bids. The bidders shall sign on all the statements, documents certificates uploaded by him, owning responsibility for their correctness/authenticity:
- a) Bid Security documents:
    - i) In the form of DD in favor of Pay Officer/APCPDCL/Hyderabad
    - (Or)
    - ii) If exempted give details of Bid Security exemption in case of Govt. of India Enterprise.
  - b) Quantity offered
  - c) Type Test Reports
  - d) Duly filled and signed proforma giving details of the manufacturing nad his establishment size and production capacity.
  - e) "Sales Tax Clearance Certificate" For the previous 2 financial years.
  - f) Details of previous supplies as per tender document.
  - g) Copies of previous supply orders and relevant Purchase Order Copies mentioned in the performance certificates in support of above.
  - h) Performance certificates
  - i) Financial turnover certified by CA- Profit and loss statements, Balance sheets for the previous 5 years.
  - j) Other documents attached to the bid
  - k) Proof of manufacturer – SSI, Department of Industries, GOI Enterprise, etc.
  - l) Transaction fee payable to APTS.
  - m) Manufacturer's Authorization form.

n) Guaranteed Technical Particulars

- VI. Rates are quoted online only.
- VII. Copies of the uploaded statements, certificates, documents, original Demand Drafts in respect of Bid Security (except the Price bid/offer/break-up of taxes) are to be submitted by the bidder to the Chief General Manager/P&MM/APCPDCL so as to reach before the date and time of opening of the technical bid. Failure to furnish any of the uploaded documents, certificates, before the date and time of opening of technical bid will entail in rejection of the bid. If any of the certificates, documents, etc., furnished by the tenderer are found to be false / fabricated / bogus, the bidder is disqualified, blacklisted.
- VIII. The Documents that are uploaded online on e-market place are only considered for Technical Bid Evaluation.
- IX. Vendors are permitted to pay participation fee online using integration of electronic Payment Gateway of ICICI/HDFC Banks with procurement platform, using their credit cards.
- X. Tender contains all the detailed Specifications, other details which vender need to follow strictly failing which bid is liable to be disqualified.
  - a) Notice Inviting Bid
  - b) Technical Specifications
  - c) Schedule of Requirements (Delivery Schedule)
  - d) Bid Form and Price Schedules (online only)
  - e) Salient Features of the Bid
  - f) General Terms and Conditions of Contract
  - g) Qualification Requirements
  - h) Bid Security
  - i) Performance Security Form
  - j) Schedule of Deviations

- XI. Bidder can ask for clarification to any of the clause of tender through writing or through Telex or Facsimile. All the requests received 15 days prior to the submission of tender date are answered and same are uploaded on website also.
- XII. At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.
- XIII. All such amendments also would be made available on the website of APCPDCL and e-procurement website and such amendments will be binding on the respective Bidders.
- XIV. In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.
- XV. Prices indicated on the Price Schedule **(On-Line)** shall be entered separately in the following manner.
  - I. The price of the Materials / equipment quoted EXWORKS and all excise and other duties and sales and other taxes payable on the finished Materials / equipment with individual breakup for Taxes and Duties, packing and forwarding, freight and insurance, etc.
- XVI. Prices shall be quoted in Indian Rupees; and will be paid in Indian Rupees Only.
- XVII. The Bidder shall furnish, as part of its bid, a Bid Security in the amount of 2 % of the Total Ex-works value of the materials offered against the bid vide DD. Bid envelop is superscripted as having Bid Security in it. Envelope not having superscripted about Bid Security are rejected and returned to respective bidders.
- XVIII. Bid shall remain valid for a period of 90 days from the date of opening of the bid.

XIX. The tenderers are required to submit their bids in two parts as under:

Part-I (a): Bid Security, Transaction Fee, Technical & Qualification Requirements.

(b): Technical Bid shall contain full technical particulars and commercial terms and conditions but without prices. This should not contain any cost information whatsoever.

Part-II : Price Bid – containing Price **(shall be on-line only)**

XX. The Part-I of the tender should be furnished in a sealed cover superscripting tender enquiry number, name of material, name of the bidder and date of tender opening.

XXI. The price bids of only those bidders whose technical bids, on examination, are determined to be technically and commercially acceptable and meeting the specified Qualification Criteria will be opened at a later date.

#### **6.3.4 Bids Opening and Comparative Statements:**

- I. The Purchaser will open all bids meeting above criteria, at the time, on the date, and at the place specified.
- II. The Bidders' names, bid modifications or withdrawals, discounts, and the presence or absence of requisite Bid Security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening.
- III. Bids that are not opened and read out at bid opening will not be considered further for evaluation, irrespective of the circumstances.
- IV. During evaluation of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

- V. If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

**6.3.5 Technical, Commercial and Price Negotiation:**

- I. The Purchaser will evaluate and compare the bids, which have been determined to be substantially responsive.
- II. The Purchaser's evaluation of a bid will take into consideration one or more of the following factors :
- III. All the bids, which are opened, read out and considered for evaluation will be checked for qualification requirements in respect of technical and commercial aspects. Such of the bids, which do not meet the qualification requirements, will not be evaluated further. The bid is to be checked for its conformity to the technical specification. If it does not meet the technical specification, the Bid will not be evaluated further. However, if in the opinion of the purchaser the bidder has offered equipment / material better than the technical specification the same may be considered. The bid may be rejected for the following reasons:
1. Not in the prescribed form
  2. Insufficient bid security or bid not accompanied by the required bid security or proof of bid security exemption
  3. Bids not properly signed
  4. The bidder is a vendor who is banned from further business transactions and the period of ban is still in force.
  5. Bid received after the due date and time
  6. The bid is through telegram or fax

