



Terms of Reference for Software Development, Operations and Maintenance

Reference number: PSeGS/Soft_Dev/2020/2

Punjab State e-Governance Society,
O/o Department of Governance Reforms and Public Grievances,
Government of Punjab
Plot D-241, Industrial Area, Phase – 8B,
Sector – 74, Mohali – 160071

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1. Document control sheet

S.N.	Particular	Details
1	Document reference number	PSeGS/Soft_Dev/2020/2
2	Last date and time for submission of queries through email	22-Dec-2020 17:00 Hrs
3	Date and time for pre-bid meeting	23-Dec-2020 11:00 Hrs
4	Last date and time for submission of bids	04-01-2021 17:00 Hrs
5	Date of opening of financial bids	05-01-2021 11:00 Hrs
6	Address for communication	Punjab State e-Governance Society, O/o Department of Governance Reforms and Public Grievances, Plot D-241, Industrial Area, Phase – 8B, Sector – 74, Mohali – 160062
7	Contact details	Mr. Palam Garg Mobile: +91 7259825006 Email: palam.garg@punjab.gov.in
8	Website for ToR reference	https://eproc.punjab.gov.in/ https://dgrpg.punjab.gov.in/

2. Definitions

2.1.1 Unless the context otherwise requires, the following terms whenever used in this Terms of Reference (ToR) have the following meanings:

2.1.1.1 “DGRPG” means Department of Governance Reforms and Public Grievances, Punjab.

2.1.1.2 “PSeGS” refers to Punjab State e-Governance Society, O/o Department of Governance Reforms and Public Grievances, Government of Punjab. Work order shall be released by PSeGS.

2.1.1.3 “Client” refers to DGRPG / PSeGS.

2.1.1.4 “Empanelled Service Provider” means the service providers empanelled by PSeGS for software Development.

2.1.1.5 “Bidder” means Empanelled Service Provider who submits bid in response to this ToR.

2.1.1.6 “Bid” means proposal submitted by Empanelled Service Providers in response to this ToR.

2.1.1.7 “Committee” means the committee constituted for evaluation of bids.

2.1.1.8 “Vendor” means the Empanelled Service Provider who is selected through competitive tendering process for Software Development

2.1.1.9 “PBG” means “Performance Bank Guarantee”.

2.1.1.10 "Contract" refers to contract signed by "Empanelled Service Providers" with PSeGS for development/ maintenance of websites.

2.1.1.11 “ESP” refers to “Empanelled Service Providers” Empanelled by PSeGS for software Development.

2.1.1.12 “RA” Reverse Auction

3. Scope of Work

3.1 Introduction

3.1.1 The Client is implementing various e-Governance projects which are in varied stages of development / maintenance. The Client requires technical manpower for software development and maintenance related to these projects. Through this ToR, the Client invites bids from Empanelled Service Providers for providing services of technical manpower for Software development and maintenance (Tender Reference number: PSeGS/Soft_Dev/2020/1) at man month rates discovered through this ToR.

3.1.2 Primary technology stack that is being used by PSeGS for various applications is: Java, Dot Net core,C#, JavaScript, JQuery Angular 10, react native,React Js, MS-SQL, PostgreSQL, MySQL, Oracle,, Redis, Kubernetes, Docker, ensorFlow, Spark ML lib, Pyspark, Keras or PyTorch and libraries (like scikit-learn), R , Python, OLAP cubes etc.

3.1.3 Vendor would be required to provide the services of technical staff who meet the qualification, experience and skill set as under.:

SN	Post	Qualification and Experience	Skills Required	Tentative Qty
1.	Senior Developer	B.E. / B. Tech. / MCA with minimum 5 years of experience in software development	.net, Angular, Spring boot with rest api , NODE JS, RDBM,AWS/Azure, SVN/Git etc	2
2.	Developer	B.E. / B. Tech. / MCA with minimum 2 years of experience in software development	.net, Angular, Spring boot with rest api , NODE JS, RDBM,AWS/Azure, SVN/Git etc	7
3.	Dev Ops	B.E. / B. Tech. / MCA with minimum 3 years of experience in Dev Ops	<ol style="list-style-type: none"> 1. Direct experience in Cloud platform technologies - Amazon or Microsoft Azure. 2. Deploy and maintain critical applications on cloud-native 	3

