

Sundernagar Lake



BHAKRA BEAS MANAGEMENT BOARD INTEGRATED MANAGEMENT SYSTEM MANUAL

Based on **Quality** (IS/ISO 9001:2015), **Environmental** (IS/ISO 14001:2015),
Occupational Health & Safety (IS/ISO 45001:2018) Management Systems

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INTEGRATED MANAGEMENT SYSTEM MANUAL
(Quality – Environmental – Occupational Health & Safety Management Systems)
[IS/ISO 9001:2015, IS/ISO 14001:2015, IS/ISO 45001:2018]

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DOCUMENT AMMENDMENT SHEET of Obsolete Quality Manual (Issue no.4)

| S. No. | Date of Amendment / Revision | Chapter No. | Old Page No. | Amended / Revised Page No. & Rev. No. | Summary of Changes/ Remarks |
|--------|------------------------------|-------------|------------------------|---------------------------------------|---|
| 1. | October 2010/1 | 1 | 2 of 16 to 10 of 16 | 2 of 14 to 10 of 14,1 | Reference of areas Covered under Phase I & Phase II deleted |
| 2. | October 2010/1 | 1 | 3 of 16 | 3 of 14,1 | Administrative changes as per Secy, BBMB O/O No.226 dated 29.9.10 |
| 3. | October 2010/1 | 1 | 8 of 16 | 8 of 14,1 | Administrative changes as per Secy, BBMB O/O No.225 & 226 dated 29.9.10 |
| 4. | October 2010/1 | 3 | 2 of 6 to 3 of 6 | 2 of 6 to 3 of 6,1 | Minor amendments have been carried out in Objectives of Irrigation Wing & objectives of Power Wing to make them measurable. |
| 5. | October 2010/1 | 7 | 32 of 32 | 32 of 32 | 3rd Para added |
| 6. | October 2010/1 | 8 | 10 of 13 | 10 of 13 | A new Para added in the end of the page |
| 7. | October 2010/1 | 8 | 9 of 13 to 12 of 13 | 9 of 13 to 12 of 13 | Sr Nos. added |
| 8. | October 2010/1 | Annex-C | 17,21,29, 31, 33 of 33 | 17,21,29, 31, 33 of 33, 1 | Administrative changes as per Secy, BBMB O/O No.225 & 226 dated 29.9.10 |
| 9. | March, 2011/2 | Annexure B | 4 of 8 | 4 of 8 | Computer Cell, EDP Manager added under organization set up of Chief Engineer/ Generation, Nangal |

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| 10. | August, 2011/3 | Annexure C | 20 of 33 | 20 of 33 | Responsibility and Authority of 'SE Pong Power House' added |
| 11. | 18 December' 2014/ 1 | 2 | 3 of 5 | 3 of 5 | IS/ISO defined |
| 12. | 18 December' 2014/ 1 | 6 | 5 of 5 | 5 of 5 | Para 4 amended as per Work Environment clause 6.4 of IS/ISO 9001:2008 |
| 13. | 05 May, 2015 | 1 | 10 of 14 | 10 of 14 Rev. 1 | Charge of CVO BBMB given to CVO, SJVNL |
| 14. | 05 May, 2015 | 2 | 3 of 5 | 3 of 5 Rev.2 | Abbreviation of CPIO added. |
| 15. | 05 May, 2015 | 7 | 28 of 32 | 28 of 32 Rev. 1 | Charge of CVO BBMB given to CVO, SJVNL |
| 16. | 05 May, 2015 | Annexure B | 1 of 8 | 1 of 8 Rev. 1 | Organizational Setup of Board Secretariat |
| 17. | 05 May, 2015 | Annexure C | 3 of 33 | 3 of 33 Rev. 1 | Charge of CVO BBMB given to CVO, SJVNL. Duties of CVO separately defined. |



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| 1 | 12.01.2011/1 | 1 | 9 | 9 Rev No. 1 | Line deleted under Section 2.1.9 |
| 2 | 12.01.2011/1 | Annexure B | 4 | 4 Rev No. 1 | "Computer Cell EDP Manager Chandigarh" added |
| 3 | 12.01.2011/1 | Annexure B | 6 | 6 Rev No. 1 | Director P&D(TS) added |
| 4 | 12.01.2011/1 | Annexure B | 8 | 8 Rev No. 1 | Director P&D(TS) Deleted |
| 5 | 12.01.2011/1 | Annexure C | 23 | 23 Rev No. 1 | New Para added at the end of First Para |
| 6 | 12.01.2011/1 | Annexure C | 30 | 30 Rev No. 1 | Functions of Director P&D(TS) added |
| 7 | 12.01.2011/1 | Annexure C | 31 | 31 Rev No. 1 | Few Lines deleted in first para |
| 8 | 12.01.2011/1 | Annexure C | 33 | 33 Rev No. 1 | Functions of Director P&D(TS) Deleted |
| 9 | 12.01.2011/1 | Annexure C | 35 | 35 Rev No. 1 | Last Line (K) deleted |
| 10 | 2.08.2011/2 | Chapter 4.4 | 8 | 8 Rev No. 2 | Point No. 12 added |
| 11 | 2.08.2011/2 | Chapter 4.5 | 4 | 4 Rev No. 2 | Third para amended |
| 12 | 18.12.2014 | Chapter 2 | 3 | 3 Rev No. 1 | IS/ISO defined |
| 13 | 18.12.2014 | Chapter 4.4 | 5 | 5 Rev No. 1 | Internal communication defined |
| 14 | 05.5.2015 | Chapter 1 | 11 of 16 & 12 of 16 | 11 of 16 & 12 of 16 Rev No. 1 | Charge of CVO BBMB given to CVO, SJVNL |
| 15 | 05.5.2015 | EMS Manual | 4 of 5 | 4 of 5 Rev No. 1 | Abbreviation of CPIO added. |

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| 16 | 05.5.2015 | Annexure B | 1 of 8 | 1 of 8 Rev No. 1 | Organizational Setup of Board Secretariat |
| 17 | 05.5.2015 | Annexure C | 3 of 35 and 4 of 35 | 3 of 35 and 4 of 35 Rev No. 1 | Charge of CVO BBMB given to CVO, SJVNL. |
| 18 | | | | | |
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 [IS/ISO 9001:2015, IS/ISO 14001:2015, IS/ISO 45001:2018]

DOCUMENT CONTROL PAGE

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|---------|-----------|--------------|------------------|----------------------------|---|---|
| 1. | 00 | | 09 January, 2017 | --- | Initial IMS Manual | |
| 2. | 01 | | 19 June 2018 | Entire document | This IMS Manual is upgraded to IS/ISO9001:2015, IS/ISO14001:2015 & IS18001:2007 standards requirement | |
| 3. | 02 | | 28 Nov 2019 | In whole document | IS/ISO 18001:2007 shall be read as IS 18001:2007 | |
| 4. | | | | Page no. 56 | In the clause 6.0 Planning and sub clause 6.1.1 Risk and Opportunities, para 4 bullet point no 4 and 5 shall be read as "Objectives, business plans and respective Interested Parties demand – depending upon the availability of resources (water & electricity)" | |
| 5. | | | | In whole document | All the nomenclature viz MR-IMS-P-X have been replaced with MR/IMS/P/X | |
| 6. | | | 14 February 2020 | Clause 3.3 | Terms Common to IMS | IMS Policy defined |
| 7. | | | | Clause 5.2 | Quality Policy, Environmental Policy and OHS Policy Replaced with IMS Policy | Quality Policy, Environmental Policy and OHS Policy / Policies be read as IMS Policy |
| 8. | 03 | | | Standard for OHSMS revised | OHSMS Revised from IS 18001:2007 to IS/ISO 45001:2018 | Updated Manual Issued |

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0.0 Introduction to Integrated Management System at BBMB

0.1 Authorization for Manual

This Integrated Management System (IMS) Manual has been prepared to address the requirements of Standards:

- a) IS/ISO 9001:2015 Quality Management Systems,
- b) IS/ISO 14001:2015 Environmental Management Systems, and
- c) IS/ISO 45001:2018 Occupational Health and Safety Management System.

Director/Human Resource and Development (HRD), as the Central Management Representative (CMR) is authorized to execute the activities of preparing, updating, revising and amending the IMS Manual in consultation with other MRs and upon approval by Chairman.

Further, whenever revisions are made to this document, such revisions are recorded in the "Document Control Page" by giving a brief note on revisions made. The CMR reviews the changes made to IMS Manual, and Chairman authorizes these revisions.

This IMS Manual refers to the IMS system procedures. System procedures and other documents referred therein, form the basis for carrying out the IMS activities in a systematic and effective manner in order to achieve the organization's policies and objectives.

0.2 Overview of the Organization

The partition of the country in 1947 brought a meagre 20% of the irrigated area against 50% population to the State of Punjab in India.

The Indus-Water Treaty, 1960 was signed between India and Pakistan, according to which, waters of the eastern rivers namely the Sutlej, the Beas and the Ravi were allocated for use by India.

A Master Plan was drawn up to harness the potential of these rivers for providing assured irrigation and power generation. Bhakra-Nangal and Beas Projects form major part of the plan. Bhakra-Nangal project was taken up as joint-venture of the erstwhile state of Punjab and Rajasthan immediately after the Independence. On Reorganisation of the erstwhile state of Punjab on 1st November, 1966, Bhakra Management Board (BMB) was constituted under section 79 of the Punjab Reorganisation Act, 1966 for the administration, maintenance and operation of Bhakra Nangal Project on 1st October 1967. Construction of Beas Projects, a joint venture of States of Punjab, Haryana and Rajasthan was entrusted to Beas Construction Board (BCB) according to Punjab Reorganisation Act. The Beas Project Works, on completion, were transferred by Government of India from Beas Construction Board (BCB) to Bhakra

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Management Board as per Section 80 of the Punjab Reorganisation Act, 1966 and the Bhakra Management Board was renamed as Bhakra Beas Management Board (BBMB) w. e. f. 15th May 1976.

Functions: The functions of BBMB are:

- a) Administration, Operation & Maintenance of Bhakra-Beas Projects.
- b) The regulation of the supply of water from Bhakra-Beas Projects to the States of Punjab, Haryana and Rajasthan.
- c) The regulation of the supply of power generated at Bhakra-Beas Projects.
- d) Any other function as the Central Government may assign after consultation with the Governments of States of Haryana, Punjab and Rajasthan.
- e) The Govt. of India in the year 1999 has entrusted additional functions of providing & performing engineering and related technical consultancy services in fields of Hydro Electric Projects & Irrigation Projects.

0.3 Vision and Mission

Vision Statement:

"To lead and be a trendsetter in Power Sector by establishing high standards in Operation & Maintenance, Renovation & Modernization of Hydel Projects, Transmission Network, Canal Systems & by exploiting new Hydro & Solar Power Potential with optimal utilization of existing infrastructure & resources."

Mission Statement:

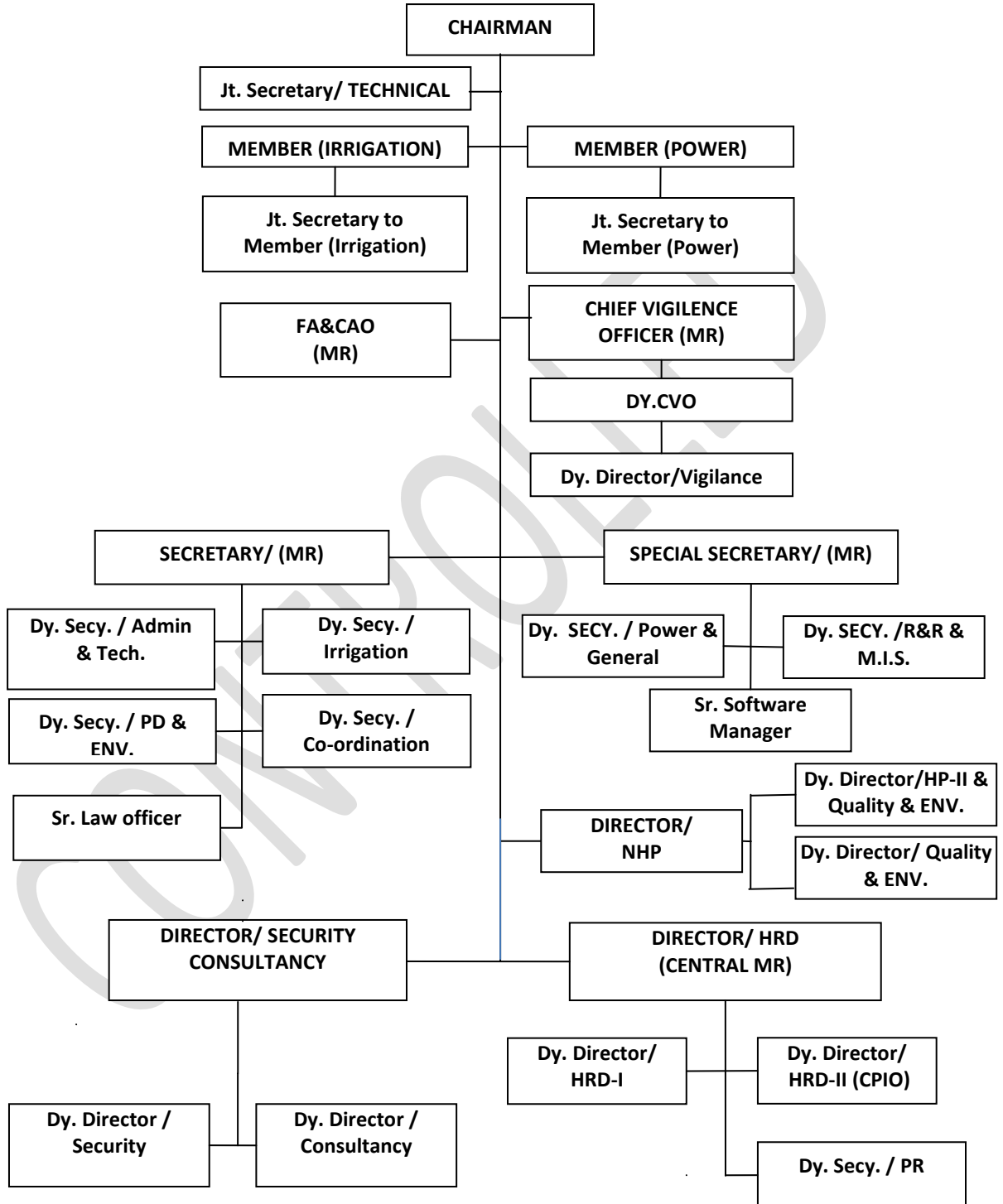
To keep our systems running at Minimum Cost.

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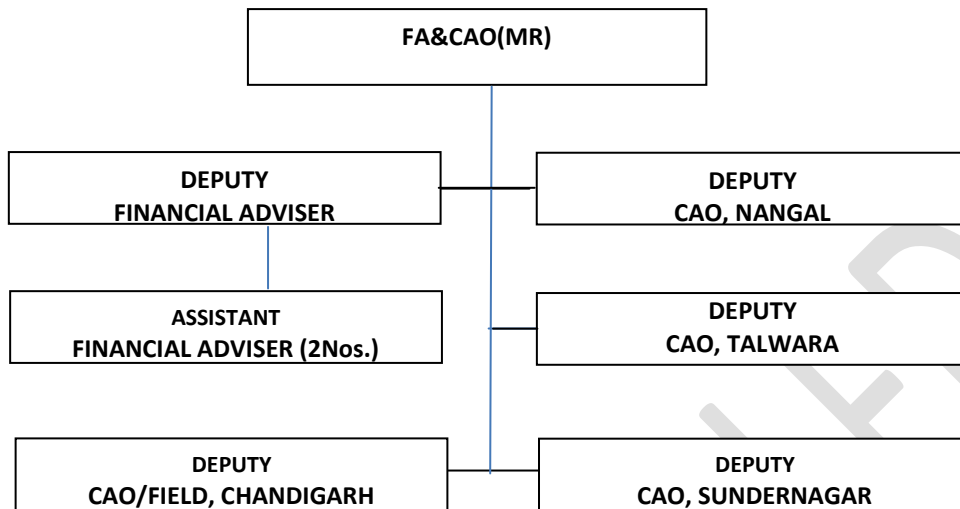
0.4 BBMB Organization Structure

A. Organization set up of BBMB Secretariat, Chandigarh

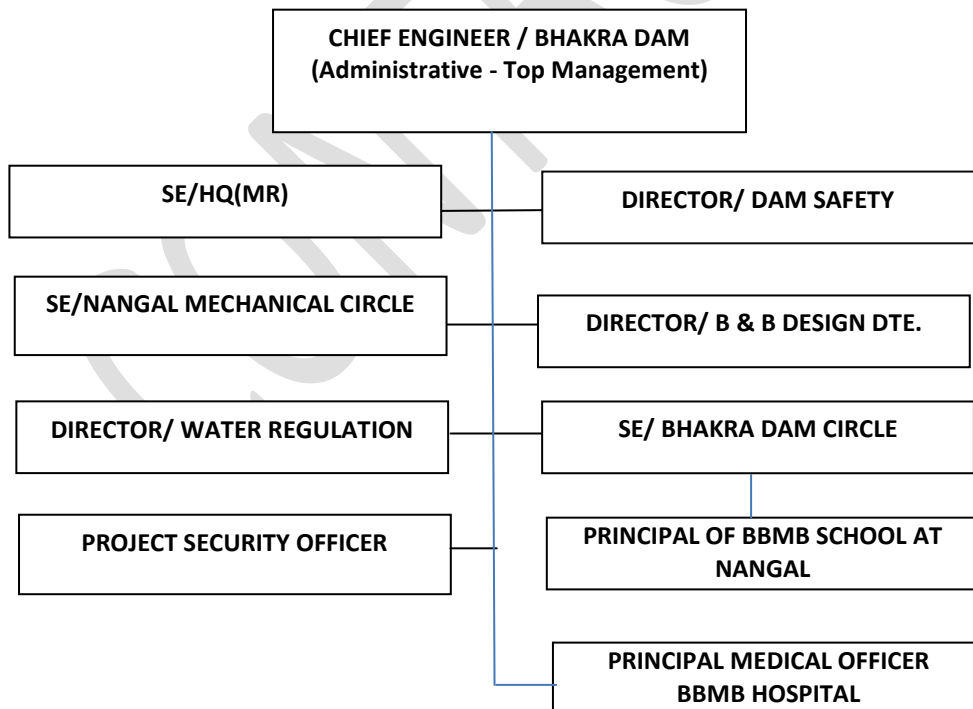




B. Organization set up of FA & CAO

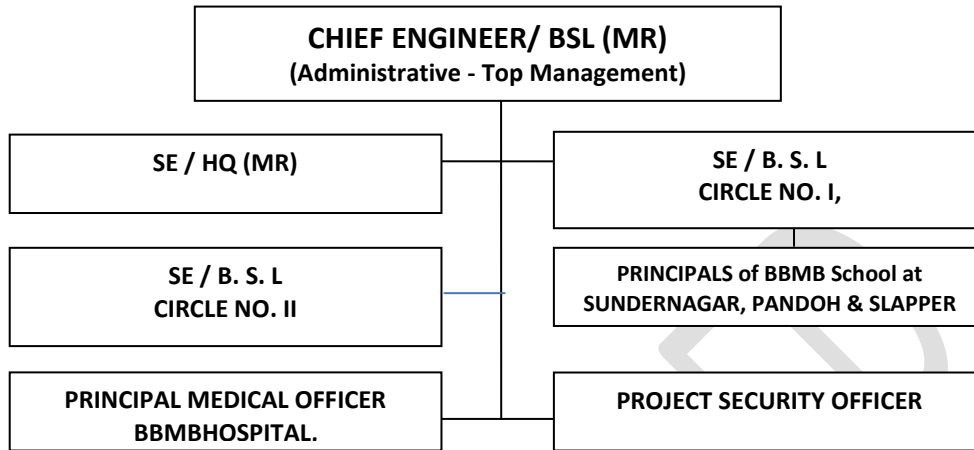


C. Organization set up of Chief Engineer/Bhakra Dam, Nangal (Irrigation Wing)

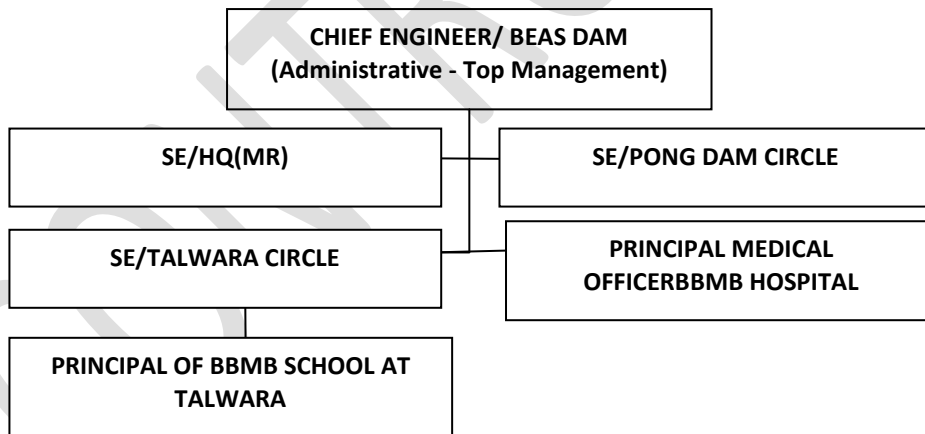




D. Organization Step of Chief Engineer/BSL Project,Sunder Nagar (Irrigation Wing)

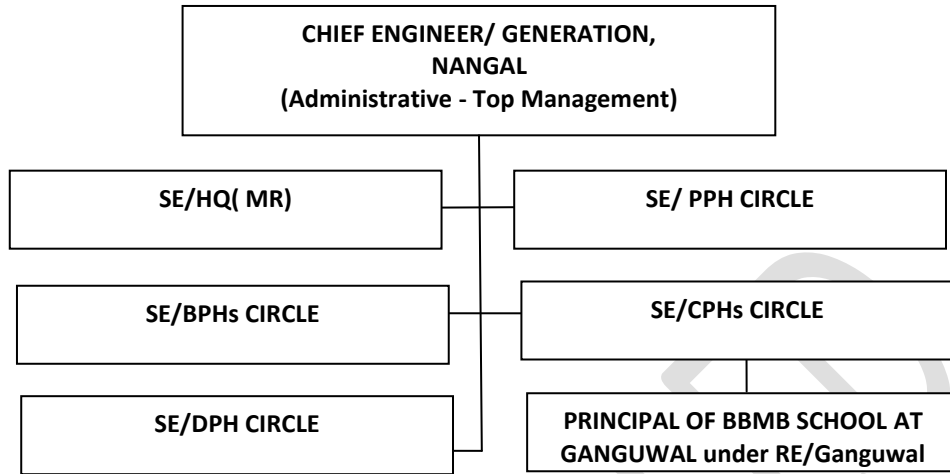


E. Organization set up of Chief Engineer/ Beas Dam,Talwara (Irrigation Wing)

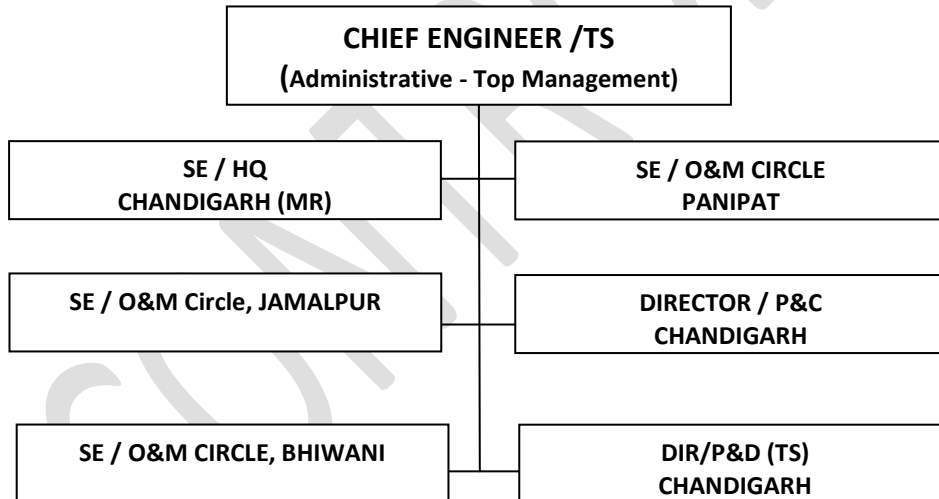




F. Organization set up of Chief Engineer/Generation, Nangal (Power Wing)

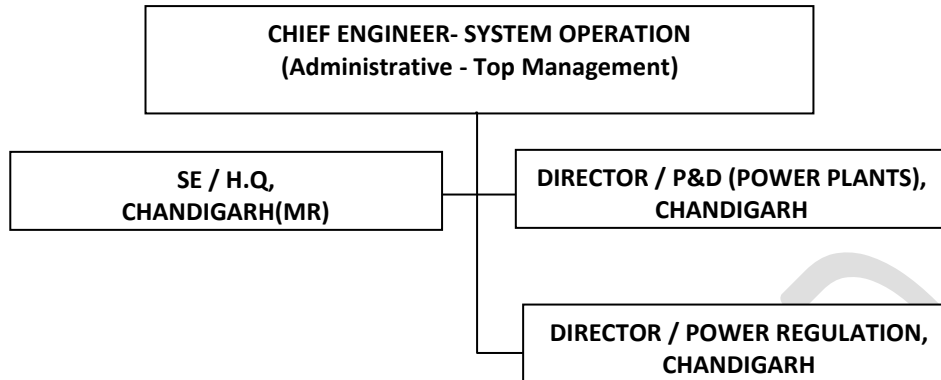


G. Organizational set up of Chief Engineer/ Transmission System, Chandigarh (Power Wing)





H. Organization set up of Chief Engineer/System Operations, Chandigarh (Power Wing)



0.5 Integrated Management System of BBMB

BBMB attained accredited certifications for its QMS and EMS during the years 2004 followed by integration of QMS 9001:2008, EMS 14001:2004 & OHSMS 18001:2007 in year 2017. The implementation of IMS is expected to support and sustain the organization's excellent track record and provide further motivation for setting and achieving goals as a part of the organization's continual improvement plans. Further in the year 2018 as a strategic decision, BBMB decided to upgrade the QMS 9001:2008, EMS 14001:2004 to QMS 9001:2015, EMS 14001:2015 and therefore revised the IMS manual as per the requirements of standard QMS 9001:2015, EMS 14001:2015 & OHSMS 18001:2007. Occupational Health and Safety Management System OHSMS 18001 has become obsolete therefore Top management of BBMB has now decided to adopt its revised version OHSMS 45001:2018 as a strategic decision. ISO 45001 considers both risk and opportunities with aims to provide a safe and healthy workplace for employee and visitors and therefore emphasises the enhanced role of Top Management in the incorporation of health and safety in the organizational culture along with the management system of organization.

