



SUB-GROUP REPORT ON SELECTION CRITERIA AND SUSTAINABILITY MODEL FOR 'LOAD DESPATCH CENTRE (LDC) EXCELLENCE AWARD'

Report Submitted to the NPSC Core Committee and adopted by
the ICPS Core Committee



JANUARY 2021

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Report

Selection criteria and sustainability model for LDC Excellence Award

I. Background:

As per the Electricity Act 2003, Load Despatch Centres (LDCs) are the apex bodies in respective jurisdictions to ensure the smooth and integrated grid operation in the country. After the introduction of the competition through Electricity Act'03 in the power sector, the role of LDCs gained more prominence due to its important position in the power sector where theory meets practice, and it has been emphasized that decisions/actions of LDCs must be transparent, neutral, and non-discriminatory.

The National Load Despatch Centre (NLDC), Regional Load Despatch Centre (RLDC), and State Load Despatch Centre (SLDC) are governed by the Electricity Act'03 and concerned Rules and Regulations framed by the appropriate government.

Further, there have been several initiatives by the Central government, State governments, and Regulators for the strengthening of the Load Despatch Centres for secure, reliable, and economic operation of the electricity grid.

Given the critical role played by the LDCs in the entire electricity value chain, a Forum of Load Despatchers (FOLD) was formed by the Forum of Regulators (FOR) for smooth coordination among SLDCs and RLDCs/NLDC.

A meeting held in October 2008 at Vigyan Bhawan under the chairmanship of Secretary Power regarding the implementation of the report of Committee on "Manpower, Certification, and Incentives for System Operation and Ring-Fencing Load Despatch Centres (LDC)", in the said meeting it was also suggested that an award may be constituted for recognition of Load Despatch Centres.

Recently, the Capacity Building of Indian Load Despatch Centres (CABIL) Report approved by Forum of Regulators (FOR) has also emphasized the need for benchmarking the LDCs on performance evaluation parameters related to power system operation, market operation, usage of technology, adopting best utility practices. The report also recommended that periodic reward & recognition programs for LDCs may also be started for their exemplary contribution to the power sector in the country.

II. Formation of the Sub-group

In the core committee meeting of the National Power System Conference (NPSC) held on 23.11.2020, it was deliberated that the work done by the LDCs in the power sector is unparalleled, and needs to be recognized and rewarded by the NPSC. In the said meeting, members unanimously agreed to institute the "LDC Excellence Award" for future NPSC series.

As LDCs are considered as CAPEX-lite and profit-neutral entities. So, the key performance indicators (KPIs) for assessing the LDCs would be different from the other companies which have a clear profit motive. Therefore, NPSC's core committee has decided to form a separate

sub-committee consisting of Sh. S. K. Soonee (Chairperson), Prof. A K Pradhan, and Prof. K. Shanti Swarup as the member to recommend selection criteria and sustainability model for this award.

III. Terms of Reference (TOR)

The terms of reference of the sub-group are as under:

- To define the selection criteria;
- To deliberate and devise a suitable model for long term sustainability of this award;
- To decide a suitable cooling-off period to encourage wider participation and equitable opportunity for all LDCs
- Any other suggestions related to the above.

IV. Members of the Sub-Group

- Sh. S. K. Soonee (Chairperson)
- Prof. A K Pradhan, and
- Prof. K. Shanti Swarup
- Co-opted member- Dr. Sanjay Shrikrishna Kulkarni, Ex-Chief Engineer, Maharashtra SLDC
- FOLD representative: Provide assistance

v. Methodology:

The methodology adopted by the sub-group includes the literature survey, previous deliberations in the FOLD meetings, interaction with officials of LDCs, inputs/feedback from the members of FOLD.

Further, the sub-group meeting has also been conducted to deliberate on the parameters to be included in the criteria for evaluation of the LDCs.

VI. Deliberations and Literature Survey

i. **Organisational excellence:**

American Society for Quality, 2019 has defined organizational excellence as “Systematic efforts to establish a framework of standards and processes intended to engage all employees to deliver value in the products and services that fulfill customer requirements”.

Further, it has been observed that appropriate management systems must be in place for organisations to achieve excellence. Key focus areas for assessing the performance of the LDCs would include Governance, Leadership, commitment, Planning, ethical decision making, stakeholders, Employees, Work Processes, partners, Resource Management, Continuous Improvement, Performance Measurement, etc.

Some generic principles for organizational excellence which may also be used in the framing of the criteria for judging the excellence of the LDC operations are attached at Annexure-I.

ii. Key performance indicators (KPIs) for LDCs

Many committees/ reports have suggested KPIs for judging the performances of the LDCs. Sub-group- deliberated about the performance criteria mentioned in the following reports/MOMs:

- Ministry of Power, GOI Taskforce on 'CAPEX and Issues related to Emoluments for personnel in Load Despatch Centres', 2009
- FERC Staff Report AD10-5-000,2010
- Transmission System Operators (TSO) comparison, 2010
- Minutes of 7th FOLD meeting, 2012
- CERC (Fees and Charges of RLDC and related matters), Regulations, 2015,
- CIGRE Working Group C2.35, 2017
- National Grid, UK, 2018
- CABIL Report, 2018

The relevant extract of the KPIs from the above-mentioned reports/documents/Regulations is enclosed at Annexure-II.

VII. Sustainability of the Award

The sustainability of any institution depends on the commitment of the professionals and the appropriate support system. It is expected that LDCs will cherish this "LDC Excellence Award" and commit themselves to the promotion and betterment of the power system as a whole.

