PROJECT COMPLETION REPORT

FIELD UNIT	Mumbai
OPA NAME	MDL
CLASSIFICATION	A
FIRM NAME	Pandu
PO NUMBER	27463845
PO DATE	Fri Apr 12 2024
MAIN EQUIPMENT	AC
ORDER VALUE	INR 0
ENGINEER	Amit
JCQAO	Sandeep
STATUS	Orange

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
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   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
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    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

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15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

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   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.

Quality Assurance Project Management Application

1. The Quality Assurance Organisation is headed by 'Additional Director General Quality Assurance (WP)' and has multiple 'Quality Assurance Field Units', located at various Geographical locations under it. The details of Quality Assurance Organisation, the roles and responsibilities of the field unit and the desired application, desired working principal/ features are given below in succeeding paragraphs.

2. The Quality Assurance Process for a project is undertaken by designated 'Quality Assurance Field Unit'. The Unit is headed by 'Chief Controller Quality Assurance Officer (CQAO)', assisted by 'Joint Chief Quality Assurance Officer (JCQAO)' and the field activities/ on ground inspections/ actual inspection are undertaken by 'Enginner'.

Quality Assurance Process

3. The Quality Assurance process for an Engineering project is carried out as per following sequence of activities viz a viz desired features in the application as appended below:-.

   a. The Quality Assurance Field unit receives 'Purchase Order', designated as 'PO' from 'Order Placing Authority', designated as 'OPA' or from Headquarters.
   b. The CQAO creates a project for the said PO, assigns JCQAO as 'Project Director' and assigns an 'Engineer' as 'Project Manager' and initiates QA activities as per QAD_R03 document, which provides guidelines for the QA activities.

   c. The nominated Engineer scrutinises the PO for following:-
   a. Details of the firm who received the PO,
   b. the scope of equipment in the PO and the OPA for the same
   c. Inspection Authority/ Agency specified in the PO
   d. 'Delivery Period' , designated as 'DP' specified in the PO
   e. Identify whether the PO is for new item or is a repeat order
   f. Any other special instructions with respect to Quality assurance Inspection/ trials required, etc aspects.

d. Once the PO is scrutinised, the Field Unit/ Engineer, issues 'First Contact Letter' ('FCL') and invites the firm for 'First Contact Meeting'('FCM'). During the meeting various aspects with respect to PO such as scope of inspection, plan of drawing approval/ QAp approval, intended manufacturing & inspection plan, details of sub contractors including their geographical locations etc aspects are discussed and Plan of Action is finalised in the form of Minutes of the Meeting (MoM), signed jointly by the firm and the reps of QA field Unit.

e. The firm submits the drawings to QA filed unit for comments prior submission to OPA for processing for approval, the firm undertakes necessary changes in the drawings based on received comments and submits the drawings for approval.

f. Post approval of drawings, the firm submits a draft Quality Assurance Plan (QAP) for the project to the QA field unit for vetting and processing it for approval by headquarters. The QAP is approved by headquarters and the QA process for the said project commences.

g. As part of inspection process, the the firm submits a request to the QA field unit for inspection in the form of Inspection Call (I Call) in a specified format. The format includes details of the items and proposed inspection activity as per approved QAP serial along with other details such as inspection date, time and location of the proposed inspection.

h. The field unit deputes the 'Engineer' to undertake the Inspection as per submitted Inspection Call and prepares a Joint Inspection Report (JIR) in duplicate (one each for firm and Engineer), duly covering all the relevant item details as per I Call, findings/ observations of the inspection, if any, and corrective action required if any, etc. The JIR is signed jointly by reps of firm and Engineer. The firm is expected to liquidate the observations of the inspection in consultation/ with intimation to the Engineer.

i. On completion of all inspections activities of all the items of the PO, the firm submits Draft QAP compliance matrix, which certifies that all inspection activities as per project QAP have been completed successfully alongwith the details of completed JIRs for each QAP serials and certifying that no observation is pending.

j. The Engineer verifies the claim, confirms that all relevant trials as per QAP have been completed, the trial results/ reports have been approved & accepted by the concerned approving authority and the item/ equipment is fit for dispatch/ delivery. The Engineer confirms that the inspection activities are completing with the project delivery period , if the delivery period is lapsed, the firm needs to get the DP extension from OPA.

k. On completion of all above inspection activities and availability of DP extension from OPA, the Field Unit issues 'Form IV'/ 'Inspection Completion Certificate' (ICC)' to the firm indicating that project is completed satisfactorily.

l. On issuance of Form IV, digitisation of entire process documentation is undertaken for records & archiving and the project file is closed.

4. You are a highly skilled technical architect, having experience in designing and developing complex solutions to handle complex business logic, considering the above process flow, build a full stack web based application with database for 'Quality Assurance Project Management Application' for undertaking multiple projects concurrently.

5. The application will be high optimised for speed, space requirement and will be light so as to operate efficiently.
6. The application will have a fail safe feature which will ensure no/ minimum data loss in case of sudden brake down or power failure and will have feature to take periodical backup (weekly basis) and ability to restore from the available backup file.
7. The application will generate and print on demand reports in specified formats as well as have dashboards for each level for visual appreciation and printing graphs/ reports .

8. The application will have five level hierarchy, namely
   a. 'Super Admin' level - having authority to amend the application features,
   b. 'Headquarter' level - designated as 'DDG',
   c. Admin level - designated as 'Chief Quality Assurance Officer (CQAO)',
   d. Project Director level - designated as 'Joint Chief Quality Assurance Officer (JCQAO)' level &
   e. Project Manager level - designated as 'Engineer'.