As a continual improvement in integrated management system, Top Management again taken a strategic decision to update the IMS manual comprising of QMS IS/ISO 9001:2015, EMS IS/ISO14001:2015 and OHSMS IS/ISO 45001:2018.

An IMS Manual is developed based on the requirements of IS/ISO 9001:2015 QMS, IS/ISO 14001:2015 EMS and IS/ISO 45001:2018 OH&SMS and it addresses the standards' requirements as well as the organizational requirements at macro level. This IMS Manual, by linking System procedures, delineates responsibilities, accountabilities and authorities of the personnel responsible for performing within the system.

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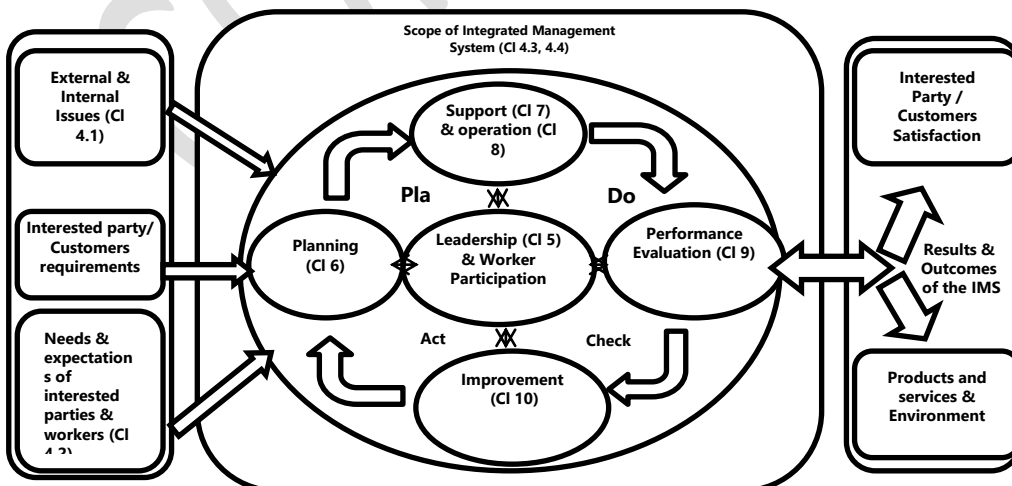
Since IMS needs to address multiple objectives of a business, process-based model suits more appropriately. Hence the integration of management systems is done in accordance with the Process-based Management System concept as described by Annex-I (as described below). This IMS has ensured that PDCA cycle elements are covered within the overall system. An advantage of the process approach is the ongoing control that it provides over the linkage between the individual processes within the system of processes, as well as over their combination and interaction. When used within a management system, such an approach emphasizes the importance of

- a) Understanding and meeting requirements
- b) The need to consider processes in terms of added value
- c) Obtaining results of process performance and effectiveness and
- d) Continual improvement of processes based on objective measurement

On adaptation of this International Standard, provide BBMB with a framework to meet the interested parties needs & expectation, protect environment & respond to changing environmental conditions in balance with socio-economic needs, enhance occupational health & safety performance. It specifies requirements that enable BBMB to achieve the intended outcomes of quality, environmental and OH&S management system.

Annex-1 provides a correspondence between Integrated Management System elements and the elements of IS/ISO 9001:2015 QMS, IS/ISO 14001:2015 EMS and ISO 45001:2018 OH&SMS.

Throughout this IMS Manual, while describing the IMS-system elements, relevant clause numbers of specific standard are given in parenthesis under each system element to establish required correspondence between them.





0.6 Document Control System for IMS Manual:

Structure of the IMS Manual

This IMS Manual is structured as shown in the content pages of the Manual. IMS Manual pages are numbered serially with page number indication. First page of Master Copy of the manual bears signature(s) of Chairman - Approving Authority of the Manual. The current revision number and edition number are also indicated on each page. Revision number "00" has been given to first issue of the First Edition. As of now this is issue 03 with Revision Number 00. The IMS Manual is available in English language only.

Issue/Revision of IMS Manual and other IMS documents viz. Common Procedures, Common Operational Control Procedures and Legal Manual issued by CMR.

The **Central Management Representative (CMR)** is authorized to execute the activities of preparing, updating, revising and amending the IMS manual and other IMS documents viz. Common Procedures, Common Operational Control Procedures and Legal Manual issued by CMR. The distribution of IMS Documents shall be controlled by CMR as per distribution list given at **Document Control page** of this manual.

Appropriate entries in the library register shall be ensured by MR for library-controlled copy.

The Master Copy of the Manual and other IMS Documents issued by CMR bears the signature of the approving authority in original. It does not bear stamp of "**Controlled Copy**".

PDF version copy of the IMS Manual and other IMS Documents issued by CMR is uploaded on BBMB Intranet and password enabled web-link on BBMB website and bear water mark of "**CONTROLLED**" in red colour on each page of the Documents. PDF soft copy doesn't bear the controlled copy Number and copy have scanned signature of approving authorities.

CMR issues copies of IMS Manual and other IMS Documents to MR as per distribution table. Further, respective MRs, whenever required, may issue controlled hard copies of these documents and maintains a distribution log at their own end.

The IMS documents are reviewed periodically by the CMR/MR in consultation with other MRs. Revision shall be done at least once in **05 years** and issue no. is revised. No revision\issue is implemented unless it has been approved by the Chairman and formally issued and uploaded by the CMR/MR.

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When revision takes place, the revision is indicated by the revision number in each page of IMS Manual and for other documents specific to that revised sections (i.e. Common Procedures, Common OCP, and Legal Manual) and recorded in the Revision Record as per control of document procedure. Each amendment / revision is introduced formally by the issue of a new document, as the case may be and shall be uploaded on BBMB Intranet/BBMB website by CMR and softcopies shall be sent to "Administrative Top Management of Field" for further distribution as mentioned in above paras. Document amendment record shall also be uploaded on the intranet / BBMB website to enable users to know the current status of documents. If there are more than 20 amendments/revisions in the Manual, the complete Manual is revised to next issue number.

All old sections/Pages removed are crossed, rubber stamped "**OBSOLETE**" and retained by CMR till next issue.

Documents specific to site under MR jurisdiction

The Management Representatives (MRs) are authorized to execute the activities of preparing, updating, revising, amending and approving all the Quality, Environment and Health & Safety System Documents specific to their defined jurisdiction. Such documents shall normally be prepared at each Divisional Level or as deemed fit by each MR so as to cover all the activities comprehensively and to ensure that no system shall be left out of the scope of IMS unless authorized by the Chairman/BBMB. All the consolidated documents with each MR shall be termed as **Procedures Manual**.

The **Master List** of documents shall indicate current revision /amendment status of all the documents. It shall be compiled by consolidating content sheets of Divisional Manuals.

The **Master List** and the Master Copy of documents shall be available with concerned MR. However; each MR shall provide a Controlled copy of the Master List to CMR for reference and record.

The distribution of all Management System Documents and the release of amendments will be controlled and carried out by MR. Controlled copies of the document will be issued, as per its distribution list, with the stamp "**CONTROLLED**". All controlled copies shall be kept updated with the amendments by the holders of the Controlled copies.

MR shall ensure that all the Controlled copies of documents are provided to working level officers (normally SDOs/ AEs/ ADs/ AOs etc.) or to any other personnel as deemed fit by each MR so as to ensure that work is carried out in accordance with laid down system / procedures. All the spare copies shall be kept in the library under the control of each MR.

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The insertion of any additional / amendment sheet(s) and removal of an old sheet(s), in the individually-controlled copies, as per distribution list shall be the responsibility of the persons holding **"CONTROLLED"** copy.

Apart from controlled copies as per the distribution list, any additional copy of the IMS related documents so required to be distributed for any reference/ discussions etc., the same will be issued only by the MR and such copies will be stamped **"UNCONTROLLED"** on each page before issue. These uncontrolled copies would not come under the purview of the document amendment procedure.

The entire IMS related documentation or part thereof will be reviewed from time to time especially whenever any major change occurs such as addition / deletion / renovation / modernization or technological upgradation in any component / the system.

All the revisions / amendments will be approved by MR, prior to their issue and shall be appropriately marked. 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 destroyed suitably. Obsolete copies retained with the Management Representative shall be stamped 'OBSOLETE' on all pages.

All old sections removed are crossed, rubber stamped **"OBSOLETE"** and retained by concern site MR till next issue.

Issue of IMS Documents under RTI Act 2005:

Any copy of the complete IMS Manual or any part thereof or any other IMS related document(s) so requested by **Public Information Officer (PIO)** of BBMB for supplying the same to anybody else under **Right to Information Act 2005**, will be issued by the concerned designated **Public Information Officer (PIO)** of BBMB processing such applications. He shall send requisition to CMR for providing hard copies. Such copies will be stamped **"UNCONTROLLED- Issued under RTI Act"** on each page before its issue. These uncontrolled copies would not come under the purview of the document amendment procedure. Public Information Officer shall adhere to the procedure & guidelines adopted and publicised from time to time by BBMB under the RTI Act for disposing of such applications and charging of fee (as applicable).

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0.7 Scope

The IMS covers major activities of BBMB which are detailed as under. The respective heads of departments are also defined along with the major activities.

A. Bhakra Complex – Irrigation Wing (Chief Engineer/Bhakra Dam, Nangal):

- Management of Bhakra Dam and Gobind Sagar and works appurtenant thereto.
- Management of Nangal Pond and Nangal Dam feeding Nangal Hydel Channel & Anandpur Sahib Hydel Channel.
- Management of Nangal Hydel Channel (up to Ropar RD 200337 ft.).
- Management of Hospital at Nangal and Dispensary at Chandigarh, Nangal Township, Railway Network (Nangal to Bhakra), Guest Houses at Nangal, Bhakra Beas Training Centre at Nangal.
- Project Security at Bhakra Dam & management of BBMB D.A.V. Public School, Nangal Township etc.

B. Bhakra Complex – Power Wing (Chief Engineer/Generation, Nangal):

i) Power Houses:

- Management of Bhakra Right Bank and along with its 220 kV Switchyard.
- Management of Left Bank Power Houses along with its 220 kV (1 no.) & 66 kV (1 no.) Switchyards.
- Management of Canal Power House at Ganguwal & Kotla along with 132 kV Switchyards (each at Ganguwal and Kotla) besides management of 220 kV Major Interlinking Sub-Station (MISS), Guest House/Field Hostel at Ganguwal and Kotla, Transportation, Middle School at Ganguwal, Health centre/ Dispensary, Residential Colony etc.
- Management of Guest Houses, transportation, etc. related to Bhakra Power Houses.

Note: From the above it can be concluded that there are total 6 no. Substation of 220 kV, 132 kV and 66 kV voltage levels which falls under Management of Chief Engineer/Generation, Nangal.

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ii) Transmission Lines:

a) 220 kV Transmission Lines

1. Bhakra Left- MISS Ganguwal S/C Line
2. Bhakra Right- MISS Ganguwal D/C Line
3. Bhakra Left-MISS Ganguwal D/C Line.

NOTE: Besides aforesaid 220 kV Transmission lines, the management of the following Transmission Line is under the jurisdiction of Chief Engineer/Generation, Nangal, though this line forms a part of Beas Project (Power Wing).

1. Dehar-MISS Ganguwal D/C Line

b) 66 kV Transmission Lines

- 1 Bhakra Left- NFL D/C line.
- 2 Bhakra Left – NFL (via PSEB NGL) S/C line.

C. Bhakra Complex – Finance and Accounts office (under FA&CAO, Chandigarh):

Management of Finance and Accounts activities related to Power and Irrigation wing at Nangal.

D. Beas Project – Irrigation Wing:

i) Unit I - Beas Sutlej Link Project (Chief Engineer/ BSL, Sunder Nagar)

- Management of Pandoh Dam and its water conductor system comprising of PandohBaggi Tunnel, Baggi Control Works, Sunder Nagar Hydel Channel, Balancing Reservoir at Sundernagar and Sunder Nagar – Slapper Tunnel and works appurtenant thereto.
- Management of Sundernagar and Pandoh Townships, Hospitals/Dispensary/Health centre(s) at Sundernagar, Pandoh& Slapper, Guest Houses at Sundernagar, Pandoh and Manali, Project Security, and Schools at Sundernagar, Slapper and Pandoh etc.

ii) Unit II - Beas Dam (Chief Engineer/ Beas Dam, Talwara)

Management of Beas Dam including MaharanaPratapSagar, outlet works, spillway & works appurtenant there-to, Talwara Township & Hospitals, Guest Houses, Schools, Transportation at Talwara etc.

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E. Beas Project – Power Wing:

i) Unit I - Beas Sutlej Link Project (Chief Engineer/ Generation, Nangal)

- Management of 400 kV, 220 kV&132 kV Switchyard at Dehar Power House, Slapper.
- Management of Dehar Power House at Slapper and Slapper Township, Guest House, Transportation at Slapper etc.,

Note: There is only one 400 kV Substation having 400 kV, 220 kV&132 kV Switchyard at Dehar Power House, Slapper

ii) Unit II - Beas Dam (Chief Engineer/Generation, Nangal):

Management of Pong Power House along with 220 kV and 66 kV Switch Yards, Guest House, Transportation etc.

Note: There is only one 220 kV Substation having 220 kV and 66 kV Switch Yards at Pong Power House.

F. Beas Project– Finance and Accounts office (FA&CAO, Chandigarh):

i) Unit I - Beas Sutlej Link Project

Management of Finance and Accounts activities related to Power and Irrigation wing.

ii) Unit II - Beas Dam

Management of Finance and Accounts activities related to Power and Irrigation wing.

G. BBMB Transmission System – Power Wing (Chief Engineer/Transmission System, Chandigarh):

1) GRID SUBSTATIONS:

Management of 16 No's Grid Substations having voltage levels of 400 kV, 220 kV and 66 kV existing in different States as under:-

a) 400 kV Grid Substations.

| | | |
|-------------|--|--------------|
| i. Panipat. | | ii. Bhiwani. |
|-------------|--|--------------|

b) 220 kV Grid Substations.

| | | | |
|---------------|----------------------|---------------|------------------|
| i. Jalandhar | ii. Kurukshetra | iii. Jamalpur | iv. Sangrur. |
| v. Barnala. | vi. Hissar. | vii. Dadri. | viii. Ballabgarh |
| ix. Samaypur. | x. Rohtak Road Delhi | xi. Narela. | xii. Jagadhri. |
| | | | xiii. Dhulkote. |

c) 66 kV Grid Substation

- i. Chandigarh.

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II) TRANSMISSION LINES:

Management of the following Transmission Lines having voltage levels from 400kV, 220 kV, 132kV, and 66 kV passing through different States : -

a) 400 kV Transmission Lines.

| | |
|--------------------------------------|-----------------------------------|
| 1. Dehar-Panchkula-Panipat S/C Line. | 2. Dehar-Rajpura-Bhiwani S/C Line |
|--------------------------------------|-----------------------------------|

b) 220 kV Transmission Lines.

| | | | |
|---|------------------------------------|--------------------------------------|--------------------------------------|
| 1. Bhakra Right – Jamalpur D/C Line. | 2. Dhulkote- Panipat D/C line. | 3. MISS Ganguwal- Dhulkote D/C Line. | 4. MISS Ganguwal- Jagadhri S/C Line. |
| 5. Pong – Jalandhar D/C Line. (Ckt 1&2) | 6. Pong – Dasuya D/C Line. (Ckt 4) | 7. Dasuya- Jalandhar D/C Line | 8. Jalandhar- Jamalpur D/C Line |
| 9. Jalandhar- Sangrur D/C Line | 10. Sangrur- Hisar D/C Line | 11. Sangrur- Barnala S/C Line | 12. Hisar- Bhiwani D/C Line |
| 13. Bhiwani- Dadri D/C Line (2Nos) | 14. Dadri- Samaypur S/C Line | 15. Dadri- Ballabgarh S/C Line | 16. Dadri- Panipat S/C Line |
| 17. Ballabgarh- Samaypur D/C Line | 18. Ballabgarh- Samaypur S/C Line | 19. Ballabgarh- B.T.P.S D/C Line | 20. Panipat- Narela D/C Line |
| 21. Panipat- Narela S/C Line | 22. Jagadhri- Kurukshetra S/C line | 23. Kurukshetra- Panipat S/C line | 24. Narela- Rohtak Road D/C Line |



c) 132 kV Transmission Line.

1. Ganguwal P.H. - Kotla P. H. D/C line.

d) 66 kV Transmission Lines.

1. Dhulkote - Chandigarh D/C line.
2. Pinjore - Chandigarh D/C line (Ckt. 1)

III) Management of all Guest Houses, Residential colonies, Non-residential buildings including SLDC Complex at Chandigarh, Dispensaries, Transportation etc. under Transmission Wing.

IV) Management of purchase/procurement/refurbishment process for all the Sub-Stations of BBMB.

H. BBMB Transmission System – Finance and Accounts office (FA & CAO, Chandigarh):

Management of Finance and Accounts activities related to Power wing at various stations under T/S.

I. BBMB System Operation Activities (CE/System Operation, Chandigarh)

- Management of BBMB Power System (Power Regulation and Load Dispatch) including commercial activity w.r.t the power generated through the BBMB Power houses.
- Management of Load Dispatch System and Communication System of BBMB at Chandigarh and Sub-centres at Ganguwal, Jamalpur, Panipat & Dadri including their interconnection system
- Management of purchase/ procurement/ refurbishment process for all the Power Stations of BBMB.
- Management of BBMB Wide Area Network and Computerization.

J. BBMB Administrative, Finance and Secretariat Functions at Chandigarh (Common for Irrigation, Power and Accounts and Finance Wing) (FA & CAO, Chandigarh; Secretary, Special Secretary, Director/HRD and Director/Security & Consultancy at BBMB, Chandigarh)

Management of BBMB administrative, finance and secretarial support to top management of BBMB to facilitate service realization through respective Chief Engineers of Irrigation and Power Wing

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0.8 Intended Audience

- Employees of BBMB to know about their IMS
- Ministries of Central Govt
- Partner States
- External auditors to understand and evaluate the IMS
- Prospects through RTI

0.9 Confidentiality

This manual is restricted for circulation within BBMB and to those that BBMB management deems appropriate. No part of this manual may be reproduced or distributed in any form outside BBMB without the prior written permission of the Top Management or the Management Representative.

1 IMS SCOPE

(IS/ISO 9001, IS/ISO 14001, IS/ ISO 45001:2018 Clause 1)

General

BBMB has developed an IMS which is based on the requirements specified in IS/ISO 9001:2015, IS/ISO 14001:2015 and ISO 45001:2018. IMS is established and maintained to manage the quality, environment, health & safety management system requirements for all the activities/operations that are associated with Irrigation, Power Generation and its allied services (like township, hospitals, schools etc). IMS is an integral part of the BBMB overall business management system; it is implemented and maintained to continually improve the IMS performance of BBMB in accordance with the specifications/requirements of referred standards in order to:

- a) Assure itself of conformity with its stated Quality, Environmental and Occupational Health & Safety policies;
- b) Demonstrate conformity with the adopted Indian standards/ISO; and
- c) Seeking certification/registration of its IMS by an accredited certification body.

Application of Management System Certification at BBMB

The certification for the management system standards by an accredited certification body covers the following:

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- a) An IMS certification based on IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001 standards covering entire BBMB business activities; and
- b) An IMS certification based on IS/ISO 9001 standard covering project activities related to 'Irrigation, Power generation and allied services. Section 0.7 provides the IMS Certification Scope Statement for BBMB (as an organization).

The IMS is applied to all the operations and activities associated with Activities defined in Section 0.7 above.

The scope of certification as applicable to each of management systems of IMS is applicable to locations:

Locations covered under the scope:

| S. No. | Centres | Co-ordinating Officers-cum-MR |
|--------|---|---|
| 1 | Chief Engineer/SO, BBMB, Chandigarh | SE/HQ O/o Chief Engineer/SO, BBMB, Chandigarh |
| 2 | Chief Engineer/TS, BBMB, Chandigarh | SE/HQ O/o Chief Engineer/TS, BBMB, Chandigarh |
| 3 | Chief Engineer/Bhakra Dam, BBMB, Nangal | SE/HQ O/o Chief Engineer/Bhakra Dam, BBMB, Nangal |
| 4 | Chief Engineer/Generation, BBMB, Nangal | SE/HQ O/o Chief Engineer/Generation, BBMB, Nangal |
| 5 | Chief Engineer/Beas Dam, BBMB, Talwara | SE/HQ O/o Chief Engineer/Beas Dam, BBMB, Talwara |
| 6 | Chief Engineer/BSL, BBMB, Sundernagar | SE/HQ O/o Chief Engineer/BSL, BBMB, Sundernagar |
| 7 | Board Secretariat, BBMB, Chandigarh | FA & CAO, BBMB, Chandigarh Secretary, BBMB, Chandigarh Special Secretary, BBMB, Chandigarh Director/HRD-cum-CMR, BBMB, Chandigarh Director/NHP, BBMB, Chandigarh Director/Security & Consultancy, BBMB, Chandigarh |



2 NORMATIVE REFERENCES

(IS/ISO 9001, IS/ISO 14001, ISO 45001 Clause 2)

Information available in the following standards/guidance documents & books were considered while developing the IMS documentation:

- a) IS/ISO 9001:2015 Quality Management System – Requirements
- b) IS/ISO 14001:2015 Environment Management System – Requirements with guidance for use
- c) ISO 45001:2018 Occupational health and safety management system – Requirements
- d) IS 14489 : 2018 – Code of practice on occupational safety & health audit

3 ABBERRIATIONS, TERMS AND DEFINITIONS

(IS/ISO 9001, IS/ISO 14001, ISO 45001 Clause 3)

For the purpose of this IMS, the definition given in ISO 9000:2015, IS/ISO 14001:2015, IS/ISO 45001:2018 shall apply. Definitions of important terminology are given below (reproduced from the referred standards).