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SN	Post	Qualification and Experience	Skills Required	Tentative Qty
			<p>microservices architecture</p> <ol style="list-style-type: none"> 3. Implement automation, effective monitoring, and infrastructure-as-code 4. Deploy and maintain CI/CD pipelines across multiple environments 5. Experience maintaining and deploying highly-available, fault-tolerant systems at scale 6. A drive towards automating repetitive tasks (e.g. scripting via Bash, Python, Ruby, etc) 7. Practical experience with Docker containerization and clustering with Kubernetes 8. Version control system experience (e.g. Git) 9. Experience implementing CI/CD (e.g. Jenkins, Travis, Circle CI) 10. Experience with configuration management tools (e.g. Ansible, Chef, Puppet) 11. Experience with infrastructure-as-code (e.g. Terraform, CloudFormation) 12. Strong experience with Linux-based infrastructures, Linux/Unix administration, and AWS 13. Monitoring tools grafana and prometheus 14. Log monitoring ELK/EFK 	
4.	ETL-MDM	B.E. / B. Tech. / MCA with minimum 3 years of	MDM/ETL implementations,Data Integration,Data profiling,Data Quality & Data	1

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SN	Post	Qualification and Experience	Skills Required	Tentative Qty
		experience in Data warehouse ETL / ELT	Migration, Big Data and Cloud Data Integration concepts	
5.	AI-ML	B.E. / B. Tech. / MCA with minimum 3 years of experience in AI -ML	R or Python, Machine learning frameworks (like TensorFlow, Spark ML lib, Pyspark, Keras or PyTorch) and libraries (like scikit-learn), Regression, Bayesian methods, tree-based learners, SVM, RF, XGBOOST, time series modeling, dimensionality reduction, SEM, GLM, GLMM, clustering, Deep learning etc Random Forest, Neural Networks, and Support Vector Machines, Clustering (hierarchical non-hierarchical distribution density Clustering), Regression Modeling (Cross Sell/Up Sell), Marketing Mix Models, Consumer Segmentation, Market Basket Analysis, CBFM Based Next Best Logical Offer Engines, Promotional Offer Optimisation etc.	1
6.	BI	B.E. / B. Tech. / MCA with minimum 5 years of experience in Bi analytics with visualization	SQL queries, Dimensional Modelling (OLAP cubes), Data warehouse, Data mart, BI analytics, Experience with Visualization tools like Tableau, QlikSense or similar.	1

- 3.1.3.1 The above mentioned resources will be deployed in the office of Client exclusively on full time basis. Work will be allocated by the Client as per requirements. No other work shall be allocated by the vendor.
- 3.1.3.2 The Empanelled Service Providers may submit bid for supply of any or all posts.
- 3.1.3.3 The work done by the personnel shall be IPR of the Client. The Vendor shall ensure handover of complete source code, database backup / schema, creatives, designs or any other material related to the project at the time exit of any personnel.

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- 3.1.3.4 The Client will have prior discussion with the resources being posted for the job to find out their suitability and decide to accept his/her services. The Vendor will be required to deploy resources within 30 days from the date of intimation for deployment of a resource. However, the Client reserves the right to relax this timeline in case the notice period of the concerned resource is more than 30 days.
 - 3.1.3.5 The Client will have right to upscale or downscale any number of resources during work order period under same terms & conditions by serving one month's notice to the Vendor.
 - 3.1.3.6 Resources deployed by the Vendor will be subjected to the disciplines, office decorum, etiquette as applicable to any other staff of the Client.
 - 3.1.3.7 The Client may request for substitute of any resource if it is dissatisfied with the services of any of the resources deployed by the Vendor.
 - 3.1.3.8 The payments against providing services of technical manpower for Software development and maintenance shall be released on monthly basis as per man-month rates discovered after floating ToR after deduction of taxes and penalties. Other terms and conditions related to payment terms shall be ipso facto applicable as mentioned in the contract.
 - 3.1.3.9 The resources deployed should continue for at least 1 year after their deployment (except in case of death, medical incapacity and resignation).
 - 3.1.3.10 Resources will work for 5 days per week. In case of any urgency, they can be asked to extend working hours or may be called on public holidays or weekends, no overtime charges will be paid in any case. One day leave per resource per month will be allowed after approval from the Client. In case leave taken is more than one day per month, deductions will apply as per SLA.
 - 3.1.3.11 One month notice must be given before replacement of a resource.
 - 3.1.3.12 The Vendor would be required to submit minimum 2 CVs against each post at the time of initial deployment as well as future replacements / substitutions.
- 3.1.4 General conditions regarding SoW:
- 3.1.4.1 Vendor shall ensure to carry out the due-diligence background check of all the resources deployed during the course of the work order.
 - 3.1.4.2 All incidental costs like travel, licenses, subscriptions, and tools required to support design and development activity of the software, laptops to the

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developers deployed by the Vendor, etc. shall be responsibility of the Vendor at its own cost.

