DELHI DEVELOPMENT AUTHORITY
(QUALITY ASSURANCE CELL)

QUALITY MANUAL
ISO 9001:2008
DDA (QA)/QM
ISSUE 2
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S.E.(QA)

Approved by: Sign. 29.1.10
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MESSAGE

I am happy to note that Quality Assurance Cell, after obtaining ISO 9001:2000 certification in the year 2007, has been functioning successfully in line with the established Quality Management System and has also been striving to further improve its operations.

It gives me immense pleasure to know that Quality Assurance Cell shall now be seeking renewal of this certification on the latest version i.e. ISO 9001:2008 for which earlier documentation has also been revised by it in tandem with its requirements.

I am confident that Quality Assurance Cell will leave no stone unturned to achieve its objectives which in turn will ensure that services provided to the users are highly satisfying and beyond their expectations.

My best wishes for all your future endeavours as well.

-Sd-
VICE CHAIRMAN
DDA

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL INTRODUCTION	DOC : DDA (QA)/ QM
Approved By : CE(QA)		Issue No 2
Effective Date: 1st February 2010 29.1.10		Chapter 1
		Page 1 of 4
		Page Rev. No. Nil

1. ORGANISATIONAL PROFILE

Delhi the capital of India and a bustling modern metropolis revolves around cosmopolitan demands in astute planning, speedy implementation and unprecedented growth.

DDA credited with being the first urban development authority in India, was formed under Section –3 of Delhi Development Act 1957 to ensure a balanced and planned development of capital. While providing shelter, civic amenities and requisite infrastructure committed to the planned growth and development of Delhi. DDA formulated a Master Plan in 1962 with vision 1982 was adopted in year 1990. In keeping with changing demand and requirements the plan was subsequently revised and a more comprehensive Master Plan 2001was prepared. This plan has now again been revised as the Master Plan-2021 which has become effective from Feb. 2007.

Today, DDA is playing a multi- faced role which includes development of land, making houses, developing parks and green areas, constructing flyovers, building sports centers and amusement parks, constructing shopping and office complexes.

Though, Lt. Governor of Delhi, the Chairman of DDA continues to direct the diverse activities of the Organisation, its day to day functioning is governed by a Vice Chairman who is supported by the Engineer Member, Finance Member and strong contingent of administration comprising of technical and non- technical staff.

The Engineering Wing comprise of six Civil zones and one Electrical zone headed by Chief Engineers, supported with SEs, EEs, AEs and JEs are responsible for construction activities. The Horticulture works are supervised and executed under the control of two Directors (Horticulture). Commissioner (Planning) is responsible for over-all departmental planning activities whereas the Architectural and Engineering Planning / Designing is done under control and supervision of Chief Architect and Chief Engineer(CDO). Director (Land Scape) is responsible for Land Scape designs.

Customer's satisfaction is prime motto of DDA. As such due emphasis is given not only in quality of construction but also in quality of planning and designing. The construction work is mainly executed through the system of the contracts where the contractor is primarily responsible for the execution of works strictly in accordance with the approved drawings, specifications and contract conditions. The day-to-day activities of process control, sampling, testing and execution are supervised by the

field unit comprising of JE, AE & EE. Second level inspection and supervision is done at the level of SE and CE- In charge of the works.

In order to exercise free and independent third level check and to create the confidence among the public in general, Quality Control Cell headed by CE (QC) was created in year 1982 with twin objective of checking of engineering / work assigned from time to time to field divisions of DDA and simultaneously to educate/ guide the field engineers on aspects of Quality Control. This unit directly reports to Vice Chairman/DDA.

Renamed as Quality Assurance Cell, in line with its objective, the team comprises of one SE and six EEs (Civil) assisted by an AE and JE each for the purpose of the conducting inspection of civil works of the different zones. One EE (Electrical) assisted by two AE s is responsible to check the electrical works of all zones. One A D (Horticulture) also forms a part of the QA technical team to assist inspection by EE s and ensuring the quality of Horticulture works.

The QA Cell has a well equipped material testing laboratory set up in the Asian Games Village complex, New Delhi where majority of the essential tests of material are conducted on the samples drawn by the inspecting officers of the Cell during their inspections, in addition to those sent independently by Field Engineers. Tests, for which facility is not available in AGVC Lab, are got conducted in approved external labs.

QA Cell through its dedicated and competent team ensures that the works are carried out as per documented system."

Keeping customers satisfaction as prime motto, the QA Cell has drafted the Quality Manual in the line with QMS as per ISO: 9001-2008 which emphasises not only on the systematic and holistic approach towards quality but also continual improvement in all sphere of activities of the Cell.

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL INTRODUCTION	DOC : DDA (QA)/ QM
Approved By : CE(QA)		Issue No 2
Effective Date: 1st February 2010	29-1-10	Chapter 1
		Page 3 of 4
		Page Rev. No. Nil

2.0 QUALITY MANAGEMENT SYSTEM ADMINISTRATION:

2.1 This quality Management System covers following activities of DDA(Quality Assurance Cell)

2.1.1. Verification of quality of Infrastructure works such as roads, drains, sewerage, water supply, sports complex, stadia, commercial complex, Non-residentials, fly-overs, housing works and allied services executed through construction zones of DDA.

2.1.2. Testing of samples drawn from works at DDA laboratory situated at Asian Games Village, New Delhi and through outside empanelled laboratories.

2.1.3. Issuance of guidelines / circulars from time to time.

2.2 Quality Management System, as defined by this Manual envisages Certification to ISO 9001:2008 for following locations (as per the scope defined above):

- Office of Chief Engineer (QA), Vikas Sadan, New Delhi
- DDA Material testing Laboratory, Asian Games Village complex,, New Delhi

Each location shall be responsible for implementation of its QMS. SE (QA) has been nominated as Management Representative (MR) by the Chief Engineer(QA) for the scope of work.

2.3 Issue / Revision of Quality Manual:

The MR is authorized to execute the activities of preparing, updating, revising and amending the Quality Manual in consultation with EE s(QA) and upon approval by the CE(QA).

The distribution of Manual and the release of amendments will be controlled and carried out by the Management Representative.

The insertion of any additional / amendment sheet and removal of an old sheet, in the individually-controlled copies, as per distribution list of the Manual, shall be the responsibility, of the persons holding each individual copy.

Controlled copies of the Manual will be issued, as per its distribution list, with the stamp "CONTROLLED". All controlled copies shall be kept updated with the amendments.

Apart from controlled copies as per the distribution list, any additional copy of the Manual, required by anybody else, will be issued only by the Management Representative. Such copies of the Manual when issued shall be of current version and shall be stamped "UNCONTROLLED" on each page. These uncontrolled copies would not come under the purview of the document amendment procedure. Uncontrolled copies may be issued for purposes such as publicity, reference, etc.

Once in three years, the entire Quality Manual will be reviewed by the Management Representative along with EE's (QA) for any need for revision. On revision, the entire Quality Manual will be reissued with a new Issue Number. Amendment to individual sheets of the Quality Manual may also be carried out, when necessary. On amendment, the relevant page (s) will be re-issued with a new Page Revision Number. The revisions / amendments will be approved by CE(QA), prior to issue.

Each amendment / revision is introduced formally by the issue of a new sheet / document, as the case may be.

One copy of invalid sheet / document will be retained by the Management Representative in the archives of the Organization for future reference. All other copies of the invalid sheet / documents will be disposed off suitably. Obsolete copies retained with the Management Representative shall be stamped **'OBSOLETE',** on all pages.

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL ABREVIATIONS/TYPICAL TERMINOLOGY	DOC : DDA(QA) / QM
Approved By :	CE(QA) 29.1.10	**Issue No 2**
		Chapter 2
		Page 1 of 1
Effective Date:	1st February 2010	**Page Rev. No. Nil**

Abbreviation	Full For m
DDA	Delhi Development Authority
C.E.	Chief Engineer
MR	Management Representative
SE	Superintending Engineer
EE	Executive Engineer
AE	Assistant Engineer
Doc	Document
QA	Quality Assurance
HRD	Human Resource Development
AGVC	Asian Games Village Complex
AD(H)	Assistant Director(Horticulture)
Page Rev. No.	Page Revision Number
QMS	Quality Management System

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL QUALITY POLICY AND QUALITY OBJECTIVES	DOC : DDA (QA)/ QM Issue No 2 Chapter 3 Page 1 of 1 Page Rev. No. Nil
Approved By :	CE(QA) 29.1.10	
Effective Date:	1ST February 2010	

Delhi Development Authority
(Q.A. Cell)

QUALITY POLICY

The Quality Assurance Cell of DDA is committed to ensure compliance to specified requirement in meeting the user needs & expectations for housing and associated infra-structural services. This shall be achieved through periodic verifications and checks in line with the established Quality Management Systems and continual improvement in all its operations.

QUALITY OBJECTIVES

1) Assuring that buildings and infrastructural services delivered through DDA, fully meet the structural safety, functional performance, esthetic appearance, maintainability and designed life expectancy through verification of drawings and specifications.