- IV. Further, the purchaser may enquire from the bidder in writing for any clarification of the bid. The response of the bidder will also be in writing. However no change in the prices or substance of the bid will be sought, offered or permitted.
- V. Bids will be examined for completeness and for any computational errors.
- VI. It will be ensured that the required sureties have been furnished and that the documents have been properly signed.
- VII. The purchaser's evaluation of a bid will take into consideration one or more of the following factors
  - (a) Delivery schedule offered in the bid;
  - (b) Deviations in payment schedule from that specified in the general terms and conditions of the contract and technical deviations.
  - (c) The cost of components, mandatory spare parts, and service;
  - (d) The availability of spare parts and after-sales services for the equipment offered in the Bid;
  - (e) The projected operating and maintenance costs during the life of the equipment;
  - (f) The performance and productivity of the equipment offered;
- VIII. In addition the Purchaser's evaluation of a bid will take into account the net landed cost of the material at the final destination. For the purpose of evaluation net landed cost is arrived at by adding all elements of the basic price, allowable discount, excise duty & any

other levies, packing & forwarding, freight charges, insurance (transit & storage) as quoted by the bidder, interest on advance if any, erection, servicing and other charges and exclusive of CST/VAT as called for.

- IX. In addition any variation up or down in taxes and duties / new levies introduced subsequent to bid opening and before award will be considered for comparison purposes.

The following criteria may be adopted for taxes and duties for evaluation

- a. It is the responsibility of the bidder to quote all taxes and duties correctly without leaving any column unfilled. Where taxes and duties are not applicable, the bidder should enter "NA". If no duty / tax is levied the same may be entered as "NIL". If any column is left blank or filled vaguely like "as applicable", the same will be loaded with the maximum of the other eligible Bids.
  - b. Where there is an exemption of ED / ST, the documentary evidence to that effect will be enclosed by the supplier.
  - c. The bidders for supply and works shall invariably possess the TIN No. & PAN No. for the bids above Rs. 5.00 lakhs and this must be verified before entering into contract.
- X. Prior to detailed evaluation, the responsiveness of each bid will be determined. A substantially responsive bid is one that conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment terms, price schedule, taxes and duties will be deemed to be the critical provisions and deviations in any one of these items will be deemed to be a material deviation.



- XI. Any statutory variations of taxes and duties and new levies imposed after opening of the bid and before award of the contract will be taken into consideration for the purpose of evaluation.
- XII. Normally negotiations will only be held with responsive L1 to explore the possibility of a further reduction in price where the rates are considered to be too high with reference to estimated price or updated prices of the past orders. Then the full quantity could be ordered on L1.
- XIII. Where negotiations are held, the following pattern of distribution of quantities will be adopted when orders are placed with more than one firm subject to their manufacturing capacities.
- The following pattern of distribution of quantities will be adopted while placing orders and at the same price.

**Table 4: Distribution of Quantities for placing orders.**

1)	When the sources of supply are two	Percentage distribution between L1 & L2
	a. When there are two identical L1 offers	50 : 50
	b. When both L1 and L2 are industries in the private sector	70 : 30
	c. When L2 is an undertaking or joint venture of Govt. of AP/Central Govt.	60 : 40

2) In case of three sources 50 : 30 : 20

3) In case of four sources 50 : 25 : 15 : 10

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XIV. However it is not binding on APCPDCL to accept the lowest or any other Bid. It reserves the right to place orders on different Bidders. However the guidelines of CVC are also followed which states that the bidder with L1 should be conserved for supply of material

XV. Minimum criteria for quoting for any tender is 20 %. If a company who is ready to supply 20 % of the tender quantity of the material and is declared suitable for purchase then 20 % of the tender quantity is allocated to that bidder for supply and subsequently L2 is called for negotiation and asked to adopt the price of L1. If L2 agrees for L1 price then that bidder is given order for rest of quantity if that bidder is capable of supplying remaining quantity. If this bidder is also not able to supply the pending quantity the L3 is called for.

XVI. Prior to the expiration of the period of bid validity, the Purchaser will notify the Successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.

XVII. The notification of award will constitute the formation of the Contract.

XVIII. Upon the successful Bidder's furnishing of the performance security, the Purchaser enters into contract with successful Bidder / Bidders. The Purchaser will notify each unsuccessful Bidder and will discharge its Bid Security.

XIX. Based upon the amount of the order approval for negotiation is taken from different committee. For this purpose three committees are formed Low Purchase Committee in which CGM / Director P&MM and Director (Finance) are there an High Purchase Committee looking for orders greater than Rs 1 Cr comprises of Director greater

Hyderabad / Director Finance. This committee after approval puts the note to BOD including CMD for final approval.