3.1 Standard Specific Abbreviations

| | |
|---------|---|
| AI | Aspect Impact |
| CA | Corrective action |
| EH&S | Environment, Health and Safety |
| EH&S MS | Environment, Health and Safety Management Systems |
| F& | Finance and Accounts |
| HIRA | Hazard Identification & Risk Assessment |
| HR | Human Resources |
| H&S | Health and Safety |
| IMS | Integrated Management System |
| ISO | International Organization for Standardization |
| IT | Information Technology |
| MCP | Management Control Procedure |
| MMCP | Monitoring and Measurement Control Procedure |
| MR | Management Representative |

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| | |
|--------|---|
| NC | Nonconformity |
| OCP | Operational Control Procedure |
| OH&SMS | Occupational Health & Safety Management System (standard) |
| QMS | Quality Management System (standard) |
| SOP | Standard Operating procedure |

3.2 BBMB Specific Abbreviations

Addl SE Additional Superintending Engineer

AM Apex Manual

BBMB Bhakra Beas Management Board

Beneficiaries of Welfare Services All Personnel under the control of BBMB, their families and public at large who take the benefit of services rendered by Hospitals/ health centres/ Dispensaries, schools etc

BPH Bhakra Power House

BSL Beas Sutlej Link

CE Chief Engineer

CEA Central Electricity Authority

CMR Central Management Representative

CPH Canal Power House

CSR Civil Services Rules

Customers BBMB is custodian of infrastructure of its partner state (Punjab, Haryana, Rajasthan and Himachal Pradesh for power and Punjab, Haryana, Rajasthan for irrigation) who are the major beneficiaries of water and power generated from the projects. In addition, some part of the water and power generated from the projects are also release to common pool consumers. The concerned power and irrigation organizations of the partner states act as the co-ordinating organizations on their behalf and can be treated as customer for all intents and purposes of the

DFR Department Financial Rules

DIR Director

DPH Dehar Power House

Dy Deputy

EMD Electrical Maintenance Division

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| | |
|---------------|---|
| EMS | Environmental Management system |
| FA&CAO | Financial Advisor and Chief Accounts Officer |
| HQ | Head Quarters |
| HOD | Head of the department The following are HOD in BBMB <ul style="list-style-type: none">• All chief Engineers for their respective area of jurisdiction.• FA&CAO for all finance and account matters• Secretary/BBMB for all administrative and Secretarial support to Top Management of BBMB and other HODs. |
| IEMs | Independent External Monitors |
| IP | Integrity Pact |
| NHP | National Hydrology Project |
| HP/LP | High Pressure/Low Pressure |
| HRD | Human Resource Development |
| HT/LT | High Tension/Low Tension |
| IS/ISO | Indian Standard identical with International Standard issued by International Organisation for Standardization adopted by BIS |
| IW | Irrigation Wing |
| MIS | Management information System |
| NRPC | Northern Regional Power Committee |
| NRLDC | Northern Regional Load Dispatch Centre |
| O&M | Operation and Maintenance |
| OPGW | Optical Power Ground Wire |
| P&C | Protection and Carrier |
| P&D | Planning and Design |
| Page Rev. No. | Page Revision Number |
| PW | Power Wing |
| PFR | Punjab Financial Rules |
| PIO/PIOs | Public Information Officer/Public Information Officers |
| CPIO/CPIOs | Central Public Information Officer/ Central Public Information Officers |
| PLA | Personal Ledger Account |
| PLCC | Power Line Carrier Communication |
| PPH | Pong Power House |
| PPs | Power Plants |

| | | | |
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| | |
|------------------|---|
| PRL | Pandoh Reservoir Level |
| Procedure Manual | The consolidated system Documents prepare by MRs Specific to their defined jurisdiction containing procedures of all the activities comprehensively including all other related documents |
| PSO | Project Security Officer |
| QMS | Quality Management System |
| RTI | Right To information Act 2005 |
| SE | Superintending Engineer |
| SDO | Sub divisional officer |
| Secy | Secretary |
| SLDC | System Load Dispatch centre |
| SO | System Operation |
| SplSecy | Special secretary |
| SSE | Sub-Station Engineer |
| TS | Transmission System |
| Welfare Services | Services rendered by BBMB as welfare measures to its employees and their families as well as the local population viz Hospitals/Health Centres/Dispensaries, schools etc. |
| Xen | Executive Engineer |

3.3 Terms common to Integrated Management System

Audit - systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled

Auditee - Individual/ Group/ Organization being audited.

Auditor - Person with the competence to conduct an audit (includes trained internal auditors).

Audit Scope: Extent and range of a given audit

Continual improvement - recurring activity to increase the ability to fulfil requirements

Correction: Action to eliminate a detected **nonconformity**

NOTE: Correction can be, for example, **rework** or **re-grade**.

Corrective action - action to eliminate the cause of a detected nonconformity or other undesirable situation

Document – information and its supporting medium

Information - meaningful data

IMS Policy – Combination/Integration of QMS Policy, EMS Policy and OHSMS Policy

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Infrastructure – system of facilities, equipment and services needed for the operation of an organization

Interested party - person or group having an interest in the performance or success of an organization

Management - coordinated activities to direct and control an organization

Management system – system to establish policy and objectives and to achieve those objectives

Record – document stating results achieved or providing evidence of activities performed

System - set of interrelated or interacting elements

Top management - person or group of people who directs and controls an organization at the highest level

Work environment - set of conditions under which work is performed

3.4 Terms specific to IS/ISO 9001:2015 QMS

Customer satisfaction - Customer's perception of the degree to which the customer's requirements have been fulfilled

Controlled Copy: A copy of a document whose revision is communicated to the holder whenever it is carried out

Correction Action taken to eliminate a detected non-conformity

Corrective Action: Action taken to eliminate the causes of a detected non-conformity or other undesirable situation in order to ensure that the non-conformity does not occur again i.e. prevent recurrence

Nonconformity - non-fulfilment of a requirement

Process - set of interrelated or interacting activities which transforms inputs into outputs

Product - result of a process [e.g. services; software (such as computer program, dictionary); hardware; processed materials (e.g. lubricant)]

Quality - degree to which a set of inherent characteristics fulfils requirements

Quality management - coordinated activities to direct and control an organization about quality

Quality management system - management system to direct and control an organization about quality

Quality objective - something sought, or aimed for, related to quality

Quality policy - overall intentions and direction of an organization related to quality as formally expressed by top management

Customer Person (*Member states*) or organization that could or does receive a product or a service that is intended for or required by this person or organization

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| | |
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| Context of the organization: | Combination of internal and external issues that can have an effect on an organization's approach to developing and achieving its objectives |
| Document | Information and the medium on which it is contained |
| Documented information | Information required to be controlled and maintained by an organization and the medium on which it is contained |
| Interested party: | Stakeholder person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity |
| Organization: | Person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives. |
| Object | Entity, item, anything perceivable or conceivable |
| Management: | Coordinated activities to direct and control an organization. |
| Mission | Organization's purpose for existing as expressed by top management |
| Non-Conformity: | Non-fulfillment of a requirement. |
| Process: | Set of interrelated or interacting activities that use inputs to deliver an intended result. |
| Procedure: | Specified way to carry out an activity or a process. |
| Policy | Organization intentions and direction of an organization as formally expressed by its top management |
| Product: | Output of an organization that can be produced without any transaction taking place between the organization and the customer. |
| Quality | Degree to which a set of inherent characteristics of an object fulfils requirements |
| Quality management | Management with regard to quality |
| Quality policy | Policy related to quality |
| Requirement | need or expectation that is stated, generally implied or obligatory |
| Regulatory requirement | obligatory requirement specified by an authority mandated by a legislative body |
| Risk | effect of uncertainty |
| Record | document stating results achieved or providing evidence of activities performed |
| Strategy | plan to achieve a long-term or overall objective |
| Statutory requirement | obligatory requirement specified by a legislative body |
| Service | Output of an organization with at least one activity necessarily performed between the organization and the customer |
| Vision | Organization aspiration of what an organization would like to become as expressed by top management |



3.5 Terms specific to IS/ISO 14001:2015 EMS

Compliance obligations (preferred term)

legal requirements and other requirements (admitted term)

legal requirements that an organization must comply with and other requirements that an organization has to or chooses to comply with

Effectiveness – Extent to which planned activities are realized and planned results achieved.

Environment - surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation [Note Surroundings in this context extend from within an organization to the global system]

Environmental aspect - element of an organization's activities or products or services that can interact with the environment [Note A significant environmental aspect has or can have a significant environmental impact]

Environmental impact - any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

Environmental management system (EMS) -part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects

Environmental objective - overall environmental goal, consistent with the environmental policy, that an organization sets itself to achieve

Environmental performance – performance related to the management of environmental aspects

Note 1 to entry: - In the context of environmental management system, results can be measured against the organization's environmental policy, environmental objectives, or other criterion, using indicators.

Environmental condition - state or characteristic of the environment as determined at a certain point in time

Environmental policy - overall intentions and direction of an organization related to its environmental performance as formally expressed by top management

Interested parties – Person or organization that can affect, be affected by, or perceive itself to be affected by a decision of activity.

Note 1 to entry: - To "perceive itself to be affected" mean that perception has been made known by the organization.

Indicator – Measurable representation of the condition or status of operations, management or conditions.

Monitoring – Determining the status of a system, a process or an activity

Measurement – Process to determine the value

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Management System – Set of interrelated or interacting elements of an organization to established policies and objectives and processes to achieve those objectives.

Note 1 to entry: - A management system can address a single discipline or several disciplines (e.g. Quality, environment, occupational health and safety)

Note 2 to entry: - The system elements include organization's structure, roles and responsibilities, planning and operation, performance evaluation and improvement.

Note 3 to entry: - The scope of the management system may include the whole organization, specific and identified functions of the organization, specific and identified sections of the organization, or one of more functions across a group of organization.

Performance – Measurable result

Prevention of Pollution – Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce, or control (separately or in combination) the creation, mission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts

Risk – Effect of uncertainty.

Note 1 to entry: - An effect is a deviation from the expected – Positive or negative

Note 2 to entry: - Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: - Risk is often characterized by reference to potential "event" and consequences, or combination of these

Note 4 to entry: - Risk is often expressed in term of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence.

Risks and opportunities - Potential adverse effects (threats) and potential beneficial effects (opportunities)

Organization – Person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives.

Note 1 to entry: - The concept of organization includes, but is not limited to sole trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part of combination thereof, whether incorporated or not, public or private

Life cycle - consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal

Note 1 to entry: - Life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal.

Outsource – Make an arrangement where an external organization performs part of an organization's function or process

Note 1 to entry: - An external organization is outside the scope of the management system although the outsourced function or process is within the scope.

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3.6 Terms specific to ISO 45001:2018 OH&SMS

Terms specific to ISO 45001:2018 OH&SMS

Interested party (preferred term) **stakeholder** (admitted term)

person or *organization* that can affect, be affected by, or perceive itself to be affected by a decision or activity

Worker person performing work or work-related activities that are under the control of the *organization*

Participation involvement in decision making in OH&S matters

Consultation seeking views before making a decision in OH&S matters, Consultation includes engaging health and safety committees and workers' representatives, where they exist.

Workplace place under the control of the *organization* where a person needs to be or to go for work purposes. The organization's responsibilities under the *OH&S management system* for the workplace depend on the degree of control over the workplace.

Contractor external *organization* providing services to the organization in accordance with agreed specifications, terms and conditions

Requirement Need or expectation that is stated, generally implied/obligatory.

Legal Requirements and other requirements Legal requirement that an organization has to comply with and other requirements that an organization has to or chooses to comply with.

Management System Set of interrelated or interacting elements of organization to establish policies and objective and processes to achieve those objectives.

Occupational health and safety Management System OH&S Management System

Management system or part of Management System used to achieve the OH&S Policy.

Top Management Person or group of people who directs and controls an organization at the highest level.

Effectiveness Extent to which planned activities or realised and planned results achieved.

Policy Intentions and Direction of an organization as formally expressed by its top management.

Occupational health and safety policy OH&S policy Policy to prevent work related injury and ill health to worker and to provide safe and healthy work place.

Objectives Result to be achieved.

Occupational health and safety objective OH&S Objective

Objective set by the organization to achieve specific results consistent with the OH&S Policy.

Injury and ill health

adverse effect on the physical, mental or cognitive condition of a person

Hazard

source with a potential to cause *injury and ill health*

Hazards can include sources with the potential to cause harm or hazardous situations, or circumstances with the potential for exposure leading to injury and ill health.

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Risk

Effect of uncertainty

Occupational health and safety risk (OH&S risk)

combination of the likelihood of occurrence of a work-related hazardous event or exposure(s) and the severity of *injury and ill health* that can be caused by the event or exposure(s)

Occupational health and safety opportunity (OH&S opportunity)

circumstance or set of circumstances that can lead to improvement of *OH&S performance*

Competence

Ability to apply knowledge and skills to achieve intended results.

Documented Information

Information required to be controlled and maintained by organization and the medium on which it is contained.

Process

Set of interrelated or interacting activities which transform input into outputs.

Procedure

Specified way to carry out an activity or a process.

Performance

Measurable Result.

occupational health and safety performance (OH&S performance)

performance related to the *effectiveness* of the prevention of *injury and ill health* to workers and the provision of safe and healthy *workplaces*.

outsourcing

Make an arrangement where an external *organization* performs part of an organization's function or *process*

Monitoring

Determining the status of a system, a process or an activity.

Measurement

Process to determine a value

Audit

Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.

Conformity

Fulfilment of a requirement.

Non-Conformity

Non Fulfilment of a requirement.

Incident

occurrence arising out of, or in the course of, work that could or does result in *injury and ill health*.

Corrective Action

Action to eliminate the causes of Non-Conformity or an incident and to prevent recurrence.

Continual Improvement

Recurring activity to enhance performance.

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Clause 4 CONTEXT OF THE ORGANISATION

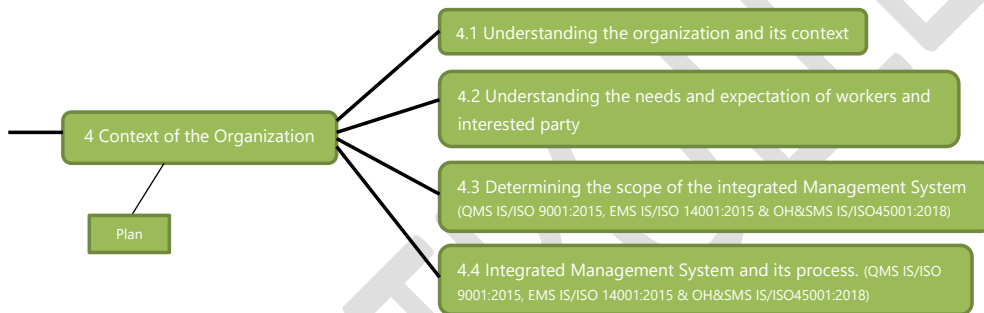


Figure 04 QEHS- IMS Context of BYPL Clause and its Sub clauses



4 CONTEXT OF THE ORGANIZATION

(IS/ISO 9001, IS/ISO 14001, IS/ISO 45001 Clause 4.1)

4.1 Understanding the organization and its Context:

BBMB determines internal and external issues that are relevant to its purpose and influence these issues could have on its ability to achieve the objectives and outcomes that its IMS intends to achieve. Outcome includes Power generation as per the decided norms and water regulation as per the partner state agreements. Context considers factors i.e.

| External Context | Internal Context: |
|--|--|
| External Context shall be established by considering issues (but not limited to) such as the following: Legal Factors – Legal, Statutory, Regulatory and contractual requirements. Technological Factors - communication medium such as mobile communication, internet, email communication, power disruptions Political Factors –Political Stability, trade practices, industrial relations, political influences. Social Factors - Culture, Demographics, Education. Environmental Factors – Climate, natural hazards –Earthquake, Cyclone and Tsunami etc. Competition – Staff movement to competitor companies in similar field Law and Order – Unrest, terrorist attack | Internal Context shall be established by considering issues (but not limited to) such as the following: Technical Factors – Information and communication technology, equipment and machinery. Organizational Factors - Capabilities, policies, standards, guidelines, strategies, management systems , structures and objectives, integration of information system into organization’s process. Political Factor - governance, decision making systems, Interested Parties, internal politics, roles and accountabilities Awareness –Low awareness regarding IMS among new staff. Attrition Rate – attrition rate affects the organization’s ability to retain core knowledge. |

4.2 Understanding the needs and expectation of interested parties

(IS/ISO 9001, IS/ISO 14001, IS/ISO 45001 Clause 4.2)

BBMB shall identify the interested parties. Requirements of these interested parties about IMS shall be determined.

Any Compliance Obligations (Legal, Statutory, Regulatory and contractual requirements including customer requirements) as applicable shall be included in the requirements of the workers and other interested parties. Information regarding interested parties shall be reviewed and monitored.



4.3. Determining the Scope of the IMS management system

(IS/ISO 9001, IS/ISO 14001, IS/ISO 45001 Clause 4.3)

The IMS Management system has been established and maintained conforming to the requirements of QMS IS/ISO 9001: 2015, EMS IS/ISO 14001: 2015 and IS/ISO 45001:2018 Standards.

Both Physical and Logical boundaries has been determined by the organization and updated periodically as per changed conditions.

While determining the scope, the following are being taken into account:

- Internal and external context of the organization
- Interested parties.
- Interfaces and dependencies between the activities performed by the organization and those determine by the other organization
- Products and services
- Compliance obligations
- BBMB OH&S performance

The Scope shall be made available as documented information.

Reference: Scope described in Section 0.7.

4.4. IMS Management System

(IS/ISO 9001, IS/ISO 14001, IS/ISO 45001 Clause 4.4)

BBMB shall establish, implement and maintain the IMS management system and continually improve its effectiveness in accordance with the requirements of International Standard(s) QMS IS/ISO 9001: 2015, EMS IS/ISO 14001: 2015 and IS/ISO 45001:2018.

Documented procedures have been laid down for the relevant activities that are required to be followed, so that the operations conform to specified requirements. Periodic review is done for the performance of different areas / activities to ensure the availability of resources & information necessary to support the operations and monitor measure where applicable, analysis for taking corrective actions and prepare plan for improvement.

4.4.1 Processes, Sequence & Interaction (IS/ISO 9001: 2015)

The identification of processes, process flow/sequence and interactions has been identified separately for IMS Management System. The common procedures have been integrated and clearly listed out.

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4.4.2 QMS processes interactions

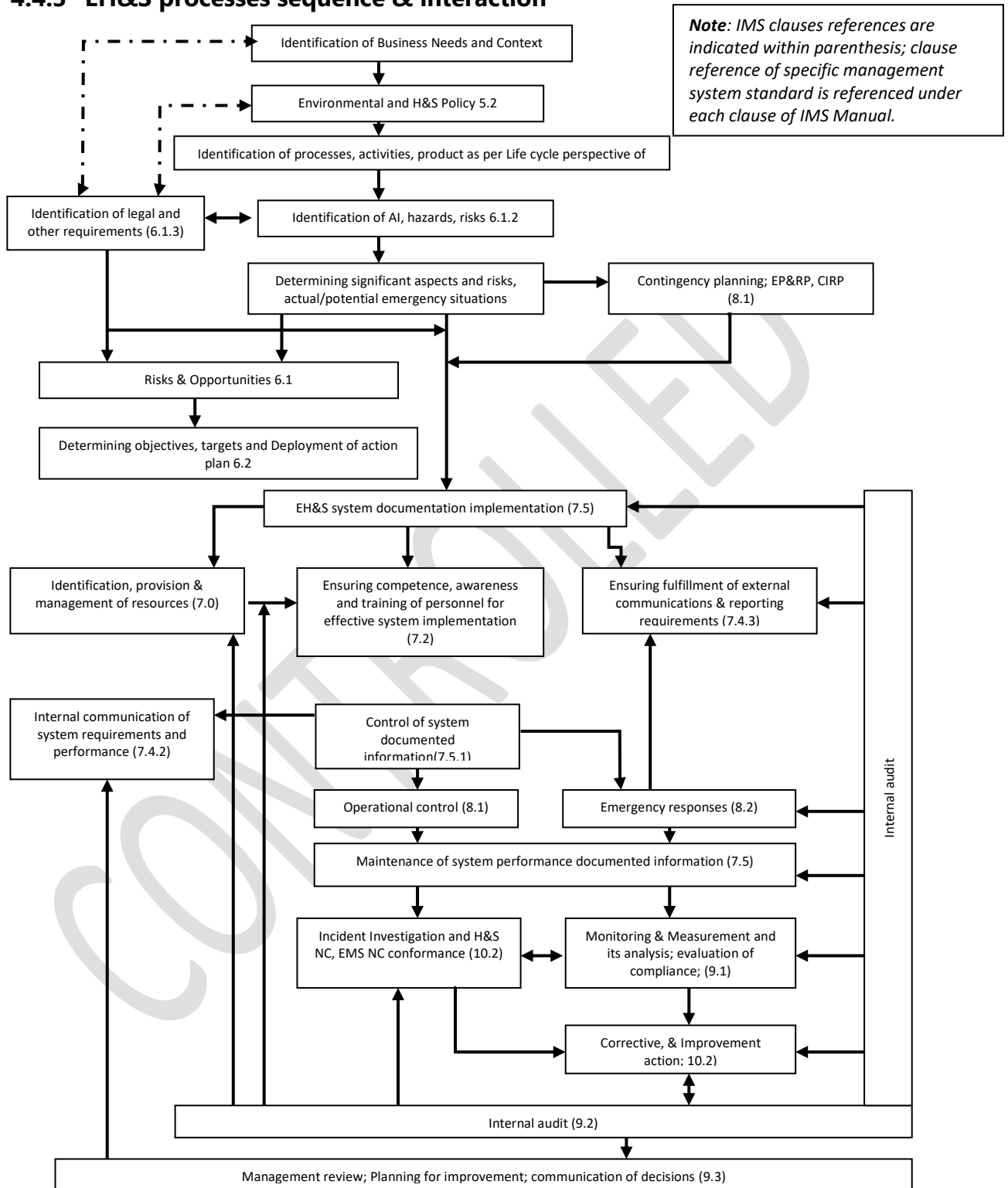
| Business functions | Function Head | Context of BBMB, & Planning | Leadership Clause 5.0 | Resource Management Clause 7.0 | Product Realization Clause 8.0 | Measurement, Analysis & Improvement Clause 9.0 & 10.0 |
|--|-------------------------------|---|---------------------------------------|---|---|--|
| | | | Control of Documents and Records | | | |
| Top Management | Chairman & Members | Strategic direction and desired outcome from the Integrated management system | Management review | Provision of Resources as per the annual Budget proposed by BBMB organization | Monitoring & Scheduling of Power houses and irrigation water distribution to Partner states | Partner state satisfaction, Technical Committee Meetings, Board meetings |
| Board Secretariat | ALL HODs | Identification of issues & interested parties requirement and subsequent Planning for current year. | Internal organization Review meetings | Conference rooms | Rules & Regulations HR Planning Providing Trainings Project Related Planning | Customer Satisfaction |
| | | | | Office Administration | | |
| | | | | Finance & Accounts | | |
| | | | | Vigilance | | |
| Transmission system & substations | CE, Directors / SEs/MR | | Internal organization Review meetings | Sub stations, TS Administration office, Planning, Design and Procurement related to substations and Transmission Lines including spares | Transmission of electricity, Regulation of voltage, Maintenance & Augmentation work at substations and Transmission Lines | |
| System Operation | CE, Directors / SEs/MR | | Internal organization Review meetings | SLDC office, Support activities offices | Smooth functioning of BBMB PH's in coordination with Grid, PH equipment designing and procurement | |
| Site Operation | CE, Directors / SEs/MR all SE | | Internal organization Review meetings | Power generation houses Irrigation canals Administrative office Township infrastructure | Power generation Irrigation water management Township Maintenance and Provision of Allied Services | |
| QMS planning & control | CMR/MR | | Organization meetings | Procurement of Resources for Implementation of Integrated Mgmt system requirements | Quality Management System Compliance | Measurement & monitoring of QMS, Revisions in QMS |