2) Exercising quality checks at identified stages including selection of vendors, verification of materials before use, strict adherence to the specifications at construction stage by way of process control with emphasis on defect prevention.

3) Periodical evaluation of quality of works by external checks through QA cell and / third Party Quality inspections and monitoring compliance for effectiveness of corrective actions proposed during checks/verification.

4) Providing timely feedback to the associated activities of DDA for action and improvement based on hurdles experienced.

5) Proposing solutions for repetitive / major non-conformances based on periodical review.

CHIEF ENGINEER (QA)
D.D.A.

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL QUALITY MANAGEMENT SYSTEM	DOC : DDA (QA)/ QM Issue No 2 Chapter 4 Page 1 of 4 Page Rev. No. Nil
Approved By :	CE(QA) 29.1.10	
Effective Date:	1st February 2010	

1.0 PURPOSE:

This chapter outlines the scope & coverage of the Quality Management System in the Q.A Cell, its major processes, QMS documentation, and controls over documents and records.

2.0 COVERAGE, AND BASIS OF QMS WITH PERMISSIBLE EXCLUSIONS

2.1 The Quality Management System shall cover various activities of Quality Assurance Cell at CE's office, Vikas Sadan, New Delhi and Material Testing Laboratory, AGVC, New Delhi. The activities include random verification of housing works and associated services executed through construction wing of DDA and testing of samples in the laboratory.

2.2 The Quality Management System has been designed in line with ISO 9001:2008. All elements and sub-elements of the standard are covered under the QMS of DDA (QA) for the identified centres with exclusions as given below:

- Clause 7.3, namely, Design and Development as no Design / Development activity related to Works / Installations / services are carried out by QA (Cell).
- Clause 7.5.2, namely, validation of processes for production and service provision as there is no such process in vogue in the Organization which requires pre-validation.

3.0 QUALITY MANAGEMENT SYSTEM PROCESSES (Clause 4.1 of ISO 9001: 2008)

3.1 The various processes covered under the Quality Management System (QMS) of DDA (QA) have been determined, their sequence and interactions have been determined and based on the same, and Overall Process Flow Chart of the Organization for the work under the scope of this Quality Manual has been laid out as depicted in Annexure A.

3.2 The criteria and methods needed to ensure effective operation and control of various processes, both managerial and functional, have been determined and where necessary, documented in various Quality System Procedures and Quality Plans etc.

3.3 Necessary resources and information needed to support the execution and monitoring of these processes have been provided and shall be regularly reviewed and upgraded, as necessary for specific work areas as defined above.

3.4 It shall be ensured that processes are monitored, measured where applicable and analysed at suitable levels for their smooth execution, fulfillment of their laid-down criteria and meeting customers' expectations.

3.5 Continual improvement is an important part of QMS at DDA(QA)., and it shall be achieved through customer focus, interactions with field officers, performance reviews, inspections at various levels, data analysis and improvement of resources, processes and systems.

3.6 Selectively some of the parts of the processes may be outsourced on need basis (for example third party inspections) ensuring that any out-sourced process is subjected to effective controls. Such controls shall be identified and when implemented shall be a part of Quality Management System.

4.0 QUALITY MANAGEMENT SYSTEM DOCUMENTATION (Clause 4.2.1 of ISO 9001 : 2008)

4.1 The QMS at DDA(QA) has been documented through the following levels of documentation :

a) Quality Policy & Quality Objectives

b) Quality Manual

c) Quality System Procedures and Quality Plans

d) Other documents including records determined for effective planning, operation and control of processes, both internal, such as, Operation Manuals, Drawings, Contract documents, Check Sheets, Records Formats, Work Instructions etc. and external documents, such as, IS / ISO standards etc.

e) Other records, reports as required

4.2 QUALITY MANUAL (Clause 4.2.2 of ISO 9001: 2008)

The Quality Manual has been elaborated to provide an outline of Quality Management System to be followed by DDA(QA). It covers the following :

a) Introduction to DDA (QA) and its services.

b) Scope, Coverage & Basis of Quality Management System of the Organization.

c) List of Quality System Procedures and Overall Process Flow Chart

d) Management role in effective implementation of Quality Management System

e) Resource Management

f) Service Realization Processes

g) Measurement, Analysis and Improvement of QMS

5.0 CONTROL OF DOCUMENTS (Clause 4.2.3 of ISO 9001: 2008)

5.1 MR on his own or through the Administrative office shall be responsible for control of all documents in line with a documented procedure on the subject. MR shall be responsible for control of all common documents applicable to all activities at QA Cell.

5.2 All documents of internal origin shall be reviewed for their accuracy and adequacy, prior to issue, by specified authorities as given in the relevant procedures. Documents shall be reviewed and approved for adequacy by appropriate authority as prescribed

5.3 Document control mechanism shall ensure that :

a) the relevant versions of applicable documents are available at all locations where operations essential to effective functioning of Quality Management System are performed.

b) All documents are legible and identifiable.

c) Invalid and/or obsolete documents are promptly removed from all points of issue or use

d) Any obsolete documents maintained for archival / future reference purpose are identified by stamping.

5.4 Documents shall be revised and updated as per the needs. Any changes needed in the documents of internal origin shall be reviewed and approved by the same authorities who were responsible for initial approval. The external documents

shall be controlled & distributed by Administrative office of the Chief Engineer (QA). For external documents, changes shall be based on the changes made by the authorities responsible for their issue. Necessary controls to ensure availability of external documents at pertinent locations, as per the need, shall also be in place.

5.5 In case of changes in a document, nature of changes shall be identified through note sheet, circular, amendment sheet etc. as relevant.

5.6 All data maintained on electronic media shall be kept secured and under control.

6.0 CONTROL OF RECORDS (Clause 4.2.4 of ISO 9001: 2008)

6.1 The responsibilities to control the records shall be as per the documented procedures on the subject.

6.2 Records shall be controlled to provide evidence of conformity to requirements and effective operation of Quality Management System, as identified under various Quality System Procedures.

6.3 Generation of a record shall be ensured as per the requirement. Records generated, shall be maintained in a legible condition and identified. They shall be collected, compiled, maintained, properly indexed and filed, as necessary. Adequate facilities shall be provided to maintain safe condition and custody of records in such a manner that they are easily retrievable and are prevented from damage, deterioration or loss.

6.4 Minimum retention periods of records shall be fixed depending on customer / Organisational requirements. It shall be ensured that records are not disposed off before the minimum retention period.

6.5 Relevant Records / Reports / Data thereof, as required, shall be made available to user organisation or its representatives, under appropriate approvals.

7.0 References:

1. Process Flow Charts of DDA(QA) — Annexure - A
2. List of Quality System Procedures — Annexure - D
3. Procedure for Document Control

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL MANAGEMENT RESPONSIBILITY	DOC: DDA (QA) / QM Issue No 2 Chapter 5 Page 1 of 6 Page Rev. No. NIL
Approved By :	CE(QA)	
Effective Date:	1st February 2010 29.1.10	

1.0 PURPOSE

This chapter describes the role of the top management in planning, implementing, reviewing and improving the Quality Management System (QMS) in QA Cell of DDA.

2.0 MANAGEMENT COMMITMENT (Clause 5.1 of ISO 9001: 2008)

2.1 The top management team of QA Cell headed by the CE (QA) and supported by SE, EE s, AE s, JE s is committed to develop, implement and effect continual improvement of Quality Management System in the QA Cell and shall ensure to:

a) consistently provide services for random / surprise, effective checking of works and ensuring execution of good quality works by field engineers which would ultimately lead to customer's satisfaction.

b) continually enhance effectiveness of Quality inspection for a good quality work to the customer satisfaction and internal effectiveness and efficiency of the organization system.

c) create and maintain a working environment conducive to bringing out the best from all Field Engineers & members of the Q.A. Cell in meeting the organizational goals and commitments.

2.2 The top management shall play a leading role in establishing the quality culture in the Organization by creating a focus on the Customer, throughout the system, and establishing a mechanism for clear understanding of the customer's needs, along with applicable statutory and regulatory requirements, and communicating them to relevant levels of the system so that the services, fully meet the requirements.

2.3 The DDA (QA) cell shall ensure that the Quality of material used for construction, the projects executed by the field offices meet the laid down criteria so that the end user gets the value for money. The actual execution of the project is carried out by the Field offices through contracts / departmentally and is verified for correctness and compliance to specified requirements by the QA cell as per prescribed norms based on the value of works. The verification of quality of material used is done through tests in the identified laboratories, in addition to testing of samples at site.

2.4 The overall philosophy, vision and strategy of the construction system, as regard to Quality, has been established by the top management through Quality Policy of the cell, providing direction to all concerned.

2.5 The Quality Policy has been deployed by establishing Quality Objectives as applicable to each activity of QA cell, along with Objectives Deployment Plans.

2.6 Top Management shall review the status of Quality Management System, from time to time to examine the performance of QMS and achievements of objectives throughout the QA organization and identify improvements needed. Top management shall ensure that an effective system exists for resource planning and provisioning as per the existing / upcoming requirements of the organization.

