
 <p>MAHATRANSCO Maharashtra State Electricity Transmission Co. Ltd.</p>	<p>MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD. (CIN U40109MH2005SGC153646) Information Technology Department</p> <p>Office of the Chief General Manager (IT) 'Prakashganga', C-19, E - Block, Bandra-Kurla Complex, Bandra-East, Mumbai – 400051</p> <p>Email: cgmit@mahatransco.in Tel. No: 022-26595137</p>	
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MSETCL/CO/CGM/IT/209

Date: 06-09-2023

Enquiry

Subject: Inviting quotations for work of “Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools.”

Sealed & super scribed quotations are invited from the reputed experienced/registered contractor for the work as described in Schedule ‘A’ enclosed herewith

Terms & Conditions:

1. The prescribed form i.e. Schedule ‘A’ duly filled & signed in with the rates written in words & figures should be sent by registered post or submitted in person to Office of the Chief General Manager (IT), IT Section, Prakashganga, Ground floor. Plot C -19. E - Block, BKC, Bandra (E), Mumbai: -400051 on or before **14.09.2023** upto **17:00** Hrs.

Contact Person: System Analyst (IT), CO Mumbai
Office No.: 022-69595080; Mob. +917770032007; email:sait6000@mahatransco.in

2. Please super scribe the offer with following details :
Quotation for work of: “Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools.”

Name of Bidder: _____

3. Scope of Work:

Project Overview:

- a. Develop dashboards and reports using SAP BW and BOBJ tools.
- b. The solution should enable real-time data visualization and analysis.
- c. Seamless integration with MSETCL’s existing SAP landscape.

Functional Requirements:

- a. Design and develop a variety of interactive dashboards & reports.
- b. Enable drill-down and filtering capabilities for detailed analysis.
- c. Implement data validation and exception handling mechanisms.
- d. Create user-friendly interfaces and intuitive navigation.

Technical Requirements:

- a. Transfer data from ERP system to SAP BW and utilize it as the data source and leverage BOBJ for development of mobile friendly dashboard & reporting.
- b. Implement best practices for performance optimization and data governance.
- c. Ensure compatibility with different devices and screen sizes.
- d. Integrate with other systems and data sources as needed.

Deliverables:

- a. Detailed technical design documentation.
- b. Developed reports and dashboards.
- c. User manuals and documentation for maintenance and future enhancements.
- d. Post Go-Live support for any issues & minor modifications.

Detailed scope of work is enclosed herewith as in Annexure C. Key points of the same are as follows:

- i. Development & Implementation of Dashboards/ Reports as per KPI mentioned in Scope of Work document.
 - ii. Support for 1 year after Go-Live which covers issues fixing & minor modifications
4. **Estimated Cost:** Estimated cost for the services mentioned in the schedule ‘A’ is ₹ 9,14,500/- [In words- ₹ Nine Lakh Fourteen Thousand Five Hundred only (inclusive of all taxes)]
 5. **Documents required:** PAN registration certificate, Valid GST registration Certificate & Proof of firm being registered as shop establishment/firm/ Company as applicable, similar work execution experience certificates, Undertaking as per annexure A & annexure B on company letterhead.
 6. The works should be done strictly as per specifications mentioned in Schedule ‘A’ & Annexure ‘C’.
 7. The quotations will be evaluated on the basis of lowest rates provided for the work of Development of dashboards/reports as per MSETCL requirement.
 8. **Delivery Period:** The Development of dashboards and reports services should be completed within two months after the work order placed.
 9. Service delivery address: The said services should be provided at Office of the Chief General Manager (IT), IT Section, Prakashganga, Ground Poor, Plot C -19, E - block, BKC, Bandra (E), Mumbai: -400051 and other MSETCL office as per requirement.
 10. **Contract Period:** The Contract shall be for period of 1 (one) year from the date of acceptance of Work order. The decision to continue/discontinue rests solely with the competent authority of MSETCL. The agreed price would be applicable; however, if the prices are reduced on any account benefit of the same should be passed on to MSETCL.
 11. **Submission of Invoice:** The invoice in triplicate for the work completed should be submitted to the Nodal Officer/authorized representative from IT dept., who will certify the bills and provide the Certificate of Satisfactory Work completion for payment.
 12. **Payment Term:** 100% payments for dashboards/reports development will be made against invoice submitted within 45 days after successful deployment, testing & Go-Live of dashboards. However, release of payment may depend on availability of funds.
Support service charges payment will be done quarterly basis after completion of each quarter against invoice submitted & successful work completion report submitted.