Since the NPSC is held once in a two year, therefore it is suggested that the International Conference on Power Systems (ICPS) organizing committee may be approached for exploring the possibility to confer this award in the ICPS as well. This will create an opportunity to confer the "LDC Excellence Award" every year alternately by NPSC and ICPS. In view of this, the prospect of conferring the award in 2021 may also be explored.

The ICPS core steering committee meeting was held on 15.01.2021, in the said meeting members adopted the report submitted by the sub-committee and unanimously agreed to institute the "LDC Excellence Award" on similar lines of NPSC.

It is also suggested that the Ministry of Power (MOP), Govt. of India may be approached for sponsoring/promoting this award. Pending feedback from the MOP, the award may be conferred in the NPSC/ICPS on regular basis. Further, it is suggested that NPSC/ICPS organising secretariat may provide necessary support for this award.

Giving of award money with the medal/shield may have issues of handling/accounting of money, as well as it may increase some burden on NPSC/ICPS organising committee. Therefore, it is proposed to avoid any award money to keep it frugal and more sustainable.

Moreover, it is suggested that the "LDC Excellence Award", once started, shall continue in the future, and the award will be given by the NPSC/ ICPS/ its successor conferences/ other institutions as per the decision of the NPSC/ICPS's core committee.

VIII. Recommendations of the Sub-group

Committee deliberated about the principles of excellence, suggestions by the officials of LDCs, and KPIs recommended by various committees and reports. After due deliberations, the sub-

group divided the criteria into five sub-heads namely: **Stakeholder satisfaction, Adequacy and efficiency of internal processes, Learning and growth, Financial prudence, and future-readiness** for better clarity and assessing the suitability of the LDCs for the award. Sub-group is of the opinion that work done by LDCs on these five broad indicators will put LDCs on the path of excellence.

As LDCs are expected to be non-discriminatory, fair, transparent, CAPEX-lite, and profit-neutral entities. Therefore, the key performance indicators (KPIs) for assessing the LDCs would be different from KPIs of the generating companies, transmission licensees, or distribution licensees. As the focus of LDCs is on the performance of the statutory functions and not on the maximization of the profit and most of the SLDCs don't have an independent revenue stream, therefore, revenue, profit, dividend, etc. have not been considered in the criteria for selection of LDCs for the award.

Metrics within above mentioned five categories for assessing the suitability of the LDCs for the award are further detailed, and the same are given below:

Stakeholder satisfaction

- Maintain System Reliability
 - Area Control Error within IEGC limits
 - Maintain Voltage profile within IEGC limits
 - Computation and monitoring of Frequency Response Characteristics
 - Demand and RE Forecasting
 - Assessment of the availability of reserves
- Strengthening System resilience
 - Coordinating Black Start Drills, Organizing System recovery workshops
 - Fail-over Test of Back up Control Centre
 - Annual review of SPS, Islanding Schemes, Protection Coordination
- Facilitate Power System and Market functioning
 - Timeliness in Processing Transmission Outage Applications, STOA Applications
 - Timeliness in Declaration of Transfer Capability, Transmission Losses
 - Timeliness of Issuing Energy Statements and Accounts
- Information Dissemination and Sensitivity to stakeholder concerns
 - Reporting Grid Events as per Standards
 - Operational Feedback to Transmission Utility
 - Publishing Annual Compendium
 - Organizing Stakeholder meet
 - Updated documents – Power Maps / Operation Procedure / Restoration
 - Mandated MIS reports, Operational feedback, Grid Event reports
 - Availability of separate website for LDC
 - LDC on social media- Twitter, LinkedIn, etc.
- Customer Feedback

Adequacy and efficiency of internal processes:

- Vision and mission of the organization/LDC
- Availability of Infrastructure and Amenities
 - Infrastructure security, access control - Biometric Access, CCTV

- Availability of Standby Supply/UPS
- Conference room, video conferencing, conference calling, visitors lounge
- Transport facility for pick up and drop for personnel in shift duty
- Gym, recreation facility, indoor games, cafeteria, Library
- Utilizing RE to meet energy Consumption of LDC premises
- Availability of Information Technology and Communication Systems
 - Redundant communication for data & speech communication for Main & Backup
 - LAN, Personal Computers, Laptops, Intranet, Mobile Apps, Internet, etc.
 - Compliance to Information Security Systems / Cyber Security / Safety /
 - Application Software - Scheduling, STOA, AMR, Energy Accounting, Billing
- Availability of Decision Support System
 - SCADA / EMS / WAMS for power system visualization
 - Application software for simulations, optimization
 - Application software for developing displays and power maps
 - Systems for Data Repository, Data Analytics, Statistical Analysis
 - Relevant Standard Operating Procedures
- ISO 9001/14001/27001/45001 Certifications

Learning and growth aspects

- Appropriate actions have been taken to strengthen the manpower at LDC
- Adequacy of HR
 - Executive to the non-executive ratio
 - Certified Operators as a percentage of total employees
 - Personnel from - Legal, Economics, HR, Corporate Communications
 - Diversity in the Organisation
- Availability of personnel with appropriate skills
 - Grid Event Analysis Skills - Protection
 - Simulation Skills, Optimization Skills
 - Data Analytics Skills – Statistical tools
- Exposure to interdisciplinary thinking
- The training calendars
- Avg. number of man-days training per employees
- Number of technical papers published
- Knowledge Management
- Promotion of organizational culture
 - Development of the value system
 - Mission/Vision of the organisation
 - Activities that boost the morale of the employees

Financial prudence:

- Revenue collection efficiency
 - % Recovery of Fees and Charges

- Utilization of Approved expenses
 - Approved CAPEX Utilization without time and cost overrun
 - HRD as % of HR expenses
 - CSR budget utilization
 - Timely Clearance of vendor bills
- Statutory compliance
 - Preparation of Financial Statements
 - Audit of Accounts
 - Audit of the regulatory pool accounts

Future readiness

- Pilot studies
- New Technology adoption
- Industry-Academia partnership
- Transformational actions

It is proposed that equal weightage (20%) may be given to the above mentioned five categories. Jury members based on scores obtained, and based on the facts/details mentioned in 'A brief write-up of about 1500 - 2000 words justifying why LDC should be considered for the Excellence award', top three LDCs may be invited to give a presentation before the jury members. Jury members may gauge the commitment of the leadership towards excellence and cross-verify some parameters during the presentation if required.