Corrective and Preventive Actions



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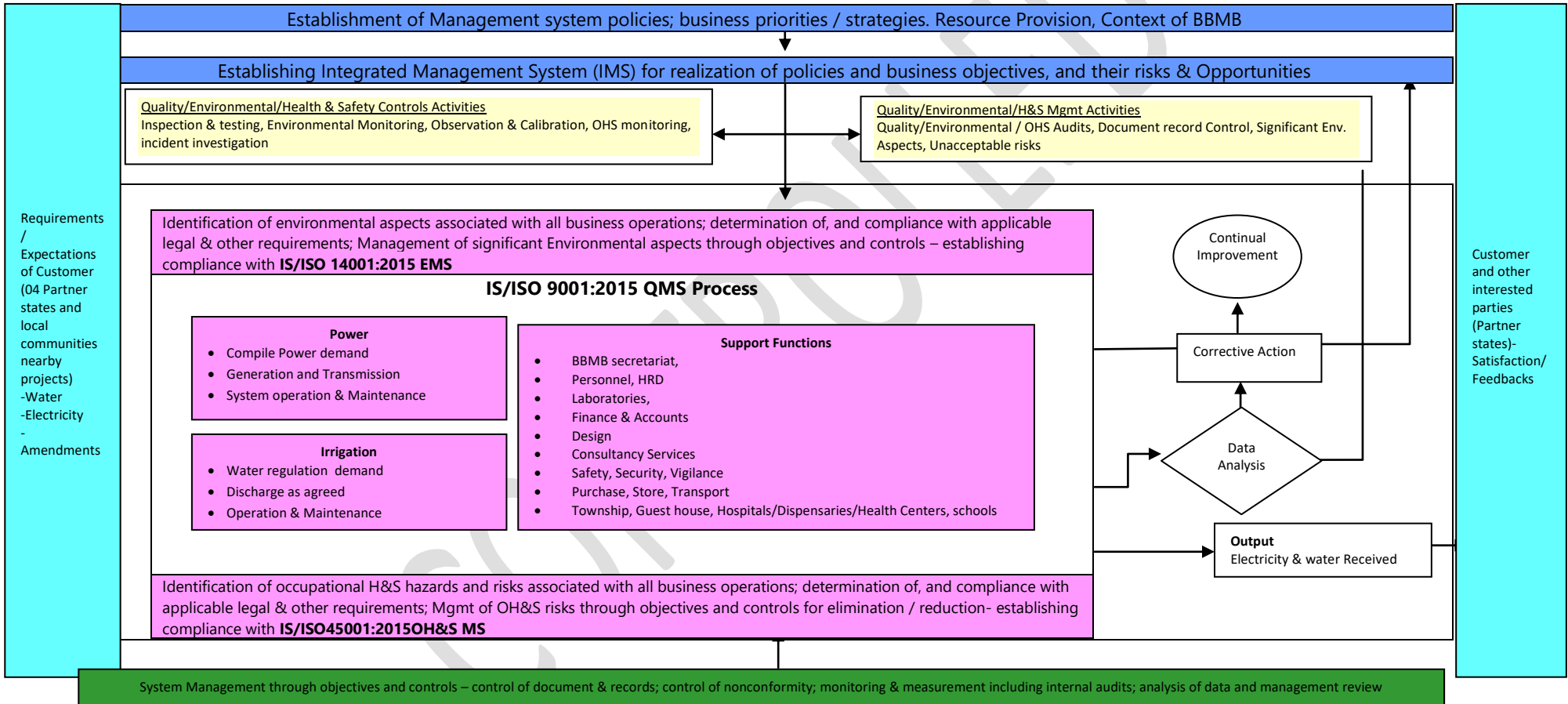
4.4.3 EH&S processes sequence & interaction





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4.4.4 IMS processes sequence & interaction (Macro level)



Clause 5.0 LEADERSHIP





5 LEADERSHIP

5.1 Leadership and commitment

5.1.1 General

(IS/ISO 9001, IS/SO14001 clause 5.1, ISO 45001 clause 4.1)

Board is composed of a whole time Chairman, two whole time Members viz., Member/Irrigation and Member/Power, representatives of Partner States and representatives of Ministry of Power and Ministry of Water resources. The day to day functioning is managed by the Chairman along with Member/Irrigation and Member/ Power (designated as Top Management) and is supported by FA & CAO, Secretary, Special Secretary, Director/HRD, Director/Security& Consultancy and Chief Engineers. Chief Engineers act as Administrative-Top Management of work areas. The top management of BBMB is committed to develop, implement and effect continual improvement of IMS in the organization and shall provide leadership to:

1. Top management take accountability for the effectiveness of the integrated management system; consistently provide services that fully meet the decided requirements of beneficiary Partner States, Common Pool Consumers, regulatory bodies and other applicable requirements.
2. Continually enhance satisfaction of above stake holders and internal effectiveness and efficiency of BBMB.
3. Create and maintain a conducive working environment in bringing out the best from all the work force of BBMB in meeting the organization's Vision, Mission and Values while also fulfilling its role as a responsible corporate entity towards its personnel, their families and society at large through its welfare measures like hospital, dispensary, school's services etc.
4. The top management of BBMB shall play a leading role in establishing the quality culture in the Organization by creating a focus on the requirements of beneficiary Partner States and Common Pool Consumers and establishing a mechanism for clear understanding and fulfilment of their needs, along with applicable statutory and regulatory requirements.
5. BBMB is custodian of the infrastructure of its Partner States who are the major beneficiaries of water and power generated from the projects. In addition, some part of the water and power generated from the projects are also released to Common Pool Consumers. The concerned Power and Irrigation organizations of the Partner States act as the co-ordinating organizations

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on their behalf and can be treated as customer for all intents and purposes of the Management system Standards along with Common Pool Consumers. In broader respect it is largely the public at large belonging to these states which is the ultimate beneficiary/customer of BBMB, although there is no direct interface of BBMB with them.

6. In provision of welfare services like Hospitals, schools etc it is the recipients of these services viz. personnel of BBMB, their families and society at large will also be treated as beneficiaries of Welfare Services.
7. The overall Mission, Vision and Values of BBMB, are established based upon which Management system Policies of BBMB has been established.
8. The Policies have been deployed by establishing Objectives along with Goals and Deployment of Management Programmes.
9. Top Management of BBMB shall review the status of IMS, from time to time to examine the performance of IMS and achievements of objectives throughout the organization and identify improvements needed. Chief Engineers shall also review the implementation of IMS in the areas under their purview.
10. Administrative -Top management of work areas shall ensure that an effective system exists for resource planning and provisioning as per the existing/upcoming requirements of the Organization.
11. The top management of BBMB's 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.
12. Directing and supporting persons to contribute to effectiveness of IMS
13. Supporting other management roles in demonstrating their leadership as relevant to their respective areas
14. Ensuring workers protection from reprisals when reporting incidents, hazards, risks and opportunities.
15. Ensuring to implement a process(es) for consultation and participation of workers established.
16. Ensuring the functioning of health and safety committees established.

5.1.2 Customer focus

(IS/ISO 9001 Clause 5.1.2)

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BBMB, as an organisation, is committed to provide services, fully meeting the stated and implied requirements of the Customers, so as to achieve their full satisfaction. Implementation of IMS is a strategic decision of BBMB management. It intends to achieve its business goals along with achieving objectives related to organization's Quality, Environmental and Health & Safety performance.

The top management of BBMB play a leading role in creating organization wide focus for the Customers. Systems have been created to ensure that Customers 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.

In terms of welfare services like Hospitals, Schools, also top management take a leading role in creating focus on provision of best possible services to the recipients i.e. beneficiaries of Welfare Services within the given resources and constant up-gradation of services.

Senior Officers take necessary action to determine existing and upcoming requirements of Customers, create necessary processes, infrastructure & other resources to meet these requirements and develop awareness, concern and systems to continuously meet these requirements.

5.2 Management system policies

(Clause 5.2IS/ISO 9001, IS/ISO 14001 clause 5.2 & IS/ISO 45001)

BBMB has developed the IMS Policy as per the requirements of ISO 9001, 14001 & 45001 of which has been laid down under the approval of the top management of BBMB i.e. Chairman and Whole Time Members. This IMS is appropriate to the nature, scale, environmental impacts, and health and safety risks associated with organization's products, activities and services; also, they are appropriate to the purpose of the organization.

Based on this policy, objective and goals have been established. IMS policy is dynamic document, which shall be regularly reviewed and can be updated, based on changing management priorities and thinking. The IMS Policy is displayed at prominent locations within the organization as part of internal communication as well as made available to the public by display at entrance of Premises. On request from interested parties, this IMS policy is also made available through CMR\MR.

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Integrated Management System Policy (IMS Policy)

OUR AIM

To maintain BBMB's position as the leader and a trend setter in Optimum Water and Power Management, Maintenance of Dams and Water conductor System, Maintenance of Power Houses, Green & Clean Hydro-Electric & Solar Power Generation and associated Transmission System.

BBMB shall continue to upgrade its Reservoir Management and Power projects to optimally utilize the river waters & Renovate, Modernise & Upgrade its generating units so as to improve reliability and efficiency in power generation. BBMB shall endeavour to Preserve/Contribute towards clean, green and serene environment. BBMB shall aim to ensure Employee's Health & safety as human resource is an asset of utmost importance to BBMB.

OUR MISSION

- To keep our system running efficiently at minimum cost.

OUR VALUES

- Discipline, Hard work, Operational excellence and Professionalism.

OUR COMMITMENTS

This policy statement is affirmation of BBMB's commitment to:

- Quality towards all stake holders, adoption of energy conservation measures, prevention of injury, ill health and accidents for all human lives involved, being environment friendly with efficient waste management and modern practices i.e. Rain water harvesting and water conservation, Sewerage Treatment etc.
- Establish, implement and maintain a process(es) for consultation and participation of workers at all applicable levels and functions, and, where they exist, workers' representatives, in the development, planning, implementation, performance evaluation and actions for improvement of the OH&S management system.
- Integrate Quality, Environmental and Occupational Health & Safety Management System into planning, execution and operation for the management of dams, reservoirs, canals, water conducting system and related infra-structure, power houses, substations and townships.
- Set tangible and measurable targets for monitoring the performance of Quality, Environmental and Occupational Health & Safety issues.
- Provide training to all employees for Quality, Environmental and Occupational Health & Safety best practices.

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- Continual improvement in processes, methods, procedures and resources as well as full compliance to applicable statutory and regulatory requirements under Quality, Environment and Occupational Health & Safety Management System.

OUR ENDEAVOUR

- To make continual improvements in processes, methods, procedures and resources for quality conscience, cost effectiveness, optimum utilization of natural resources, adoption of renewable energy means for power generation.
- Safe work practices for improving the working conditions and well being at work under effective Occupational Health and Safety for existing and envisaged new projects through adoption of best practices/techniques so as to maintain a leading position in water and power management sectors.

S. Sivastava.

Date 9/11/2022

Chairman

- ❖ Based on ISO 9001:2015, ISO14001:2015 &ISO 45001:2018
- ❖ Stake Holders are Suppliers, Contractors, Partner States, Indian Govt. and People nearby Projects.

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5.3 Roles, Responsibility, Authority and Accountability

(Clause 5.3 of IS/ISO 9001; IS/ISO 14001 & IS/ISO 45001)

The organization for implementing and maintaining the IMS has been established, Overall Organizational structure of BBMB both for Irrigation and Power Wing including FA & CAO has been defined at Sr. No 0.4.

The responsibilities, authorities and accountability of main functionaries of the organization have been documented and given in **Annexure-III**. Detailed Responsibilities, Authorities and accountability shall be defined at the respective Chief Engineer wise for the organization under their jurisdiction.

Financial and Administrative authorities have been laid down in delegation of powers/ CSR /PFR / DFR (as applicable) and other instructions issued from time to time.

The responsibilities and authorities shall be widely communicated throughout the organisation.

Management Representative

The BBMB Top Management has appointed Central Management Representative and Project wise Management Representative (M.R.) as below

- Chairman, Member/Irrigation and Member/Power, BBMB are designated as – **Top Management of BBMB.**
- Engineer-in-Chief/Chief Engineers are designated as **Administrative Top Management of Field**
- The following have been nominated as Management Representatives for work areas/Field offices and Administrative offices by the Chairman, BBMB.

(Field /Work Areas)

| Irrigation wing | Power Wing |
|---|--|
| Bhakra Complex: Superintending Engineer/HQ O/O Chief Engineer, Bhakra Dam, BBMB, Nangal Township | Bhakra Complex, Dehar Power House & Pong Power House: Superintending Engineer/HQ O/O Chief Engineer, Generation, BBMB, Nangal Township. |
| Unit I - Beas Sutlej Link Project: Superintending Engineer/HQ O/O Chief Engineer, BSL Project, BBMB, Sunder Nagar. | System Operation Activities: Superintending Engineer/HQ O/O Chief Engineer, System Operation, BBMB, Chandigarh. |
| Unit II - Beas Dam: Superintending Engineer/HQ O/O Chief Engineer, Beas Dam, BBMB, Talwara. | Transmission System: Superintending Engineer/HQ O/O Chief Engineer, Transmission System, BBMB, Chandigarh. |



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(Administrative Offices)

| Vigilance | Accounts and Finance Wing | Irrigation Wing& Legal Cell, Public Relation Cell& | Power Wing & Coordination Cell |
|---------------------------------------|----------------------------------|---|---|
| Chief Vigilance Officer, BBMB | FA&CAO, BBMB, Chandigarh. | Secretary, BBMB, Chandigarh. | Special Secretary, BBMB, Chandigarh. |
| Security Wing | HRD | NHP | BBMB, Consultancy Services |
| Director/ Security, BBMB, Chandigarh. | Director/HRD, BBMB, Chandigarh | Director/NHP, BBMB, Chandigarh | Director/ Security, BBMB, Chandigarh. |

All the designated Management Representatives will be responsible for implementation of IMS for the work under their jurisdiction.

For overall co-ordination of the IMS related works, **Director/HRD** at Chandigarh has been nominated as **Central Management Representative** (CMR).

Each Management Representative will be the responsible for implementation of IMS in the area under his control. Management Representative (MR)/ CMR, in addition to their other responsibilities, shall have authority for:

- ✓ Ensuring IMS documentation (manual, process/procedures, SOP's, etc.) are established, implemented and maintained in accordance with IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001 in the organization under their jurisdiction maintained.
- ✓ Reporting on performance of the IMS to the Administrative - Top management of work areas for review which would form the basis of improvement of the Management System.
- ✓ Ensuring the promotion of Customer requirements throughout the organization.
- ✓ MR shall prepare Audit plan of both internal audit as well as management review of their respective areas.
- ✓ Providing quality, environmental, health & safety related trainings and ensure HR maintains these training records.
- ✓ Conducting internal process audits as per audit plan to check for the adequacy of IMS systems and processes as well as evaluate effective implementation.
- ✓ Tracking corrective, preventive and improvement actions identified for reporting in management review meeting regarding action closure status by person/s assigned with the responsibility.



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- ✓ Plans the Management Review as per agenda; apprise the top management of the result of the internal/external process audits and performance of the IMS MS, keep records of the same.
- ✓ The liaison with the certifying body and other external parties on matters relating to IMS.
- ✓ CMR shall be overall responsible for system development and implementation throughout BBMB through respective MRs and carrying out management reviews and other MR related functions centrally at head office level.

CMR is supported by MR and MR is supported by a core team of IMS coordinators and internal auditors to facilitate in IMS implementation at BBMB.

5.4 Consultation and participation of workers

Various safety committees at the level of CE level and Board Secretariat level with balanced participation of executives and non-executives & contractual workers has been constituted to address various issued of consultation and participation. This committee will get inputs from workmen meet once in six months or earlier and discuss the outstanding Health and Safety issues and chalk out action plan to eliminates them (This also fulfils Factory rules requirements).

The following are the responsibilities of committee on:

Consultation with non-managerial workers of committee on

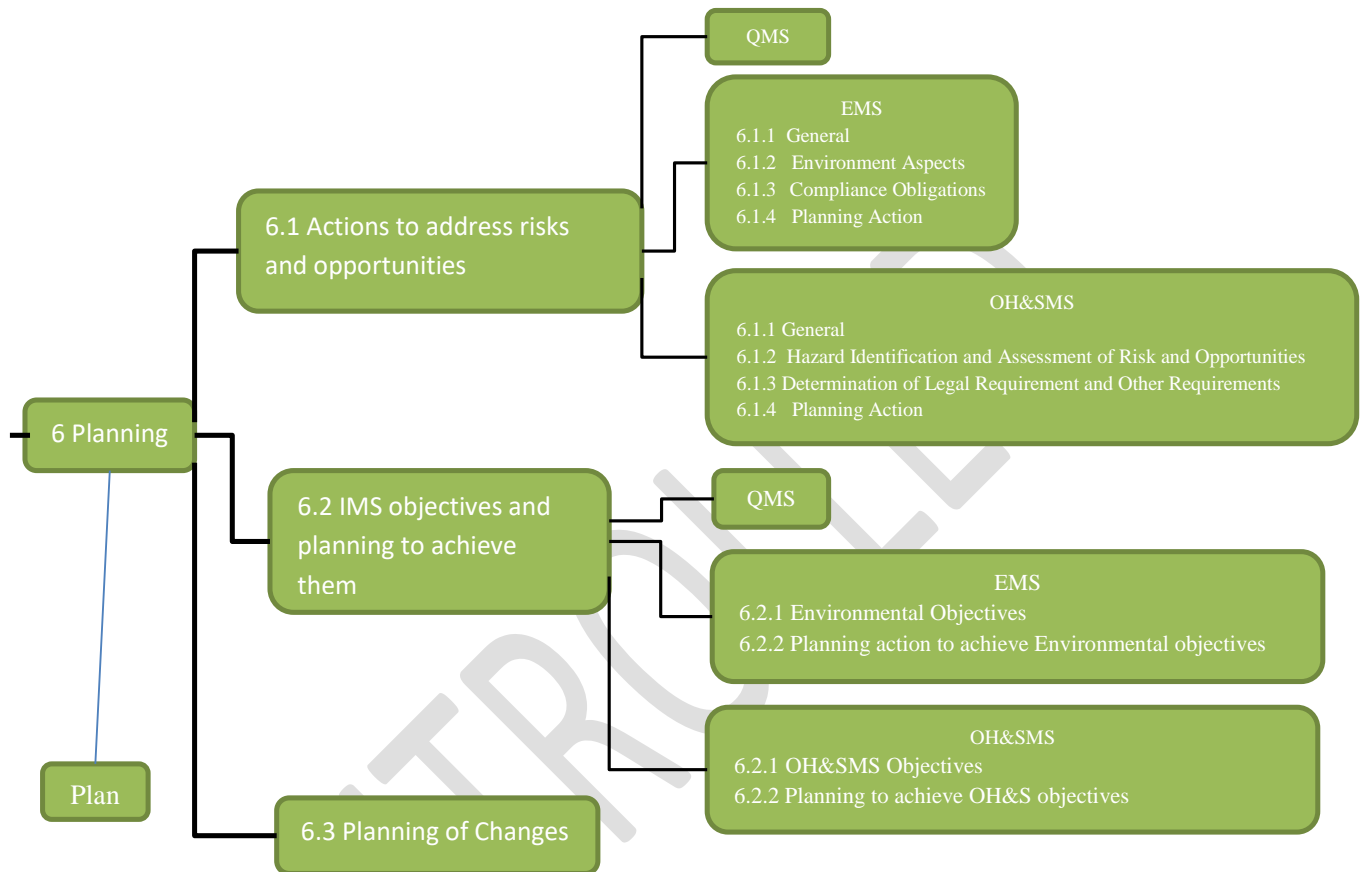
- Needs & expectation of defined interested parties
- Implementation of Policies
- Organization roles, responsibilities and authorities
- Legal and other requirements
- OHS objectives and their achievement
- Applicable controls for outsourcing, procurement and contractors
- Audit programs
- Continual improvement

At the departmental level, the OHS task force having non managerial worker

- Conducts 'Hazard identification, R&O assessment and determining control' format preparation as well as determines actions to eliminate hazards and reduce OHS risks
- Determines competence requirements and related training in consultation with HOD
- Communicates hazards and risks of different areas and related precaution in consultation with HOD
- Investigates incidents and non-conformities and determine correction actions

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Clause 6 PLANNING





6 Planning

6.1 Action to address risks and opportunities (Clause 6.1 of IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001)

6.1.1 Risks and Opportunities

The overall aim of risk and opportunity management within BBMB is to ensure that organizational capabilities and resources are employed in an efficient and effective manner to take advantage of opportunities and to mitigate risks.

Top management is responsible for incorporating risk-based thinking into organisation's culture. This includes the establishment of risk management policies and targets to ensure effective implementation of risk and opportunity management principles and activities by:

- Providing sufficient resources to carry out risk and opportunity management activities;
- Assigning responsibilities and authorities for risk and opportunity management activities;
- Reviewing information and results from audits and risk and opportunity management activities.

The scope of BBMB's risk and opportunity management process includes the assessment of the internal and external issues identified and the assessment of the needs and expectations of interested parties identified.

BBMB has classified its 'risk appetite' as the amount of risk it is willing to accept in pursuit of an opportunity or the avoidance of risk where each pertains to product and/or system conformity, and which reflect the following considerations:

- Risk management philosophy per product / services or process;
- Capacity to take on or mitigate risk;
- Objectives, business plans and respective Interested Parties demand –depending upon the availability of resources (water& electricity);
- Tolerance for failures.

BBMB maintains documented information to help record, assess, respond, review, report, monitor and plan for the risks and opportunities that we perceive to be relevant. This allows Organization to methodically assess each risk and to study each opportunity associated with Organizational context, and the needs and expectations of our interested parties. The documented information regarding treatments of risks and opportunities is controlled and thus preserves the knowledge.

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Each circle/Division in BBMB determines the risks and opportunities for IMS based on:

- Internal and external issues as per QMS & EMS Clause 4.1
- Requirements of interested parties as per QMS & EMS Clause 4.2
- Environmental aspects as per EMS Clause 6.1.2
- Occupational Health and Safety hazards as per OHSMS Clause 4.3
- Legal requirements/ Compliance Obligations as per EMS Clause 6.1.3, OHSMS Clause 4.2.

The purpose is to:

- Prevent non-conformities / non-conforming outputs (failure of processes, products or services to meet interested party requirements)
- Determine opportunities to enhance customer satisfaction as well as achieve IMS objectives (e.g. new services, revising processes, use of new technology.
- Giving confidence that IMS achieves its intended results.
- Enhancing desirable effects and creation of new possibilities
- Preventing or reducing undesirable effects including external environmental conditions affecting BBMB
- Achieve continual improvement for increase conformity.
- Determine the Environmental and Health & Safety emergency situations that can have an environmental impact or OHS risk.