13. **Penalty for late delivery:** If the development or supports services are not supplied within stipulated time limit and as per agreed terms, penalty at the rate 1/2% (Half Percent) per week delay will be recovered from your bill subject to 10% maximum of work order value.
14. **Acceptance of Quotation:** The Company does not bind to accept the lowest or any quotations neither will any reasons be assigned for rejection of any enquiry. It is also not binding on the company to disclose any analysis report of enquiry.
15. **Security Deposit:** The contractor should pay security deposit at the rate of 10% of the value within 7 days from the date of receipt of LO I which will be refunded after completion of guarantee period otherwise same will be deducted from 1st invoice bill.
16. **Quantity:** The development of dashboard/reports services should be provided as per particulars in enclosed in Schedule 'A' only and as per the feature mentioned in the scope of work as per Annexure 'C'.
17. If any dispute arises, the decision of the undersigned is final and binding on you.
18. Partial development of any dashboard/report will not be accepted by the MSETCL. Payment will not be made for partially executed work.
19. Income Tax & any other applicable taxes will be deducted from your bills as per rules prevailing rules at the time.
20. No extra charges for Engineer visit etc. will be paid; it should be arranged by vendor agency only.
21. **Accident:** If any accident occurs to your labour skilled or unskilled, compensation if any, is to be paid by bidder only.
22. For any loss to the company’s property during execution of work, the bidder will be liable to pay the equivalent compensation as per the recommendation of concerned Engineer.
23. All the terms and conditions for the providing services, testing and acceptance, payment terms, penalty etc. shall be as those mentioned herein and in purchase order. no change in the terms & conditions will be acceptable.
24. The enquiry should be completed with all particulars. Wherever, it is mentioned the enquiry must be signed along with seal. Any document of the enquiry not bearing the signature of bidder is liable to be rejected.
25. Right to reject any or all quotations is the reserved by the undersigned.
26. This office may at its discretion abandon the Enquiry process any time before the issuance of Purchase Order.

27. Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
28. No increase, decrease, discount reduction or any other changes in the price will be acceptable after the opening of the quotation.
29. The rates quoted should be valid for 180 days from the date of opening of quotation.
30. The disputes / arbitration etc. if any, against this contract will be subject to the jurisdiction of the Mumbai Court.
31. GST need to be specified clearly on quotation.
32. A part from the above points, all the terms and conditions published by MSETCL in booklet “Tender & Contract of Works” are applicable here also.
33. All above details are also made available on company website i.e. www.mahatransco.in

Thanking You.

- Encl: 1) Schedule 'A'
2) Annexure 'A'
3) Annexure 'B'
4) Annexure 'C'

Sd/-

Chief General Manager (IT)
Corporate Office, MSETCL
Prakashganga, BKC, Mumbai.

Copy to:-

- 1] The Assistant General Manager (F&A), Corporate Office, MSETCL
- 2] Notice Board

Quotations for “Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools.”



**MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED (CIN
NO U40109MH2005SGC153646)**

SCHEDULE - ‘A’

Subject: Quotations for “Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools.”

Sr. No	Service Description	Quantity	Total Price	GST	Total Price with GST	HSN/SAC code
1	Implementation of Dashboards/ Reports as per KPI mentioned in Scope of Work	One time cost				
2	Support for 1 year after Go-Live	1 year				

* GST Number must be quoted on letter head and quotation in above format.

* All the valid relevant papers (Xerox Copy) should be enclosed with quotation i.e.

GST, Shop act, Pan Card, similar work execution experience certificates, undertaking as per Annexure A & Annexure B.

Sd/-
Chief General Manager (IT)
Corporate Office, MSETCL
Prakashganga, BKC, Mumbai.

ANNEXURE 'A'

UNDERTAKING OF CONFIDENTIALITY AND NON-DISCLOSURE

(On Company's Letterhead)

**To,
Chief General Manager (CGM-IT)
Corporate Office,
MSETCL, Prakashganga,
Plot No. C-19, E Block,
BKC, Bandra (East)
Mumbai 400 051**

This has reference to the request made to the department by <Recipient Organization through <Person Name> to undertake designated Project/Activity titled <Title>. In this context to ensure that the confidentiality of data is maintained at all the times, it is required that an “Undertaking of confidentiality and non- disclosure” is signed by <Recipient Organization> and <Authorised Person Name>.

Parties: “[<Recipient Institute>]” through <Recipient Official Name> (the Recipient Institute name and Name of the Recipient) and “[Department Nominated Officer]” (the Discloser, as may be nominated by the department from time to time)

1. The Discloser on the request of the Recipient intends to share access to data records (the Information) with the Recipient for the <Project Title> (The Project Title). The Discloser will ensure all data to which access is shared with the Recipient with adequate care is taken to ensure the privacy of identity, in case Recipient, who has sought access to data stumbles upon such identity implicitly, they should maintain it in confidence.

2. The Recipient undertakes not to use the Information for any purpose except the stated Purpose. The Source of information would be adequately acknowledged in the report/paper.

3. The Recipient undertakes to keep the Information secure and not to disclose or allow access in any way to any third party and shall maintain its confidentiality in accordance with the terms of this undertaking and as per the law applicable from time to time. The Recipient shall ensure that all data collected, maintained and analyzed by it, are at all times kept secure and fully and effectively protected against unauthorized access or discloser or transmission by accidental or intentional destruction, loss or damage. The Recipient shall adopt and implement appropriate technical and organization security measures to protect data from any kind of unauthorized access by any person including its own employees and would be liable in case of any breach of confidentiality.

4. The undertakings in clauses 2 and 3 above shall apply to all of the Information disclosed by the Discloser to the Recipient, regardless of the way or form in which it is disclosed or recorded but they would not apply to:

a) Any information which is or in future comes into the public domain (unless as a result of the breach of this Undertaking); or

b) Any information which is already in the public domain.