Based on the commitment of the leadership towards excellence and institution-building among others, Jury members may declare the award from the top three shortlisted LDCs.

Further, the sub-group has prepared a draft procedure for institutionalizing the award, and based on the above-mentioned criteria - a draft 'Nomination form' has also been prepared by the group. As per the feedback received from the MOP the draft procedure for institutionalizing the award and 'Nomination form' may be modified accordingly.

It is proposed that NPSC/ICPS organising secretariat will provide necessary support for the "LDC Excellence Award". For sustainability of the scheme, it is suggested that the "LDC Excellence Award", once started, shall continue in the future and the award will be given by the NPSC/ICPS/ its successor conferences/other conferences as decided by the NPSC/ICPS's core committee.

As the role of Distribution System Operators (DSOs) are increasing day by day, so it is expected that functions of DSOs will be formalized by appropriate Statute /Rules/Regulations in the coming years. At an appropriate time, the NPSC/ICPS organising committee may consider DSOs for the "LDC Excellence Award" also.

It is suggested that initially only one LDC may be awarded for the excellence award. Later, the excellence award may be broad-based, and sub-categories such as (a) Most Stakeholder Satisfaction (b) Best ICT infrastructure (c) Innovative LDC, etc. may be considered for the award.

IX. Draft Procedure: Governance Mechanism

1. National Power Systems Conference (NPSC) has been India's premier conference in the area of power engineering since 1981 and International Conference on Power Systems (ICPS) is a leading conference in the area of Power Engineering since 2004. NPSC/ICPS is a biennial conference providing a forum for academics, industry, and students to present and discuss the most recent innovations, trends, experiences, and concerns in the field of electrical power and smart energy systems.

NPSC/ICPS instituted the "LDC Excellence Award", to acknowledge, recognize, reward, and celebrate the exemplary work performed by LDCs across the country. This award will strengthen the spirit of learning and sharing of expertise from Academia-industry collaboration, and recognize outstanding contribution and excellence in various functional areas of the LDCs.

2. The objective of the Award:

This award aims to inculcate the habit of excellence in all spheres of the functioning of the LDC and to improve the governance process. This award will recognize the critical role played by LDCs in the entire electricity value chain and aims to inculcate a spirit of healthy competition among LDCs.

3. Frequency:

Award will be announced at the biennial National Power Systems Conference (NPSC)/International Conference on Power Systems (ICPS) alternatively every year.

4. Form of award:

A Medal/Shield engraved with the name of the recipient LDC, and will be handed to the representative of the LDC during the conference.

5. Calendar:

- Call for nominations in March and Submission by May in a particular year.
- Evaluation: Shortlisting of top 3 LDCs by August-end, and presentation by the top three LDCs in the month of September, and Jury will communicate the name of the winner to the NPSC/ICPS Organising committee latest by 15th October of the same year.

6. Jury Members

An independent jury comprising of Regulators (serving or retired), Senior / Veteran Load Despatchers, academia nominee, industry expert, one NPSC/ICPS nominee may be selected by the core committee of NPSC/ICPS, and jury members will evaluate the nominations and decide upon the winners for the award.

7. Eligibility: Who can Participate

- LDCs i.e., State Load Despatch Centres/ Regional Load Despatch Centre/National Load Despatch can apply for nomination for the award.
- The LDC, which gets the award in a particular year shall not be eligible to participate in the next four years.

8. Likely benefits of the participation to LDCs

- Recognition of the LDCs on a credible platform.
- Act as a catalyst for other LDCs to improve themselves through cooperative and competitive spirit.
- The winner of the “LDC Excellence Award” will prompt the media to communicate positive messages about the work done and contribution by the power system fraternity.
- The winners will be featured on the NPSC/ICPS/FOLD website which will further improve the recognition of LDC before policymakers and other stakeholders.
- Strengthen the Industry-Academia participation
- While submitting the nominations for the excellence award, LDCs will also realize the need to work on those parameters on which they are lagging.

9. Evaluation Criteria

The following parameters will be considered while evaluating the nominations for the award. The evaluation criteria include the following parameters:

- As per the detail submitted in the nomination form, Jury members may call three LDCs for presentation before the jury members.
- The Jury Members, based on the commitment of the leadership towards excellence and the basis of other parameters will select the best LDC from the top three LDCs.

10. Evaluation Process

- The entries can be submitted online to the FOLD secretariat and a copy of the same may be sent to the NPSC/ICPS organizing committee secretariat.
- The nomination form which is complete in all respect will be forwarded by the FOLD secretariat to the Jury members for shortlisting of LDCs for the award.
- Based on the score and judgment by the Jury members, three LDCs may be invited to give a presentation before the Jury members through a video conferencing facility. The presentation may include the evidence/data/facts about the information furnished in the nomination form, or mentioned in the brief write-up of about 1500-2000 words, etc.
- Based on the information submitted in the nomination form, a presentation made by the shortlisted LDCs, and taking a holistic perspective of the functioning of LDCs, Jury members will decide the winner of the award.
- The winner of the Award will be declared in the NPSC/ICPS.