#### **6.3.6 Repeat Ordering:**

No repeated orders are placed every time it is fresh order which is placed for procurement of the material. However if at any time of the delivery if it is felt that the quantity for the supply need to be increased or decreased by a %age already agreed by the bidder, quantity may be increased or decreased. Approval for the same will be taken from concerned Director or Director (Finance)

#### **6.3.7 Local Procurement:**

For Intends of items of low value local purchase can be done by circle heads.

#### **6.3.8 Emergency Procurement:**

In case of Emergency like floods etc. if there is an urgent requirement of the material the circle heads are allowed to procure material through Limited Tender process material upto INR 50000. Concerned Chief Engineer is entitled to make a purchase upto INR 5 lacs for through Limited tender.

#### **6.3.9 Tender Terms and Conditions:**

- I. **Bid Security**
  - i) 2% of the Ex-works quoted value
  - (ii) Exemption letter of Bid Security in case of Govt. firms.
- II. **Transaction Fees** All the participating bidders who submit the bids have to pay an amount @ 0.03% of their final bid value online with a cap of INR 10,000 for quoted value of purchase upto Rs.50 crores and INR.25000 if the purchase value is above Rs.50 crores & service tax applicable @ 10.30% as levied by Govt. of India on transaction fee through online in favor of APTS. The amount payable to APTS is no-refundable.

- III. **Corpus Fund:** Successful bidder has to pay an amount of 0.04% on quoted value through demand draft in favor of Managing Director, APTS, and Hyderabad towards corpus fund at the time of concluding agreement.

**6.3.10 Approval Note:**

Approval notes are put up for taking approval for the followings:

- Floating of tender enquiry
- Method of negotiation adopted;
- Release of PO

**6.3.11 Preparation of Purchase Orders /Work Orders (Pos/ WOs):**

POs are prepared in SAP once the process of finalizing the vender is over. All the terms and conditions are finalized and based upon that PO is released. PO contains the details of the vender, Purchaser, Location for delivery of the material, Quantity of the material, Commercial and General Terms and condition. In case of deviations from the terms agreed in bidding process what will be the deciding authority and other condition necessary.

**6.3.12 Penalty Clause:**

The time for and the dates for delivery mentioned in the contract will be deemed to be the essence of the contract. If the Supplier fails to deliver any or all of the Materials / equipment or to perform the Services within the period(s) specified in the Contract, the Purchaser will, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.5% per week on the undelivered portion subject to a maximum of 5% of the cost of the undelivered portion within the scheduled time. The number of days would be rounded off to the nearest week and penalty calculated accordingly. Once the maximum is reached the Purchaser may consider termination of the contract.

The check measurement date i.e., the date of receipt of materials at destination stores in good condition will be taken as the date of delivery. For calculation of penalty, the date of receipt of material at the destination stores is the date of delivery subject to the condition that the goods/ material is received in good condition. Materials/Equipment which are not of acceptable quality or are not confirming to the specification would be deemed to be not delivered. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

The penalty specified above will be levied and would be adjusted against subsequent pending bills.

In cases where new vendors fail to meet the requirement of the Contract there would be no penalty to such vendors but they will be excluded from the next bid for the particular item of the material.

Any failure on the part of new vendors for a second time would cause them to be removed from the list of registered vendors.

# 7 Current Problems and Challenges

## 7.1 Operational problems

### 7.1.1 Conventional Method

- I. Long Approval Method: Approval are required to be taken in hard copy and note moves from bottom level to top level through proper hierarchy. If any noting is made on the note at any level then the note is sent back to the starting level through proper channel and it kills lot of time in finalization of the procurement activity.
- II. Many times person to whom note has been put in not available for long time as that person is busy in other work and this method delays the process.
- III. There is a process of hard copy approval for any activity of procurement and finally order is to be released from ERP system, then in that case approval is again taken in ERP system which leads to duplication of the process and increase in the time of processing.
- IV. Comparatives preparation for Technical and commercial bids also need lot of time, leading to increase in cycle time.
- V. Manual intervention is too high
- VI. Low transparency.
- VII. PO punching is all manual and associated with clerical errors.
- VIII. Non Environment friendly as lot of paper usage is there.
- IX. In conventional method quantity is ordered in single lot rather than ordering them in small lots this occupies the entire shelf space of the store, leading to large storage space requirement.
- X. In case of single lot material is delivered at one central location or at particular site but if material is required at different locations then massive planning and coordination is required to deliver the material at different locations.

- XI. If any change is required to be done in tender then notification need to be published in newspaper, if any bidder misses this notification on that day, then the bidder may reply in wrong way leading to disqualification, and a prospective good supplier is lost. Separate notification letters can to be issued to the bidder in case of limited tenders but then manual efforts are required.
- XII. In case of clarifications only hard copy clarifications are asked for and reply is also given to bidder in hard copy. In this case there is a possibility that same query may come from more than one bidder and multiple replies re to be sent back leading to wastage of time and money.
- XIII. It may happen that harp copy replies gets delayed due to postal error and by the time bidder located this problem time is too short to send query again so reply is framed based upon bidder's understanding of order which may be different from purchaser's .understanding.