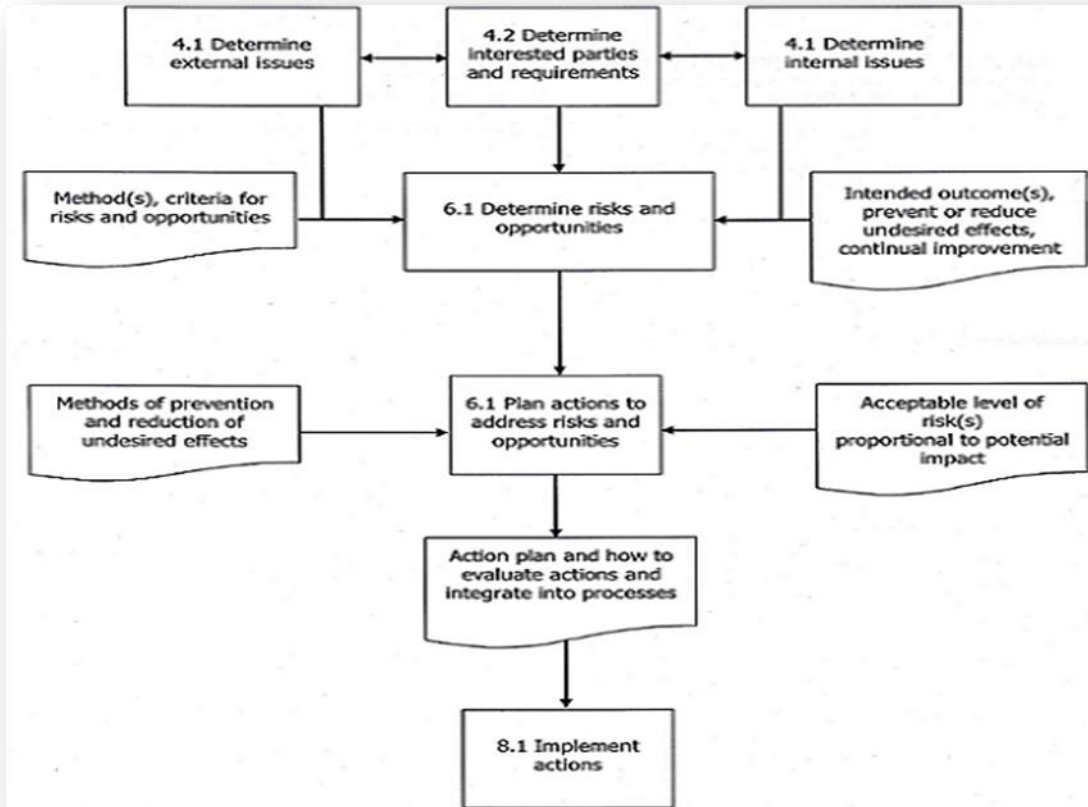
For each risk & opportunity, the actions to address them have been identified by each department and these are evaluated for effectiveness. The hierarchy to address risks is:

- Eliminate the risk or risk source or avoid risks
- Substitution or taking risk in order to pursue an opportunity
- Changing the likelihood of consequences by engineering controls
- Sharing the risk by administrative control or retain risks by informed decisions
- Wherever possible, like in OHSMS, use of personal protective equipment.

The risks and opportunities and action plans monitored, reviewed and updated at least half yearly within each department. The changes are communicated to MR for presenting them to Top Management in the half yearly Management Review Meetings.

REFERENCE

| | |
|--|-------------|
| Procedure for Risks and opportunities Assessment | MR/IMS/P/32 |
|--|-------------|



Risk & Opportunities approach

6.1.2 Environmental aspects

(IS/ISO 14001 Clause 6.1.2)

BBMB has implemented a procedure to ensure that:

- The environmental aspects of its activities, products and services within the defined scope of the environmental management system of BBMB, which it can control and those that it can influence considering planned or new developments, or new or modified activities, products and services, with in defined scope of EMS are determined and
- Evaluated for their environmental impacts, actual or potential, to determine significant environmental aspects
- The information on environmental aspects is maintained and updated regularly taking into consideration new development, technologies or renovation and modernization or modifications



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- d) Significant environmental aspects are taken into consideration in establishing, implementing and maintaining the EMS

Reference

| | |
|--|-------------|
| Procedure for Identification & Environmental Aspects and Evaluation of their Significance. | MR/IMS/P/16 |
| Concern Division FMEA | --- |

6.1.3 OH & S – Hazard identification, assessment of risks and opportunities

(IS/ISO 45001 Clauses 6.1.2)

Each division /office in BBMB has determined the hazards based on “source, situations & acts” considering routine activities, non-routine activities and potential emergency situations and covers all employees, contractors and visitors.

Each hazard is evaluated for the risk based on occurrence probability and severity. The hazards which can have an unacceptable risk are identified. The controls are as given under “Risks and Opportunities”. All hazards which are covered under legal requirements and emergency conditions are considered as unacceptable, A procedure has been established that provide guidelines.

The HIRA guidelines provide guidance/facilitation for the ongoing hazard identification, risk assessment and opportunities. The criteria are established for the prioritization and documentation of risks to determine necessary controls. When determining controls or considering changes to existing controls, consideration is given to reducing the risks by way of elimination, substitution, using personal protective equipment, providing signage/warnings and/or administrative controls.

For the management of change, the OH&S hazards and OH&S risks associated with change are assessed and controls are applied prior to the introduction of such changes. The management of change includes:

- a) Changes in the organization / organizational activities, and/or
- b) Changes in the OH&S management system.

Reference

| | |
|---|-------------|
| Procedure for Identification of Occupational Health and Safety Hazards, risk assessment and determining controls. | MR/IMS/P/27 |
| Concern Division HIRA | --- |



6.1.4 Compliance obligations & Determination of legal requirements and other requirements

(Clause 6.1.3 of IS/ISO 14001 and IS/ISO 45001)

BBMB has implemented a procedure for Access, Updating & Compliance to Legal Requirements to:

- a) Identify and have access to applicable service related to scope of BBMB activities, legal requirement and other requirement to BBMB's irrigation water management and power generation aspects (These requirements are accessed and compliance is addressed in Technical committee meeting, partner state meeting time to time)
- b) Identify and have access to applicable environmental legal requirements and other requirements related to BBMB's environmental aspects
- c) Identify and have access to applicable Occupational Health & safety obligation requirement and other requirements related to BBMB's OHS hazards and
- d) Apply these requirements to BBMB's aspects as may be relevant.

It may be mentioned that legal and other applicable IMS requirements are considered while establishing, implementing, and maintaining IMS. It is always ensured to communicate relevant information on compliance obligation requirements to its employees.

Reference

| | |
|---|-------------|
| Procedure for Access, Updating & Compliance to EMS & OHSMS Legal and other Requirements. | MR/IMS/P/17 |
|---|-------------|

6.1.5 Planning of Changes

(IS/ISO 9001, Clause 6.3)

BBMB IMS management system is planned and implemented to meet organizational policy, objectives and the requirements of IS/ISO 9001:2015, IS/ISO 14001:2015 and IS/ISO 45001:2018. The planning process involves establishing and communicating policies, objectives and associated operational procedures across the organization to all interested parties as applicable.

This document constitutes overall plan for establishing, maintaining and improving the IMS management system. For each instance of management system planning, the output is documented and retained accordingly, and changes are conducted in a controlled manner.

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Management review and the internal audit processes ensure that the integrity of the IMS is maintained when significant changes are planned which may affect key processes. Whenever management system changes are planned, Top management ensures that all personnel are made aware of any changes which affect their process, and that subsequent monitoring is undertaken to ensure that IMS changes are effectively implemented.

Reference

| | |
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| Procedure for Risks and opportunities Assessment | MR/IMS/P/32 |
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6.2 IMS Objectives and Action Plan

(IS/ISO 9001, IS/ISO 14001 & ISO 45001 Clauses 6.2)

Top Management establishes organizational objectives and Management Program consistent with the IMS (Quality, Environmental, OHS) policy, which are drilled down to relevant functions and levels within the organization. These are reviewed during MRMs or on need basis by the Top Management. Consistent to IMS policy, at regular intervals (at least once a year) BBMB undertakes aspect-impact and hazard identification & risk assessment, in line with EMS and OH&SMS requirements and establishes EH&S objectives for control of significant aspects/risks identified by initiating relevant Management Programmes upon Top Management approval.

These action plan/programmes include:

- a) Designation of Responsibility for achieving objectives & targets at relevant functions & levels of the organization
- b) The means and time frame by which they are to be achieved.

When establishing and reviewing objectives the following are considered:

- Operational and business requirements
 - Legal & other requirements
 - Significant environmental aspects
 - Unacceptable OH&S risks
 - Technological options
 - Views of interested parties
- c) Establishing measurable OH&S performance indicators, these indicators are used to provide information on both OH&S management and operation systems.

Refer excel sheet documentations: '**Quality Plan**', '**FMEA**', '**HIRA**' and '**Objectives**'.

References:

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|---|-------------|
| Procedure for Monitoring of Compliance to Environmental & OHS Objectives, Targets and Legal Requirements. | MR/IMS/P/25 |
|---|-------------|

IMS MANAGEMENT SYSTEM OBJECTIVES

IMs Objectives have been developed along with their Deployment Plans, to implement the IMS Policies, addressing overall organizational focus and services.

Activity specific Management system Goals are defined separately for all major support works / areas of general nature for example Hospitals, Schools, Training Institute, Colonies, and Guest Houses etc. These shall be documented and maintained at the level of relevant works / areas.

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

Objective and Goals of major functions areas are.

Irrigation Wing Quality Objectives

- To ensure optimum utilization of waters from Sutlej, Beas and Ravi rivers
- Efficient management of Dams, Reservoirs, Canals, water conductor system and other related infrastructure.
- Regulation of water keeping in view the reservoir levels, inflows and the requirements of the partner States of BBMB as per their demand raised during monthly technical committee meeting.
- Ensure safe operation of Dams, water conductor system, control structures and canals, etc., by timely and periodical inspections and assessment of their health.
- Ensure timely maintenance of works as per established norms and operation & maintenance manuals.
- To continually improve the competency and efficiency of personnel by organizing training action plan at least once a year for each employee.
- To ensure adoption of energy conservation measures within and outside organization.

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Power Wing Quality Objectives

- To ensure safe and reliable electricity generation and transmission.
- To ensure timely and appropriate measures for minimizing outages & improve availability of BBMB Power system.
- To minimize the cost of generation and transmission of power.
- To ensure maximum operational efficiency of system components by adoption of emerging technologies.
- To ensure adoption of energy conservation measures within and outside organization.
- To maximize generation during peak hours and also assist in regulation of frequency and voltage of Northern Regional Power System.
- To meet with the Generation target fixed by Central Electricity Authority.
- To continually improve the competency and efficiency of personnel by organizing training programs at least once a year for each employee.

Power and Irrigation wing Environmental objectives

- Minimization of environmental degradation in the management of power houses, transmission system and related operations, dams, reservoirs, canals, water conducting system, related infrastructure, related electro-mechanical/hydro-mechanical equipment, townships, hospitals, schools and related infrastructure.
- Adoption of latest techniques and good practices to prevent environmental degradation.
- To ensure appropriate system of waste management and its disposal.
- Improving the green cover at project/ work sites.
- Planning for tackling of potential environmental disasters.
- Material substitution and technology absorption for improving the state of environment.
- To create and improve awareness on environment related issues within and outside the organization including suppliers, contractors and local community.
- To promote the rain water harvesting and water conservation measures.
- To promote use of natural resources.
- To improve the environment of the local people by community services in environment, health, and education fields.

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Power and Irrigation wing OH&S objectives

- To prevent accidents and incidents (ill health and injuries) at workplace by periodically improving control measures.
- To improve the compliance of applicable legal and other requirements.
- To ensure that the OH&S Management System requirements are addressed at planning stage including designing, procurement, installation, commissioning, maintenance and operations of equipment's and systems.
- To improve the implementation of OH&S Management System by involvement, participation of all concerned including suppliers and contractors.
- To provide and maintain the tools & plants, equipment's and PPEs (Personal Protective Equipments) adequately and ensure their proper use at all workplaces.
- To ensure that the effective control measures are implemented to meet any emergency in all operations and support services.
- Using and analyzing the monitoring and measurements data for improvement of the effectiveness of Occupational Health and Safety Systems.
- To maintain clean, orderly working & storage conditions to prevent the ill health, unsafe practices and unsafe conditions.

The Activity specific management system Goals are defined separately for all major support works / areas of general nature for example Administration, Accounts & Finance, Hospitals, Schools, Training Institute, Colonies, Guest Houses etc. These shall be documented and maintained at the level of relevant works/areas. Objectives shall be deployed throughout BBMB. Action plan for Environmental and Health & Safety shall be formulated at relevant level for fulfillment of these objectives and progress monitored periodically.

Administration

- Quality Goals applicable to both Wings
 - Maintaining administrative discipline
 - Formation, updation and implementation of rules, regulations, circulars, etc., based upon the prevailing laws/practices followed by BBMB.
 - Maintaining compliance to Conduct Rules.

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- Timely maintenance, updation of prescribed administrative records viz. Service Books/records, Annual confidential reports, leave records (of all kinds), Training record etc. and retention thereof as per the applicable guidelines.
- Maintaining transparency in administration.
- Manpower planning and Human Resource Development (HRD)
 - Cadre review.
 - Training of personnel & development of training infrastructure.
- Employee satisfaction enhancement through
 - Timely implementation of administrative policies in a transparent manner such as promotions, transfers, sanctions related to employees.
 - Timely payment of various dues.
 - Improved physical working environment.
 - Motivation through rewards, suggestion schemes for system improvement and effective grievance redressal.
 - Periodic measurement of system improvement and its effectiveness by taking feedback from employees.
- Environmental goals applicable to both wings
 - Electricity Conservation
 - Water Conservation
 - Encourage Computerization - as a step towards paper less offices
 - Recycling of paper/ waste stationary
 - Disposal of solid waste in environmental friendly manner in consonance with the relevant rules and acts
 - Carrying out awareness campaigns about energy and water conservation.
 - Optimum usages of Resources.
- Health and Safety goals applicable to both wings
 - Creating awareness of IMS policy, emergency Preparedness and response.
 - Ensuring safety briefing to Contractor employees, Customers, Visitors etc
 - Ensuring provision of ergonomics furniture
 - Conduct H&S inspection of facilities to include all work areas as per Operational Control Procedures.

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- Motivating and empowering employees for wearing PPE (like safety shoes, ear defender, Full body harness etc) while performing critical tasks
- Ensuring PTW before starting of task by BBMB as well as contractor employees
- Implement the vehicle safety Program.
- Routinely health checkup of staff including heads
- Conducting Emergencies Mock drill on defined frequency
- Recording of Near miss
- Recording Injuries, Accidents, Incidents and generating monthly OHS statistics and address top 5 injury/incident causes.
- Injury /Incident reduction
- Accident, Incidents investigation in one working week.
- Conducting Safety committee meeting once in a Quarter
- Enhance contractor to obey BBMB Health and Safety requirements and
- Conducting H&S risk assessment for contractor activities and thought which are not captured in HIRA document.

Accounts & Finance

➤ Quality Goals

- Maintaining financial discipline.
- Efficient financial resource management.
 - Timely & Correct disbursement of payments
 - Minimization of outstanding payments through timely and regular follow-ups.
 - Prompt, effective and time bound disposal of financial decisions.
 - Transparency of financial decisions.
- Environmental goals
 - Electricity Conservation
 - Water Conservation
 - Encourage Computerization - as a step towards paper less offices
 - Recycling of paper/ waste stationary
 - Disposal of solid waste in environmental friendly manner in consonance with the relevant rules and acts
 - Carrying out awareness campaigns about energy and water conservation.
 - Optimum usages of Resources.

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- Health and Safety goals
 - Creating awareness of IMS policy.
 - Conducting Safety committee meeting once in a quarter.
 - Ensuring provision of ergonomics furniture.
 - Recording of Near miss.
 - Injury reduction.
 - Incident reduction.
 - Accident, Incidents investigation in one week.

Township/ Colonies

- Quality Goals
 - Providing and maintaining necessary basic amenities to the residents viz.
 - roads, drinking water, street lighting, sanitation, garbage disposal,
 - Maintenance of common areas, parks etc.
 - Quick disposal of complaints.
 - Adhering to environmental laws, rules and regulations.
- Environmental Goals
 - Providing clean drinking water, sanitation, garbage disposal and other civic amenities by having proper storage, collections, treatment, transportation and disposal of solid/liquid waste generated in residential/nonresidential areas.
 - Proper upkeep of common areas, parks etc. by following proper horticulture practices and waste material utilization in 'Theme Parks'.
 - Provide and maintain green cover through plantation of trees and plants in and around the surroundings of colonies/township areas.
 - Have a proper, adequately manned complaint centers to promptly attend to the complaints/grievances of residents about water, sanitation, garbage related issues and continual improvement of the system thereof.
 - Carrying out awareness campaigns about energy and water conservation.
- Health and Safety goals
 - Creating awareness of Health and safety by cultural programmes.

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- Drinking water testing by laboratory
- Maintenance of sewages, cleaning of overhead water storage tanks
- Routine cleaning of roads, waste dumps
- Recording of Near miss, Incidents.
- Incident reduction.
- Accident, Incidents investigation in one week.

Hospital/Dispensaries

➤ Quality Goals

- Establishment of norms for different hospitals/ dispensaries for medical facilities and provision of necessary infrastructure viz. equipment, diagnostic facilities, basic testing facilities, trained technicians and para-medical staff and doctors.
- Ensuring safe and hygienic conditions in the hospital/ township.
- Optimal doctor-patient ratio.
- Adequate and regular replenishment of medicine stock.
- Adhering to environmental laws, rules and regulations.
- Periodic measurement of satisfaction level of end users by taking feedback from employees.

➤ Environmental Goals

- Creating awareness amongst public / patients about hygiene, cleanliness and disease protection by following contemporary environmental friendly practices.
- Safe collection, treatment, transportation and disposal of solid/liquid and biomedical waste in conformity to the relevant environmental acts and rules.
- Proper linen management, laboratory sterilization techniques for equipment and material used in the day to day hospital functioning.

➤ Health and Safety goals

- Creating awareness of IMS policy.
- Properly storage, handling and disposal of Solid/liquid and Bio medical waste
- Routinely health checkup of hospital staff including doctors
- Maintenance of sewages, cleaning of overhead water storage tanks
- Routine cleaning of OPD waiting area
- Ensure provision of equipment like oxygen cylinder etc in emergency ambulance
- Recording of Near miss, Incidents.



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- Incident reduction.
- Accident, Incidents investigation in one week.

Schools

➤ Quality Goals

- Maintaining adequate and sufficient quality infra-structure viz. buildings, furniture, amenities, laboratories, extracurricular etc.
- Required qualification of teachers as per norms.
- Optimal teacher-student ratio.
- Ensuring enhanced class performance with respect to attendance, pass percentage, performance.
- Stress on ethics and moral values.

▪ Environmental goals

- Electricity Conservation
- Water Conservation
- Recycling of paper/ waste stationary
- Disposal of solid waste in environmental friendly manner in consonance with the relevant rules and acts
- Carrying out awareness campaigns about energy, water, land pollution and natural resource conservation.
- Optimum usages of Resources.

➤ Health and Safety goals

- Creating awareness of IMS policy to students and parents by cultural programs.
- Routine cleaning of toilets, verandas, classes and other offices/stores.
- Routine water testing from laboratory and cleaning of drinking Water dispensers.
- Recording of Near miss, Incidents.
- Accident, Incidents investigation in one week.

Guest House

➤ Quality Goals

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- Maintaining adequate and sufficient quality infra-structure viz. buildings, furniture, amenities etc.
- Maintaining cleanliness and hygiene in rooms, common areas, kitchens, toilets/ washrooms and open spaces.
- Endeavour to create serene environment and promoting landscaping of open areas.
- Environmental Goals
 - Providing proper amenities to maintain hygiene, cleanliness in rooms/kitchen and common surrounding areas of Guest Houses.
 - Proper housekeeping management and quick civic complaint attendance in day to day running of Guest Houses
- Health and Safety goals applicable to both wings
 - cleanliness of guesthouse, kitchen, Pest control
 - cleanliness at the storage place of pulses, food grade items
 - Annual health checkup of Guest contractor and regular employees
 - Creating awareness about emergency Preparedness and response, verification of Guests.
 - Ensuring provision of ergonomics furniture
 - Conduct H&S inspection of facilities to include all work areas as per Operational Control Procedures.
 - Recording of Near miss
 - Recording Injuries, Accidents, Incidents and generating monthly OHS statistics and address top 5 injury/incident causes.
 - Injury /Incident reduction
 - Accident, Incidents investigation in one working week.

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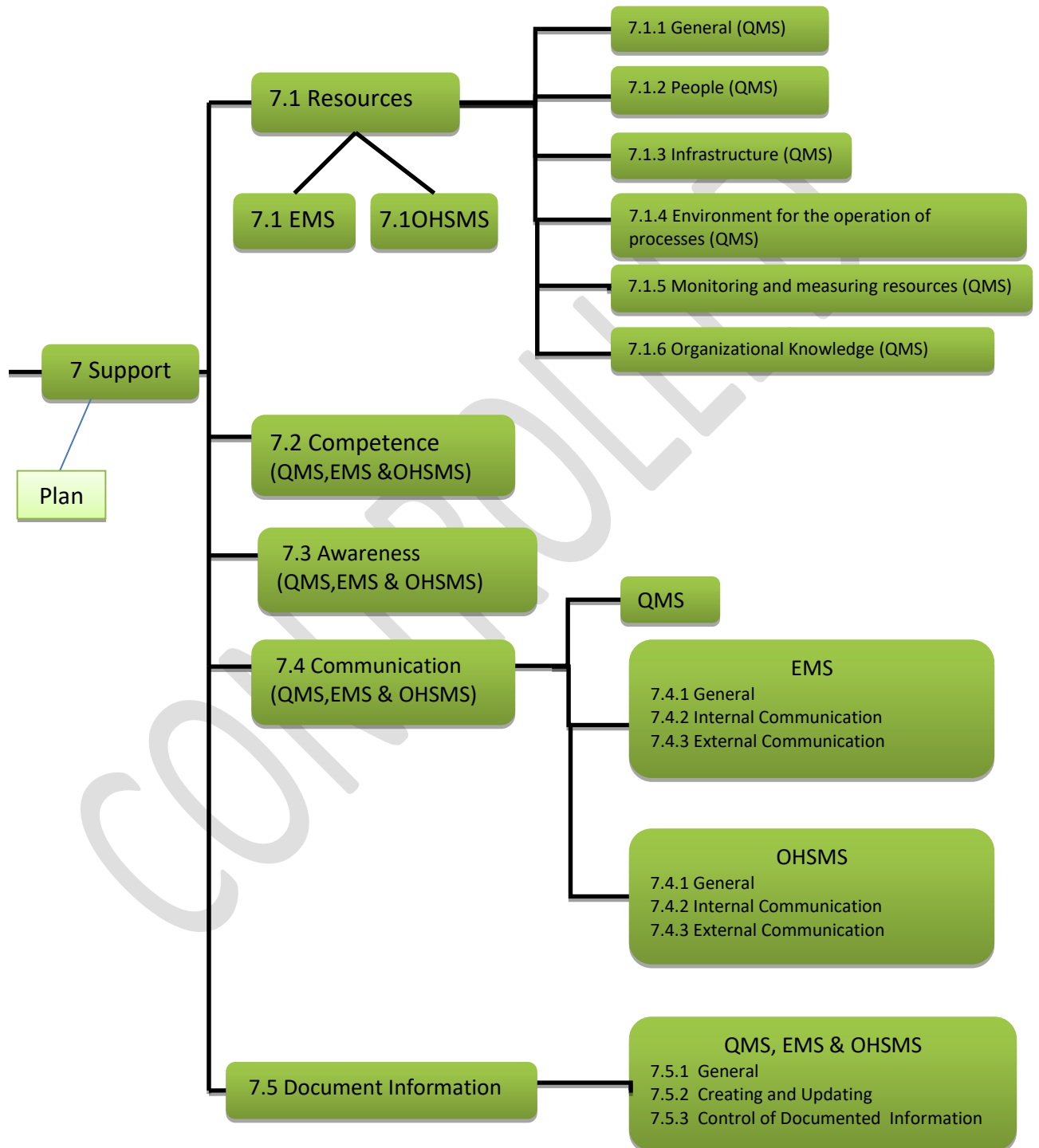


Security

- Quality Goals
 - Implementing necessary security measures, procedures and precautions at all project/work sites.
 - Maintaining/ reviewing and updating the necessary security infrastructure.
- Environmental goals
 - Electricity Conservation
 - Water Conservation
 - Recycling of paper/ waste stationary
 - Disposal of solid waste in environmental friendly manner in consonance with the relevant rules and acts
 - Carrying out awareness campaigns about energy, water, land pollution and natural resource conservation.
 - Optimum usages of Resources.
- Health and Safety goals applicable to both wings
 - Awareness of IMS policy and objectives
 - Creating security measures of area to local communities and BBMB employees
 - Annual health checkup of Security employees
 - Creating awareness about emergency Preparedness & response, Disaster Management preparedness.
 - Participating in Safety Committee Meeting
 - Ensuring provision of ergonomics furniture, ammunition, frisking equipment's etc
 - Recording of Near miss
 - Recording Injuries, Accidents, Incidents and generating monthly OHS statistics and address top 5 injury/incident causes.
 - Injury /Incident reduction
 - Accident, Incidents investigation in one working week.