3.1.4.3 SLAs and penalties shall be applicable as mentioned in this document.

3.1.4.4 The Vendor shall ensure all statutory and regulatory compliance like ESI, EPF and Minimum Wages Act.

3.1.4.5 The Vendor will not have the right to use / reproduce the software in whatsoever manner during and after the end of duration of work order.

3.1.4.6 The terms and conditions regarding confidentiality shall be ipso facto applicable as per the contract.

3.2 Outsourcing / subletting

3.2.1 No part of the work order should be outsourced by the Vendor. The manpower deployed must be on the payroll of the Vendor.

3.3 SLA and Penalties

3.3.1 The mandatory SLAs and penalties are mentioned below. Penalties shall be recovered from pending / future payments and / or PBG.

S.N.	Activity	Penalty for delays beyond target level
1.	Submission of variable PBG within 2 weeks of release of work order	5% of variable PBG value per day
2.	Kick off meeting within one week of issue of work order	Rs. 500 per day
3.	Vendor shall deploy resources within 30 days from the date of intimation for deployment of the resource which has been selected by Client.	110% of the man day cost of the concerned resource per day in case relaxation is not provided by the Client
4.	The personnel deployed should be on the payroll of the Vendor	Rs. 20,000/- per instance and no payment for the concerned resource. Payment if already done shall be recovered from the Vendor. Forfeiture of EMD and PBG on repeated instances.
5.	The personnel deployed must have the requisite qualification and experience as prescribed in the ToR document	Rs. 10,000/- per instance and no payment for the concerned resource. Forfeiture of EMD and PBG on repeated instances.
6.	Replacement of resource within 1 year of their	Rs. 50,000 per instance

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S.N.	Activity	Penalty for delays beyond target level
	deployment (except in case of death, medical incapacity and resignation)	
7.	One month notice to be given before replacement / substitution of any resource	Rs. 50,000 per instance
8.	Signing of Non-Disclosure Agreement by each resource deployed by the Vendor	Rs. 10,000 per instance
9.	Submission of 2 CVs against each post at the time of replacement, substitution and initial deployment within 10 days of work order / intimation of replacement / substitution	Rs 1,000 per day of delay beyond 10 days
10.	Each resource will be allowed one leave per month	110% of the man day cost of the concerned resource per day
11.	Providing substitute resource of equivalent or higher qualification and experience if a resource is on leave more than 5 working days at a stretch	110% of the man day cost of the concerned resource per day. This penalty is in addition to penalty due to taking more than one leave per month.

3.4 Termination of work order for default

3.4.1 The Client can terminate the work order in the event of default of terms and conditions of the contact / ToR / work order by giving 2 months' written notice to the Vendor. In such case, the provisions under Exit Management clause shall apply.

3.5 Termination of work order for insolvency, dissolution etc.

3.5.1 The Client may at any time terminate the work order by giving written notice to the Vendor, if the Vendor becomes bankrupt or otherwise insolvent or in case of dissolution of firm/company or winding up of firm/company. In this event termination will be without compensation to the Vendor, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to Client. In such case, the provisions under Exit Management clause shall apply.

3.6 Termination for convenience

3.6.1 The Client reserves the right to terminate, by prior written 2 months' notice, the whole or part of the work order, at any time for its convenience. The notice of termination shall specify that termination is for Client's convenience, the extent to which performance of work under the work order is terminated, and the date upon which such termination becomes effective. In such case, the provisions under Exit Management clause shall apply.

3.7 Exit Management

3.7.1 On expiry or premature termination of the contract / work order, the Vendor shall handover the complete source code, database backup, login credentials, design documents, latest API documents and project technical documentation, etc to the Client, failing which appropriate action shall be taken against the Vendor including blacklisting.

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- 3.7.2 The complete knowledge regarding the software shall also be transferred in writing to the Client through appropriate documents as well as in the form training officials designated by the Client.

4. Commercial bid format

SN	Post	Qty (A)	Monthly unit cost excluding taxes in Rs.	Taxes in %	Monthly unit cost including taxes in Rs. (B)	Total Monthly cost including taxes in Rs. (A * B)	Total Annual cost including taxes in Rs.
1.	Senior Developer	2					
2.	Developer	7					
3.	Dev Ops	3					
4.	ETL/MDM	1					
5.	AI-ML	1					
6.	BI	1					

- 4.1.1 Empanelled Service Providers must submit the bid as per the commercial format on eproc.punjab.gov.in. This is a limited tender in which only the Empanelled Service Providers are allowed to participate.
- 4.1.2 Month will be taken as 30 days for any calculations.
- 4.1.3 Taxes will be paid as applicable from time to time.
- 4.1.4 The prices shall be raised by 6% annually.
- 4.1.5 Bid followed by Reverse Auction (RA) shall be conducted for each line item.
- 4.1.6 The bidder may quote prices of any number of line items.