#### **7.1.2 E-Procurement**

- I. When company moves from conventional method to e-procurement one time training of the staff is required.
- II. Vendors need to be intimated of tenders being floated in electronic form.
- III. Website security is a concern as one can hack the site and can take out bid submitted by other vendors.
- IV. Approval need to be taken for initiating all the actions in hard from the competent authorities.
- V. If any change is required same can be posted on website and will remain there for till the last procurement process is closed.
- VI. If any clarification is required based upon type of company clarifications can be put up on e-mail / Fax / Telex / Hard Copy and reply can be sent though same method and same is posted on website also so that all can refer to the clarifications.

- VII. Provided useful control of spending money as consumption pattern can be studied precisely and quantities to be ordered can be controlled.
- VIII. Creation of Purchase Requisition is done directly in case of ERP system linkage.
- IX. Accounting errors are reduced as system helps in making all accounting calculation for payments.
- X. Helps in maintaining the records of vendors their performance. If any vendors does not perform well then they are black listed.

## **7.2 Purchasing efficiency**

- I. In conventional method tender documents are printed in hard and same are to be collected from the companies offices upon making some payment but in case of e-tendering tender can be downloaded from the site and tender fees can be paid through DD or credit card and DD / receipt for the payment can be attached while sending bid document to the company. This saves the time for collection of tender.
- II. Global companies who are willing to participate in the bidding process find it difficult to track the newspapers and collect the document. They can also participate in the procurement process if the tender are in e-form.
- III. If bids are received in soft then values can be taken from website upon opening the bids, a comparative can be easily prepared by website only which leads to saving of time of the purchase cycle.
- IV. Material consumption can be tracked through ERP and re-cooping order can be sent to parties for material if Purchase Order is already placed.
- V. If material is delivered in parts based upon consumption then delivery of material can be scheduled at different locations directly, this saves the time and cost of re-transportation of material.



### 7.3 Comparative Purchasing performance Metrics

#### 7.3.1 TDPPL

Table-1

Heads	Cost	Calculations
Annual Tenders	Rs 30000 Lacs	A
Salary of employees	Rs 300 lacs	B
Travel Exp.	Rs 21 lacs	C
Administrative Cost	Rs 12 lacs	D
Vender Verification	Rs 7 lacs	E
Miscellaneous cost	Rs 3 lacs	F
Cost per lac of purchase	Rs 0.0111(1.11%)	$(B+C+D+E+F) / A$

#### 7.3.2 PSEB

Table -2

Heads	Cost	Calculations
Annual Tenders	Rs 600 Lacs	A
Salary of employees	Rs 54.6 lacs	B
Tendering Cost	Rs 20 lacs	C
Vender verification and Inspection cost	Rs 10 lacs	D
Miscellaneous cost	Rs 0.12 lacs	E
Cost per	Rs 0.1417 (14.17%)	$(B+C+D+E) / A$

#### 7.3.3 APCPDCL

Table -3

Heads	Cost	Calculations
Annual Tenders	Rs 50000 Lacs	A
Salary of employees	Rs 155. lacs	B
Total Tendering cost	Rs 120 lacs	C
Vender Verification and inspection cost	Rs 170 lacs (0.4% of exports cost)	D
Miscellaneous cost	Rs 0.24 lacs	E
Cost per lac of procurement	Rs .00890 (0.89%)	$(B+C+D+E) / A$

## 8 Conclusions and Recommendations

### 8.1 Conclusions

In today's world best utilization of the e-procurement is when it integrated the entire supply chain management. This process if best used to reduce the purchasing cost, maintain low inventory, loss of revenue in case of low shelf life items getting damaged in stores only, stock outs and calculation of optimum quantity of procurement and requirement calculations.

All these systems are developed in concepts and required soft wares which can support these analyses are also available in the market. Utilities have purchased these systems but they are not utilizing them to the extent it can be used. These systems are currently being used only to reduce the clerical efforts which were earlier required but the actual use of the system need some experience of using these systems. The logics of the systems need to be understood by the used. These systems need some inputs of the data line minimum quantity of stock required, ROL, Maximum value of stock which are constrained by the budget and other physical assets of the system. Once such inputs are fed into system they need correction with experience and after 3-5 cycle of procurement this system can generate useful reports.

In most of the utilities these ERP systems are being used internally by the utilities and are not linked to the vendors. Vendors have no idea about the requirement of the utilities. There this system becomes passive. Vendors in today's world are using world class facilities and can give real inputs to ERP system and can enrich the data base and decision taking capabilities of the utility.

Best use of the ERP systems have been taken by FMCG companies where the shelf life of the material is too small and goods need to be replenished on daily basis. These systems are lined with supplier ERP and daily consumptions are reflected in the vendor system. These vendors take the onus of supplying the material in JIT form and this reduces the wastage of material in form of expired shelf life in wrack only. Stock outs are reduced and minimum inventory is maintained in the stores based upon consumption.

So Utilities have lot of scope of improvement as latest systems re being used but they are not fully utilized.

## **8.2 Recommendations**

### **Alternate Solutions**

**Option 1:** Power utilities should look for reliable and good vendors and based upon their performance register them. If high value items need to be procured then they should be ordered once for entire year but the schedule for delivery of same should be fixed in such a manner that entire stock does not land into store once. Rather delivery should be staggered based upon consumption. This will reduce the inventory, help in making payments at a later stage and if cost of material in market is reduced then can make fresh orders and save money.