11. Submission of application

- Applications for the Award shall be received online in the prescribed format. All the columns of the application form must be duly filled as per the instructions contained therein.
- Supporting documents, if any along-with the printout of the online nomination form may be e-mailed to the FOLD secretariat with a copy of the same to NPSC/ICPS organizing secretariat.

X. Nomination Form

LDC Excellence Award (Year)

Call for Nomination

Last date of submission

LDC Excellence Award

Date:

|

Venue:

“LDC Excellence Award” – NOMINATION FORM

National Power Systems Conference (NPSC)/ International Conference on Power Systems (ICPS) invites the nominations for the 1st edition of the “LDC Excellence Award” to recognize and celebrate the exemplary work performed by LDCs across the country. This award will strengthen the competitive and cooperative spirit, and highlight the selfless work done by the system operators.

NPSC has been India’s premier conference in the area of power engineering since 1981, and ICPS is a leading conference in the area of Power Engineering since 2004. NPSC/ICPS is a biennial conference providing a forum for academics, industry, and students to present and discuss the most recent innovations, trends, experiences, and concerns in the field of electrical power and smart energy systems.

Following details to be filled by the LDC for the nomination of the Award:

| | |
|--|--|
| Details of participating LDC/ organization | a) Name of the LDC: b) No. of Employees: c) Name of nominating authority (head of LDC): d) Designation: e) Mobile number: f) Phone: g) Email: h) Address: |
| Criteria for the award | |
| I. Stakeholder satisfaction – Parameters | |
| Activities performed to Maintain System Reliability | <input type="checkbox"/> Area Control Error within IEGC limits is being maintained |
| <i>Please upload the relevant</i> | |

| | | |
|--|---|---|
| <i>(Please Tick whichever is applicable)-</i> | <input type="checkbox"/> Voltage profile within IEGC limits is being maintained <input type="checkbox"/> Computation and monitoring of Frequency Response Characteristics <input type="checkbox"/> Demand and RE Forecasting <input type="checkbox"/> Assessment of the availability of reserves | <i>data/documents showing the details of the past 2 years, if available</i> |
| Strengthening Power System resilience <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Coordinating Black Start Drills <input type="checkbox"/> Organizing System recovery workshops <input type="checkbox"/> Fail-over Test of Back up Control Centre <input type="checkbox"/> Annual Review of Special Protection Schemes (SPS), Islanding Schemes, Protection Coordination | <i>Please upload relevant documents which are in the public domain</i> |
| How LDC manages the power system during challenging times. | | <i>Please upload the relevant documents/reports, etc.</i> |
| Facilitating Power System and Market functioning (Adherence to the timelines) <i>(Please Tick whichever is applicable)-</i> | <input type="checkbox"/> Processing Transmission Outage Applications <input type="checkbox"/> Short term open Access Applications (STOA) <input type="checkbox"/> Declaration of Transfer Capability <input type="checkbox"/> Transmission Losses <input type="checkbox"/> Timeliness of Issuing Energy Statements and Accounts | <i>Please mention the supporting weblink or enclose the relevant documents, if available</i> |
| Information Dissemination and Sensitivity to stakeholder concerns <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Reporting Grid Events as per Standards <input type="checkbox"/> Operational Feedback to Transmission Utility <input type="checkbox"/> Publishing Annual Compendium <input type="checkbox"/> Organizing Stakeholder meet <input type="checkbox"/> Updated documents – Power Maps / Operation Procedure / Restoration <input type="checkbox"/> Mandated MIS reports, Operational feedback, Grid Event reports <input type="checkbox"/> Availability of separate website for LDC <input type="checkbox"/> LDC on social media <input type="checkbox"/> LDC outreach to the Regional Academic institutions | <i>Please mention the supporting weblink or enclose the relevant documents which are in the public domain</i> |

| | | |
|--|--|---|
| | <input type="checkbox"/> LDC is approachable by the educational Institutions(s) for data/ study / LDC is proactive in helping the academia <input type="checkbox"/> Contact details of the office/officials are available on the website | |
| Customer Feedback is being taken <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Yes <input type="checkbox"/> No | <i>Please mention the weblink or upload the relevant document, if available</i> |
| II. Adequacy and efficiency of internal processes | | Remarks |
| Availability of Infrastructure and Amenities <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Infrastructure security, CCTV <input type="checkbox"/> Availability of Standby Supply/UPS <input type="checkbox"/> Conference room, video conferencing, conference calling, visitors lounge <input type="checkbox"/> recreation facility, indoor games, cafeteria, <input type="checkbox"/> Library/ resource center <input type="checkbox"/> Utilizing Rooftop Solar PV systems for meeting energy Consumption of LDC premises | <i>Please mention the supporting weblink or enclose the relevant documents, if available</i> |
| Availability of Information Technology and Communication Systems <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Redundant communication for data & speech communication for Main & Backup control room <input type="checkbox"/> Compliance to Information Security Systems / Cyber Security / Safety <input type="checkbox"/> Application Software for Scheduling, Short Term Open Access (STOA), Automatic Meter Reading (AMR), Energy Accounting, Billing | <i>Please mention the supporting weblink or enclose the relevant documents which are available in the public domain</i> |
| Availability of Decision Support Systems <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> SCADA / EMS <input type="checkbox"/> WAMS for power system visualization <input type="checkbox"/> System integrity protection Systems <input type="checkbox"/> Application software for simulations, optimization <input type="checkbox"/> Application software for developing displays and power maps <input type="checkbox"/> Systems for Data Repository, Data Analytics, Statistical Analysis <input type="checkbox"/> Relevant Standard Operating Procedures | <i>Please mention the supporting weblink or enclose the relevant documents which are available in the public domain</i> |