5. The Recipient shall, at any time on request from the Discloser, return all copies and records of the Information to the Discloser and shall not retain any copies or records of the Information. Any data kept in the computer systems in any format by all the user shall be erased and a confirmation sent to the Discloser, on or before the date as intimated by the discloser.

6. Neither this Agreement nor the supply of any information grants the Recipient any license, interest or right in respect of any intellectual property rights of the Discloser except the right to access and use the Information solely for the stated purpose.

7. In case, the Recipient is an organization, it shall obtain the similar undertaking (for their records) with all the authorized users of the data. The Recipient shall disclose the details of all the users of data of the Recipient organization to the discloser. Any misuse/unauthorized use of information by any of the users of data shall render the Recipient liable under law.

8. The undertakings in clauses 2 and 3 will continue in force indefinitely till such time the confirmation is given under clause 5. The Recipient assumes all legal liability arising out of any precipitative action taken by such Recipient based on the data provided by the Discloser.

9. The Recipient agrees to allow and co-operate with the department officials during inspection undertaken to ensure appropriate usage of data or derivative thereof and the Recipient shall abide all the directions/instructions given by the Discloser as regards the usage of the data.

10. The Recipient agrees that in case it fails to maintain confidentiality of data or fails to abide by any clause of this undertaking or is found indulging in any kind of irregularity with regard to data usage or provides false/misleading information, the Recipient shall be solely responsible and liable for all actions as per law prevalent at the relevant point of time (Including the law which may came into force after signing this undertaking). Further, the Recipient shall be liable to make good of any loss/damage caused to the Discloser for any unauthorized use/misuse of the information by the Recipient and shall keep the Discloser (and SEBI) indemnified for the same.

Yours faithfully,

Seal & Signature of the Bidder

Date:

Place:

ANNEXURE 'B'

UNDERTAKING

(On Company's Letterhead)

**To,
Chief General Manager (CGM-IT)
Corporate Office,
MSETCL, Prakashganga,
Plot No. C-19, E Block,
BKC, Bandra (East)
Mumbai 400 051**

Dear Sir,

I/We agree for “Providing the services for work of **“Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools”** at IT Section, Prakashganga, Plot No. C-19, E Block, BKC, Bandra East , Mumbai 400 051 at the rates herein tendered by me / us subject to the conditions of the enquiry/tender and supply above which I/We have carefully read and which I/We have thoroughly understood and to which I/We hereby agree.

I/We hereby agree to keep this offer open for 60 days from the due date of the enquiry/tender and shall be bound by communication of acceptance dispatched within the prescribed time.

I/We hereby declare that I/we have not been blacklisted by the registering authority or any department of the Central /State Government, Semi-Government, public undertakings, corporate etc.

The information given by me is true and in future if it is found that the information given by me is false then MSETCL is free to take legal action including termination of the contract, against me.

Yours faithfully,

Seal & Signature of the Bidder

Date:

Place:

ANNEXURE 'C'

Scope of Work & Requirement Document

1. Objective

The objective of this project is to develop a set of management dashboards that will provide executives with a real-time view of key business metrics.

These dashboards are to be prepared using existing SAP BI/BO systems with MSETCL and should be mobile friendly.

2. Project Scope

2.1. Functional Scope

2.1.1. Finance Module Dashboards

Below is the list of dashboards in Finance module with sample data

1. Monthly Revenue Statement

1 Monthly Revenue Statement				
Input criteria	For the month of FEB 23			
selection criteria	Ztable data	(April 2022 to Feb 2023)	Previous year April to Feb)	B/A *100%
Particulars*	Budget** (A) [2022-23] (RE)	Actuals upto FEB.2023 (B)	Actuals for 2021-22 for 11 months (As per MIS)	% of Actual to Budget
Revenue From Operations	5,287	4,870	4,379	92%
Other Income	245	247	178	101%
Total Income	5,532	5,118	4,558	93%
R&M Exps	809	1	286	52%
Employee Exp.	1,415	1,218	1,027	86%
Interest & Finance Exp.	377	318	355	84%
Depreciation	1,292	1,116	1,113	86%
Other Exp.	429	391	321	91%
Provision For Tax	376	502	515	133%
Total Expenditure	4,698	3,968	3,616	84%
Surplus/(-Deficit)	834	1,150	942	138%
* GL sheet attached separately				
** currently, no Data for the Revenue budget is available in SAP, but we can map it by creating Z table for Budget data.				

2. Monthly Repairs & Maintenance Expenditure Analysis

2 Monthly Repairs & Maintenance Expenditure Analysis									
Input criteria		for the month of Feb 2023							
Zone*	Actual expenses for the month of Feb 2023					Actual R&M Exp. (Upto Feb-2023) (a+b+c+d)	Proportionate Budgeted R&M upto Feb-2023	Yearly Budget	
	Plant & Machinery Expenses (a)	Lines & Cables Expenses (b)	Civil & Bldg. Expenses (c)	Misc. Expenses (d)	Budget 22-23 (BE)**			FY:	
Amravati	17.48	4.94	9.73	0.92	33.07	37.66			41.08
Aurangabad	28.27	9.11	8.11	0.78	46.27	71.55			78.05
Karad	21.15	2.53	6.88	0.52	31.08	54.97			59.97
Nagpur	52.34	6.21	7.66	0.83	67.03	148.69			162.21
Nashik	34.49	8.45	20.73	0.99	64.66	77.78			84.85
Pune	32.39	12.02	14.82	0.27	59.50	73.94			80.66
Vashi	75.62	26.17	14.90	1.30	117.98	180.10			196.47
SLDC	1.48	-	-	0.23	1.71	2.13			2.32
HO	0.38	-	-	0.99	1.37	1.27			1.38
Total	263.60	69.42	82.84	6.81	422.67	648.07			706.99