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Clause 7 SUPPORT





7 SUPPORT:

7.1 Resources Management

(IS/ISO 9001, IS/ISO 14001 & IS/ISO 45001 Clause 7.1)

7.1.1 Provision of resources

(IS/ISO 9001 (Clause 7.1) IS/ISO 14001 & IS/ISO 45001 (Clause 7.1))

Resource planning shall be carried out keeping in view the routine operation and maintenance requirements as well requirements pertaining to augmentation/ improvement of existing works/infrastructure or new work requirements. This includes both infrastructural and human resource planning.

System exists for financial resource planning/budgeting. The funds for discharging the activities of BBMB are provided by the beneficiary States which are reflected in their respective budgets under Section 79(5) of the Punjab Re-organization Act, 1966. Budgetary planning is carried out before the inception of financial year which is deliberated and approved by the Board.

The overall philosophy in determining the resource requirements shall be:

- 1) Effective implementation and maintenance of IMS and the needs for its continual improvement.
- 2) Enhancement of satisfaction level of partner states and local community.
- 3) Maintenance and improvement of facilities and infrastructure to meet long-term requirements.

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

Top management of BBMB is committed to ensure availability of resources i.e. human resources, specialized skills, internal infrastructure, technology and financial resources for implementation and control of IMS.

The organization chart under concerned MR/HOD has been defined and responsibilities and authorities documented and communicated to concerned officers/staff to facilitate effective implementation of IMS at MR level.

For overall co-ordination of the IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001 related works, Director/HRD at Chandigarh has been nominated as Central Management Representative (CMR).

7.1.2 Human resources

(IS/ISO 9001, IS/ISO 14001, & ISO 45001 Clause 7.2 & 7.3)

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BBMB carries out its functions through a well-established organizational structure. The overall human resource requirements of officers/officials are fulfilled mainly by transferring suitable persons from Partner States against their Share Quota. The officers in these States have been recruited/promoted based on the set criteria (also includes legal requirement) for educational qualification, experience & competence as defined in service rules of respective cadres of State Governments/its Power Utilities for different positions. However, a cadre of permanent BBMB officials also exists. Overall manpower planning is done keeping in view of the projected work/competence requirements and sanctioned norms.

Secretary/BBMB looks after Human Resource planning, induction, promotions, and transfers of officer cadre (Group A&B) in accordance with rules laid down by concerned State Governments/BBMB class I & II officers (Recruitment & Conditions of Service) Regulations, 2015 with the approval of Chairman, BBMB.

The Special Secretary, BBMB mainly deals with the work pertaining to Power Wing. He looks after the pertinent issue of Rules and Regulations regarding the service conditions of HRs in BBMB. The policy decisions of the Board are dealt with by the Rules and Regulation Section. Although the administrative control of Group 'C' & 'D' employees vests with the Concern SE (HQ)/CE i.e. respective Chief Engineers (both Irrigation & Power Wing) in the field, FA & CAO for Finance Wing and Secretary for the concerned staff in Board Sectt., the general service conditions, pay and allowances, regulations and management of cadre are carried out by the office of Special Secretary.

The induction of staff (Group C & D) from the partner States i.e. Partner State Governments and State Power Utilities is entrusted to the office of Special Secretary, BBMB. So far as the postings and transfers and other administrative decisions are concerned, the Concern CE/SE (HQ) exercise their power as per laid down statutes and procedures within their administrations.

Besides, the demands put forth by various recognized unions are processed and settled after due negotiations with their authorized representatives, for which Special Secretary plays a pivotal role. The regular holding of general meetings and correspondence etc. are held as per labour laws and executive instructions. The compassionate employment to the dependent of employees who die in harness is regulated through a policy framed and approved by competent authority Special Secretary

Special Secretary has also been designated as Director/ Grievances for BBMB as a whole. In this respect a quarterly progress report indicating the position of pending grievances in respect of various administrations is compiled and sent to the Ministry of Power.

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Another important aspect of overall human resource planning shall be maintenance of their competence levels. Regular up gradation of knowledge and skills of the employees shall be ensured through trainings both in-house and through external agencies.

Continued competence shall be ensured for the personnel performing various activities and functions of the organization ensuring conformity to the service requirements, based on appropriate education, training, skills and experience as per HRD policy

Training activities at BBMB are planned both at the level of Director/HRD, BBMB and at CE levels. A procedure for manpower training is documented. A training Institute has been established at Nangal for providing training to in-house and external agencies on various specialized areas related to Power and Irrigation sectors. Training needed for its personnel to ensure effective operation/performance and to maintain compliance with quality, environment and health & safety requirements at workplace.

It is ensured that:

- a) Necessary competence for personnel performing work affecting conformity to service/product requirements, work related to significant environmental impacts and work related to unacceptable risks requirements 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.
- c) Necessary competence achieved shall be ensured.
- d) Personnel are made aware of the relevance and importance of their activities and their contribution in the achievement of IMS objectives.
- e) Record of education, training, skills and experience shall be maintained.

Whenever training is provided with an aim of achieving objectives stated above, evaluation of the effectiveness of the training provided is carried out with specific reference to the performance effectiveness and improvement.

BBMB encourages its personnel to undergo training to enhance their knowledge level in a specific subject or for achieving specialization or for personality development. In such cases, evaluation of effectiveness of training is carried out through self-assessments. Where appropriate and practicable, external evaluation is done either using internal resources or external resources or conducting exams with pass criteria.

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The procedure for training ensures that BBMB employees as well as contractors personnel are made aware of:

- a) Importance of the conformity with management system requirement, policies, procedures and with the requirements of Environmental and OH&S Management System, including the potential consequences of departure from specified procedures
- b) Significant environmental impacts, Unacceptable OH&S risks, actual or potential, of their work and environmental benefits of improved personnel performance
- c) Their roles and responsibilities and importance in achieving conformity to the IMS policy and procedures and to the requirements of the OH&S management system, including emergency preparedness and response requirements, as well as potential consequences of departure from specified procedures
- d) Potential consequences of departure from specified operating procedures for control of various environmental impacts.
- e) The benefits of improved IMS performance; and
- f) The implications of not conforming to the IMS management system requirements.

REFERENCE:

| | |
|---|-------------|
| Various procedure in BBMB for assessment of Resource requirements | -- |
| Procedure for IMS Training. | MR/IMS/P/09 |

7.1.3 Infrastructure

(IS/ISO 9001 Clause 7.1.3 , 14001, ISO 45001 Clause 7.1)

One of the major components of IMS at BBMB is maintenance of the infrastructure required for water management and power generation and transmission.

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

- a) Civil structures and buildings, Mechanical/Electrical plant & machinery and associated equipment, kVs, transmission lines etc.
- b) Laboratories and inspection instruments / facilities
- c) Building, work space and associated utilities
- d) Computer hardware and software
- e) Supporting services such as transport, communication or information systems

In addition to the basic infrastructural facilities at Project/Works sites, additional facilities/other welfare services shall be planned and provided by creating townships/ colonies near projects/works sites for

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the personnel attached to projects/works and their families. The infrastructure involved includes Townships/Colonies, Hospitals/ Dispensaries, Schools, Guest Houses etc.

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

Concerned CEs are responsible for maintenance, upkeep and improvement of necessary infrastructure to ensure quality of service and professional work environment

Another important aspect related to infrastructure is maintaining the security of the works. Director/Security& Consultancy shall ensure appropriate mechanism for the maintenance and monitoring of the security provisions in liaison with the Central/State authorities.

7.1.4 Environment for the operation of processes

(IS/ISO 9001 Clause 7.1.4, 14001 & IS/ISO 45001 Clause 7.1)

Work environment relates to conditions under which work is performed including physical environment and other factors such as noise, temperature, humidity, lighting or weather. Supportive physical and human work environment already exists which shall be maintained through continuous efforts at all levels. The effort always is to motivate all personnel to ensure their full involvement and contribution in making BBMB a **Pride of Nation**.

BBMB emphasis on creative work method and opportunities for involvement to realize the potential of people in organization. Strict safety rules and guidance including the use of protective equipment fully taken care of. The principles of ergonomics are being followed. Proper work place locations have been marked. Social interaction takes place within BBMB. Necessary facilities for employees have been provided in the organization. Due considerations are given to maintain hygiene, cleanliness, control noise level, vibrations and pollution levels. Thus, through this way the BBMB determines and manage the work environment needed to achieve conformity to product and service requirement.

REFERENCE:

| | |
|---|------|
| Organization site specific O&M procedures | ---- |
| Project specific Plant Manuals | ---- |

7.1.5 Monitoring and measuring resources

(Clause 7.1.5 of IS/ISO 9001: 2015, IS/ISO 14001 & 45001 Clause 7.1)

It shall be ensured that monitoring and measurement equipment are calibrated and/or verified, or both at specified intervals with all calibrations being traceable to international or national standards. Periodicity of calibration shall be fixed. Records of results of calibration shall be maintained. For such

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instruments / equipment which have been embedded and for which no replacement / calibrations can be provided, suitable corrective actions shall be decided once their accuracy becomes doubtful.

Measuring equipment shall have identification in order to determine its calibration status. Record of calibration or verification shall be maintained.

If during the re-calibration, the monitoring / measuring equipment 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 equipment out of service and replacing it with another valid duly calibrated equipment.

Similarly, ability of the computer software to satisfy the intended application prior to initial use shall be confirmed for all the computers. Reconfirmation shall be done as necessary when computer software is used in the monitoring and measurement of specified requirements.

Through appropriate supervision controls appropriate and correct usage by authorized personnel shall be ensured.

REFERENCE

| | |
|--|---|
| Various Procedures and other Quality Management System documents. The Master List and the Master Copy of documents shall be available with concerned MR. | - |
|--|---|

7.1.6. Organizational Knowledge

(IS/ISO 9001 Clause 7.1.6, IS/ISO 14001 & 45001 Clause 7.1)

BBMB shall determine the knowledge necessary for the operation of its Water regulation bodies, Dams operation & maintenance and power plant operation & maintenance processes to achieve conformity of services. This knowledge shall be maintained and be made available to the extent necessary in the various operational and maintenance Manuals, OEM equipment manuals etc.

Changes in the equipment or services, BBMB document the knowledge and its OEM manual in library and determine how to acquire or access any necessary additional knowledge and required updates. Organizational knowledge is specific to the organization; it is generally gained by experience. It is information that is used and shared to achieve the organization's objectives.

Organizational knowledge shall be based on:

- Internal sources (e.g. intellectual property; knowledge gained from experience; lessons learned from failures and successful projects; capturing and sharing undocumented knowledge and experience; the results of improvements in processes, products and services);

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- External sources (e.g. standards; conferences; gathering knowledge from customers or external providers).

7.2 Communication and Reporting

(IS/ISO 9001, IS/ISO 14001 & ISO 45001 Clause 7.4)

BBMB has an established method of communication of various aspects and IMS elements. It includes:

- a. Internal communication within the organisation on various issues (process non-conformance reporting, Environmental aspect/occupational hazard identification reporting, Incident occurring reporting, IMS performance details and management review decisions etc) relating to Quality, environment, health & safety. Internal communication within the organisation exists through various forums such as meetings, internal circulars, interactions, consultations, trainings and awareness sessions which shall also be utilized for communication. Means of communication such as wireless messages, electronic data transfer etc. have been established for speedy transfer of information to management and State Government authorities, as appropriate.
- b. External communication to interested parties in response to their communications. External Communication is undertaken with interested parties like customers, external providers, government authorities, emergency services like fire, ambulance, police, hospitals, MOEF, Pollution control board, testing agencies etc as required.

BBMB has an established system for receiving, documenting of all communication from external sources which are reviewed and responded to, in view of the nature and severity of issues raised. All such communications/decisions thereon are well documented. The process of external communication, including responsibilities for communicating with external agencies such as State PCBs, Partner States, NGOs, Media etc have been established. Under the Right to Information Act, 2005 BBMB has established a transparent mechanism to deal with public enquiries and accessibility of relevant information in public domain including information on significant aspects/ unacceptable risk of BBMB Activities & Facilities/emergencies, if any.

BBMB has a procedure for communication and reporting of IMS performance. Communication and Reporting take care of Central and local state legislation, Safety officer in consultation with top management carries out the activities.

Internal reporting includes

- a) Incident occurring reporting

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- b) Non-Conformance reporting (as per defined policy)
- c) Health and Safety performance reporting and
- d) Hazard identification reporting

External reporting

- e) Statutory reporting requirements, and
- f) stakeholder reporting

REFERENCE

| | |
|--|-------------|
| Procedure for External Communications on IMS and Performance. | MR/IMS/P/24 |
| Procedure for control of IMS Non- Conformities and Incident investigations | MR/IMS/P/11 |
| Procedure for IMS performance, Measurement and Monitoring | MR/IMS/P/29 |

7.3 IMS Documented Information

(IS/ISO 9001, IS/ISO 14001, IS/ISO 45001 Clause 7.5.1, 7.5.2 & 7.5.3)

General requirements

(IS/ISO 9001, IS/ISO 14001, ISO 45001, Clause 7.5)

BBMB IMS include:

- Documented information required by this International Standard; Processes needed for the IMS and their application throughout the organization). Common requirements of the multiple management systems standards have been integrated into a common system. and
- Documented information determined by the organization as being necessary for the effectiveness of the IMS management system.

The documentation structure of the BBMB IMS comprises of IMS Manuals, IMS Policy & objectives, Procedures, Standard & Guidelines, quality Plan, FMEA, HIRA sheets, Work Instructions, Operational control, Procedures Formats Compliance Records, Standards, and Circulars, Internal and External communications and their documented information wherever applicable, international standards have been used to guide process documentation.

The Documentation principle followed at BBMB is to keep the documentation proportional to the level of complexity of the operation.

When creating and updating documented information the following shall be ensured:

- Identification and description of the documents like name, date, numbers & creator name,
- Format: structure, language and media; and Review and approval for suitability and adequacy

Document and Data Approval and Issue

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- Documents are maintained as hard copy or electronic media, or both. Documents are legible, retrievable, and stored safely to protect them from damage, loss and deterioration during their period of retention. Obsolete documents required for legal/archival purpose are identified and maintained in an archival directory/folder to prevent inadvertent use.
- Documents and data are maintained by CMR/MR. Before issue, controlled documents and data are reviewed and approved for adequacy by designated personnel.
- MR or person designated as document control coordinator is responsible for announcing IMS changes to all employees. The announcement can be made by posting news items on the BBMB's Intranet & associated locations, mailing group heads, or by any other suitable means.
- Individual groups are responsible for maintaining appropriate data and documents of external origin, such as Standards, Master Service Agreements, Operations and Maintenance manuals, etc. BBMB's users are responsible for ensuring that they use current revisions of these data and documents. Document and data control applies to external origin documents and data as well.
- MR ensures that the latest versions of IMS Documentation required for reference by employees are maintained and made available in "Read Only" version for all employees on intranet

Control of documented Information (Documents & Records)

(IS/ISO 9001; IS/ISO 14001 & ISO 45001, Clause 7.5.2, 7.5.3)

CMR/MRs shall be responsible for control of all documented information specific to their defined jurisdiction in line with a documented procedure on the subject. All documents of internal origin shall be reviewed and approved for their adequacy by specified authorities as given in the relevant procedures.

All the IMS documents shall be distributed by the CMR/MRs to the authorized copy holders as per the distribution list. The control of documents shall be as per the documented procedure.

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 IMS is 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.

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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 determined to be necessary for the planning and operation of the IMS are identified, controlled & distributed by respective CMR/MRs nominated representative in line with the documented procedures.

For external documents, changes shall be based on the changes made by the authorities responsible for their issue. MRs shall maintain liaison with issuing authorities to ensure timely updation/insertion of amendments in all documents of external origin. Necessary controls to ensure availability of relevant external documents at pertinent locations, as per the need, shall also be in place.

In case of document change, nature of changes shall be identified. All data maintained on electronic media shall be kept secured and under control.

The responsibilities to retain of documented information shall be as per the documented procedures on the retain documented information (control of records). Records established to provide evidence of conformity to requirements and effective operation of IMS shall be controlled as identified under various System Procedures. 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.

Minimum retention period of records shall be specified depending on requirements. It shall be ensured that records are maintained for specified/extended retention period and disposed off suitably after the expiry of specified/extended retention period.

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

REFERENCES:

| | |
|--|-------------|
| Procedure for Control of Internal Documents. | MR/IMS/P/01 |
| Procedure for Control of Internal Documents-Upkeep of Common Document Folders. | MR/IMS/P/02 |
| Procedure for Control of Documents of External Origin- Standards & Product Manual. | MR/IMS/P/03 |



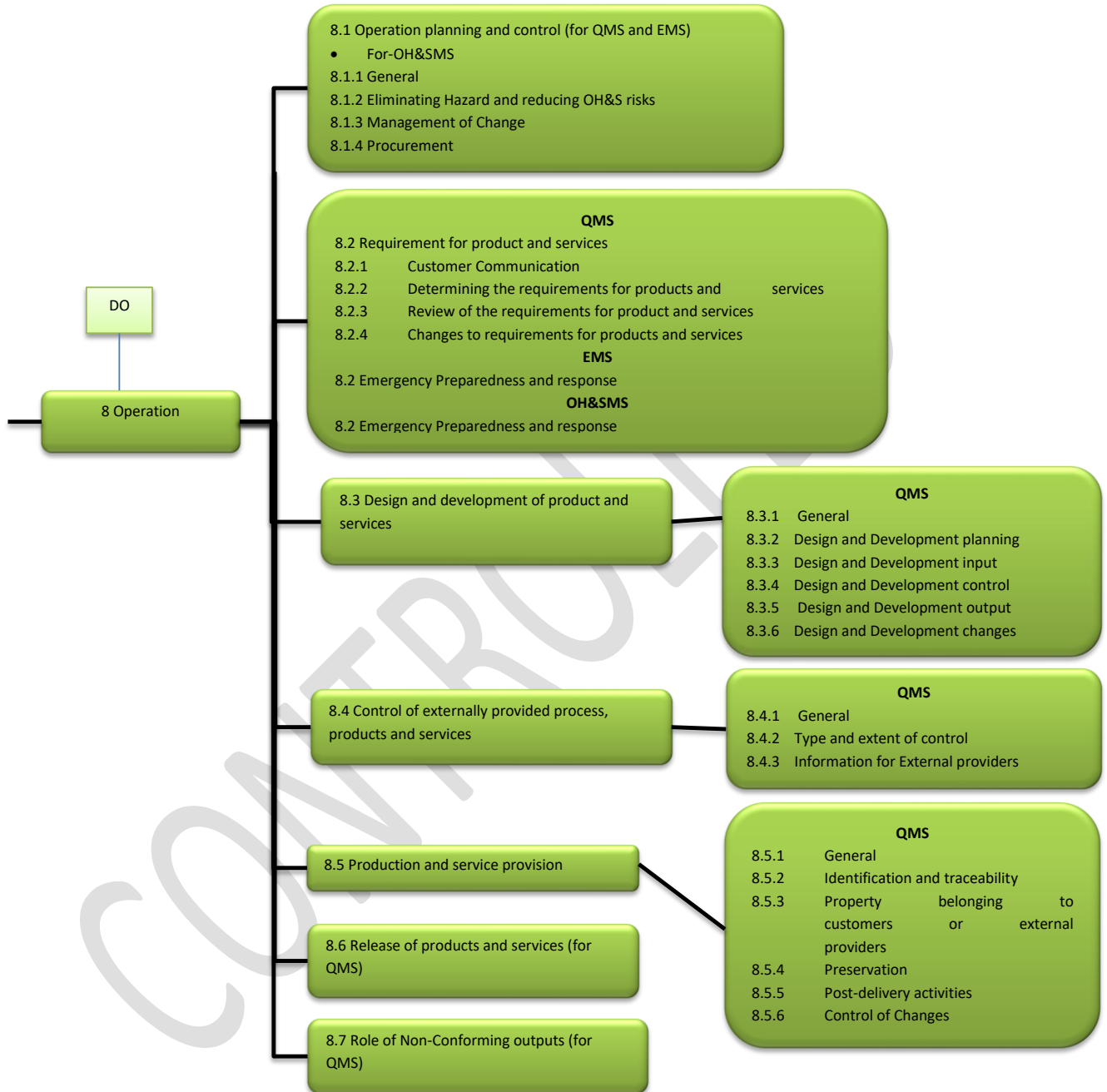
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| Procedure for Procedure for Documents of External Origin. - Government Circulars Memos /Rules/Regulations etc. issued by various Govt. agencies from time to time. | MR/IMS/P/04 |
| Procedure for handling of request for information From Indian citizens under Right to Information Act 2005 | MR/IMS/P/05 |
| Procedure for handling of appeals from Indian Citizens Under Right To Information Act 2005 | MR/IMS/P/06 |
| Procedure for Control of Records | MR/IMS/P/07 |

CONTROLLED



Clause 8 OPERATIONS





8 Operation

8.1 Operational planning and control

(IS/ISO 9001, IS/ISO 14001 & ISO 45001, Clause 8.1)

All processes involved in the realization of services, as per Master List of Documents (Internal Origin) MR/DC/F/1-01 (separately maintained by BBMB organizations) be adequately planned for ensuring their compatibility with other IMS processes. Most of these processes are standardized processes for which O&M manuals and guidelines for the respective projects/project components exist.

The concerned HODs are responsible for proper planning, execution and control during service realization. Similarly, to maintain the transparency in the commercial transactions, CVO ensures compliance to the statutory guidelines of the CVC. It shall be ensured that an atmosphere of fair play prevails in the organization.

Adequate Security arrangements exist at various Projects/Work Sites for the safety of the personnel and infrastructure.

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

- IMS objectives and requirements for the management of works/areas under the jurisdiction of BBMB, other welfare services of BBMB and new works to be undertaken
- The need to establish additional processes and documents and to provide the resources specific to the product
- While doing environmental aspect, the product design and development process with life cycle assessment including changes/new developments
- processes for the management of OH&S hazards and risks before realisation
- assess other risks & opportunities associated with context of BBMB.
- The need to appoint/select suitable officers, staff, contractors, suppliers and consultants.
- Requisite 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 realization of processes and resulting service meet the requirements.

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The output of this planning has been consolidated in the form of procedures, quality plans, Environmental impacts (FMEA), OHS risk (HIRA), work instructions, Operational Control Procedures and works-specific documents like O&M manuals.