### **Challenge in implementing**

**Option 1:** Vendor may not be interested in giving material in batches as the size of batch which has been asked may not be economical to the vendor for manufacturing. So such solutions should be made based upon the products being procured.

### **Alternate Solutions**

**Option 2:** ERP systems need to be integrated with the ERP of vendors and cost of tracking of the stock should be passed on to the vendors for all non-critical items of fast moving consumables. Along with that triggers should be added in the system with which stock level can be monitored.

### **Challenge in implementing**

**Option 2:** In this case company gets hooked up to only limited no of vendors with which data is being shared. Lot of initial cost is associated with establishing infrastructure. Security problem of data being getting misused it there.

### **Alternate Solutions**

**Option 3:** 'e-Auction' option should be used whenever it is possible. It helps in getting lower prices than given in bids and is transparent way of finalizing prices for the material to be supplied.

### **Challenge in implementing**

**Option 3:** In this option necessary infrastructure need to be developed on which all the vendors can come online and actively participate auction activity. Another problem in policy matter as in many utilities negotiation is not possible. Even CVC guidelines does not allow for any negotiation until it is justified that L1 cost is well above the prevailing market value.

### **Alternate Solutions**

**Option 4:** ERP system to be utilized to full extend. All the values like safety stocks, Minimum and Maximum level, Reordering point etc. should be calculated through system only so that procurement activity can be optimized. Currently all the utilities under study are going for procurement once in a year without looking for economics of ordering the quantity to minimize purchase cost.

### **Challenge in implementing**

**Option 4:** For calculation of all the values by system many inputs are required by system but these values are generally not fed in system and due to that different calculations which system is capable are not done correctly. More over the items which need to be procured by utilities are

so many that procurement of any item repetitively is not possible as processes are like such that one tender execution takes 3-4 months from day initiation of procurement quantity to finalization of order.

### **8.3 Specific Recommendations to TPDDL**

TPDDL is currently following procurement based upon the guidelines of DERC where in upto 25 Lacs of value of tender any method of procurement can be followed by utility. From 25 Lacs to 1 Cr Limited Tender is to be done but vendors should have been registered through open tendering process and above 1 Cr only open tender is to be done. Whereas TPDDL is following open tendering process where value of tender is above INR 25 lacs. This is adding up lot of work and burden

**E-Procurement:** TPDDL should opt for limited tenders through e-procurement system upto 1 Cr and technical and commercial bids should be called through online process only. All necessary document should be uploaded by the vendors in the system itself. Whereas the EMD and other documents if any which need to be submitted in hard copy should reach the office before the due date.

**E-auction:** TPDDL has gone for e-auction only on pilot basis where in an in-house software system has been developed and tested in few bids. TPDDL should use this system aggressively in all the tenders and which will help in bringing down the value of tender.

**Approval for e-procurement:** TPDDL should approach DERC for allowing them to go for e-procurement by mentioned all the benefits which TPDDL can draw from e-procurement. Ultimate aim of the procurement is to have fair and transparent method of procurement and with e-Procurement transparency and fairness can be further increased as well as international vendors can also be invited to participate in the tendering process this will improve quality and increase competition. This will also have saving in terms of purchase cost as company is having its own

website which can be used to float tenders and lacs of rupees which need to be give to newspapers be tender can be avoided or reduced.

# Bibliography

## Websites

- I. TPDDL Procurement Manual
- II. PSEB Procurement Manual
- III. [www.apcentralpower.com](http://www.apcentralpower.com)
- IV. [www.eprocurement.gov.in](http://www.eprocurement.gov.in).
- V. DERC website.
- VI. Ndpl.com

## Books

- I. World Class Supply Management by David N. Burt, Donald W. Dobler and Stephen L. Starling (Tata McGraw Hill Education Private Limited; Edition Seven)
- II. Essentials of Supply Chain Management by Michael H. Hugos (Published By Wiley ; Edition Three)
- III. Supply Chain Management by Sunil Chopra, Peter Meindl and D.V. Kalra (Published by : Pearson Education India; Edition : Fourth)