* Above report is developed in SAP using Query report functionality. T-code YRM03 and YRM04 - logic in query report can be combined here.
Tables used in YRM03 and YRM04
 BSIS,AFIH,BSEG,AUFK,AFIH,T353I,T_LOA

** currently, no Data for the Repairs & Maintenance budget is available in SAP, but we can map it by creating Z table for Budget data.

3. Long-term Borrowing & Repayment & Outstanding monthly report

3 Long term Borrowing & Repayment & Outstanding monthly report										
Financial Institutions/Banks	GL opening bal on date	for the month		from April to this month		from April to this m		GL closing bal on date	Rate of Interest (in %)	Tenure (in Yrs)
	Op.Bal.(Prov) 01.04.2022	For Feb-23	Upto Feb-23	For Feb-23	Upto Feb-23	For Feb-23	Upto Feb-23	28.02.2023		
REC	2462	47	339	-	1	283	2519	2519	10.00	13
PFC	683	-	-	-	-	142	541	541	9.30	18
Bank of India	80	-	-	-	15	30	50	50	7.78	13
Bank of India -II	257	7	52	11	11	11	298	298	7.45	13
Bank of India -III	101	5	85	10	10	10	176	176	7.75	13
Canara Bank	207	2	34	-	-	37	204	204	7.75	13
Bank of Maharashtra	825	-	-	-	21	162	663	663	7.80	5
ICICI Bank	320	-	-	-	-	108	212	212	9.50	5
JICA	34	-	-	-	-	34	0	0	0.75	15
KfW	51	-	21	-	-	5	67	67	1.27	12
Interest Free Loan from GOM	0	1	74	-	-	-	74	74	-	50
Total	5,020	62	605	58	822	4,804	4,804	4,804	9.15%	

* Separate GL are available for each above FI/Bank in SAP. On the basis of debit and credit posting keys we can define receipts and payment. Here we have to exclude reverse entries and its original entry using logic for reversal key.
Table used for data extraction
 BKPF, BSEG, SKA1

** Rate of interest and Tenure is not available in sap. We can use existing tab in GL master or create new customize tab for rate of interest and tenure and can use it here.

4. Capex Expenditure & Capitalization as on month end

4 Capex Expenditure & Capitalization as on month end													
Zone	balance as on 31.03.2022		table BPIA	for the month of Feb 23		From April to Feb 23		Ztable		for the month of Feb 23		From April to Feb 23	
	Total Op.WIP (incl.st.) as on 01.04.2022	(incl.st.)	Budgeted Estimate (FY 2022-23)*	Actual Capex **		% Achievement to Annual Budget	Budgeted Targeted Capitalization*** (2022-23)	Actual Capitalization ****		% Achievement to Annual Target	Total CWIP (incl.st.) as on 28.02.2023		
Amravati	240	131	131	4	135	103	342	2	38	11	337		
Aurangabad	378	304	304	22	154	51	493	18	85	17	446		
Karad	95	93	93	-3	46	50	115	9	15	13	127		
Nagpur	570	243	243	11	134	55	480	72	134	28	570		
Nashik	760	309	309	9	192	62	729	6	134	18	818		
Pune	383	245	245	32	123	50	229	17	81	36	424		
Vashi	568	511	511	22	401	79	771	53	68	9	901		
SLDC	2	44	44	2	5	11	0	0	1	0	6		
HO	37	106	106	0	10	10	0	0	7	0	40		
Total excluding ORC	3034	1986	1986	99	1200	60	3159	177	563	18	3670		
ORC Schemes	425			14	170		0	0	-4		598		
Total including ORC	3458	1986	1986	113	1370	60	3159	177	560	18	4269		

* In SAP, currently, Scheme and WBS wise Budget is maintained for Capex budget. The functionality of yearly maintenance of Budget is available in SAP, but not used in MSETCL. If it is maintained we can extract yearly budget from SAP.
Table used for data extraction
 PRPS, COVP, PROJ,BPEG, BPIA,ANEK, ANEP,ANLC,ANKA,ANLB,ANLZ
GLs NUMBER RANGE used for Capex and capitalization with WBS elements
 400000 to 499999, 230000 TO 239999, 200000 TO 209999

** for actual Capex, query reports are developed in SAP

*** Budgeted Targeted Capitalization is out of SAP.

**** For Actual Capitalization, Z program is developed with ABAPer.

2.1.2. Project System Module Dashboard

(1) System should show Zone-wise ‘pending statutory clearances’ for Ongoing (Open) Schemes.