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| <p>ISO Certifications (Please Tick whichever is applicable)</p> | <p><input type="checkbox"/> Yes, if yes then tick whichever is applicable</p> <ul style="list-style-type: none"> <input type="radio"/> ISO 9001 <input type="radio"/> ISO 14001 <input type="radio"/> ISO 27001 <input type="radio"/> ISO 45001 <input type="radio"/> Other Standards <p><input type="checkbox"/> NO</p> | <p>Please mention the supporting weblink or enclose the relevant documents, if available</p> |
| <p>III. Learning and growth aspects</p> | | <p>Remarks</p> |
| <p>Appropriate actions have been taken to strengthen the manpower at LDC (Please Tick whichever is applicable)</p> | <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> | <p>If yes, then mention the details of action taken by the LDC (letters/representation, etc.)</p> |
| <p>Adequacy of HR processes</p> | <ul style="list-style-type: none"> ❖ Executive to the non-executive ratio: ❖ Certified Operators as a percentage of total employees: ❖ The number of executives from – Legal, Economics, HR, Corporate Communications: ❖ Type of incentives given by the organization for further improvement/working in the LDC | <p>Please upload the relevant documents, if available</p> |
| <p>Availability of personnel with appropriate skills (Please Tick whichever is applicable)</p> | <p><input type="checkbox"/> Grid Event Analysis Skills – Protection <input type="checkbox"/> Simulation Skills, Optimization Skills <input type="checkbox"/> Data Analytics Skills – Statistical tools</p> | <p>Please substantiate the claim by sharing the link of some reports, papers, etc. or enclose the relevant documents, if available in the public domain</p> |
| <p>Exposure to interdisciplinary thinking among officials</p> | <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> | <p>If yes, then please mention the name of the actions/training organized, etc.</p> |
| <p>The training calendar is being prepared</p> | | <p>If the training calendar is in the public domain, then please mention the weblink.</p> |
| <p>Actions about Knowledge Management are being done</p> | <p>Details of actions taken, if any may be mentioned here</p> | |

| | | |
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| Promotion of organizational culture through <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Development of the value system <input type="checkbox"/> Vision Statement/ Mission Statement of the organization <input type="checkbox"/> Promotion of Activities that boost the morale of the employees | Please mention the weblink(s), or upload the supporting documents |
| The average number of man-days training per employee | | |
| Details about the participation of LDC officials in various conferences/ webinars/ Training programs | | Please upload the supporting documents, if available |
| Educational visit to power plants/sub-stations, other LDCs, etc. | | Please upload the supporting documents, if available |
| No. of Technical paper published in the past two financial years | | Please mention the weblink(s), or upload the supporting documents |
| No. of officials who have M. Tech / PG/ Ph.D. Degree in the LDC | No. of officials with: <ul style="list-style-type: none"> • M. Tech: • Other PG Degree: • Ph.D.: | |
| Scope for obtaining higher qualifications by employees | | |
| Details of any collaborative studies/ report published/ project undertaken with other organizations in the past 2 years | | <i>Please mention the supporting weblink or enclose the relevant documents, if available in the public domain</i> |
| Process and steps taken to encourage innovation in the LDC. | | <i>Please mention the supporting weblink or enclose the relevant documents, if available</i> |
| IV. Financial prudence | | |
| Revenue collection efficiency (% Recovery of Fees and Charges), if applicable | | |
| Utilization of Approved expenses <i>(Please Tick whichever is applicable)</i> | <input type="checkbox"/> Approved CAPEX Utilization without time and cost overrun <input type="checkbox"/> HRD budget <input type="checkbox"/> CSR budget | <i>Please mention the supporting weblink or enclose the relevant documents, if available</i> |

| | | |
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| Statutory compliance (Please Tick whichever is applicable) | <input type="checkbox"/> Preparation of Financial Statements <input type="checkbox"/> Audit of Accounts <input type="checkbox"/> Audit of the regulatory pool account | <i>Please mention the supporting weblink or enclose the relevant documents, if available</i> |
| V. Future readiness | | |
| Pilot studies undertaken in the past 2 years by LDC/ in association with any other organization | <input type="checkbox"/> Yes, <input type="checkbox"/> No If yes, then please share the following details: a) Name of the initiative along-with important details. b) Beneficiary of the initiative (please tick): <ul style="list-style-type: none"> <input type="radio"/> LDC <input type="radio"/> DISCOMs <input type="radio"/> Generating Plants <input type="radio"/> Others c) Date of commencement of the initiative (dd/mm/yyyy) d) What is the current status of the project (please tick)? <ul style="list-style-type: none"> <input type="radio"/> Not started yet <input type="radio"/> On-going <input type="radio"/> Already completed | |
| Mention the name of the new technologies that have been adopted/used in the LDC in the last two years | | |
| Industry-Academia partnership (if yes, then please share the details) | | |
| Transformational Actions, additional information (noteworthy contributions/ previous awards; Strategic, cultural, organizational changes, etc.) | | |
| VI. A brief write-up | | |
| A brief write-up of about 1500 - 2000 words justifying why the LDC should be considered for the Excellence award. | Write-up may include the following: <ul style="list-style-type: none"> • Unique Selling Proposition (USP) of the LDC, • Brief details about the challenges faced and actions taken, • Network size, highest voltage level, Peak demand met, etc. • Actions taken regarding Renewable Energy Integration, etc. • How diversity is being maintained in the Organization? | |

| | |
|--|--|
| | <ul style="list-style-type: none">• Any other additional important information LDC wants to share with Jury members. |
|--|--|

DECLARATION AND SUBMISSION

I, hereby, certify the information and particulars furnished above are true and made in good faith, and the nomination submitted can be published on the NPSC/ICPS/FOLD website/ placed in the public domain.