2.7 The top managements' commitment shall be transmitted to all echelons of the organization. It shall provide the leadership for quality, ensuring that quality of works and service is given paramount importance.

3.0 CUSTOMER FOCUS (Clause 5.2 of ISO 9001: 2008)

3.1 DDA (QA), as a key cell of the organisation, is committed to provide services, of effective quality inspections taking into consideration the stated and implied requirements of the Customer / user, besides those specified in the work order /contract , so as to achieve their full satisfaction.

The top management shall play a leading role in creating organization wide focus for the Customer. Systems have been created to ensure that Customer requirements are determined and fulfilled at each applicable function and level with the aim of enhancing their satisfaction while fulfilling the applicable statutory / regulatory requirements.

3.2 SE / EE's concerned shall take necessary action to determine existing and upcoming requirements of Customers, create necessary processes, translate the requirements into check sheets, identify and provide infrastructure and other resources to meet these requirements and create required awareness, concern and systems to continuously meet these requirements.

For purpose of Inspection by Q.A wing, the DDA Organization in totality is the customer, whose overall objectives need to be fulfilled. The laboratory at AGV serves the QA wing and field divisions for the samples sent by them.

4.0 QUALITY POLICY (Clause 5.3 of ISO 9001: 2008)

4.1 The Quality Policy of the DDA (QA) has been laid down under the approval of the CE (QA).

4.2 The Quality Policy reinforces the organisation's commitment to comply with the requirements and to continually improve the effectiveness of the Quality Management System.

4.3 Based on the Quality Policy, Quality Objectives have been established.

4.4 Quality Policy shall be widely communicated and circulated throughout the QA cell so that it is well understood.

4.5 Quality Policy is a dynamic document, which shall be regularly reviewed and can be updated, based on changing management priorities and vision.

5.0 QUALITY OBJECTIVES (Clause 5.4.1 of ISO 9001: 2008)

5.1 Quality Objectives have been developed along with their Deployment Plans, to implement the Quality Policy, addressing overall organizational focus and services.

5.2 Quality Objectives shall be measured for achievement through the determination of specific milestones / targets / Plans. Quality Objectives shall be reviewed and revised in view of their status of achievement, changing organizational focus and priorities.

6.0 QUALITY MANAGEMENT SYSTEM PLANNING
(Clause 5.4.2 of ISO 9001: 2008)

Planning has been done for the Quality Management System at the level of each EE (QA) for specific work areas defined in Chapter 2 as well as for common / management level activities carried out at CE level. This is depicted through the Quality Manual, procedures, Quality Plans, work-instructions, drawings and Operation Manuals etc.

QMS planning shall be reviewed and revised, from time to time, in line with emerging client (user) requirements, organizational restructuring and need for continual improvement. Integrity of the Quality Management System shall be maintained when any changes in the QMS are planned and implemented.

7.0 RESPONSIBILITY & AUTHORITY (Clause 5.5.1 of ISO 9001: 2008)

Overall Organizational structure of DDA (QA Cell) has been defined at Annexure B.

The responsibilities and authorities of main functionaries of the Organization have been documented and given in Annexure C. The responsibilities and authorities shall be widely communicated throughout the cell.

8.0 MANAGEMENT REPRESENTATIVE (Clause 5.5.2 of ISO 9001: 2008)

8.1 SE(QA) has been nominated as the MR for DDA (QA Cell).

8.2 Management Representative (MR), in addition to his other responsibilities, shall have authority for:

a) Ensuring that processes needed for Quality Management System are established, implemented and maintained in accordance with ISO 9001 in the organization under their jurisdiction.

b) Reporting on performance of the Quality Management System to the top management for review which would form the basis of improvement of the Quality System.

c) Ensuring the promotion of Customer requirements throughout the organization.

d) Liaison with the certifying body and other external parties on matters relating to Quality Management System.

9.0 INTERNAL COMMUNICATION (Clause 5.5.3 of ISO 9001: 2008)

Internal communication within the organisation exists through various forums such as meetings, internal circulars, interactions and consultations which shall also be utilized for communication regarding the effectiveness of QMS. Means of communication such as telephonic messages, have been established for speedy transfer of information to management and other field offices of DDA, as appropriate.

It shall be ensured that all communications on matters relating to QMS and quality of service are effective and on time, to bring out best possible response.

10.0 MANAGEMENT REVIEW (Clause 5.6 of ISO 9001: 2008)

10.1 Management Review Committees have been constituted at CE Level to review the operation and effectiveness of Quality Management System.

Management Reviews shall be conducted at a frequency of about once in six months or earlier, to ensure continuing suitability and effectiveness of Quality System in meting Quality Policy & objectives. The review at CE level is

carried out at least once every six months in accordance with a documented procedure. The review shall be coordinated by MR.

Inputs to the management review meeting include

a) follow up actions on previous management review minutes

b) results of internal/external quality audits

c) feedback from other departments and laboratory, if any.

d) status of inspections carried out as per plan

e) status of samples received and tested

f) status of corrective/preventive actions taken within the QA cell

g) review of pending & Current cases wrt settlement, effectiveness of actions taken, resource requirement, changes required in documentation etc.

h) changes in the policy, objectives, rules/regulations/applicable legal requirements or key issues communicated by the management

i) recommendation for improvement

The output to the management review shall include

a) improvement of the effectiveness of QMS and its processes

b) improvements related to actions by field offices

c) resources needed to carry out identified improvements

Minutes of Management Review meetings shall be recorded and circulated for improvement of QMS and corrective / preventive actions.

10.2 In addition to the above, many other forums exist for review of performance and resolution of problems, such as monthly review meeting in the offices of QA Cell, Zonal review meetings with the concerned Zonal CEs. Besides Periodical Performance Review on various relevant aspects other issues such as settlement of complaints, resolution of inspection observations, penalties imposed etc. are

discussed and provided for improvements. Timely actions on decisions taken shall be ensured and followed up at suitable levels.

11.0 REFERENCE:

Procedure for Management Review

Overall & QA Organizational structure of DDA - Annexure B

Responsibilities & Authorities of Main Functionaries of DDA - Annexure C

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL Resource Management	DOC : DDA (QA)/ QM
Approved By :	CE(QA) 29.1.10	Issue No 2 Chapter 6 Page 1 of 3
Effective Date:	1st February 2010	Page Rev. No. Nil

1.0 PURPOSE

This chapter covers the policy with respect to management of resources for operation of Quality Management System (QMS) at DDA.

2.0 PROVISION OF RESOURCES (Clause 6.1 of ISO 9001: 2008)

Resource planning shall be carried out keeping in view the projected work requirements, targets and plans. Each EE shall make monthly projections about the inspections to be carried out, works to be inspected, status of pending cases etc. The overall philosophy in determining the resource requirements shall be:

i) Effective implementation and maintenance of QMS and the needs for its continual improvement.

ii) Enhancement of satisfaction level of end users.

iii) Enhancement of facilities and infrastructure, where required, to meet long-term requirements

It shall be ensured that adequate resources are provided and are upgraded, based on emerging requirements.

3.0 HUMAN RESOURCES (Clause 6.2 of ISO 9001: 2008)

3.1 DDA (QA) Cell shall carry out its functions through a well established organization as depicted through Annexure B.
The overall human resource requirements shall be fulfilled through transfers / promotion based on the set criteria for educational qualification, experience & competence as defined in the service rules of DDA for different positions. Overall manpower planning has been done keeping in view the projected work / competence requirements and sanctioned norms.

3.2 Each unit maintains record of their manpower as per the approved strength / laid down norms and initiate proposals for filling of vacant positions through normal administrative channels. Posting/transfer of the Officers (AE's and JE s) are based on defined criteria and are carried out through a committee headed by CE (QA). The postings for other officers (EE, SE, CE) are carried out with the consent of Vice Chairman based on the proposal by Engineer Member. The transfer for the ministerial staff members is carried out through Commissioner (Personnel).

3.3 The JE / AE for QA Cell shall be selected from within the DDA Engineers based on their qualification, past experience, integrity and technical competence and QA skills by a committee headed by CE(QA).

3.4 Continued competence and regular up-gradation of skills shall be ensured for the personnel performing quality related functions, based on appropriate education, training, refresher courses as per training policy

3.5 Training activities at DDA are centralized and planned at the level of Director (training). A procedure for manpower training is documented.

3.6 It shall be ensured that:

a) Necessary competence for personnel performing work affecting service quality is determined and provided.

b) Wherever gaps are noticed, the same shall be made up through training or other alternative actions such as job rotation etc. when desired by CE(QA)

c) Effectiveness of the actions taken shall be evaluated.

d) Personnel are made aware of the relevance and importance of their activities and their contribution in the achievement of quality objectives.

e) Record of education, training, skills and experience shall be maintained.

f) Identification of problems areas, cause and effect study, remedial measures.