- (a) PTCC Issue (AUFK-ZZSATPTC)
- (b) ROW Issue (AUFK-ZZSATROW)

- (c) Forest Issue (AUFK-ZZSATFOR)
- (d) Railways Issue (AUFK-ZZSATRAIL)
- (e) Highway Issue (AUFK-HIGHWAY)

Following columns should get displayed :-

- (i) Project Description (PROJ-POST1)
- (ii) Sanction No. (PROJ-ZZMBRNO)
- (iii) Sanction Date (PROJ-ZZMBRDT)
- (iv) Network Description (AUFK-KTEXT)

“PRINT” option should be there for printing the data.

(2) System should show ‘Work Orders not completed within previous three years’ for Open Schemes.

Logic :- Zero Date (AUFK-ZZZERO_DATE) < 3 years from System Date,

AND

also Zero date should (AUFK-ZZZERO_DATE) not be Blank,

AND

% Progress (CALCULATION FIELD) < 100.

Following columns should get displayed :-

- (i) Project Description (PROJ-POST1)
- (ii) Sanction No. (PROJ-ZZMBRNO)
- (iii) Sanction Date (PROJ-ZZMBRDT)
- (iv) Network Description (AUFK-KTEXT)
- (v) Zero Date (AUFK-ZZZERO_DATE)
- (vi) Vendor (AUFK- ZZVENDOR)
- (vii) Total % Progress (CALCULATION FIELD)

“PRINT” option should be there for printing the data.

(3) System should show “Scheme For” (AUFK-ZZSCHEME_FOR) wise Work Order details’ for Open Schemes.

- (a) Railways
- (b) DFCCIL
- (c) Mumbai Airport
- (d) NHRCL

(e) DISCOM

(f) MMRDA, etc. All should be covered.

Following columns should get displayed :-

- (i) Project Description (PROJ-POST1)
- (ii) Sanction No. (PROJ-ZZMBRNO)
- (iii) Sanction Date (PROJ-ZZMBRDT)
- (iv) Network Description (AUFK-KTEXT)
- (v) Scheme Type (AUFK-ZZSCHEME_TYPE)
- (vi) Total % Progress (CALCULATION FIELD)

“PRINT” option should be there for printing the data.

(4) System should show “Budget” wise Open Projects’ for two budget categories :-

(a) Budget (BPGE-WTGES, CALCULATION FIELD) \geq 100 Crs.

(b) Budget (BPGE-WTGES, CALCULATION FIELD) \geq 10 Crs. and Budget $<$ 100 Crs. When User clicks on any details, system should show following details :-

- (i) Zone (PROJ-ZZONE)
- (ii) Project Description (PROJ-POST1)
- (iii) Sanction No. (PROJ-ZZMBRNO)
- (iv) Sanction Date (PROJ-ZZMBRDT)
- (v) Budget (BPGE-WTGES, CALCULATION FIELD)
- (vi) Expenditure (CALCULATION FIELD)

“PRINT” option should be there for printing the data.

(5) System should show ‘ Total % Progress for a selected scheme’ :-

Selection Criteria :-

- Project Description (PROJ-POST1)
- Sanction No. (PROJ-ZZMBRNO)

Following columns should get displayed :-

- (i) Zone (PROJ-ZZONE)

- (ii) Project Description (PROJ-POST1)
- (iii) Sanction No (PROJ-ZZMBRNO)
- (iv) Sanction Date (PROJ-ZZMBRDT)
- (v) Budget (BPGE-WTGES, CALCULATION FIELD)
- (vi) Total Expenditure (CALCULATION FIELD)
- (vii) Work wise Expenditure (PRPS-POST1 for PRPS_STUFE = 2) and its Expenditure
- (v) Network Description (AUFK-KTEXT)
- (vi) Zero Date (AUFK-ZZZERO_DATE)
- (vii) Completion Date (AUFK-ZZCOMP_DATE)
- (viii) Revised Completion Date (AUFK_ZZREVISED_DATE)
- (ix) Vendor (AUFK- ZZVENDOR)
- (x) Total % Progress (CALCULATION FIELD)

Further, on clicking any Network Description (AUFK-KTEXT), following details are to be displayed:-

- Activity No. (ZSPROGRESS1-VORNR)
- Activity Description (ZSPROGRESS1-LTXA1)
- Unit of Measure (ZSPROGRESS1-ARBEH)
- Total Work (ZSPROGRESS1-ARBEI)
- Actual Work (ZSPROGRESS1-ISMNW)

“PRINT” option should be there for printing the data.

(6) System should show ‘Total Closed / Open schemes’ :-

Following columns should get displayed :-

- (i) Zone (PROJ-ZZONE)
- (ii) Project Description (PROJ-POST1)
- (iii) Sanction No. (PROJ-ZZMBRNO)
- (iv) Sanction Date (PROJ-ZZMBRDT)
- (v) Department (PROJ-VERNA)

(vi) Status (CALCULATION FIELD)

“PRINT” option should be there for printing the data.

(7) System should show ‘Department-wise OPEN schemes’ :-

Following columns should get displayed :-

- (i) Zone (PROJ-ZZONE)
- (ii) Project Description (PROJ-POST1)
- (iii) Sanction No. (PROJ-ZZMBRNO)
- (iv) Sanction Date (PROJ-ZZMBRDT)
- (v) Department (PROJ-VERNA)
- (vi) Status (CALCULATION FIELD)

“PRINT” option should be there for printing the data.