Name:

Date:

Phone:

Email:

The nominations in the specified nomination form along with the supporting documents, if any should be sent through email latest **by** _____ to the FOLD secretariat at _____(email ID)with a copy of the same to NPSC/ICPS organizing secretariat at icps2021@iitkgp.ac.in (email ID).

Additionally, the nomination forms along with supporting documents may also be sent in hard copy at the following address:

Postal Address:

Email:

Contact Number:

Website:

Terms & Conditions

1. Applications for the Award shall be received online in the prescribed format. All the columns of the application form must be duly filled.
2. Application with incomplete/ insufficient details shall not be considered.
3. A legend should be provided for all abbreviations/acronyms used in the application and documentation.
4. At the time of applying, please ensure that you have provided all the necessary details. Incomplete applications will not be accepted
5. All documents submitted shall be used only for evaluation purposes.
6. NPSC/ICPS reserves the right to cancel or amend all or any part of the competition and/ or the rules

7. NPSC/ICPS accepts no responsibility for any damage, loss, or injury of any kind suffered by any participant in participating in the Awards, including as a result of any participant winning or not winning any prize.
8. The jury of the “LDC Excellence Award” shall have the final authority in determining the winner of the award. The decision of the Jury shall be final, conclusive, and binding, the winner or any other person shall have no legal or any other rights to contest or dispute the decision of the jury.
9. The nominee accepts that content of the nomination form, photography/video recording during the event can be uploaded on the NPSC/ICPS/FOLD website.
10. In all matters of the Award Scheme, the decision of the NPSC/ICPS core committee would be final and binding.

XI. Bibliography

- 1) <http://www.forumofregulators.gov.in/Data/Reports/FOR%20Report%20CABIL.pdf>
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XII. Annexure-I- Generic principles and techniques for Organisational Excellence

Under the Evidence-Based Leadership Framework, Pilcher & Studer mentioned that Organizations achieve excellence when leaders:

- Create the right goals with the right accountability and the right leadership development,
- Apply the right approach for managing individual performance, and
- Select the right processes, programs, and technology to accelerate the continuous improvement process

Further, Quint Studer in his book 'Hardwiring Excellence: Purpose, Worthwhile Work, Making a Difference' mentioned the nine principles for organizational Excellence. It was emphasized that the implementation of these principles set the behaviours and expectations for organizations to create and sustain a culture of excellence. Nine principles are given as under:

- Commit to Excellence
- Measure the Important Things
- Build a Culture Around Service
- Develop Leaders to Develop People
- Focus on Employee Engagement
- Be Accountable
- Align Behaviours with Goals and Values
- Communicate at All Levels
- Recognize and Reward Success:

Tom Peters and Robert Waterman in their book "*In Search of Excellence: Lessons from America's Best-Run Companies*" offered a generalized concept of excellence with eight common themes which they argued were responsible for the success of the chosen corporations. Eight attributes of excellence as mentioned in the book are given below:

- A bias for action
- Staying close to the customer
- Autonomy and entrepreneurship
- Productivity through people
- Hands-on, value-driven
- Stick to the knitting
- Simple form, lean staff
- Simultaneous loose-tight properties

XIII. Annexure-II- Relevant Extracts from Reports/Minutes of FOLD Meeting

A. Ministry of Power, GOI Task force on 'CAPEX and Issues related to Emoluments for personnel in Load Despatch Centres'

Task force had recommended the following:

"The performance of LDC could be evaluated against Key Result Areas in System Operation, Market Operation, and Logistics while the performance of the individual could be assessed with the help of a Performance Management System or Performance Appraisal System. The Key Result Areas for evaluation of the performance of LDCs in System Operation, Market Operation and Logistics must be clearly defined and consist of parameters (Performance Indicators) on which LDCs have a fair degree of control."

B. FERC Staff Report AD10-5-000

The relevant extracts pertaining to the ISO/RTO Performance Metrics are given below:

"The three major categories of performance metrics are reliability, market benefits, and organizational effectiveness. The reliability performance metrics, discussed first, were chosen to measure the reliability of day-to-day operations in metrics such as compliance with national and regional reliability standards, dispatch, forecasting, and Special Protection Schemes as well as to measure long-term reliability in metrics such as long-term generation and transmission planning. The market benefits metrics were chosen to measure the performance of ISOs/RTOs based on market prices, congestion management costs, and resource availability and to measure the efficiency of ISO/RTO markets in price convergence and competition metrics. Finally, the organization effectiveness metrics were chosen to measure ISO/RTO performance in accomplishing their objectives in a cost-effective manner that provides value to market participants."

Some of the important metrics as per the report are given as under:

- Number of violations of Reliability Standards
- Compliance with operating reserve standards
- Compliance to Control Performance Standards or ACE limits
- Wind Forecast Accuracy
- Load forecast Accuracy
- Energy Management System availability
- Reliability of Special Protection Schemes
- % of planned outages studied within the established timeframes
- % of outages cancelled by ISO after having previously approved
- Unscheduled Flows
- Customer Satisfaction

C. Transmission System Operators (TSO) comparison group

Transmission System Operators (TSO) comparison group that comprises 22 members has also given the parameters for benchmarking the performance of the operators. The group benchmarks the performance of the member TSOs against the resources used for five processes viz. Operations Planning, Scheduling, Real-time Operation, after the fact, and Support. The measures used for evaluating the performance of System Operations are listed below:

- Average Interruption Time (defined as Energy Not Supplied divided by transported energy);
- Voltage control, defined as the number of voltage excursions;
- Average Overall System Deviation, defined as frequency deviation for Area
- Control Error for interconnected networks;
- Response time to Area Control Error or Frequency Error;
- Accuracy of peak load forecast.