It is ensured that outsourced processes are determined and controlled. External provider are communicated the controls required for activities.

Financial Planning:

As per provisions of the Punjab Re-Organisation Act, 1966, the Partner States and their Electricity Boards are under an obligation to provide at all times the funds to meet the expenses of BBMB including the salary and allowances of the staff.

The Budget framed by BBMB is in consultation with the partner states and their Electricity Boards /Power Utilities and the same is duly reflected in the budget of the said State Governments/Electricity Boards/ Power Utilities.

The Funds required for running of the Irrigation Wing of BBMB come from the State Governments and those for Power Wing come from the State Power Utilities.

There are no Demands for Grants, on behalf of BBMB, included in the budget estimates of The Government of India.

The major processes for service realisation shall be the following:

a) Customer related processes include:

- Determination of requirements related to services to be rendered i.e. generation/ transmission of power and regulation of water and power.
- Review of requirements and adjustments, if any.
- Communication of agreed requirements.
- In case of welfare services, customer requirements shall be determined and reviewed in terms of their nature of services.

b) Management processes includes:

- Design and development.
- Purchase of equipment/material including their inspection/verification.
- Control of Processes and activities.(Refer Annexure D)
- Identification and traceability requirements.
- Preservation/protection of process components.

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- Control of Customer supplied product including data.
- Control of monitoring and measuring equipment.

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

REFERENCE

| | |
|---|-------------|
| Procedure for Operational control | MR/IMS/P/28 |
| BBMB organization Specific Division Manuals | --- |
| Process Quality plan | |

8.2 Contingency planning Emergency preparedness and response

(IS/ISO 14001, and IS/ISO 45001 Clause 8.2)

BBMB has established and maintains procedures to identify potential emergency situations like fire, explosion, toxic release, natural disasters, bomb threat, riots etc and potential accidents that can have an impact on environment as well as health and safety. BBMB has established emergency preparedness and response plan, Critical incident Recovery Plan teams are available for the identified emergency situations and accidents. These teams will respond to actual emergency and accidents and prevent or mitigate the impacts.

Emergency response plans identify the roles, responsibilities and action to be taken in the event of an emergency. The plans also identify communication requirements to affected interested parties such as local community and emergency services as appropriate. It also covers the availability of appropriate first aid facilities & rehabilitation facilities to rehabilitate injured employees.

Emergency response plans are periodically reviewed; they are tested through mock drills where practicable or by stimulation or walkthroughs. After mock drills, and after responding to actual emergencies, plans are revised where appropriate, to assure adequate protection to the environment and people.

Flood Warning Mechanism exist in the EAP/DMP of each Project Station.

*Note **EPR** stands for Emergency preparedness & response,*

***CIPR** stands for Critical Incident Recovery Plan*

EAP stands for Emergency Action Plan and DMP stands for Disaster Management Plan

REFERENCE

| | |
|--|-------------|
| Procedure for On Site Emergency Plan- Preparation and Implementation | MR/IMS/P/23 |
| Procedure for Critical Incident Response Procedure | MR/IMS/P/31 |
| Onsite Emergency action plan a. BS emergency plan | |

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|---|--|
| <ul style="list-style-type: none">b. TS emergency plansc. SO Emergency pland. Bhakra Dam (includes township)e. Bhakra Power housesf. Kotla Power house (includes township)g. Ganguwal Power house (includes township)h. BSL-Sundernagar including Townshipi. Dehar Power house, Slapperj. Beas Dam including Talwara townshipk. Pong power house | |
|---|--|

8.3 Requirements for product and services

(IS/ ISO 9001:2015 , Clause 8.2)

Determination and review of requirements related to the product

In overall context the sharing of water and power among the Partner States is governed through Punjab Reorganization Act, other joint agreements viz. Bhakra Nangal Agreement, etc. and the MoP, Gol vide its letter no. 02/13/96-BBMB dated 31.10.2011 in deference to the Honourable Supreme Court of India Judgement dated 27.09.2011 in Original Suite no.02/1996 title State of Himachal Pradesh vs Union of India and others ensures compliance to the Statutory and legal requirements as applicable. The annual budget meetings are held with the representatives of the partner states for finalisation of annual budget/ revised budget.

Monthly meetings of Technical Committee are conducted to determine customer requirements and to review the performance of the previous month. These include issues not specifically stated by the partner states but necessary to meet the intended requirements. Technical Committee has representation of all the participating states with the following constitution:

In Chair - Chairman BBMB

Members - Member Irrigation & Member Power of BBMB

Chief Engineers/ Irrigation of Participating States.

Technical Member of Participating State Electricity Boards/ Power Utilities.

Chief Engineer/ Central Water Commission.

Monthly releases of water on 10 daily basis are decided during these meetings based upon the inputs applicable to the reservoir position, expected inflows, projected demand of partner states & water

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carrying capacity of canals. The generation schedules pertaining to agreed water releases are prepared by the Power Regulation Directorate of BBMB. Any subsequent changes considered necessary to the schedules are communicated to Power Regulation Directorate which reschedule generation of power.

The information is shared with the National Regional Load Dispatch Centre (NRLDC) & State Electricity Boards/ Power Utilities through regular interactions. Similarly, instructions for day to day releases are communicated by Director Water Regulation, BBMB, Nangal.

The Annual Budget Meetings are held with the representatives of the Partner States for finalization of the revised budget for the current year and budget proposal for the following year.

The welfare services are rendered after review of the requirements of the beneficiaries – patients in case of hospitals / dispensaries, students / their parents in case of school, visitors in case of guest houses etc. These reviews are made taking into consideration existing / available facilities, extant rules / regulation for availing these services / other legal / administrative requirements etc.

➤ **Customer Communication**

All customer communication is treated with utmost care, to ensure timely, effective appropriate response with necessary follow up actions, if any mainly during the periodic Board meetings.

- Project profile/ salient features / capabilities and strengths of BBMB are available even on web site (www.bhakra.nic.in) and are updated periodically.
- All communications with respect to status of management of works, status of supply of power / water, progress of any developmental work is effectively handled at Board/operational level and responded in a timely manner through personal discussions, periodical reports and reviews, letters, fax, wireless, video conferencing, e-mails etc., as suitable.
- All communications relating to customer / Partner State feed-back /complaints including public grievances are effectively handled at the senior-most levels, as per the gravity of the situation.
- All communications are analyzed and examined for prompt action. These communications can be received during personal meetings, during inspection visits or any other modes.
- Proactive efforts for maintaining good interaction / relations with local administration / community are made by respective Chief Engineers through regular meetings with officers of concerned department/ surpanches / taluka, village level officers.

For the communications with beneficiaries of Welfare Services, mechanism exists for providing information on the services rendered, rules and regulations for availing these services to the

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beneficiaries as well as attending to their enquiries, complaints and other communications as per the merit of the case.

Effective mechanism exists for communication with the internal customers for HRD/ Accounts / other related issues. Effective mechanism also exists for receiving and responding to employee grievances as well as for suggestions.

Under RTI, the communication process between the PIO, Indian citizen seeking information, other PIOs/APIOs within BBMB, PIOs of third party and appellate authority is described under Common Procedures MR/IMS/P-05&MR/IMS/P-06

8.4 Design and development

(IS/ISO 9001 Clause 8.3.1, 8.3.2)

For the current scope of Certification for Irrigation Wing covering management of Dams, Reservoirs, Canals and related water conductor system, Design & Development is relevant for the design related investigations/studies being carried out by Bhakra Beas Design Directorate, Nangal, to evaluate the impact of various geo-logical and other changes from design perspective.

For Power Wing, the design activity related to Power Houses is carried out by Planning & Design Directorate (Power Plants), Chandigarh and for Transmission System, by Planning & Design Directorate (Transmission System), Chandigarh. The design/ development work primarily relates to technology up-gradation, renovation and modernisation necessitating any design changes.

Organization has established and implemented and maintained procedure to ensure that the health and safety aspect are addressed at all stages of design and development.

The design and development activity is controlled as follows: -

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➤ **Design & Development Planning**

The concerned Design Directorate identifies and lists down design tasks, their inter linkage for timely integration at appropriate stage of design. The Design Plan covers the following:

- a) Design & development stages.
- b) Review, verification and validation stages.
- c) Responsibilities and authorities.

The design plan is updated as the design progresses to reflect actual time schedule.

Design and development review, verification & validation have distinct purposes as such are conducted and recorded separately or in any combination as suitable.

➤ **Design & Development Input**

The designers take care that all the available inputs are complete, clear (without any ambiguity), accurate and not conflict each other. These inputs include:

- a) Functional and performance parameters.
- b) Operation & maintenance data including corrective and preventive actions taken at project(s) / work sites.
- c) Applicable statutory and regulatory requirements
- d) Information from previous similar designs.
- e) Environmental impacts and health & safety risks involved, and
- f) Other requirements such as CWC, CEA, CERC guidelines, Central Board of Irrigation and Power (CBIP), CIGRE, Central Pollution Control Board (CPCB), Indian Standard/ handbooks etc.

➤ **Design & Development Output**

The design engineers ensure that all/any documentation of design work prepared by them would be suitable for cross checking/verification by any other qualified design engineer without any problem.

All the outputs viz. calculations / charts / drawings are presented in such a manner that verification of the design outputs viz-a-viz all design input requirements is practicable and shall be approved prior to release Information for production and service provision can include details for preservation of product.

Design outputs shall:

- a) Meet inputs requirements.

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- b) Provide appropriate information for purchasing, inspection, installation, erection and commissioning stages of the Project /work including specific instruction / guidelines during operation and maintenance.
- c) Provide reference to acceptance criteria.
- d) Specify parameters that are essential for Health & safety, Environment and proper operations.

➤ **Design & Development Control**

The design reviews are carried out at appropriate stage as indicated in design plan. The participants in the review process may include experts from other divisions/circles of BBMB or Partner States, CWC, CEA, CERC, Geological Survey of India etc. as needed. Minutes of meeting and Reports of various Expert Committees is kept for reference and record of design review.

The design review ensures the following:

- a) Ability of design to meet requirements
- b) To identify potential field problems in advance and provide necessary design solutions at the stage itself.
- c) **Design & Development Verification** - The design work carried out by nominated design engineers shall be verified by the Senior Design Engineer, or any other nominated Design Officer to ensure that design output shall meet all the requirements and that adequate safety margins and precautions have been taken at the design stage.
- d) **Design & Development Validation** - Validation of design shall be performed in accordance with design plan to ensure that design can meet the intended applications / or enhanced purpose. Validation shall be carried out prior to implementation (wherever practicable). Records of validation tests carried out and values observed shall be maintained for future reference.

➤ **Design & Development Changes**

Based on the field data or the problems encountered, the design and development changes are identified and process of revision of design parameters are initiated.

The design change process shall also involve proper planning, determination of input requirements, description of design process, responsibilities and interfaces and also design review, verification and validation as indicated above. While implementing design changes impact of change shall be evaluated on other constituent parts of the Project.

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The records of design and development planning, input, output, verification, review and validation are being properly maintained.

REFERENCE

| | |
|---|-------------|
| Procedure for Design and Engineering | MR/IMS/P/30 |
| System operation Organization specific procedures | --- |

8.5 Control of Externally provided Processes, Products and

Services

(IS/ISO 9001 Clause 8.4, IS/ISO 14001 Clause 8.1 & ISO 45001 Clause 4.4.6, 4.4.6.2)

Purchasing of products and/or the service for the service realization process are planned and approved by management.

The evaluation of external provider, selection is based on a well-defined BBMB Purchase Procedure and the records of the same are maintained. A continual assessment of supplier monitoring of performance is done, and shortcomings are highlighted for external provider's actions, generally over email/office order communications.

➤ Type and extent of control

A well-defined purchase policy exists which prescribes the mechanism for purchase through tendering, quotations, spot purchase committees. It is ensured that purchased services/materials/stores conform to tender/work orders/contract specifications.

Requirements are assessed well in advance & approval/sanctions are obtained from the competent authority and submitted to the prescribed agencies.

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

- Purchase through Open/Limited Tenders.
- Purchase through DGS&D Rate Contract/Rate Contracts of Controller of Stores Punjab, Haryana, HP, UT Chandigarh.
- Purchase through Spot Purchase Committees.
- Petty cash purchases.
- Purchase of Proprietary items / articles.

To ensure quality, reliability and competitiveness, the criteria of evaluations of tenders / selection of the suppliers includes the following:

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- Competence and capability to meet tender/supply requirements.
- 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 are dependent upon their effect on the final deliverables and shall include as appropriate:

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

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

To maintain the transparency in the commercial transactions, CVO ensures compliance to the statutory guidelines of the CVC. It shall be ensured that an atmosphere of fair play prevails in the organization. BBMB has voluntarily adopted Integrity Pact (IP) promoted by Transparency International through CVC under Standard Operating Procedure. BBMB appointed, duly approved by CVC, panel of two Independent External Monitors (IEMs) to oversee IP's implementation and its effectiveness. and to use IEMs advice as conflict resolution mechanism. For roles and function of IEMs refer BBMB website link <http://www.bbmb.gov.in/adoption-of-integrity-pact.htm>

Information for External Providers

The purchase orders / work orders or other relevant documents for purchase of materials and procurement of services describe the materials / services to be procured (where ever 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

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- c) Requirements for Inspection of supplies at vendor's end / consignee end.
- d) Delivery Schedules.
- e) QMS requirements, including approval of process, equipment, quality assurance scheme/plan, standard to be followed.

Purchase orders/ applicable purchase documents/ contract agreements/work orders are checked, reviewed for adequacy, correctness before issue at defined level.

Relevant information on operational control requirement is provided to suppliers/ contractors /sub-contractors who provide products/services that are associated with any significant environmental aspect or unacceptable H&S hazard/risk.

8.6 Production and service provision

(IS/ISO 9001 Clause 8.5.1)

8.5.1 Control of production and service provision

(IS/ISO 9001 Clause 8.5.1)

All processes related to management of works/project components involved in power generation & transmission and water management under the scope of this manual shall be planned and carried out under controlled conditions.

All processes of management which includes administration, finance & accounts, operation & maintenance of projects/works and welfare services shall be planned and carried out in line with documented procedures/flow charts, quality plans and established O&M manuals.

Necessary information for controlled execution of works such as applicable schedules, manuals, drawings, specifications, standards, codes, work instructions, guidelines, check sheets etc shall be made available to personnel, as necessary.

It shall be ensured that appropriate plant, machinery equipment's, communication facilities and infra-structural/logistics facilities are made available and regularly upgraded to fully meet the works requirements which shall be maintained in suitable working condition.

Suitable monitoring & measuring equipment shall be provided for monitoring water and power which shall include snow/rainfall/temperature/wind gauges, water level indicators, sonographs, dam safety equipment, power measuring/control equipment etc. Monitoring of process performance shall be carried out through collection of data, periodic meetings, comparative studies,

feedback on activities carried out etc. The details of the controls exercised are detailed in respective procedures.

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BBMB is known for its technical excellence and is considered a benchmark in all areas of operation, maintenance, inspection, safety (prevent human error), renovation and modernization keeping pace with latest technology. It has been possible through its dedicated work force, innovative approach, well managed industrial relations and well established & time-tested working systems. It shall be ensured by the management to maintain a highly skilled and motivated work force for all areas 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 defect, deficiency shall be identified and rectified/repared to ensure conformance to specifications and workmanship requirements.

Main O&M processes related to operation & maintenance of works covered under the scope of this manual is outlined below:

BBMB INFRASTRUCTURE

A. Unit I - Beas Sutlej Link Project

a) Pandoh Dam

Discharge monitoring sites located in upper reaches of Beas catchment area transmit hourly data of rainfall/discharge. The discharge from catchment area is collected in the reservoir at Pandoh.

Procedures have been laid down covering inspection, maintenance and operation of spillway gates, emergency gates, dam, reservoir and related structures. Procedures have also been laid down covering monitoring of various drainage galleries/tunnels, parapet settlement/slope (horizontal/vertical movements), piezometric observation, pore pressures, pore water potential etc

b) Township at Pandoh

All the activities are being carried out as per the documented procedures.

- i. Annual Maintenance & Repairs of temporary residential and non-residential buildings at Pandoh including Renovation & Maintenance of sanitary arrangements and Public Health amenities.
- ii. Renovation & Maintenance of Guest Houses/Rest Camps located at Pandoh and Manali.
- iii. Running and Maintenance of Water Works.
- iv. Garbage Disposal in BBMB Township
- v. Annual Maintenance & Repairs of labour recreation centres, and clubs at Sundernagar for Class-IV & III and officers.
- vi. Raising and maintaining plantation at nearby sites at Pandoh.

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- vii. Enforcement and Eviction of quarters under PP Act including dismantling of quarters wherever required.
- viii. Instrumentation of Dam.

c) Township at Sunder nagar

All the activities are being carried out as per the documented procedures various activities undertaken under Township are:-

- i. Annual Maintenance & Repairs of temporary residential and non-residential buildings at Sundernagar including R&M of sanitary arrangements and Public Health amenities.
- ii. Renovation & Maintenance of Guest Houses/Rest Camps located at Sundernagar and Shimla.
- iii. Renovation & Maintenance of seismological observatories at Sundernagar and Shimla.
- iv. Raising and maintaining plantation and nursery in BBMB Sundernagar Township.
- v. Running and Maintenance of Water Works.
- vi. Enforcement and Eviction of quarters under PP Act including dismantling of quarters wherever required.
- vii. Maintenance of Five Services at Sundernagar, Pandoh and Slapper.
- viii. Sewage Plant at Sundernagar
- ix. Garbage Disposal in BBMB Township
- x. Running and maintenance of Water Works in BBMB Township.
- xi. Annual Maintenance & Repairs of labour recreation centres, and clubs at Sundernagar for Class-IV & III and officers.
- xii. Construction of New Colony at Sundernagar in a phased manner.

d) Baggi Gate Operation

Gate operation is carried out as per Generation schedule of Dehar Power House supplied by Power Regulation Directorate to maintain desired flow to Dehar Power House through BSL water conductor system.

Procedures have been laid down covering maintenance of Radial & Emergency Gates, Post monsoon repair of Gates, Stilling Basin, Hydel Channel, Silt Ejector, monitoring of seepage from various points in Hydel Channel & Bye - Pass Tunnel, Regulation of water flow at Tail Control of Hydel Channel.

e) Balancing Reservoir & Silt Clearance

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Sundernagar Balancing Reservoir with storage capacity of 370.05-hectare meter caters to difference in discharge required for actual load on Dehar Power Plant and discharge received through Sunder Nagar Hydrel Channel. To maintain its storage capacity, silt is removed by dredgers. Procedures have been laid down covering maintenance of Embankments, SST Intake Structure, Suketi Diversion, Operation of dredgers etc.

f) Dehar Power House, Slapper

Water from Pandoh reservoir is diverted to balancing reservoir through Pandoh Baggi tunnel and Baggi Sundernagar Hydrel Channel. Water in the balancing reservoir is utilized for running machines at Dehar Power House.

Machines at Dehar Power House are run according to 15 min. schedule which is prepared keeping in view the inflows & Pandoh Reservoir level. While running Dehar machines, due care is taken that BR water level is operated within allowable limits with prescribed fall in its level. Rate of rise/fall of water level of Pandoh and balancing reservoir is kept strictly according to the decision taken by the Committee concerning Silt Management and Operation of Balancing Reservoir. Generation schedule and day-to-day instructions are received from Director/Power Regulation, Chandigarh for running/stopping of machines. Laid down procedures exist for starting, stopping & revival of system after system failure. The guidelines & the sequence of operations are detailed in operation manual of the power house. Recording of operating parameters of turbines & related equipment is carried out frequently & any deviations from the specified parameters are immediately corrected for ensuring trouble free operation. Maintenance of main & auxiliary mechanical, electrical & protection system equipment is carried out as per schedules.

Normally, planned shutdown maintenance is carried out during depletion period (Oct to May each year) after getting approval from Power Controller & NRLDC. Documented controls exist for maintenance of switchyards & transmission lines. Regular testing of the transformer oil as per documents is carried out in the test laboratories. Records of generation & machines activities are maintained.

Procedures have also been laid down for operation & maintenance of Dehar machines and various equipment's installed at Dehar Power House.

g) 400/220/132 kV Dehar Power House, Slapper Switch Yard

Power generated at Dehar Power House is evacuated through 400 kV /220 kV /132 kV switch yard located at Slapper. Procedures have been laid down for operation and maintenance of various

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Sub-station equipment's, switching devices, transformers, transmission lines, lightning arrestors etc. Detailed instructions exist for each major equipment's.

h) BBMB Schools at Sundernagar / Slapper & Pandoh

The following schools are being run and maintained by BBMB (Irrigation Wing) BSL Project:-

- I) BSL Senior Secondary Model School, Sundernagar (Affiliated to CBSE).
- II) BSL Senior Secondary School, Sundernagar (Affiliated to CBSE).
- III) BSL Senior Secondary School, Slapper (Affiliated to CBSE).
- IV) BSL Senior Secondary School, Pandoh (Affiliated to CBSE).

All the activities in the schools are being done as per the norms fixed by respective education boards. Performance of teachers and students is monitored regularly, and corrective/preventive action is taken as per laid procedures.

i) BBMB Hospitals

An hundred bed hospital at Sundernagar & with 25 bedded each Hospitals at Slapper and Pandoh are being run and maintained to provide complete Health Care Services to all its employees located at BSL Project as well as to other residents of the nearby areas. The hospitals have been provided with qualified doctors / staff in various disciplines of medicine, surgical and dental etc. along with various kinds of testing/investigation facilities. Procedures have been laid down for the smooth working of the Hospitals.

j) Management of Project Security:

The complete safety of all vital installation of BSL Project is ensured as per prescribed documents. The elaborate security arrangements have been made, periodical checks are also made and preventive arrangements are recommended from time to time so as to ensure full proof security. Procedures have been laid down for the smooth functioning of the security system.

B. Unit II - Beas Dam

The discharge from catchment area is collected in MahaRanapratap sagar reservoir. Procedures have been laid down covering inspection, maintenance & operation of radial spillway gates, emergency gates, dam, reservoir & related structures. Procedures have also been laid down covering monitoring of various drainage galleries, parapet settlement/slope (horizontal /vertical), Piezometric observations, pore pressure, pore water potential etc. Checking of upstream/downstream water quality etc, silt analysis, reservoir capacity surveys are regularly carried out to assess the silting patterns. Scheduled inspections are carried out, compilation of

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findings of pre-monsoon & post monsoon inspections are done & yearly health status reports are submitted to CWC. The overall data is compiled to identify any abnormal patterns & actions required to be taken.

a) Maintenance of permanent Installations

Maintenance of permanent installations at Beas Dam as per documents is carried out for penstock head gates, irrigation tunnel gates, elevators, radial gates, etc. Schedules are followed for execution & monitoring of these activities. Periodic inspection & testing of various equipments is carried out to ensure their satisfactory working transport vehicles, heavy earth moving machinery, Derek crane, and electrical/ communication/ transmission/lighting system at Beas Dam & T/ship colony.