2.1.3. Plant Maintenance (PM) Module Dashboard

1. The Transmission System Availability Report and Dashboard Related Requirement:

1. The Transmission System Availability Report is generated using the custom t-code ZPMAVLB3 in SAP system
2. The Report is generated separately for all the System Elements i. e. lines, Transformers and Reactors and outcome of which is used to calculate HVAC availability. HVDC Availability Report is also separately generated from the same t-code.
3. The report is generated using combination of the EHV interruptions data captured in standard SAP functionality of “Notifications” and master data of these system elements created as Equipment and Functional Location
4. Presently the report does all the calculations on the fly and its output does not get stored anywhere in tables within the system
5. The report has capability to generate for any date range (within a year) but generally monitored on a monthly frequency. The typical reporting requirements are monthly, quarterly, cumulative ‘n’ months from start month within FY, and yearly which should be visualized on the dashboard.
6. The raw data of notifications and master data is available for last ten years i. e. since 01.04.2012 in the system and to be included in the dashboard.
7. Dashboard is required for display of System Availability for each system elements i. e. lines, transformers, reactors and HVDC poles for MSETCL level which can be drilled down to Zone, Circle, Division, Sub-Division (Line Partner)/ Substation, Equipment/ Line level.
8. Dashboard should contain graphical visualization of break-up important parameters from the Availability Report as follows for each of the Organization Level from Corporate Office up to element level :
 - Count of System Elements
 - No. of Events/ Notifications
 - Transmission System Availability
 - Coding Code
 - Interruption Type

- Root Cause Analysis (Object-Damage-Cause codes)
 - Number and duration of outages
 - Calculated System Availability value
 - No. of tripping and duration
 - Average Restoration Time after tripping
 - Frequently tripping Elements
 - Average Tripping per Element
9. Dashboard should also show calculated value of HVAC availability which is based on combined availability of lines, transformers and reactors (excluding HVDC poles) for each of the MSETCL hierarchy level from Corporate Office up to Substation/ Sub-Division (Partner) level.
 10. Dashboard should also show month-on-month and year-on-year trend of all parameters as per Sr. No. 7, 8 and 9 above.
 11. The dashboard should also include top ‘n’ number of elements with different criteria such as highest/ lowest availability, highest/ lowest tripping, highest/ lowest outage duration etc.

Sample data of Transformer Availability Report for one year is attached to facilitate better understanding of the above terms and values in the report.

2.2. Technical Scope

Technical scope involves extracting/loading data from SAP-ECC system into SAP-BW system using data models as per requirement of dashboard parameters required. Thereafter, create metadata in SAP-BOBJ that will be required to connect to SAP-BW & develop mobile friendly dashboards using BOBJ reporting tools. In essence, all required tasks required at SAP-ECC, SAP-BW & SAP-BOBJ systems in respect of Dashboard development needs to be taken care by vendor.

A broad level steps required but not limited to following are summarized below:

1. **Data collection and preparation:** The data will need to be cleaned and prepared so that it can be used in the dashboards.
2. **Design the dashboards:** This includes creating wireframes and mockups of the dashboards, and defining the data that will be displayed on each dashboard.
3. **Develop the data models:** This includes creating the data structures that will be used to store the data in BW.
4. **Load the data into BW:** This can be done using a variety of methods, such as direct extraction from ECC, or using an ETL tool.
5. **Create the BOBJ universes:** This includes creating the metadata that will be used to connect to the data in BW.
6. **Develop the BOBJ reports and dashboards:** This includes creating the reports and dashboards using the BOBJ reporting tools.
7. **Deploy the dashboards:** This includes making the dashboards available to users.
8. **Test the dashboards:** This includes testing the dashboards to ensure that they are working correctly.
9. **Provide training to users:** This includes providing users with training on how to use the dashboards.
10. **Post development support:** This includes post-delivery support for 1 year including any error Corrections and any minor modifications required in dashboards.

Above steps are indicative and scope will include all steps required for end-to-end delivery of management dashboards.

2.3. Testing scope

- **Functional Unit Testing-** It will be performed by vendor’s Functional /technical consultant to ensure that the object developed, or configuration done is working ass per client expectation. It is very high level of testing and limited to specific module or object.
- **System Integration Testing-** System integration testing will be an integration with various module to ensure all end-to-end process is working as per design. It includes, cross module integration, interface and other legacy system if in scope. SIT will be performed by Vendor’s Testing team and will be verified by MSETCL.
- **User Acceptance Testing-** User acceptance testing will be performed by MSETCL functional team and supported by Vendor.

2.4. Training

Vendor has to impart formal training to MSETCL team to access and operate dashboards.