D. Minutes of FOLD Meetings:

During the 7th FOLD meeting held on 14.06.2012, members discussed the criteria for conferring the award on the LDCs. Following criteria were suggested for selecting LDC for the award:

- Technical Excellence
- Managerial Excellence
- Degree of Automation
- Learning & Development Focus
- Systems and Processes
- Stakeholder Feedback

E. KPIs as per the CERC Regulations:

The CERC (Fees and Charges of RLDC and related matters), Regulations, 2015 provides for recovery of incentive by the RLDC based on achievement of the following Key Performance Indicators.

- Reporting of Interconnection meter error
- Reporting of Grid Incidents and Grid Disturbance
- Reporting of Voltage Deviation Index
- Reporting of Frequency Deviation Index
- Reporting of System Reliability
- Average processing time of shut down request
- Availability of SCADA Systems
- Availability of website
- Availability of Standby Supply
- The variance of Capital Expenditure
- Percentage of Certified employees

F. CIGRE Working Group C2.35

The CIGRE Working Group C2.35 conducted an international survey on 'Power System Operator Performance: Corporate, Operations, and Training Goals and KPIs used.' The results were published in the CIGRE Technical Brochure No. 677 in Mar 2017. Working Group C2.35 defined operational goals and KPI's in six categories.

- Grid Security and Reliability
- (Good) Operational Practices
- Operational Safety and Environment
- Economical Operations
- Customer Focus
- Employee Satisfaction and Development

G. National Grid (TSO in the United Kingdom)

Office of Gas and Electricity Markets, supporting the Gas and Electricity Markets Authority (OFGEM) in the United Kingdom in its working paper titled "The Electricity System Operator Regulatory and Incentives Framework from April 2018" observed that the KPIs for Electricity System Operator should assess their contribution while acting as a residual balancer; facilitating competitive markets; facilitating whole system outcomes and supporting competition in networks. National Grid, in response to the working paper, submitted the following performance metrics to the OFGEM:

- Compliance to Grid Code
- Accuracy of transmission system demand forecasts shared with the market participants
- Average customer satisfaction survey score for the ESO across the survey base
- Balancing services cost
- Diversity in balancing services markets (Herfindahl-Hirschman index in reserve market)
- Whole Systems thinking by co-ordination across transmission and distribution systems
- Congestion cost and volume of within-year system access and outage requests
- Accessibility of market-related data for stakeholders

H. Capacity Building of Indian Load Despatch Centres (CABIL) Report:

The report recommended that the performance of the LDC could be evaluated in four dimensions namely Stakeholder satisfaction, Financial prudence, Internal Processes, and Learning & growth. The details of the KPIs are given below:

I. The KPIs under 'Stakeholder satisfaction' could be as under:

- Maintain System Reliability
 - Area Control Error within IEGC limits
 - Maintain Voltage profile within IEGC limits
 - Computation and monitoring of Frequency Response Characteristics
 - Demand and RE Forecasting

- Updating power map, Operating & Recovery procedure, Reactive Document
- Strengthening System resilience
 - Coordinating Black Start Drills, Organizing System recovery workshops
 - Fail-over Test of Back up Control Centre
 - Annual review of SPS, Islanding Schemes, Protection Coordination
- Facilitate Power System and Market functioning
 - Timeliness in Processing Transmission Outage Applications, STOA Applications
 - Timeliness in Declaration of Transfer Capability, Transmission Losses
 - Timeliness of Issuing Energy Statements and Accounts
- Information Dissemination and Sensitivity to stakeholder concerns
 - Reporting Grid Events as per Standards
 - Operational Feedback to Transmission Utility
 - Publishing Annual Compendium
 - Organizing Stakeholder meet
 - Updated documents – Power Maps / Operation Procedure / Restoration
 - Mandated MIS reports, Operational feedback, Grid Event reports

II. The KPIs for assessing the adequacy and efficiency of internal processes could be as under:

- Availability of Civil Infrastructure and Amenities
 - Infrastructure security, access control - Biometric Access, CCTV
 - Redundant sources of auxiliary supply, UPS
 - Conference room, video conferencing, conference calling, visitors lounge
 - Restroom for personnel in shift duty
 - Space cooling and lighting
 - Transport facility for pick up and drop for personnel in shift duty
 - Gym, recreation facility, indoor games, cafeteria, resource centre, first Aid kit
 - Energy Audit, Energy Efficiency targets achieved
 - Utilizing RE to meet energy Consumption of LDC premises
- Availability of Information Technology and Communication Systems
 - Redundant communication for data & speech communication for Main & Backup
 - LAN, Personal Computers, Laptops, Intranet, Mobile Apps, Internet, etc.