4.0 INFRASTRUCTURE (Clause 6.3 of ISO 9001: 2008)

4.1 The basic infrastructure needed for execution of operation and maintenance activities include :

a) Documentation specific to the work under inspection (Agreement, technical sanction, specifications etc).

b) Tool kit to carry out inspection activity.

c) Laboratories and inspection instruments / facilities

d) Computer hardware and software

e) Supporting services such as transport, communication or information systems

Infrastructural facilities required are largely already in place and further investments shall be planned at EE level depending on the need for up gradation / improvement.

Concerned Ex Engineer shall be responsible for maintenance, upkeep and improvement of necessary infrastructure so as to ensure quality of service and professional work environment.

5.0 WORK ENVIRONMENT (Clause 6.4 of ISO 9001: 2008)

Supportive physical and human work environment already exists which shall be maintained through continuous efforts at all levels. The effort shall always be to motivate all personnel to ensure their full involvement and contribution in making DDA a pride of the nation. It shall be ensured that an atmosphere of fair play prevails in the organization.

6.0 REFERENCES:

Procedure for Training

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL SERVICE REALIZATION	DOC: DDA (QA) / QM Issue No 2 Chapter 7
Approved By :	CE (QA) 29.1.10	Page 1 of 11
Effective Date:	1st February 2010	Page Rev. No. Nil

1.0 PURPOSE

This chapter presents an outline of Quality Management System related to various processes involved in service realization as per the scope of this Quality Manual i.e. Inspection of all construction activities and related services executed through various zones of DDA and testing of samples collected during inspection of works and samples sent by Field / units to AGVC LAB.

2.0 PLANNING OF SERVICE REALIZATION (Clause 7.1 of ISO 9001: 2008)

2.1 All processes involved in the realization of services, as mentioned above, shall be planned, ensuring compatibility of the planning process with other QMS processes. Most of these processes are standardized processes as per DDA guidelines or documented Manuals for the respective activity/projects / project components etc.

2.2 In planning service realization, following issues shall be determined as appropriate:

- Quality objectives and requirements for the works to be undertaken
- The need to establish additional processes and documents, and to provide the resources suitable to the service to be rendered.
- The need to depute suitable officers, staff and consultants for the works to be undertaken
- Required verification, validation, monitoring, measurement, inspection and test activities specific to the services to be undertaken and criteria for acceptance of work
- The need for suitable instruments, inspection, / measuring / test devices, skills and competencies needed.
- Records needed to provide evidence that the realization of processes and resulting service meet the requirements.

The output of this planning has been consolidated in the form of inspection reports, observation memo, procedures, quality plans, work instructions check lists, manuals etc. as relevant.

2.3 The major processes for service realization shall be the following:

(a). Customer related processes including:

- Determination of requirements of the customer based on past experience and those anticipated for the services rendered by DDA for housing and related services. This includes complaints, if any; problems faced in similar other projects/activities etc.
- Determination of the requirements as stipulated in the Contract Agreement and related documents
- Review of requirements.
- Communication of agreed requirements.

b. Purchasing including

The purchase activity is mostly confined to laboratory activity. The inspection function procures its routine needs through imprest / Nazarat cell of DDA. The process of purchase comprises of:

- Control over purchasing processes
- Control over purchasing information
- Verification of purchased products

c. Inspection processes including

- Control of inspection Process
- Verification at site
- Sampling and its submission

d. Control of monitoring and measuring equipments.

e. Testing of Samples

- Approval of testing laboratories & their performance monitoring
- Submission of samples
- Testing of samples in the in-house laboratory

The overall policy for the execution of above processes has been outlined in this chapter.

3.0 CUSTOMER RELATED PROCESSES (Clause 7.2 of ISO 9001: 2008)

3.1 Determination of requirements related to the product (Clause 7.2.1 of ISO 9001: 2008)

The activity of inspection is divided in six Zones based on the field activities carried out. The Civil and Electrical inspections are controlled by concerned EE's and are supported by AD (Horticulture), as required.

The planning for inspection is based on the progress report received through the field divisions for the various projects under their control. Planning is done for inspection of the works based on its value, stage of execution, criticality of the project, past status as observed during the previous inspection etc. Approval of the works to be inspected is obtained by concerned EE's from CE(QA).

The laboratory plans for the number of samples to be tested in a month based on past trends. Allocation of samples for testing to the testing personnel within the lab is done on rotational basis.

A monthly report is submitted to VC's office on the total inspections carried out, samples tested, critical issues, pending observations etc.

3.2 Review of requirements related to the product (Clause 7.2.2 of ISO 9001: 2008)

The inspection of the works is undertaken in a planned manner. Monthly plans are prepared by concerned EE's for the inspections to be undertaken based on progress of works submitted by the field offices, stage of progress, importance of the work etc. The inspection of the works not only includes verification of the activity as per planned arrangements but also looks into the suitability in meeting the customer requirements. The parameters to be verified during inspections include:

- Suitability of design in meeting the customer/statuary requirements
- Compliance to the safety and functional requirements
- Appropriate selection of product specification, including the supplier

- Compliance to the agreed specifications

- Compliance to documentation requirements to be maintained at site as stipulated in the CPWD specifications.

- Compliance to the terms and conditions as given in the Contract, Agreement etc.

During the inspection, it is ensured that the requirements are adequately defined and understood and that:

a) The requirements can be met with in view of operational / maintenance / safety / functional requirements of the works / installations.

b) Proposed requirements are in line with stipulated and statutory requirements, as applicable.

At the level of concerned EE, the performance of the works executed by site is monitored for compliance to stated requirements. Specific attention is paid in the context of any operational / maintenance / safety requirements of the works / installations. However, all such reviews shall take into account the need for overall achievement of customer satisfaction. Appropriate check lists and inspection/test standards have been formulated to for each activity.

The results of inspection are recorded in inspection reports and observation memo's issued for non-conformity noted, if any.

3.3 Customer Communication (Clause 7.2.3 of ISO 9001: 2008)

- Project profile/ salient features / capabilities and strengths of DDA are available updated periodically..

- All communications with respect to enquiries, status of operation & maintenance work, shall be effectively handled at field level at the concerned zones and responded in a timely manner.

- All communications relating to user feed-back /complaints including public grievances shall be effectively handled at the senior-most levels,

- as per the gravity. These shall be analyzed and examined for prompt action. These communications could be received during meetings at CE / SE level, during inspection visits or any other mode.

- Proactive efforts for maintaining good interaction / community meetings shall be made through regular meetings with officers concerned.

4.0 PURCHASING (Clause 7.4 of ISO 9001: 2008)

4.1 Purchasing Process (Clause 7.4.1 of ISO 9001: 2008)

A well defined purchase policy exists which prescribes the mechanism for purchase through tendering, quotations, spot purchases. It shall be ensured that purchased services / materials / stores conforms to tender / works/ order/ contract specifications.

Requirements shall be assessed well in advance & approval / sanction obtained from competent authority approved and submitted to the prescribed agencies.

Purchasing based on any of the following modes shall be carried out for which well defined requirements, criteria and methodology exist :

- ❖ Purchase through Open Tenders
- ❖ Purchase through Limited Tenders
- ❖ Purchase through Single Tenders
- ❖ Purchase through DGS&D Rate Contract / Rate Contracts of Controller of Stores
- ❖ Purchase through Spot Purchase Committee
- ❖ Petty cash purchases through imprest
- ❖ Purchase of Proprietary items / articles

The need for purchase of material is identified so as to meet the process requirements. The purchases are usually carried out by the laboratory for consumables, new test facilities, service providers etc. The ongoing requirements for general stationary and similar requirements are usually met with through Nazarat Cell. When not available they are procured through imprest.

High value procurements are usually carried out by the laboratory whenever there is a need to replace/procure new equipment. For such procurements, based on the type of product to be procured, method of procurement adopted, the criteria of evaluations of tenders/offers and selection of the suppliers shall include one or more of the following issues such to ensure quality, reliability and competitiveness :

- Competence, and capability to meet tender / supply requirements
- Past experience on similar supplies / works
- Technical & financial bids / quotations
- Commercial terms & conditions.
- Ability to deliver the product / service in time

Registrations with other Government agencies

Accreditation / certification for product / process / system

Past credentials, references, performance record

Control on suppliers / service providers shall be dependent on their effect on the final deliverables and shall include, as appropriate:

1. Inspection / verification of incoming materials / services
2. Inspection & supervision, ensuring conformity to specifications during execution of project / product
3. Identification of defects / non-conformities & rectification thereof.
4. Monitoring the progress of works & corrective and preventive actions.
5. Verification of measurements & bills

The performance of suppliers / service providers/ contractors shall be appraised, based on established criteria, ensuring their continued suitability. Records of such appraisals and any actions arising from them , shall be maintained.

4.2 PURCHASING INFORMATION (Clause 7.4.2 of ISO 9001: 2008)

The purchase orders / work orders or other relevant documents for purchase of materials /procurement of services shall describe the materials / services to be procured including, where appropriate:

a) Specification of the material / description of services to be hired including requirements for approval of materials, products, procedures, processes, equipment ,as required

b) Requirements for qualification of personnel, wherever required

c) Requirements for Inspection of supplies at vendor's end / consignee end.

c) Delivery Schedules

d) Quality Management System requirements, including quality assurance scheme / plan, standard to be followed.