2.5 Additional Details

1. PS Dashboard development procedure

Sr. No.	Logic No.	Steps to be followed
1	6	Remove all the Project Definitions with System Status 'DLFL' (I0076 language EN) as these are not to be counted.
		Count all the Project Definitions with System Status 'CLSD' (I0046 language EN) as Closed Schemes.
		Count all the Project Definitions with System Status other than 'CLSD' as Open Schemes.
		On clicking each critrria (Close/ Open) respective columns should get displayed from which Excel Export/ Print can be taken.
		Suitable type of chart is to be found by the agency.
2	7	From the Open Schemes found in above criteria, department code wise seggregation of schemes is to be done as follows:-
		For all the Schemes with Department No. 1 are to be displayed for 'Transmission Projects', Department No. 2 are to be displayed as 'O&M Capital Projects' and remaining all are to be displayed as 'Other projects'.
		On clicking each critrria (Transmission Projects/ O&M Capital Projects and Other Projects) respective columns should get displayed from which Excel Export/ Print can be taken.
		Suitable type of chart is to be found by the agency.
3	4	From the Open Schemes found in above criteria, Budget wise seggregation of schemes is to be done as follows:-
		All the Open Schemes will get divided into 2 criteria as per Budget assigned to Root WBS Elements.
		All the values are derived using calculation formulae for each Project.

		On clicking each critrria respective columns should get displayed from which Excel Export/ Print can be taken.
		Suitable type of chart is to be found by the agency.
4	1	From the Open Schemes found in criterion 1, find all the Network Numbers attached to WBS Elements in Project Definition.
		Skip off all the Networks with Network Type Blank.
		Categorize all the remaining networks as per pending statutory clearances from AUFK table. Those are to be displayed Zone wise using suitable chart with counts.
		Here, zone should not be selected from PROJ Table.For deciding zone, following logic is to be used:-
		Network Plant Starting with 1 - Amravati Zone
		Network Plant Starting with 2 - Aurangabad Zone
		Network Plant Starting with 3 - Karad Zone
		Network Plant Starting with 4 - Nagpur Zone
		Network Plant Starting with 5 - Nasik Zone
		Network Plant Starting with 6 - Pune Zone
		Network Plant Starting with 7 - Vashi Zone
		Network Plant Starting with 8 - SLDC Zone
		Network Plant Starting with 9 - CO Zone
		For this particular criterion, SLDC and CO Zones will not appear.
		On clicking each critrria respective columns should get displayed from which Excel Export/ Print can be taken.
		Suitable type of chart is to be found by the agency.
5	2	From the Open Schemes found in criterion 1, find all the Network Numbers attached to WBS Elements in Project Definition.
		Skip off all the Networks with Network Type Blank.
		Categorize all the remaining networks as per logic given. Those are to be displayed Zone wise using suitable chart with counts.
		Here, zone should not be selected from PROJ Table.For deciding zone, following logic is to be used:-
		Network Plant Starting with 1 - Amravati Zone
		Network Plant Starting with 2 - Aurangabad Zone
		Network Plant Starting with 3 - Karad Zone
		Network Plant Starting with 4 - Nagpur Zone
		Network Plant Starting with 5 - Nasik Zone
		Network Plant Starting with 6 - Pune Zone
		Network Plant Starting with 7 - Vashi Zone
		Network Plant Starting with 8 - SLDC Zone
		Network Plant Starting with 9 - CO Zone
		On clicking each critrria respective columns should get displayed from which Excel Export/ Print can be taken.
		Suitable type of chart is to be found by the agency.
6	3	From the Open Schemes found in criterion 1, find all the Network Numbers attached to WBS Elements in Project Definition.
		Skip off all the Networks with Network Type Blank.

		<p>Categorize all the remaining networks as per "Scheme For" criterion from AUFK Table. Those are to be displayed Zone wise using suitable chart with counts.</p> <p>Here, zone should not be selected from PROJ Table. For deciding zone, following logic is to be used:-</p> <p>Network Plant Starting with 1 - Amravati Zone</p> <p>Network Plant Starting with 2 - Aurangabad Zone</p> <p>Network Plant Starting with 3 - Karad Zone</p> <p>Network Plant Starting with 4 - Nagpur Zone</p> <p>Network Plant Starting with 5 - Nasik Zone</p> <p>Network Plant Starting with 6 - Pune Zone</p> <p>Network Plant Starting with 7 - Vashi Zone</p> <p>Network Plant Starting with 8 - SLDC Zone</p> <p>Network Plant Starting with 9 - CO Zone</p> <p>For this particular criterion, SLDC and CO Zones will not appear.</p> <p>On clicking each criteria respective columns should get displayed from which Excel Export/ Print can be taken.</p> <p>Suitable type of chart is to be found by the agency.</p>
7	5	<p>There should be two drill-down input fields as given in the document. End user can select either Project Definition, MBR No. or both at a time.</p> <p>All the Projects except those with deletion flag should appear in the list.</p> <p>After Selection, system should show all the details for that particular project in the form of list from which except Export/ Print can be taken.</p> <p>Here, all the networks with Network type 'BLANK' should be skipped off.</p> <p>Further, while showing WBS wise Expenditure, all the WBS Elements at level 2 and their expenditure should be shown.</p> <p>Further, on clicking any Network Description, System should show all the Activity details for that particular Network as given in the document in the form of list from which except Export/ Print can be taken.</p>

2. PS Module dashboard details of calculations & fields

Following data columns involve calculations.