9. The ‘Super Admin’ and ‘Admin’ will have ability to add, remove or amend Admin, Project Director and Project Manager. Each level will have login credentials with ability to change or update their on screen names, designations and passwords. The super admin and Admin will have the ability to update the passwords of Project manager & Engineer in addition.

10. ‘DDG’ or ‘Admin’ will have the ability to create a new Project in the application for each PO. As part of initiation of new project, a separate folder corresponding to the project will be created in the database for storing all relevant uploaded documents / generated documents, files etc pertaining to the project.

11. ‘Admin’ will designate ‘Project Manager’ for the said project from the available pool of Engineers, and designate JCQAO for the said project from the available Project Directors/ JCQAOs/DCQAOs.

12. Each project will have following fields for information entry & storage in the database:-
    a. QA Field Unit
    b. Name of Order Placing Authority ‘OPA’
    c. Project Classification
    d. Firm’s Name (Editable)
    e. PO Number (editable)
    f. PO date
    g. PO Receipt Date
    h. PO Expiry Date
    i. Main Equipment/ System (editable)
    j. Line Items (editable)
    k. Description of Item (editable)
    l. Item Quantity (editable)
    m. Order Value (editable)
    n. FCL Date
    o. FCM Date and ability to upload document in .pdf or .docx or .odt format
    p. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format
    q. QAP Approval Date and ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats
    r. DP Extension Date (should editable with retention of previous dates)

s. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

t. Present Status (editable text box with with retention of previous data/ text)

u. Remarks (editable text box with with retention of previous data/ text)

v. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

13. Following fields will be filled by 'DDG' or 'Admin' while creating the project:-

a. QA Field Unit

b. Name of Order Placing Authority 'OPA'

c. Project Classification

d. Firm's Name (Editable)

e. PO Number (editable)

f. PO date

g. PO Receipt Date

h. PO Expiry Date

14. Once the project is created, the project will start figuring in the login page of the respective JCQAO and 'Project Manager/ Engineer'. The Engineer will have authority to fill up and update following information wrt project in the created project:-

a. Main Equipment/ System (editable)

b. Line Items (editable).

c. Description of Item (editable)

d. Item Quantity (editable)

e. Order Value (editable)

f. FCL Date

g. FCM Date and ability to upload document in .pdf or .docx or .odt format

h. Drawing Approval date (should be editable) and tab to upload multiple approved drawings in .pdf or .jpeg or .jpg or .dwg format

i. QAP Approval Date

j. QAP where ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats exits. Once uploaded to the application, the file will be modified by adding two cells in addition to the existing row (achieved by adding two columns and extending corresponding row) to each line item of the QAP. The first cell will have a check/ tick box, which will be ticked by the Engineer post completion of inspection of the relevant QAP serial. The other check box

will have an editable text box for inserting comments. The ticked check box will indicate completion of inspection activity for that QAP serial. The total number ticked boxes out of total QAP serials will be converted to arrive at % project progress and the same shall be represented graphically on the dashboard.

k. DP Extension Date (should editable with retention of previous dates)

l. Inspection Call date (editable) with tab to upload successive Inspection Calls in .pdf format and to upload the Joint Inspection Report (JIR) of the said inspection next to it in .pdf or .jpg or .jpeg format

m. Present Status (editable text box with with retention of previous data/ text)

n. Trial / FATs reports with ability to upload document in .xls or .xlsl .xlsx, or .xlsb or .xlsm or .pdf or .docx or .odt or .txt or .csv or .ods or .xps formats

o. (editable text box with with retention of previous data/ text)

p. Form IV issuance date and ability to upload document in .pdf or .docx or .odt format

15. If the PO expiry/ Delivery Period Date of any project is less than 60 days, the project will be termed as 'Orange' project, if the PO expiry date or DP is lapsed, the said project will be termed 'Red' project and the projects whose PO expiry date or DP available is more than 60 days, such projects will be called as 'Green' projects. Thus, based on the PO expiry date and/ OR DP Extension date of each project, the application will categories each project as 'RED', 'Orange' or 'Green' and will represent graphically on the dashboard of CQAO, JCQAO and Engineer.

16. The dashboards of CQAO and JCQAO will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dashboard will also show 'Engineer' wise projects under execution in a pie chart format to review the work load.

c. The dash board will also show all projects which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

17. The dashboards of 'Engineer' will graphically represent following graphs and will have ability to export the graphs in .pdf or .jpg or .jpeg or .bmp format:-

a. Graphical representation of Total active POs under him, duly segregated in RED Orange and Green projects in the form of Pie chart.

b. The dash board will show all projects under him which have less than 5 % progress, having less than 20 % progress, more than 60 % progress and more than 80% progress in the form of Pie chart.

18. The application will have ability to export the project status data in .pdf or .xls or .xlsl .xlsx, or .xlsb or .xlsm or .docx or .odt or .txt or .csv or .ods or .xps formats.

19. On completion of all activities and issuance and uploading of Form IV to the application, the application will seek approval of JCQAO to generate project report in .pdf format. The Project report will include all the project details as brought out ibid, including PO, approved drawings, approved QAP, important communication/ letters/ directives/ waivers/ undertakings, approved trial & FATs reports and issued Form IV in one single .pdf file, bearing the name of the OPA & PO number. The report can be exported in .pdf format as well as gets archived in the project folder of the database.

20. On generation of Project report, the CQAO will close & archive the project in the said application and after which the project will marked closed, will get removed from the page of JCQAO and Engineer from monitoring. The CQAO will have authority to reopen the said project, if required for any updation and can be revived again.

21. The database should be made in such a way that, in case required in future, the stored information can be used by AI agent to derive useful information from it.