5. Bid submission and evaluation

- 5.1.1 Bids not adhering to the commercial format shall be summarily rejected. Bids which are not received by due date and time shall be rejected.
- 5.1.2 After successful completion of RA, the bidder offering lowest “Total Annual cost in Rs. (including taxes)” for a line item would be termed as L1 (Least Cost) bidder or the successful bidder for that line item. Accordingly, L1 bidders would be declared for each line item.
- 5.1.3 Any conditional commercial bid will lead to disqualification of the bid.

- 5.1.4 Bidder quoting negative or zero total charges will be treated as non-responsive and shall be disqualified.

6. Issue of work order

6.1.1 Client will issue work order to the successful Empanelled Service Provider based on L1 criteria. The work order will be initially for a duration of two years, which may be extended from time to time. The work order shall be issued under the overall jurisdiction of the contract signed by PSeGS with the Vendor. All terms and conditions mentioned in the ToR and contract shall be ipso facto applicable while issuing the work order.

6.1.2 The terms and conditions regarding work orders shall be as under:

6.1.2.1 In case L1 “Empanelled Service Provider” denies or is unable to fulfill the requirement, the Client reserves the right to obtain the services from the next lowest “Empanelled Service Provider” at L1’s rates. In this case if required, the L2 “Empanelled Service Provider” may be allowed to rearrange the rates of the services / manpower or offer an appropriate discount (in percentage), provided the total monthly / annual expenditure is same as that of L1 “Empanelled Service Provider”.

6.1.2.2 Failure to provide services as per requirement by L1 “Empanelled Service Provider” shall be dealt as follows. In case of first instance of failure: EMD, Fixed PBG, Variable PBG (of all the work orders, if any) submitted by L1 “Empanelled Service Provider” shall be forfeited and the L1 “Empanelled Service Provider” would be required to resubmit all PBGs within 3 weeks of receiving written information regarding the forfeiture failing which, it shall be deemed as subsequent instance of failure. In the subsequent instances of failure, in addition to actions taken regarding the first instance of failure, the concerned “Empanelled Service Provider” shall not be allowed to participate in the future ToRs for the remaining period of empanellment. Further, the concerned “Empanelled Service Provider” will be ineligible for receiving any new work order from the date of notice of respective failure. Further, PSeGS reserves the right to terminate the contract signed with the concerned “Empanelled Service Provider”.

7. Variable Performance Security

7.1.1 The Vendor would be required to submit a Variable Performance Security @10% of the total work order value in the form of Bank Guarantee / Demand

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Draft / Electronic Fund Transfer. All terms and conditions regarding Variable Performance Security shall be ipso facto applicable as per the contract signed by the Vendor with PSeGS.

7.2 Format of Variable Performance Bank Guarantee

Member Secretary
Punjab State e-Governance Society,
O/o Department of Governance Reforms and Public Grievances,
Government of Punjab
Plot D-241, Industrial Area, Phase – 8B, Sector – 74,
Near Quark City, Mohali – 160071

Whereas, <<name of the Vendor and address>> (hereinafter called “the applicant”) has undertaken, in pursuance of RFP No: / workorder no. <<insert RFP / workorder no.>> dated. <<insert date>> to provide consulting services for <<name of the assignment>> to <<Client>> (hereinafter called “the beneficiary”)

And whereas it has been stipulated in the said workorder that the applicant shall furnish you with a irrevocable and unconditional bank guarantee by a recognized bank for the sum specified therein as security for compliance with its obligations in accordance with the workorder;

And whereas we, <<Name of the Bank>> a banking company incorporated and having its head /registered office at <<address of the registered office>> and having one of its office at <<address of the local office>> have agreed to give the Client such a bank guarantee.

Now, therefore, we hereby affirm that we are guarantors and responsible to you, on behalf of the Vendor, upto a total of Rs. <<Insert Value>> (Rupees <<insert value in words>> only) and we undertake to pay you, upon your first written demand declaring the Vendor to be in default under the workorder and without cavil or argument, any sum or sums within the limits of Rs. <<Insert Value>> (Rupees <<insert value in words>> only) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the applicant before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the workorder to be performed there under or of any of the workorder documents which may be made between you and the Vendor shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

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Notwithstanding anything contained herein:

1. Our liability under this bank guarantee shall not exceed Rs <<Insert Value>> (Rupees <<insert value in words>> only).
2. This bank guarantee shall be valid up to <<insert expiry date>>.
3. It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this bank guarantee that we receive a valid written claim or demand for payment under this bank guarantee on or before <<insert expiry date>> failing which our liability under the guarantee will automatically cease.