The requirements to be incorporated in the purchase document shall be forwarded by the indenting office to the attached Division after Technical sanction. Purchase orders / applicable purchase documents/ contract agreements/ work orders shall be issued by the attached Division. The documents shall be checked, reviewed for adequacy and correctness prior to release. The payments shall be made by the concerned Division based on verification of the quality of product /service by the indenting office.

4.3 VERIFICATION OF PURCHASED PRODUCT
(Clause 7.4.3 of ISO 9001: 2008)

Verification / inspection / examination of purchased products / outsourced services shall be done as per established procedures to ensure their conformity to requirements based on means such as:

- ❖ Inspection at supplier premises
- ❖ Inspection of supplies on receipt by indenting dept.
- ❖ Third Party certification / inspection certificates
- ❖ Verification of records / reports

Where it is required to perform verification at supplier's premises, the intended verification arrangements and methods of product approval shall be established and communicated to the suppliers. A certificate shall be issued to the paying authority after receipt and verification of product/service as per order placed.

5.0 CONTROL OF INSPECTION & TESTING ACTIVITY

(Clause 7.5.1 of ISO 9001: 2008)

All processes related to inspection of works / projects involved in construction of housing & services under the scope of this manual shall be planned and carried out under controlled conditions.

All processes of inspection & testing shall be planned and carried out in line with documented procedures / Quality Plans and established Operation Manuals.

Necessary information for controlled execution of works such as applicable work execution schedules by the field offices, contract agreements, manuals, drawings, specifications, standards, codes, work instructions, guidelines, check sheets etc shall be made available to personnel, as necessary. In case of testing in the lab, necessary test specifications, manuals, equipment operating instructions, as necessary shall be provided.

It shall be ensured that appropriate plant & machinery, test equipments/instruments, communication facilities and infra-structural / logistics facilities are made available and upgraded on need basis to fully meet the work requirements. The facilities shall be maintained in suitable working condition.

Suitable monitoring & measuring equipments shall be provided for inspection at works and testing of samples in the lab. Monitoring of process performance shall be carried out through analysis of reports, data evaluation, periodic meetings, status of the pending cases, comparative studies, feedback on activities carried out etc. The details of the controls exercised are detailed in respective procedures.

DDA is known for its technical excellence and is considered a benchmark in all areas of construction of housing schemes and services for the masses at optimum cost. The quality of the works is maintained through compliance to the documented system which is monitored at periodic intervals by the QA Cell. This has been possible through its dedicated work force, innovative approach, well managed, well established & time tested working systems. It shall be ensured by the management to maintain a highly skilled and motivated work force for all area

of work. The skill levels shall be constantly upgraded to meet the emerging requirements.

Necessary supervision, checks, super checks, inspections and measurements shall be carried out as per laid down system, at various stages. Any deficiencies shall be identified and rectified to ensure conformance to specifications and workmanship requirements.

Main processes related to inspection of works and testing of samples covered under the scope of this manual are outlined below.

5.1 Inspection: The inspection of works is mostly based on agreement in line with the verification procedures, check lists, CPWD manuals, guidelines etc. Inspections are executed through various EE s for their respective field offices. Supervisory inspections are conducted by SE / CE. The activities of inspection include verification of records, stage inspection (excavation, cement concreting, brick work, RCC, flooring, plastering, roofing, finishing, water supply, sewerage system, external development etc as applicable), sample testing at site, drawl of samples etc. The monitoring and supervision of various disciplines such as Civil, Horticulture, Electrical are carried out by SE s / Directors / CE s.

5.2 Role of QA Cell

QA inspection- QA Cell shall conduct external inspections independently at identified stages, through EE (QA) / SE(QA)/ CE(QA), draw the samples and got tested in independent labs.

5.3 Approval & monitoring of test labs: Samples are sent for testing to external approved laboratories where the test facilities are not available with the internal laboratory. For such purpose, external laboratories are identified and approved through a well established method to meet the requirements. The performance of such laboratories is monitored on ongoing basis. These activities are coordinated through EE(QA) V.

5.4 Testing of Samples: The laboratory situated at 'A.G.V.C., New Delhi' is responsible for testing various products received through field offices directly or those sent through the Inspection cell. The laboratory is competent to test samples pertaining to civil items such as bricks, tiles, water for construction, flush door shutters etc. The status of the sample tested is clearly brought out in the test report and forwarded to the concerned office for further action.

6 IDENTIFICATION AND TRACEABILITY (Clause 7.5.3 of ISO 9001: 2008)

The inspection activity is primarily coordinated by respective EE (QA) who carry out the inspections for the works in their associated Zones (currently 6 zones have been planned). The inspection conducted at a particular work is identified by the date of inspection. Non conformities reported through "Observation Memo' make reference to the date of inspection. The samples drawn during inspection of works are given specific identification number and are duly signed by the works incharge available at site, contractor & inspecting officer. Recoding of the samples are done by nominated officers prior to dispatch to the lab in order to maintain the confidentiality.

The samples received in the lab are recoded with a unique code number. Test report makes reference to the code allotted and also indicates the status of the results obtained. The tested remnants are duly stored at an identified location prior to disposal a period of one month.

7 CUSTOMER PROPERTY (Clause 7.5.4 of ISO 9001: 2008)

The material testing laboratory at Asian Games Village receives samples through various zones directly as well as through the QA Cell. The samples on receipt are visually verified for proper seal and its condition. Deviation if any, is duly communicated to the works/ nominated representative. All care is taken to prevent damage/ deterioration of samples, pending testing.

8. PRESERVATION OF PRODUCT (Clause 7.5.5 of ISO 9001: 2008)

It shall be ensured that suitable storage is provided in the QA office and in the lab for storage of various samples prior to their testing in order to prevent their damage or deterioration pending testing. Samples drawn from the works shall be sealed securely and stacked in such a manner that no damage takes place. As necessary, guidelines / instructions shall be issued for this purpose and through suitable instructions.

It shall be ensured that adequate means and methods are used and provided for safe and secure handling of machines, components, materials and other stores so that no damage / deterioration takes place, and safety in operations is maintained.

All files and other relevant records shall be provided suitable storage facility so that no damage / deterioration takes place and its safe custody is maintained. Records shall be protected against deterioration.

9. CONTROL OF MONITORING, TESTING AND MEASUREMENT EQUIPMENTS (Clause 7.6 of ISO 9001: 2008)

It shall be ensured that calibration of monitoring and measurement equipments are carried out at specified intervals with all calibrations being traceable to national standards. Periodicity of calibration shall be fixed. Records of calibration shall be maintained. For such instruments / equipments for which no replacement / calibrations can be provided, suitable corrective actions shall be decided once their integrity becomes doubtful.

If during the re-calibration, the monitoring / measuring devices are found to be out of calibration, suitable corrective steps shall be decided based on extent of error and criticality of measurement. These may include, taking the said equipments out of service and replacing with another valid duly calibrated one.

Through appropriate supervision controls and correct usage by authorized personnel, validity of the calibration shall be maintained.

10.0 REFERENCES

Procedures for Inspection

Procedures for sampling equipments

Procedures for calibration

Procedure for testing

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL MEASUREMENT, ANALYSIS AND IMPROVEMENT	DOC: DDA (QA)/ QM Issue No 2 Chapter 8 Page 1 of 7 Page Rev. No. Nil
Approved By:	CE (QA) 29.1.10	
Effective Date:	1st February 2010	

1.0 PURPOSE

This chapter elaborates the policy with regard to monitoring, measurement, analysis and improvement of services and related processes for inspection & testing activities carried out by the QA Cell as per the scope of this Quality Manual, for ensuring effective implementation of Quality Management Systems and related processes.

2.0 Measurement, Analysis & Improvement (Clause 8.1 of ISO 9001 : 2008)

2.1 Monitoring, measurement, analysis and improvement activities related to all inspection & testing services and associated processes shall be planned and implemented to :

- demonstrate conformity of service executed / delivered, to the planned requirement.
- demonstrate effective and efficient operation of Quality Management System
- continually improve the effectiveness of the Quality Management System.

2.2 These activities shall include:

- Monitoring / Measurement of customer satisfaction
- Internal Quality audits
- Monitoring and measurement of processes involved in service execution
- Monitoring and measurement of products /Service deliverable
- Control of non conformities
- Analysis of data, identifying the causes and their effects
- Continual improvement through corrective actions and or preventive actions and up-gradation of specifications

3.0 Customer Satisfaction (Clause 8.2.1 of ISO 9001: 2008)

DDA is primarily involved in construction of Housing Schemes & Services for the masses in Delhi, which is performed through contracts and supervised by the field offices spread over various zones. The performance of the activities carried out are verified for Quality in line with the laid down documented system. **Customer in the context of DDA are the occupants/beneficiaries i.e. the end user or the common man.**

Customer's grievances / dissatisfaction if any, is brought out through letters / complaints filed with the Field offices during /post allotment. Regular meetings/ other interactions / discussions are held by the concerned CE's / SE's with R.W.A.s / allottees where in the problems regarding functional aspect, safety aspects, or any other are identified and informed to all concerned with design and development. The non-conformance are identified by QA Cell and brought to notice of concerned EE /SE / CE for removal.