- Compliance to Information Security Systems / Cyber Security / Safety / IMS
- Application Software - Scheduling, STOA, AMR, Energy Accounting, Billing
- Availability of Decision Support System
 - SCADA / EMS / WAMS for power system visualization
 - Application software for simulations, optimization
 - Application software for developing displays and power maps
 - Systems for Data Repository, Data Analytics, Statistical Analysis
 - ISO/IMS/OHSAS Certification
 - Standard Operating Procedures

III. The KPIs for assessing the 'learning and growth aspects could be as under:

- Adequacy of HR as approved by ERC
 - Executive to the non-executive ratio
 - Certified Operators as a percentage of total employees
 - Personnel from - Legal, Economics, HR, Corporate Communications
- Talent Management- Availability of personnel with appropriate skills
 - Grid Event Analysis Skills - Protection
 - Simulation Skills, Optimization Skills – GAMS, PLEXOS
 - Data Analytics Skills – Statistical tools
- Innovation - Pilot projects, New Technology Adoption

IV. The KPIs for assessing financial prudence could be as under

- Revenue collection efficiency
 - % Recovery of Fees and Charges
- Utilization of Approved expenses
 - Approved CAPEX Utilization without time and cost overrun
 - HRD as % of HR expenses
 - CSR budget utilization
 - Timely Clearance of vendor bills
- Statutory compliance
 - Preparation of Financial Statements
 - Audit of Accounts
 - Audit of the regulatory pool accounts

XIV. Annexure-IV- Proposed Agenda for the Sub-group meeting

1st meeting through video conferencing to be held on 2nd December 2020 is as under:

1) Co-opting members to the sub-group

The sub-group comprises of Sh. S. K. Soonee (Chairperson), Prof. A K Pradhan, and Prof. K. Shanti Swarup as the member. As per the TOR of the group, the committee may co-opt an additional member from SLDC/or a previous Industry excellence awardee.

2) Terms of reference and proposed actions

The terms of reference of the sub-group are as under:

- To define the selection criteria;
- To deliberate and devise a suitable model for long term sustainability of this award;
- To decide a suitable cooling-off period to encourage wider participation and equitable opportunity for all LDCs
- The sub-group may co-opt with an additional member from SLDC/or a previous Industry excellence awardee.
- Any other suggestions related to the above.

3) Methodology to be adopted

- Deliberations among members about the methodology to be adopted by the sub-group for suggesting the selection criteria and sustainability model for the award
- Considering the scope of ToR, and to get a familiarity about the criteria to assess the excellence about the functioning of the LDCs, the following course of actions is proposed:
 - Interactions with the officials of LDCs/FOLD
 - Literature survey- Reports of GOI, Regulations, past minutes of FOLD meetings
 - International Literature Survey to find out the KPIs for System Operators.
 - Literature survey regarding generic principles for excellence which are applicable on LDCs.
 - Deliberations about the sustainability of the Award scheme.

4) Any other item

5) Date of the next meeting

XV. Annexure-V- Gist of discussions - Meeting held on 02/12/2020

Following were present in the meeting:

1. Sh. S. K. Soonee, Advisor, POSOCO-Chairman
2. Prof. K Shanti Swarup, Professor, IIT Madras (Member)
3. Prof. A K Pradhan, Professor, IIT Kharagpur (Member)
4. Dr. Sanjay Shrikrishna Kulkarni, Maharashtra SLDC (Co-opted member)
5. Prof. Naran M. Pindoriya, IIT Gandhinagar
6. Sh. Shailendra Kr. Verma, Chief Manager, POSOCO
7. Sh. G. M. Sharat Chandra, Chief Manager, POSOCO

1. In the opening brief, the committee members discussed instituting the award for excellence to Load Despatch Centres (LDC) and emphasized that such awards would encourage LDCs to continuously strive for all-round improvement and betterment with a spirit of cooperative competitiveness.
2. Members discussed the selection criteria and model for the long-term sustainability of this award.
3. Members agreed that an application from prospective awardees is proposed in place of a search cum selection procedure as the parameters of evaluation are detailed and require a thorough assessment of various aspects of the functioning of LDCs.
4. Committee deliberated about the principles of excellence, and Key performance indicators (KPIs) and also stressed that the award criteria need to be flexible while instilling transparency and clarity in the application process.

After due deliberations, the sub-group agreed that LDCs may be judged based on the criteria that include the Stakeholder satisfaction, Adequacy and efficiency of internal processes, Learning and growth, Financial prudence, future-readiness, and a brief write-up of 1500-2000 words to be filled up by the LDCs.

Members endorsed that it shall be at the discretion of the jury members to fix criteria along with their weightage for the fair evaluation of the performance of LDCs for conferment of the award of excellence.

5. Members suggested that the award may be in the form of a medal/shield, and money may not be awarded to keep the process frugal and more sustainable. It is also suggested that the NPSC core committee may approach the Ministry of Power, Govt. of India for sponsoring/promoting this award.
6. Members suggested that initially only one LDC may be awarded for the excellence award. Later, the excellence award may be broad-based, and sub-categories such as (a) Most Stakeholder Satisfaction (b) Best ICT infrastructure (c) Innovative LDC, etc. may be considered for the award.

7. On the frequency of conferring the award to LDCs, members agreed that the award should be given biennially in the NPSC. Moreover, it is suggested that the ICPS organizing committee may be approached for exploring the possibility to confer this award in the ICPS as well. This will create an opportunity to confer the “LDC Excellence Award” every alternate year by the NPSC and ICPS.

Pending feedback from the MOP/ICPS, the award may be conferred in the NPSC on regular basis. Further, it is suggested that the NPSC organising secretariat may provide all kinds of support for this award.

8. It was agreed that this meeting would be the concluding meeting and a revised version of the draft would be approved by circulation and a report would be submitted to the organizing committee.
9. Members thanked Prof. Naran M. Pindoriya for the suggestions on the draft report and thanked Sh. Shailendra Verma and Sh. Sharat Chandra from Forum of Load Despatcher (FOLD) Secretariat for the support rendered.