# Annexures

## Annexure-1

NDPL

FD2(PRE-P-02)  
Eff Date: 01-Jan-09  
Page 1 of 5

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### VENDOR APPRAISAL FORM

TO BE SUBMITTED BY VENDOR (To be filled as applicable)		
VENDOR:	(ELECTRICAL)	
<b>1.0</b>	<b>DETAILS OF THE FIRM</b>	
1.1	NAME (IN CAPITAL LETTERS)	:
1.2	TYPE OF CONCERN (PROPRIETARY) Partnership, Pvt. Ltd., Public Ltd. etc.	:
1.3	YEAR OF ESTABLISHMENT	:
1.4	LOCATION OF OFFICE POSTAL ADDRESS TELEGRAPHIC ADDRESSES, TELEX NO. FAX NO.	:
1.5	LOCATION OF MANUFACTURING UNITS	:
	i) UNITS 1	:
	ii) OTHER UNITS	:
<b>2.0</b>	<b>PRODUCTS MANUFACTURED</b>	
<b>3.0</b>	<b>TURNOVER DURING THE LAST 3 YEARS (TO BE VERIFIED WITH THE LATEST PROFIT &amp; LOSS STATEMENT).</b>	
<b>4.0</b>	<b>VALUE OF FIXED ASSETS</b>	
<b>5.0</b>	<b>NAME &amp; ADDRESS OF THE BANKERS</b>	
<b>6.0</b>	<b>BANK GUARANTEE LIMIT</b>	
<b>7.0</b>	<b>CREDIT LIMIT</b>	
<b>8.0</b>	<b>TECHNICAL</b>	
8.1	NO.OF DESIGN ENGINEERS (INDICATE NO.OF YEARS EXPERIENCE IN RELATED FIELDS)	:
8.2	NO.OF DRAUGHTSMEN	:
8.3	COLLABORATION DETAILS (IF ANY)	:

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		8.3.1 DATE OF COLLABORATION	:	
		8.3.2 NAME OF COLLABORATOR	:	
		8.3.3 RBI APPROVAL DETAILS	:	
		8.3.4 EXPERIENCE LIST OF COLLABORATOR	:	
		8.3.5 DURATION OF AGREEMENT	:	
	8.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORATOR'S / DOCUMENTS (CHECK WHETHER THESE ARE LATEST/CURRENT)	:	
	8.5	TECHNICAL SUPPORT, BACK-UP GUARANTEE, SUPERVISION, QUALITY CONTROL BY COLLABORATOR (WHEREVER ESSENTIAL). (THIS CLAUSE IS RELEVANT WHEN VENDOR'S EXPERIENCE IS INADEQUATE)	:	
	8.8	QUALITY OF DRAWINGS	:	
<b>9.0</b>	<b>MANUFACTURE</b>			
	9.1	SHOP SPACE, LAYOUT LIGHTING, VENTILATION, ETC.	:	
	9.2	POWER (KVA)	:	
		MAINS INSTALLED	:	
		UTILISED	:	
		STANDBY POWER SOURCE	:	
	9.3	MANUFACTURING FACILITIES (ATTACH LIST OF EQUIPMENTS AS APPLICABLE)	:	
		9.3.1 MATERIAL HANDLING	:	
		9.3.2 MACHINING	:	
		9.3.3 FABRICATION	:	
		9.3.4 HEAT TREATMENT	:	
		9.3.5 BALANCING FACILITY	:	

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		9.3.6 SURFACE TREATMENT PRIOR TO PAINTING/ COATING, POLISHING, PICKLING, PASSIVATION, PAINTING, ETC.	:
	9.4	SUPERVISORY STAFF	:
	9.5	ADEQUACY OF SKILLED LABOURS (MACHINISTS, WELDERS, ETC.)	:
	9.6	NO. OF SHIFTS	:
	9.7	TYPE OF MATERIAL HANDLED (SUCH AS CS, SS, ETC.)	:
	9.8	WORKMANSHIP	:
	9.9	MATERIAL IN STOCK AND VALUE	:
	9.10	TRANSPORT FACILITIES	:
	9.11	CARE IN HANDLING	:
10.0	INSPECTION / QC / QA / TESTING		
	10.1	NUMBER OF PERSONNEL (INDICATE NO.OF YEARS OF EXPERIENCE)	:
	10.2	INDEPENDENCE FROM PRODUCTION	:
	10.3	AVAILABILITY OF PROCEDURAL WRITE UP/QUALITY PLAN	:
	10.4	INCOMING MATERIAL CONTROL AND DOCUMENTATION	:
	10.5	RELIABILITY/REPUTATION OF SUPPLY SOURCES	:
	10.6	STAGE INSPECTION AND DOCUMENTATION	:
	10.7	SUB-ASSEMBLY & DOCUMENTATION	:
	10.8	FINAL INSPECTION AND DOCUMENTATION	:
	10.9	PREPARATION OF FINAL DOCUMENTATION PACKAGE	:
	10.10	TYPE TEST FACILITIES	:
	10.11	ACCEPTANCE TEST FACILITIES	:

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NDPL

	10.12	CALIBRATION OF INSTRUMENTS AND GAUGES (WITH TRACEABILITY TO NATIONAL STANDARDS) (ATTACH LIST)	:
	10.13	STATUTORY APPROVALS LIKE BIS, IBR, ETC.(AS APPLICABLE)	:
	10.14	SUB-VENDOR APPROVAL SYSTEM AND QUALITY CONTROL	:
	10.15	DETAILS OF TESTS CARRIED OUT AT INDEPENDENT RECOGNISED LABORATORIES	:
		i) FURNISH LIST OF TESTS CARRIED OUT AND THE NAME OF THE LABORATORY WHERE THE TESTS WERE CONDUCTED	:
		ii) CHECK AVAILABILITY OF CERTIFICATES AND REVIEW THESE WHEREVER POSSIBLE	:
11.0		EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)	:
12.0		SALES, SERVICE AND SITE ORGANISATIONAL DETAILS	:
13.0		CERTIFICATE FROM CUSTOMERS (ATTACH COPIES OF DOCUMENTS)	:
14.0		POWER SITUATION	:
15.0		LABOUR SITUATION	:
16.0		ORGANIZATIONAL DETAILS 1. PF NO 2. ESI NO 3. INSURANCE FOR WORK MAN COMPENSATION ACT NO 4. ELECTRICAL CONTRACT LIC NO 5. ITCC / PAN NO 6. SALES TAX NO 7. WC TAX REG. NO	:

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17.0	<b>DOCUMENTS TO BE ENCLOSED:</b>  1. FACTORY LICENCE 2. ANNUAL REPORT FOR LAST THREE YEARS 3. TYPE TEST REPORT FOR THE ITEM 4. PAST EXPERIENCE REPORTS 5. ISO CERTIFICATE -QMS, EMS, OHAS, SA 6. REGISTRATION OF SALES TAX 7. REGISTRATION OF CENTRAL EXCISE 8. COPY OF INCOME TAX CLEARANCE. 9. COPY OF PF REGISTRATION 10. COPY OF ESI REGISTRATION 11. COPY OF INSURANCE FOR WORK MAN COMPENSATION ACT NO 12. COPY OF ELECTRICAL CONTRACT LIC NO 13. COPY OF PAN NO 14. COPY OF WC TAX REGISTRATION	
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Annexure-2



AMENDMENT TO PURCHASE ORDER

<b>M/s BHEL-GE Gas Turbine Services Pvt Ltd</b> 203-204 Ashoka Bhopal Chambers,146 Secunderabad ( Sardar Patel Road)-500003 Vendor Code : 4401304 Contact No : 040-27841923	PO No. : 350007893-1 Release Date : 16.12.2011  Contact Person : Contact No. :
<b>Consignee Address</b> NDPL Central Procurement Plant NDPL Store, Opp. C-2 Block,Keshavpalem Delhi 110035  LST & CST No. LC/063/9300254419/0702 DT.22.07.2002 TIN No.	<b>References :</b> For a detailed list of references please refer to the SCC of this Purchase Order.

**Subject :** Purchase Order for Repair, Services and RCA at BGGTS/BHEL, Hyderabad for GT 2 -108 MW Rihala CCPP.

Dear Sir,

This has reference to the above mentioned correspondence on the subject. We are pleased to place an order with you as under.

- |  |                         |
|--|-------------------------|
| (i) Technical Specifications                 | : Annexure I Attached   |
| (ii) Schedule of Items / quantities/Rates    | : Annexure II Attached  |
| (iii) Completion / major milestones schedule | : Annexure III Attached |
| (iv) General Conditions of Contract          | : Annexure IV Attached  |
| (v) Special Conditions of the Contract       | : Annexure V Attached   |
| (vi) Inspection Test Plan                    | : Annexure VI Attached  |

**Total PO Value :**

**Completion By :**

**Order Acceptance:**

Kindly acknowledge receipt and acceptance of this Purchase order by signing, stamping and returning one copy to us within next five working days. Simultaneously please arrange submitting required documents/drawings, if any, as well as Security Deposit as stipulated vide above referred contract enclosures.

**For North Delhi Power Limited**

**AUTHORIZED SIGNATORY**

Name :  
Designation :  
Contact No. :  
E-mail id :

*Important Note:- In case of any discrepancies between the stipulation in General Conditions of the Contract (GCC), given by the original order and Special Conditions of Contract (SCC), the GCC shall stand superseded by the SCC to the extent stipulated herein above while balance portion of respective clauses of GCC shall continue to be applicable.  
Encl: as above*

**North Delhi Power Limited**

(A Tata Power and Delhi Government Joint Venture)

Sub Station Building, Hudson Lines, Kingsway Camp, Delhi-110009

Tel 91-11-66112222-31 Fax 91-11-27468023

Status of blls submitted by Business Associates at BIRD counter against our Purchase Orders/ Contracts can now be viewed at our website [www.ndpl.com](http://www.ndpl.com)



Annexure II

PO No. : 3500007993-1

**Amendment History**

Revision No	Revision Text	Net Value	Diff Value	Changed BY
1				

**Schedule of Item/ Quantities/ Rate**

Sr No	MATERIAL CODE DESCRIPTION DETAILS / SPECIFICATIONS	Qty	Unit	Rate	Disc.	Exclse Duty %	Tax %	Other Charges	Amount INR
1.000	Repair, Services and RCA								
1.001	Flange to Flange Dis-Assembly & Assembly	1	AU	1000000					1000000
1.002	Rotor Dis- Assembly and NDT	1	AU	1000000					1000000
1.003	Root Cause Analysis Engg & R&D Charges	1	AU	1000000					1000000
	<b>Service Subtotal</b>								3000000
	<b>Services Total</b>		INR	3000000			10.000		3300000
	<b>Item Total</b>		INR						3300000
2.000	Packing and Freight Charges								
2.001	Packing and Freight Charges	1	AU	1000000					1000000
	<b>Service Subtotal</b>								1000000
	<b>Services Total</b>		INR	1000000					1000000
	<b>Item Total</b>		INR						1000000
<b>Total PO Value (INR)</b>									<b>4300000</b>