Based on data obtained opportunities for improvement shall be identified by QA Cell and suitably informed to concerned i.e. Architects, Designers, Planners, accounts / finance, vigilance cell as the case may be.

4.0 Internal Quality Audits (Clause 8.2.2 of ISO 9001: 2008)

Internal audits covering all QA Divisions & the testing laboratory shall be planned by MR in line with the documented procedure on the subject. Audits shall be planned in such manner that atleast one round of quality audit is completed once in six months. More frequent audits can be carried out, depending on status / importance of the activity or results of previous audits for which further audits, comprehensive or partial, may be planned. Audit programmes shall bring out audit criteria and scope clearly.

Internal auditors shall be trained and qualified, whose services shall be used to carry out effective audits of QMS.

The essential feature of all internal audit activities shall be independence of audits (to eliminate any element of bias) and competence of audit teams for effectiveness of audits. Auditors shall not audit their own work.

Internal audits shall be carried out in line with the laid down procedure on the subject. ISO 19011 shall be used as the guideline document for conducting the audit.

To control the amount of subjective-ness and bias, internal audits shall be carried out by teams as far as possible . As far as possible, at least one member of the team shall have necessary work experience needed for each activity to be audited.

As a result of internal audits, areas of non-conformity shall be identified, documented and reported to auditee as well as to management personnel responsible for the area to enable corrective / preventive actions to be taken.

Auditees shall take timely corrective / preventive actions on non-conformities which shall be verified for effectiveness.

Results / trends of audits shall be reported for management review where they shall be evaluated to assess the effectiveness of the system and to suggest system improvements.

5.0 Monitoring and Measurement of Processes (Clause 8.2.3 of ISO 9001: 2008)

Identification of various major processes involved in inspection and testing activity has been done and their procedures & quality plans have been documented, bringing out the criteria for monitoring and measurements to be carried out for desired outcome.

Concerned field unit head of EE of Division is responsible for implementation of process control and records of the same are maintained by them.

Processes are monitored by SE / CE in charge of the projects and the inspections are carried out at various stages based on the value of the work and its associated importance and corrective action is taken for non-confirmities.

Verification inspection is carried out by QA Cell at predetermined stages to ensure that full process control is exercised by field units. In case any non-conformity matter is brought to the notice of EE / SE / CE for suitable corrective action.

6.0 Monitoring and Measurement of Product (Clause 8.2.4 of ISO 9001: 2008)

6.1 All supplies received are verified by field unit headed by EE for conformity to the specification prior to its acceptance / use.

Records of all checks/ tests/ verification are to be maintained by them.

Similarly verification, examination / evaluation of services received from external suppliers shall be carried out to ensure fulfillment of specified requirements.

6.2 Product output in the context of DDA (QA) is the '' Houses or Infra-structural Services constructed and provided by the field units. The output delivered by the field offices shall be inspected in line with the Quality Plans defined for the QA at various stages. The quality plans also indicate records to be maintained as evidence of conformity.

6.3 Records in the form of Inspection reports, observation memos etc. shall be maintained in respect of verification of inspections carried out by QA Cell along with the action taken to remove defects / non conformities indicating the authority authorizing the closure of the observations raised and also actions to be initiated in case of non compliance.

7.0 Control of Non-Conformities (Clause 8.3 of ISO 9001: 2008)

Documented procedures exists for Control of Non-Conformities during inspection & testing to prevent unintended use of non-conforming materials / works / processes, through activities such as inspection memos, Site order Book, Inspection register, notices to the contractor for rejection / rectification as the case may be.

The inspections carried out are reviewed by SE & CE for any deviation from the documented requirements. Concerned Inspecting Engineers shall identify non-conformities relating to construction activity carried out by the field offices and where necessary, make observations for the action to be taken by the field office including rectification / repair / rework / penal action, depending on the nature of non-conformity. Wherever a non-conformity is of a serious nature it shall be reported to the concerned CE for review.

The decision to accept any deviation from spcification shall not be taken at a level lower than SE. If it is felt that a particular non-conformity will not have any

impact on the safety / structural stability, a deviation from stipulated criteria may be permitted and reported to C.E (QA) and concerned CE.

Records of non-conformities including proposed repair / rework / replacement / permitted deviation shall be documented and shall be maintained by field units headed by EE.

Reworked / repaired / replaced materials at works shall be re-inspected for their conformity before clearance

Each work shall be graded for its overall quality, taking into account rejection, rework, rectifications, deviations etc.

In the event of a non - conformity being detected having consequences on other activities, concerned CE / Engineer Member shall be informed.

8. 0 Analysis of Data (Clause 8.4 of ISO 9001: 2008)

Important data needed for Quality Management shall be identified, generated, collected and compiled to analyse trends, using, as required, suitable statistical techniques. Results of analysis shall be recorded and reported and areas needing system corrections shall be identified with the goal of quality improvement.

Some of the important data to be analysed is indicated below:

- ❖ Maintenance of records for process control, particularly stage checking.
- ❖ Sampling and Testing of materials, rejection percentage.
- ❖ Record of defect verification and their removal.
- ❖ Observation / Inspection memos and their compliance.
- ❖ Final product verification and assessment of overall Quality.
- ❖ Identification of problem area, poor- input materials and the supervision adequacy.

- ❖ Identifying the vendors, contractors, supervisory engineers responsible for poor quality of materials, workmanship, or supervision.

- ❖ Infirmities in contract documents / designs etc.

9.0 Continual Improvement (Clause 8.5.1 of ISO 9001: 2008)

The responsibility for Continual Improvement of the effectiveness of the QMS rests with every member in the organization in their field based on feed back information provided.

Continual Improvement is one of the most important elements of the policy of the DDA. To continually improve the quality of hosing & services, efficiency and effectiveness of various processes involved, including the effectiveness of QMS is implemented.

Opportunities for improvement shall be identified through various mechanisms such as reviews of quality policy, quality objectives and targets, management review, audit results, data analysis, corrective & preventive actions, feedbacks etc. Based on any further identification of continual improvement issues, quality objectives and their deployment plans shall be modified.

10.0 Corrective Actions (Clause 8.5.2 of ISO 9001: 2008)

A documented procedure is in place for ensuring effective corrective actions. Timely corrective actions shall be taken to eliminate the cause of existing non-conformities, in order to prevent recurrence, covering:

a) Effective handling of any feedbacks received from users / occupants of buildings, reports of work-related non-conformities / deviations noticed at any stage, results based on data analysis, internal audits, observations during inspections, periodical performance reviews etc.

b) Investigation of the causes of non-conformities and evaluating the need for corrective action to ensure that non-conformities do not recur.

c) Determination and implementation of the corrective action needed to eliminate the causes of non-conformities by the respective field offices.

d) Application of controls to ensure that corrective action is taken.

e) Issuance of suitable / guidance directives, where relevant, to avoid recurrence of such defects / infirmities.

f) Ensuring effectiveness of the corrective actions through reviews/follow-up visits.

Corrective actions shall be decided at appropriate levels in the organization, appropriate to the gravity, complexity and nature of problem, its financial repercussions, effect on the works etc.

In all matters, user satisfaction and image of the organisation shall be accorded pre-eminence.

11.0 Preventive Actions (Clause 8.5.3 of ISO 9001: 2008)

The need for preventive actions to eliminate the causes of potential non-conformities shall be assessed through analysis and review of performance trends, monthly reports, periodical performance reviews of works and their pending Observation Memos, status of samples received and tested in the laboratory, data and related reports, such as, the reports of quality system audits, management review, data on deviations, trends with respect to achievement of objectives & targets, user feedbacks etc.