Sr. No.	Column Name	Calculations
1	Total % progress	<p>For percentage progress from AFRU table retrieve sum of confirm activity for each Activity Number (i.e. SUM of AFRU-ISMNW)</p> <p>For each activity % progress = (sum (ISMNW)) / ZPSPROGRESS1 -ARBEI)* ZPSPROGRESS1 -PRZNT.</p> <p>And for Total % Progress = sum (all activity % progress).</p> <p>Progress is calculated at Network Level. Progress of Each Network is shown separately.</p>

		<p>Only those Network entries should be considered where Network Type Parameter (AUFK-ZZNETTYPE) is not BLANK. If Network Type is BLANK, those entries should not be counted and displayed.</p> <p>Joining Condition:-</p> <p>PROJ-PSPNR-----PRPS-PSPHI-----AUFK-PSPEL AFRU-AUFNR → AUFK-AUFNR AND AUFNR-STOKZ <> 'X' AND AUFNR-STZHL = ''</p>
2	Expenditure	<p>It is actual Cost in RPSCO table where column value type 4 and 11 and it is addition of fields from RPSCO-wlp01 to RPSCO-wlp016 based on network number.</p> <p>Input – PRPS_OBJNR Expenditure for all WBS Elements for a project Definition is calculated by addition.</p> <p>Joining Condition:- PROJ-PSPNR → PRPS-PSPHI PRPS-OBJNR → RPSCO-OBJNR</p>
3	Budget	<p>It is overall budget in BPGE table where value type 41 by referring column BPGE-wtges</p> <p>Input – PRPS_OBJNR for PRPS_STUFE = 1 (Only Root WBS Element should be considered for each project)</p> <p>Joining Condition:- PROJ-PSPN → PRPS-PSPHI and PRPS - OBJNR → BPGE-OBJNR.</p>
4	Status	<p>For status field refer STAT column of JEST table and for description refer tj02t table</p> <p>Joining Condition:- PROJ-OBJNR = JEST-OBJNR AND JEST-INACT = ''</p> <p>JEST-STAT = TJ02T-ISTAT AND TJ02T-SPRAS EQ 'E'</p>

1. Field details for various fields used are as given below:-

PTCC Issue - AUFK-ZZSATPTC

ROW Issue - AUFK-ZZSATROW

Forest Issue - AUFK-ZZSATFOR

Railways Issue - AUFK-ZZSATRAIL

Highway Issue - AUFK-HIGHWAY

Project Description – PROJ-POST1

Quotations for “Development of dashboards and reports using SAP BW (Business Warehouse) and BOBJ (Business Objects) tools.”

Sanction No. – PROJ-ZZMBRNO

Sanction Date – PROJ-ZZMBRDT

Network Description –AUFK-KTEXT

Zero Date - AUFK-ZZZERO_DATE

Vendor – AUFK- ZZVENDOR

Zone – PROJ-ZZONE

Scheme Type – AUFK-ZZSCHEME_TYPE

Scheme For - AUFK-ZZSCHEME_FOR

Budget – BPGE-WTGES

Completion Date – AUFK-ZZCOMP_DATE

Revised Completion Date – AUFK_ZZREVISED_DATE

Department – PROJ-VERNA

Department Code – PROJ-VERN R

Network Plant – AUFK-WERKS

Activity No. - ZPSPROGRESS1-VORNR

Activity Description - ZPSPROGRESS1-LTXA1

Unit of Measure - ZPSPROGRESS1-ARBEH

Total Work - ZPSPROGRESS1-ARBEI

Actual Work - ZPSPROGRESS1-ISMNW

WBS Element Text – PRPS-POST1

2. **Only those Network entries should be considered where Network Type Parameter (AUFK-ZZNETTYPE) is not BLANK. If Network Type is BLANK, those entries should not be counted and displayed.**
3. **Schemes with deletion flag should be skipped off count.**
4. Following data columns involve calculations for WBS Element wise expenditure:-

Sr. No.	Column Name	Calculations
1	WBS Element wise Expenditure	i. Expenditure values are to be displayed for those WBS Elements where PRPS_STUFE = 2 along with WBS Element Text PRPS-POST1.

		<p>ii. However, expenditure values are to be derived for WBS Elements where PRPS_STUFE = 2, 3, 4,...etc. associated with WBS Elements at level2. All these values are to be added so as to derive Expenditure value for the WBS Elements at level 2.</p> <p>iii. In order to derive Expenditure, following logic is to be used:- Get Object Number (OBJNR) for each WBS Element from PRPS table. Put following input parameters In COVP table, COVP-OBJNR = PRPS-OBJNR COVP-WRTTP = 7 AND 11 COVP-BEKNZ = 'C' AND 'D'</p> <p>iv. Sum of all values in column COVP-WTGBTR gives expenditure value for a WBS Element. During calculations, if COVP-BEKNZ = 'C' value should be multiplied by -1 and if COVP-BEKNZ = 'D' value should be multiplied by 1.</p> <p>Joining Condition:- PROJ-PSPNR PRPS-PSPHI PRPS-OBJNR COVP-OBJNR</p>
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5. Tables required:-

PROJ
PRPS
AUFK
RPSCO
COVP
TJ02T
JEST
BPGE
ZSPROGRESS1

Additional Table as per requirement in due course.

6. Table Joining conditions

PROJ-PSPNR → PRPS-PSPHI
PROJ-PSPNR → AUFK-PSPEL
AUFK-AUFNR → ZSPROGRESS1-AUFNR

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