## Annexure 5

### Special Conditions Of Contract

#### References:

- 1.M/s BGGTS experts visit dated 15.09.11 and subsequent mail dated 23/9/11 regarding damage observations.
- 2.M/s BGGTS's Preliminary assessment after site visit vide mail dated 27/09/2011.
- 3.M/s NDPL's open order , Ref: NDPL/OPS/PW&CC/2011-12/BGGTS-1 dated 28/09/2011 for GT-2 assessment.
- 4.M/s BGGTS's confirmatory mail dated 28/09/2011 on above.
- 5.Minute of meeting of discussions held at Hyderabad on 11-12/10/2011 between officials of M/s BHEL, M/s BGGTS and M/s NDPL , mail dated 22/10/11.
- 6.M/s BGGTS offer --QSN-0571 - NGP Refurbishment, QSN-0577 GT-1 Inspection vide mail dated 2/11/2011.
- 7.M/s BGGTS Preliminary inspection report after checks at Hyderabad and subsequent offers QSN11/0601- Supply of Parts, QSN11/0602 - Repair service and RCA at BHEL, Hyderabad , QSN11/0604- GT-2 Site Services - offer dated 05/11/2011.
8. MCM of negotiation meeting held on 08-09/11/2011 at NDPL Corporate Office.
9. LOI No ND/OPS/PW&CC/Rithala CCP/11-12/LOI/ Repair of GT-2 dated 14 November 2011.

Please refer to the above correspondences including but not limited to the above mentioned enquiry, your offers and subsequent correspondences as mentioned above for Repair, Services and RCA at BGGTS/BHEL, Hyderabad for GT 2 of 108 MW Rithala CAPP. Based on the same, we are pleased to issue this Purchase Order at the terms and conditions, broadly mentioned below.

#### 1.0 Scope of Work

The Detailed Scope of Work shall be as detailed in NDPL's Enquiry and other Correspondences along with Clarifications mentioned above under 'References'. In case of any discrepancy in the above mentioned documents, the latest document shall prevail.

#### 2.0 Contract Price

The 'Total Contract Price' (inclusive of all taxes and duties) Repair, Services and RCA at BGGTS/BHEL, Hyderabad for GT 2 of 108 MW Rithala CAPP including packing, forwarding and transportation of repaired GT 2 to Rithala Plant site, Delhi

Rs 5,43,19,635 (Rupees Five Crores Forty Three Lakhs Nineteen Thousand Six Hundred and Thirty Five only)



## Special Conditions Of Contract

-----

The contract price shall remain firm till the completion of the Contract without any variation whatsoever except for statutory variations in taxes and duties.

3.0 Taxes and Duties : Applicable Taxes & Duties are Service tax @ 10.3% , included in above price.

### 4.0 Completion Time

M/s BGSIS shall complete all the activities on GT-2 including trial run of machine on load by 15.02.2012. All the activities under the contract as per the scope of work above shall be completed to match the above the schedule.

### 5.0 Payment Terms

5.1 Payment terms mutually agreed are as follows:  
Repair, Services and RCA at BGSIS/BHEL, Hyderabad for GT 2.

10% of contract price shall be paid as advance against submission of equivalent ASG valid upto 30 days from the Commissioning date.

80% of the payment against submission of dispatch documents.

Balance 10% payment will be released after commissioning and loading of the GT.

### 6.0 Security Deposit:

BGSIS shall submit a Bank Guarantee towards security deposit for 10% of the total Contract Price valid in full up to end of 1 month after completion of warranty period , within 15 days from the date of receipt of detailed order , BGs shall be as per NDPL format.

### 7.0 Warranty Period :

M/s BGSIS's warranty under this contract shall be applicable for a period of 12 months from the date of commissioning of the unit GT-2 for any poor workman ship and defected material supplied under the contract.

### 8.0 Technical Conformance

M/s BGSIS assured that based on the detailed inspection and assessment report, all the major parts are covered in the above scope and all parts shall be new and of latest technology fit for future updates. Use of these parts will result in marginal improvement in the performance of the machine.

Under this contract, M/s BGSIS will also analyze possible causes of the occurrence on GT-2 , conduct technical inspection of the plant and will recommend NDPL with its inputs for safe and smooth running of the plant.





**Special Conditions Of Contract**

**9.0 Insurance**

Transit insurance for this contract will be in NDPL scope. However, BGGTS will be responsible for insurance of their workforce deployed at site as per workman compensation act and applicable labour laws.

**10.0 Delivery of equipments**

The equipments should reach the site at the below mentioned address:

BOG (Generation)  
108 MW Rithala Combined Cycle Power Plant  
GENPSID, Sec-11, Rithala  
Rohini, Delhi -110 085

11. LD clause shall not be applicable for this contract. However, M/s BGGTS to put its best efforts to complete all the assigned jobs in order to commission the machine Gt-2 by 15.03.12.

**12.0 Arbitration**

The venue of arbitration shall be Delhi.

All other Terms & Conditions shall be strictly as agreed unless any deviation is agreed in writing by NDPL. In any discrepancy between the mentioned correspondences the latest document shall prevail.

We hope that you find the above in line with various discussions and agreements reached and would request you to sign and return a copy of this purchase order as a token of your acceptance of this order.