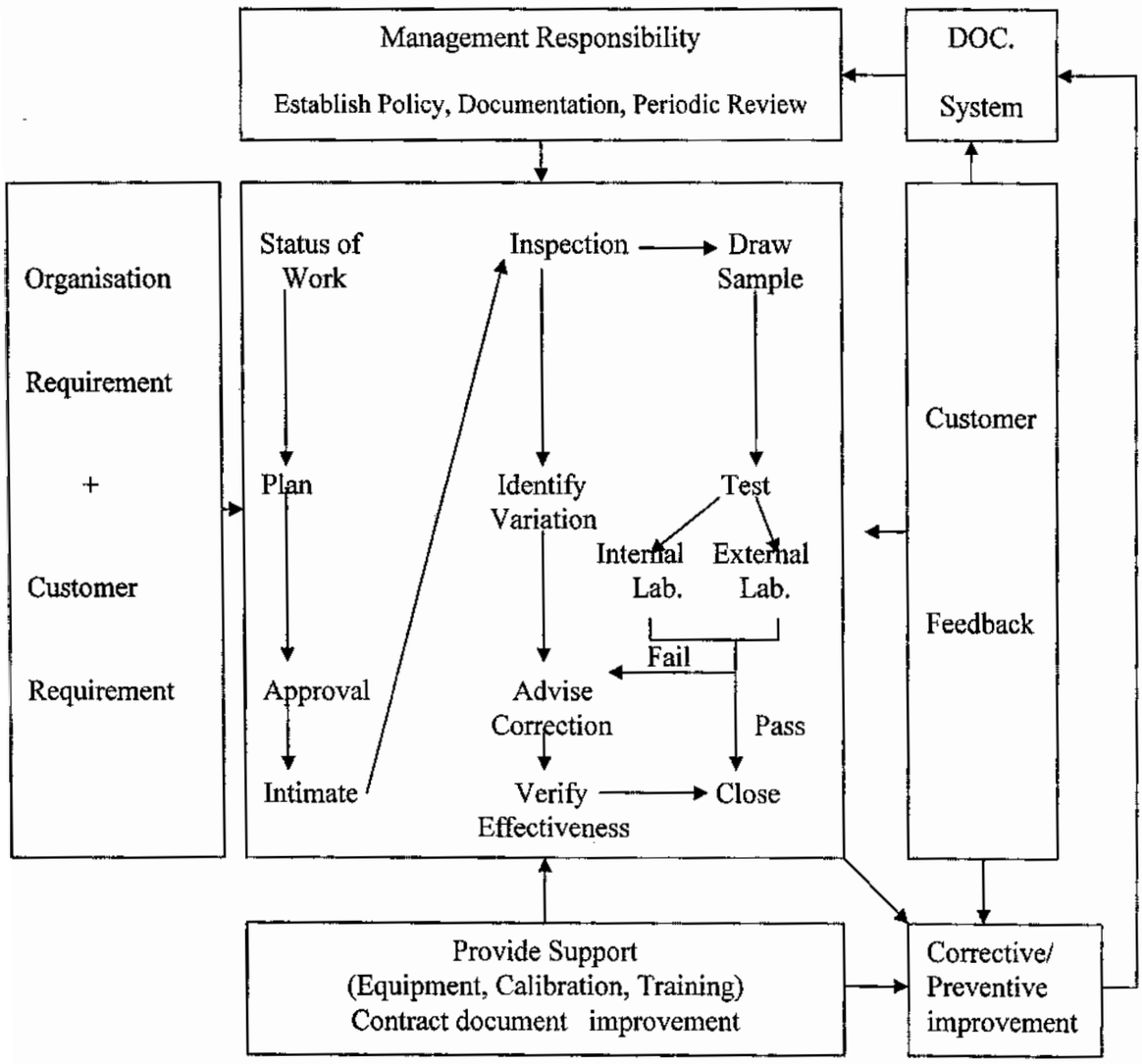
The causes of potential non- conformities shall be investigated and evaluation of the same shall be done. Preventive actions shall be decided at appropriate levels in the organization, depending on the gravity, complexity and nature of problem, its financial repercussions, effect on the activities and image of the organisation. Action as decided, shall be implemented and reviews carried out to ensure that preventive actions are effective.

Records of results of preventive actions shall be maintained.

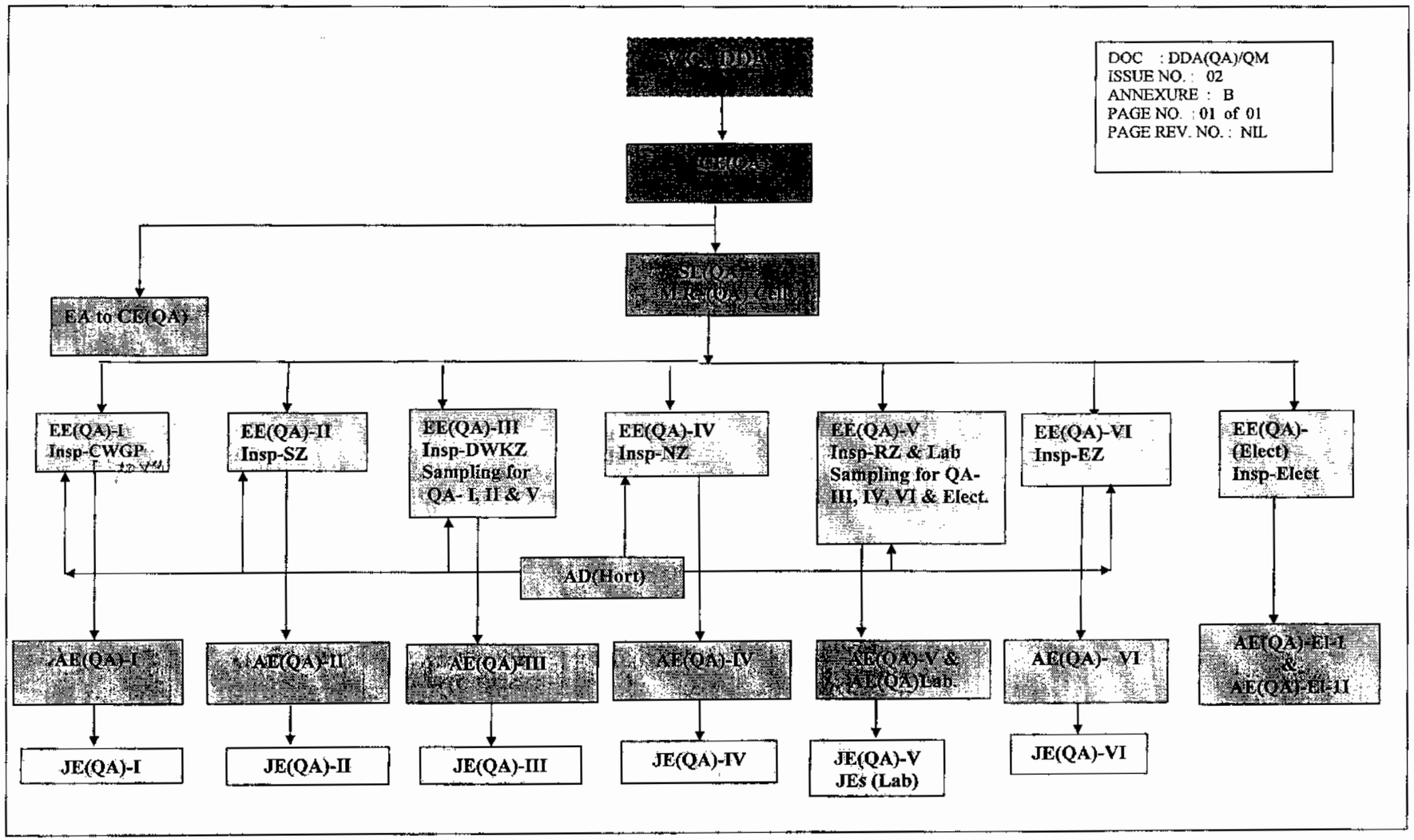
12.0 REFERENCES

1. Procedure for internal quality audits
2. Procedure for control of non-conformities, corrective and preventive actions
3. Quality plans for various activities

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL INTERACTION OF PROCESS	DOC : DDA(QA) / QM Issue No 2 ANNEXURE A Page 1 of 1 Page Rev. No . Nil
Approved By : CE(QA) 29.1.10		
Effective Date: 1st February 2010		



ORGANIZATION STRUCTURE OF QUALITY ASSURANCE CELL



Delhi Development Authority (Quality Assurance)	QUALITY MANUAL Responsibility & Authority	DOC: DDA (QA) / QM Issue No 2 Annexure C Page 1 of 8 Page Rev. No. Nil
Approved By :	CE(QA) 29.1.10	
Effective Date:	1st February 2010	

S.No.	Designation	Nature of Duty to be performed by each officer	Remarks
1	Chief Engineer (QA)	1. Overall control of QA Cell for its effective functioning 2. Approval of Draft observation memo for the works inspected by SE(QA) & CE(QA) himself as well as for works costing above Rs 50 Lacs in case of construction works & above Rs 5 Lacs in case of Horticulture & Maintenance Works. 3. Approval of Draft COM where specific para stands referred to Zonal CE or where RIS is proposed to be accepted or otherwise some major discrepancy/ serious para have been observed in the work. 4. Monthly review meeting on rotation basis with each Zonal head for timely settlement of old pending cases as well as timely reply of cases pending in the zone. 5. Monthly co-ordination meeting within QA Cell for effective monitoring / Implementation of instructions issued by CE (QA) to all concerned. 6. Submitting recommendations for approval of new labs / delisting of existing external labs. 7. Recommending solutions to current / potential areas of non conformance and providing feedback to concerned departments. 8. Monitoring speedy disposal / settlement of complaint cases 9. Guiding improvement actions and their implementation 10. Deal with policy issues and give directives for their implementation 11. Resource planning and provisioning based on need for the effective functioning 12. Issue of Circulars/Guidelines from time to time on Quality & Vigilance aspects	

Delhi Development Authority (Quality Assurance	QUALITY MANUAL Responsibility & Authority	DOC : DDA(QA) / QM
Approved By : CE(QA) 29.1.10		Issue No 2
		Annexure C
Effective Date: 1st February 2010		Page 2 of 8
		Page Rev. No. Nil

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
2	S. E. (QA)	1. To obtain approval of works to be inspected during month from Chief Engineer (QA) 2. To plan verification of the works as per the approval of CE (QA) 3. To review and attend to complaint cases as per the direction of CE (QA) and propose appropriate solutions. 4. Review and approval of Draft observation memo for the works which has been inspected by S.E. himself and by EE (QA) 5. Approval of Draft COM for the works inspected by SE/EE/(QA), however any para which stands referred to CE (Zone) or where serious paras have been observed shall be forwarded to CE (QA) for approval / settlement / final action. 6. Overall monitoring of works and ensuring timely replies from the Zonal offices. Follow up with Zonal officers in case of abnormal delay in furnishing the replies. 7. Monitoring implementation of policy directives issued through VC/CE/(QA), from time to time 8. Periodic review of existing procedures and ensure uniformity of operation 9. Co-ordination with EE's for conduct of inspection, submission of reports and follow up actions of works. 10. Identifying serious infirmities, suggesting, remedial measures. 11. Identifying officers responsible for serious lapses and appraising CE(QA) &others. 12. Comprehensive examination and technical audit of works on sample basis	

Delhi Development Authority (Quality Assurance	QUALITY MANUAL Responsibility & Authority	DOC: DDA (QA) / QM
Approved By : CE(QA) 29-1-10		**Issue No 2**
		Annexure C
Effective Date: 1st February 2010		**Page 3 of 8**
		Page Rev. No. Nil

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
3	Executive Engineer	1. Planning and obtaining approval of works to be inspected during the month from Chief Engineer (QA) 2. Verification of the works as per the approved plan for compliance to specifications/ contract / documented system. 3. Finalisation of observation memo / COM with the help of Assistant/Engineer and forwarding the same to competent Authority for approval. 4. Identification, selection & drawl of samples during the site inspection. Ensuring adequate/ sealing of samples for further testing in the designated labs. 5. Monitoring of replies from various field divisions and follow up with the concerned field officers in case where replies are not received well within time frame/stipulated time. 6. To identify the pending cases for speedy settlement of the same after discussions with the concerned field offices. 7. Proposing actions for improvement at the field activities 8. Codification of samples & their forwarding to concerned laboratory for testing 9. Verification of external laboratories for considering selection approval and their periodic monitoring, when nominated by CE (QA)	

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
		10. Verification of effectiveness of actions taken by the field offices on the identified non-conformances. 11. Reporting the performance of field offices to the competent authority for appropriate actions. 12. Analysis of observations for a given work and proposing improvement measures. Proposing improvement actions in the inspection methodology. 13. Verify compliance to appropriate safety codes / documented guidelines etc. 14. Grading the work inspected for quality executed by contractor and site personnel. 15. Prompt verification of the complaint cases for their early redressal as per the direction of CE (QA). 16. Cause and effect analysis. 17. Issue of guidelines / Circulars for continual improvement after approval of CE (QA) 18. Assist CE (QA) / SE (QA) in activities related to QA.	

Sl.No.	Designation	Nature of Duty to be performed by each officer	Remarks
4	Assistant Engineer / AD (Hort)	1. To record the observations in field books as pointed out by inspecting officer i.e. CE / SE or EE. 2. Drawl of samples and their codification of the same as per the directions of inspecting officer. 3. Checking of all the records related to work inspected by inspecting officer. 4. Preparation of observation memo of the inspected work. 5. Scrutiny & verification of replies received from field office & submission of counter observation memo for the reply received from various field officers. 6. To identify cases which can be settled by virtue of discussion in CE's co-ordination meeting held once in a month with each zone. 7. Testing of samples, when required. 8. Proposing areas of improvement at works and suggesting activities to be incorporated in the procedures for effective inspections. 9. To keep account of serious cases and appraise EE (QA) every month. 10. To assist EE (QA) in all activities of QA. 11. Preparation of programme of inspection for approval of competent authority.	

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
5	Assistant Engineer (Lab)	1. Monitoring the day to day operations of the laboratory 2. Co-ordinating the activities of QA division and the lab 3. Taking decision for acceptance / rejection of samples received for testing. 4. Co-ordinating for effective redressal of complaints received, if any. 5. Initiating required action for enhancement of test facilities of the laboratory. 6. Ensuring timely disposal of sample remnants 7. Implementing decision communicated through CE office 8. Ensuring Receipt of samples in proper form such as sealing of samples etc. 9. Ensuring proper entry/coding of samples in the entry register. 10. Allocation of job / samples to JE' for testing as per duty roaster. 11. Testing of samples received from QA Cell. 12. Random verification of test data and calculations of general samples and overall checking of QA samples. 13. Verification and approval of all test reports as lab incharge before dispatch. 14. Monitoring of timely testing of samples and submission of its status on periodic basis. 15. Adequate infrastructure for preservation of QA test samples. 16. Arrangement of T & P, chemicals etc. required for testing. 17. Timely calibration of instruments & measuring devices.	

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL Responsibility & Authority	DOC: DDA (QA) / QM Issue No 2 Annexure C Page 7 of 8 Page Rev. No. Nil
Approved By : CE(QA) 29-1-10 **Effective Date:** 1st February 2010		

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
6.	Junior Engineer	1. To assist Inspecting officer i.e. CE / SE/ EE & AE / during Inspection of works. 2. To get the samples sealed as identified for collection during the Inspection by the inspecting officer & ensure proper transportation of samples to office. 3. Carry out measurements checks as directed through EE. 4. To assist AE in finalising O.M., compare fair observation memo, COM with approved draft before putting up the same for sign. of Ex. Engineer /Issue. 5. Delivery of collected samples to Nodel officer for the purpose of testing after entries in monitoring register for the purpose. 6. To place the reply of field offices in concerned file for its scrutiny by Assistant Engineer. 7. Compilation / entry in register of monthly progress report as received from various divisions / keep account of inspection carried out. 8. Preparation of monthly report with present status of works inspected by QA Cell. 9. Preparation of various records such as memo details and RIS details. 10. Maintenance of Imprest issued to AE's. 11. Maintenance of Jeep / Car of respective officers	

96

Sl. No.	Designation	Nature of Duty to be performed by each officer	Remarks
7	Junior Engineer (Lab)	1. Collection of samples in sealed covers, wherever applicable. 2. Entry /coding of samples received from divisions as a general samples and from QA Cell as quality control samples. 3. Testing of samples as per duty assigned through roaster. 4. Recording of Observation's in test register and their calculation / inference. 5. Preparation of Test Reports. 6. Preservation of tested samples 7. Preparation of monthly report. 8. Maintaining the Imprest and imprest account 9. Maintaining the relevant codes required for testing. 10. Maintenance of T & P. 11. Maintaining minimum quantities of chemicals / test materials / references etc. necessary for carrying out tests. 12. Ensuring confidentiality of tests & test results. 13. Upkeep & updation of standards and records.	

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL LIST OF QUALITY MANAGEMENT SYSTEM PROCEDURES	DOC : DDA(QA) / QM Issue No 2 Annexure D Page 1 of 1 Page Rev. No. Nil
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Effective Date: 1st February 2010		

S.No.	TITLE	Doc No
1	Procedure for Inspection	QA/P/01
2	Procedure for sampling	QA/P/02
3	Procedure for Empanelment of Laboratories	QA/P/03
4	Procedure for Testing of samples	QA/P/04
5	Procedure for complaint redressal	QA/P/05
6	Procedure for calibration	QA/P/06
7	Procedure for Purchase and Disposal	QA/P/07
8	Procedure for control of Documents	QA/P/08
9	Procedure for control of Records	QA/P/09
10	Procedure for internal Quality audit	QA/P/10
11	Procedure for Management Review	QA/P/11
12	Procedure for Training	QA/P/12
13	Procedure for control of Non-Conformity, Corrective & Preventive action	QA/P/13

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL DISTRIBUTION LIST	DOC : DDA(QA) / QM Issue No 2 Annexure E Page 1 of 1 Page Rev. No . Nil
Approved By : CE(QA) 29.1.10 **Effective Date:** 1st February 2010		

S. No.	Copy Holder
1	Chief Engineer (QA)
2	Superintending Engineer & M.R.
3	EE-I
4	EE-II
5	EE-III
6	EE-IV
7	EE-V
8	EE-VI
9	AE(Lab)
10	EE (Electrical)
11	AD (Adm.)
12	Certification Body
13	Spare Copy

Delhi Development Authority (Quality Assurance)	QUALITY MANUAL DOCUMENT AMMENDMENT SHEET	DOC : DDA(QA) / QM Issue No 2 Annexure F Page 1 of 1 Page Rev. No . Nil
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S. No.	Date	Chapter No. Page No.	Current Page Rev. No. & Date	Revides Page Rev. No. & Date	Brief Description of Change