Maintenance of the permanent installations are as per documented procedures and are carried out for Irrigation Tunnels T1 & T2, penstock main gates P1, P2 & P3, river outlet gates, radial gates, gantry crane, elevators, trash racks etc. Schedules are followed for execution & monitoring of these activities. Periodic inspection & testing of various equipments is carried out to ensure their satisfactory working. Controls exist for dewatering system, transport vehicles, electrical /communication / transmission / lighting system at Pong.

b) Pong Power House

Laid down procedures exists for Operation & Maintenance of machines & various equipment's at Pong Power House. Monitoring of water levels in Pong reservoir is done on daily basis based on the guidelines Max water level is decided as per dam safety and flood control requirements. Min level is decided to hedge for delay in onset of monsoon. Depending on the water inflows, Reservoir and requirement of partner states, schedule of water releases are decided in the monthly meeting of technical committee. Schedule of Power Generation are prepared based upon the planned discharge. 15-minute generation schedule and day-to-day instructions are received from Director/Power Regulation, Chandigarh for Generation / stopping of machines. Laid down procedures exist for starting, stopping & revival of system after system failure. The guidelines & the sequence of operations are detailed in operation manuals for Pong Power House. Recording of operating parameters of turbines & related equipment is carried out frequently & any deviations from the specified parameters are immediately corrected for ensuring defect free operation, maintenance of main & auxiliary mechanical, electrical & protection system equipment is carried out as per schedules. Normally, planned shutdown maintenance is carried out during depletion period (October to May each year) after getting approval from Power Controller & NRPC. Documented controls exist for maintenance of switchyards & link lines. Regular testing of

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the transformer oil as per documents is carried out in the test laboratories. Records of generation & maintenance activities are maintained.

c) BBMB School at Talwara

All the activities in the school are being done as per the norms fixed by respective education boards. Performance of teachers and students is monitored regularly, and corrective/preventive action is taken as per laid procedures.

d) BBMB Hospital at Talwara

A hospital at Talwara is being run and maintained to provide complete Health Care Services to all its employees of the Project as well as to other residents of the nearby areas. The hospital has been provided with qualified doctors / staff. Procedures have been laid down for the smooth working of the Hospital.

e) Talwara Township

Procedure for Inspection, repair, maintenance of buildings (residential, non-residential), water supply & sewage system, roads etc has been laid down. Schedules are followed for execution & monitoring of these activities.

f) Project Security:

Security has been provided to ensure the complete safety of all vital installations of BBMB as per prescribed documents. Necessary periodical checks are also being made and preventive arrangements are recommended from time to time as per requirements.

Controls over these activities are exercised through documented procedures, quality plans, and operation/ maintenance manuals. Progress of works is regularly reviewed & reports are submitted for review.



C. Bhakra Complex

a) Bhakra & Nangal Dam works

Discharge monitoring sites located in upper reaches of Sutlej catchment area transmit data of rainfall / discharge / snowfall, wind velocity, temperature etc.

The discharge from catchment area is collected in Gobind Sagar Reservoir at Bhakra. Control systems exist for Hydro- meteorological observations, instrumentation / geodetic observations, checking of upstream / downstream water quality etc. Silt analysis, reservoir capacity surveys are regularly carried out to assess the silting patterns. Diving surveys for reservoir, spillway, spillway apron & pre/ post monsoon inspections are carried out to assess the damage, if any, and the extent of repairs required. Systems exist for maintenance of important structures including that for spillways, river head /canal head gates, spillway bye pass gates (capital maintenance), Nangal Hydel Channel and inspection & maintenance of other civil works.

For ensuring the dam safety, expert committee & scheduled inspections are carried out, compilation of findings of pre-monsoon & post monsoon inspection reports is done & yearly health status reports are submitted to CWC. The overall data is compiled to identify any abnormal patterns and actions required to be taken.

b) Maintenance of Permanent Installations

Maintenance of the permanent installations at the Bhakra Dam as per documents is carried out for penstock head gates, river outlet gates, radial gates, gantry crane, elevators, trash racks etc. Schedules are followed for execution & monitoring of these activities. Periodic inspection & testing of various equipment's is carried out to ensure their satisfactory working.

Controls exist for dewatering system, crushing plant, railways, transport vehicles, electrical/ communication/ transmission/ lighting system at Bhakra Maintenance of the permanent installation at Ganguwal and Kotla Power Houses as per documents is carried out for 3 nos. intake gates (Forebay) each at Ganguwal and Kotla Power House, gantry crane, trash racks etc. Schedules are followed for execution monitoring of these activities. Periodic inspection and testing of various equipment's is carried out to ensure their satisfactory working. Controls exist for dewatering system, transport vehicles, Electrical/Transmission/Communication/Lighting system at Ganguwal and Kotla Power Houses.

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c) Regulation of Water

Monitoring of water levels in Gobind Sagar is done on daily basis based on the guidelines. Maximum water level is decided as per dam safety and flood control requirements. The minimum level is decided to hedge for delay in onset of monsoon. Depending on the water inflow, reservoir level and requirement of Partner States, schedule of water releases are decided thereafter. Appropriate procedures have been laid down.

d) Nangal Workshop

The workshop carries out fabrication / repair jobs mainly for the structures & components of major installations. These cover fabrication of pipes, guide vanes, towers, trash rack cleaning machine. Manufacture of rubber seals, R&M of trucks/ cranes, operation of oxygen / acetylene plants, maintenance of tugs, foundry practices, painting /galvanizing are the main operations of the workshop. The works are carried out as per the registration & job card.

Material estimation is done & accounting of the material issued job wise is maintained. Work instructions exist for the control / inspection of the important works / operation with the control criteria & the records required.

Regular maintenance of the machinery is carried out to ensure their smooth operation.

Control over these activities at a) to d) are exercised through documented procedures, quality plans, operation / maintenance manuals. Progress of works is regularly reviewed & reports are submitted for review.

e) BBMB Hospital, Nangal:

A hundred bed hospital is being run and maintained by BBMB (I.W.) Nangal as per Quality System Documents. Hospitals provide complete health care service to BBMB employees at Nangal as well as other residents of nearby areas. This hospital houses various disciplines of medicines and surgery and provides facilities for all kind of investigations. Periodic inspection, testing, calibration for various equipment's is carried out to ensure satisfactory working. Procedures have been laid down for the smooth working of the Hospital.



f) BBMB Dispensaries at Ganguwal & Kotla

All the activities in the BBMB's Dispensaries at Ganguwal & Kotla are being done as per Quality System Documents. Dispensaries provide health care service to BBMB employees at Ganguwal & Kotla as well as other residents of nearby areas.

g) Up-keep of Nangal Township:

Maintenance of residential colony, non-residential buildings. Guest Houses, Water supply & Sanitary services, Electrical supply system at Nangal is carried out as per documents. For proper up keep, periodical inspection & necessary maintenance / repair is carried out as per schedule.

h) Railway Net Work:

Railway network from Nangal to Bhakra is being maintained as per laid down procedures. Maintenance of railway track, Loco engine, bogies and other equipment's is carried out as per stipulated schedule. Periodic inspections are carried out to ensure satisfactory working network.

i) DAV Public School, Nangal:

DAV Public School at Nangal is being run under the administrative control of BBMB. All the activities in the school are carried out as per documented procedures. Performance of teachers and students is monitored regularly, and appropriate corrective & preventive action is taken as per the requirement.

j) BBMB Schools at Ganguwal & Kotla

Procedures have been laid down for execution & monitoring of activities related to Schools. Performance of teachers and students is monitored regularly, and appropriate corrective & preventive action is taken as per laid procedures.

k) Project Security:

Security has been provided to ensure the complete safety of all vital installations of BBMB as per prescribed documents. Necessary periodical checks are also being made and preventive arrangements are recommended from time to time as per requirements.

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I) Power Generation & Equipment Maintenance

Bhakra Complex comprises of power houses at Bhakra Left Bank & Right Bank, Ganguwal and Kotla. The water released from Gobind Sagar is fed to Bhakra Main Line canal which is controlled at Nangal Dam. Ganguwal & Kotla Power Houses are situated on Bhakra Main Line canal.

Monitoring of water levels in Gobind Sagar is done on daily basis based on the guidelines. Maximum water level is decided as per dam safety and flood control requirements. The minimum level is decided to hedge for delay in onset of monsoon. Depending on the water inflow, reservoir level and requirement of Partner States, schedule of water releases are decided in the monthly meeting of Technical Committee. Schedule of Power generation are prepared based upon the planned discharges. 15-minute generation schedule and day-to-day instructions are received from Director/Power Regulation, Chandigarh for generation/stopping of machines. Laid down procedures exist for starting, stopping & revival of system after System failure.

The guidelines & the sequence of operations are detailed in operation manuals for the respective power houses. Recording of operating parameters of turbines & related equipment is carried out frequently & any deviations from the specified parameters are immediately corrected for ensuring defect free operation, maintenance of main & auxiliary mechanical, electrical & protection system equipment is carried out as per schedules. Normally, planned shutdown maintenance is carried out during depletion period (Oct to May each year) after getting approval from Power Controller & NRLDC. Documented controls exist for maintenance of switchyards at power houses, transmission lines & Major Inter Linking Substation at Ganguwal.

Regular testing of the transformer oil as per documents is carried out in the Test laboratories. Records of generation & maintenance activities are maintained

D. O&M of Transmission System

- a) The Hydro Power generated at the power houses is evacuated and transmitted to substations installed at different locations. Currently, BBMB is transmitting power through 220 kV or 400 kV transmission lines. The substations, which act as 'power routers' transmit the power at different voltage levels (220 kV/132 kV/66 kV/ 33 kV/11kV) to the users (mainly State electricity Boards/ Power Utilities of partner States) at rated frequency and in the desired quantity (as planned).

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- b) The effective functioning of the transmission lines and Sub-stations is achieved through periodic & timely preventive and breakdown maintenance. These include off-line or on-line maintenance as per documented system. The operation & maintenance activities are further supported by other functional areas of BBMB.
- c) The Carrier & Communication Division helps to transmit clear, distortion free data & voice signal for timely actions. The safe functioning of the equipment's is maintained through various protection schemes, installed & tested by 'Protection & Testing cell'. Equipment's and support facilities have been selected and installed to meet the system requirements. The data generated is compiled and reviewed on periodic basis for improvement. Other support functions include stores, vehicle maintenance, utilities, purchase etc.
- d) For technological up-gradation, modernisation of Transmission System, concerned Planning and Design Directorate examines the various options available for replacement based upon the techno-economic feasibility.
- e) For effective functioning of the above, supporting facilities in the form of Colonies, Dispensary, & Guest Houses etc. have been provided for the officers and staff of BBMB.

Procedures have been documented for operation and maintenance activities of all above systems / processes.

E. BBMB Infrastructure Related to System Operation Activities

- Procedures have been documented for the management of the following:
- Power System (Power Regulation and Load Dispatch) including commercial activity w.r.t the power generated through the BBMB Power houses.
- Load Dispatch System and Communication System of BBMB at Chandigarh and Sub-centres at Ganguwal, Jamalpur, Panipat & Dadri including their interconnection system.
- Wide Area Network and Computerisation.
- Purchase/ procurement/ refurbishment process for all the Power Stations of BBMB.

F. BBMB Infrastructure Related to Administrative, Finance and Secretariat Functions at Chandigarh.

The offices of Chairman, Member/Power, Member/Irrigation, CVO, FA&CAO, Secretary, Special Secretary, Director/Security and their supporting staff are located in BBMB's head office at Chandigarh.

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Procedures have been documented for the management of administrative, finance and secretarial support to top management of BBMB to facilitate service realization through respective Chief Engineers of Irrigation and Power Wing. The respective MRs have been defined Clause 5.3

The documented procedure for the maintenance of the residential and non-residential buildings, transportation, guest houses and dispensary exist with Chief Engineer/ Bhakra Dam, BBMB, Nangal. The maintenance of the residential and non-residential buildings, transportation, guest houses and dispensary at Chandigarh is under the jurisdiction of Chief Engineer/ Bhakra Dam. A well-documented IMS exists for the same.

Reference

| | |
|---|-------------|
| Procedure for Providing Technical Consultancy Services. | MR/IMS/P/13 |
| Procedure for Filing Service Tax Returns. | MR/IMS/P/14 |
| BBMB organization specific divisional Procedures | --- |

8.5.2 Identification and Traceability

(IS/ISO 9001:2015 of Clause 8.5.2)

Identification requirements are applicable with respect to various major works, installations, locations, equipment etc which shall be identified through suitable codification throughout product realization for plant / machinery /components, documents, drawings and location records. Identification of records / documents shall be through their reference numbers, dates etc.

Drawings shall be codified and identified accordingly. Various components /materials etc shall also be identified through their codification. The locations of various installations / works shall be by specifying chainage and elevation benchmarks.

The traceability requirements applicable to various work-stages shall be addressed by means of suitable markings, tags, name plates, display boards and records / certification of bench marks by Survey of India. The same shall be controlled and record maintained.

The status of inspection of various works shall be maintained through the irrespective displays and records. Status of materials (pass/fail - good/bad) in Stores shall also be maintained through their location. The Inspection & Test/Review status of works executed as conforming / non-conforming / requiring modifications, repairs etc. shall be brought out through relevant records.

6.1 Identification and traceability requirements for Welfare Services are well defined in practice through means such as Patient No., Students Roll No. Ward No., Room No., Class & Section etc.

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All relevant records are maintained and made traceable by use of unique criteria for identification which shall be controlled.

8.5.3 Property Belonging to Customers Or External Providers

(ISO 9001: 2015 of Clause 8.5.3)

BBMB is custodian of the infrastructure of its Partner States (Punjab, Haryana, Rajasthan and Himachal Pradesh for Power and Punjab, Haryana, Rajasthan for Irrigation) who are the major beneficiaries of water and power generated from the projects. In addition, some part of the water and power generated from the projects are also released to Common Pool Consumers. The concerned Power and Irrigation organizations of the Partner States act as the co-ordinating organizations on their behalf and can be treated as customer for all intents and purposes of the Standard ISO 9001:2015 along with Common Pool Consumers.

In broader respect it is largely the public at large belonging to these states which is the ultimate beneficiary/customer of BBMB, although there is no direct interface of BBMB with them.

BBMB ensures that entire infrastructure available with it for rendering various functions as detailed at Section 0.7 is maintained, updated, protected, safeguarded and secured appropriately. Any additions/alterations/ repairs / renovations/modernization and uprating are carried out with the due consent of the Partner States (Customers).

In addition, the organization has to handle customer property with respect to the Welfare Services also in a limited manner- mainly in respect of:

- Hospital / health care centres (which handle patient samples, reports and other similar products / data while their treatment).
- Schools (which handle students notebook and other submissions, submitted for evaluation etc). and
- Customer property belonging to the external provider like contractor, petty work job worker, Consultant, suppliers etc

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8.5.4 Preservation of Equipment/Stores

(IS/ ISO 9001: 2015 of Clause 8.5.4)

It shall be ensured that suitable storage is provided at works for various consumables, materials, equipment, spares and other stores whether procured or repaired / rectified to prevent their damage or deterioration pending use or disposal to maintain conformity to requirements.

This shall include handling, preservation, storage and protection, as necessary and shall extend to the constituent parts of the product as well. 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 items in stores shall be provided suitable storage facility so that no damage / deterioration to quality takes place in stores and its safe custody is maintained and materials such as cement are protected against deterioration.

As necessary, appropriate system shall be in place for control of stores with limited shelf life. It shall be ensured that no item which has expired its shelf life / expiry date is use.

8.5.5 Post-delivery activities

(IS/ ISO 9001: 2015 of Clause 8.5.5)

Due to the nature of BBMB works the RTI or the complaints are received and managed by Respective Project CEs/ HoDs.

8.5.6 Control of change

(IS/ ISO 9001: 2015 of Clause 8.5.6)

BBMB shall review and control changes for any document or any regulation norms. All changes are reviewed, verified, validated and approved to ensure conformity to the Board and Partner state requirements, Documented Information shall be maintained for all the changes i.e. Change details, Communication for Change

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8.7 Release of products and services

BBMB shall implement planned arrangements, at appropriate stages, to verify that the requirements of release of water and accordingly generation of electricity have been met. This is being done as per the partner state demand in technical meeting.

BBMB has established mechanisms for monitoring the processes and measure its degree of compliance. Identification has been done of various major processes involved in the activities of BBMB including management of various works, operation & maintenance in the context of irrigation wing & power wing, Finance and Accounts, Secretarial support activities including activities of CVO, Secretary, Special Secretary, Director/Security& Consultancy and Director/HRD as well as Welfare Services of BBMB. These are analysed to take corrective actions.

All the major material/equipment and other inputs are accepted based on the following as per the requirements of purchase order:

- Inspection of stores at suppliers' premises or on receipt by indenters
- Verification of Test Certificates / other purchase documents on receipt.

It shall be ensured that all materials are examined for meeting their specifications. Material shall be generally released for usage only after carrying out prescribed inspection/testing/verification and conformance to specifications, safety conditions, grid conditions (for Power) etc. is established.

Records of all checks/ tests/ verification in terms of log sheets shall be maintained.

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

8.7 Control of nonconforming outputs

Product output in the context of BBMB is water releases from Dams, electricity generated and transmitted to Partner States through Northern Grid. Monitoring/measurement of product i.e. the output delivered shall be carried out as a part of monitoring of individual quality plan at various stages.

The quality plans also indicate records to be maintained as evidence of conformity. Release of Product and delivery of service to the customer shall be carried out as directed by appropriate authority.

Economics of produce is periodically monitored on defined parameters to minimize the cost incurred on the management of Irrigation works and Power generation and transmission.

In the context of welfare services of BBMB, their product can be defined as given below:

- Hospital/Dispensaries/Health Centre – Treatment and care provided to the patients

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- Schools - Education provided to students
- Guest Houses - Boarding / lodging facilities provided to visiting officers and their families availing their services

Records shall be maintained to complete the evidence of the activities performed and results obtained. Records shall indicate the authority authorizing/clearing, acceptance of materials/clearance of works stage/hand over of works/discharge of patients from hospital/results of schools etc.

To ensure that the products / services meet the requirements of partner state and Board fully, a systematic approach for verification is adopted and documented information is maintained for various parameter while managing water carried out.

The release of products and services to the customer shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by the customer

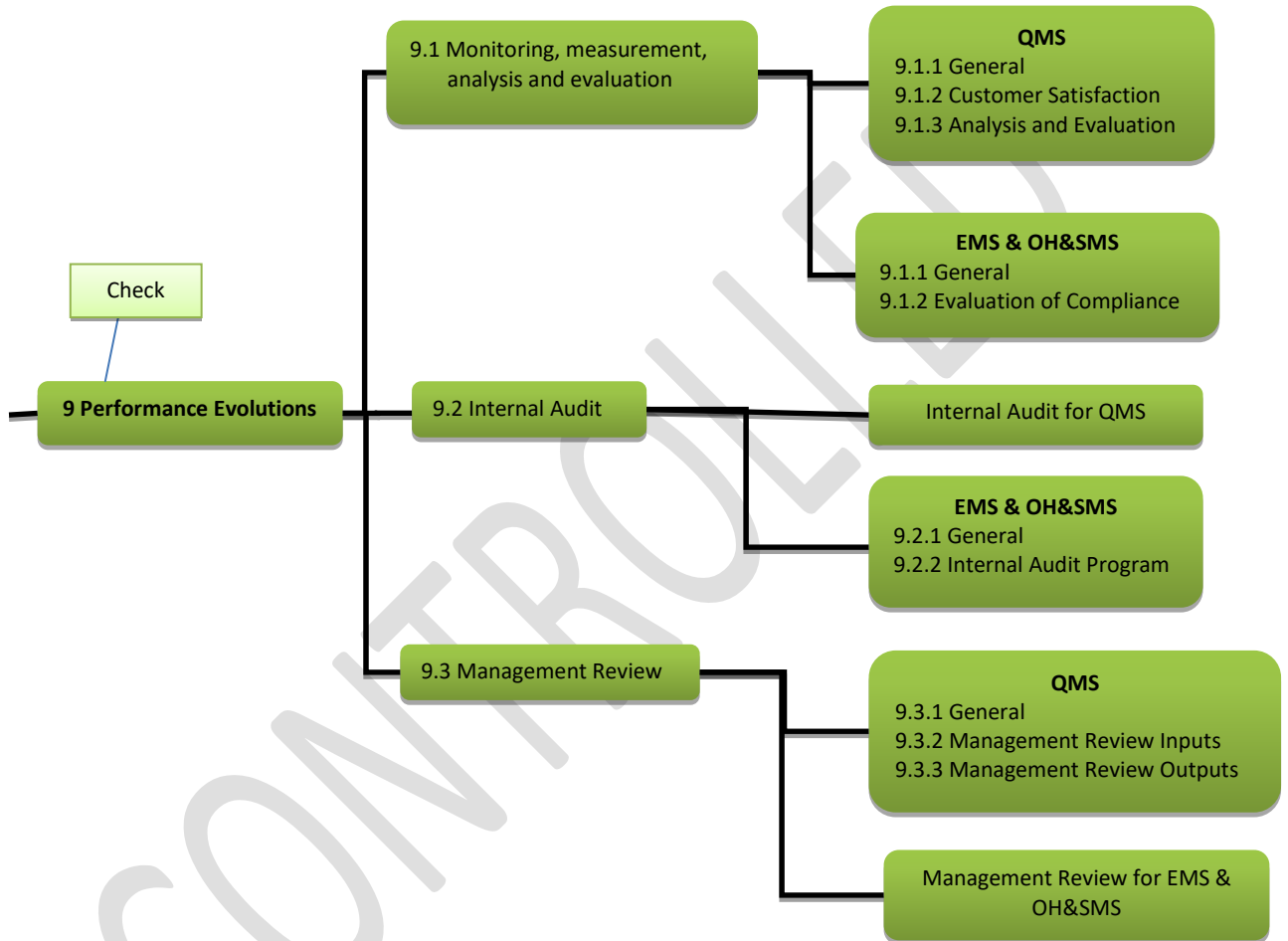
BBMB shall retain documented information on the release of products.

Reference

| | |
|--------------------------------|---|
| Various procedure of divisions | - |
|--------------------------------|---|



Clause 9 PERFORMANCE EVALUATION





9 Performance Evaluation

9.1 Monitoring, Measurement, Analysis and evaluation

9.1.1 General

(ISO 9001, ISO 14001 and ISO 45001 Clause 9.1)

This Measurement, Analysis session elaborates the approach and policy regarding monitoring, measurement, analysis and improvement of services related to all processes for management of activities/ services, key parameters, evaluation of legal compliance, control of non-conformities and process of corrective & preventive actions, internal audits and record keeping rendered by BBMB.

BBMB has planned and implemented the monitoring, measurement, analysis and improvement processes that are needed to:

- a) conformity of the product/service requirements
- b) demonstrate effective efficient operation of IMS and
- c) continually improve the effectiveness of the integrated management system

Periodically, data for customer satisfaction (feedbacks & complaints), process audit (internal/external) nonconformities and identification of root cause analyses (RCAs), objectives attained, etc. are collected and trends analyzed to determine areas of focus/ suggestions for improvement.

9.1.2 Customer Satisfaction

(IS/ISO 9001 Clause 9.1.2)

BBMB is involved in management of Dams, Reservoirs, Canals, Water conducting system for water management and Hydro-electric power houses, Switch yards, kVs, transmission lines for power generation and transmission. Customer in the context of BBMB has been defined in the session 3 of terms and definition.

The customer interaction is mainly during the periodic Technical Committee, Power Sub-Committee, Purchase Committee, Budget Sub-Committee meetings and Board meetings. All communications with the customer in respect to status of management of works, status of supply of power/ water, progress of any developmental work are effectively handled at Board/operational level and responded in a timely manner through personal discussions, periodical reports and reviews, letters, fax, wireless, e-mails, whatsapp, etc., as suitable. Based upon the feedback/discussions/ communications received

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from the customers, the issues related to product deliverables are identified and necessary actions are taken promptly ensuring fulfilment of customer satisfaction.

Clause 8.3 describes the mechanism for determination and review of requirements of the Customer related to the product. The regular interactions/reviews (as defined in the Clause) have a built-in element of the customer perception and its satisfaction. Monitoring customer perception includes obtaining input from sources such as customer satisfaction surveys, customer data on delivered product quality, user opinion surveys, compliments, etc All the actions taken by BBMB for the realisation and delivery of water and power are with the approval of the Customer.

In relation to welfare services, all personnel under the control of BBMB, their families and public at large who take the benefit of services rendered by Hospitals/Health Centres/Dispensaries, schools etc. are the beneficiaries.

Satisfaction for these services is determined through satisfaction surveys, meetings and feedbacks etc. Based on these, corrective actions are decided and implemented.

Proactive efforts for maintaining good interaction/relations with local administration/ community are made by respective CEs through regular meetings with officers of concerned department/ surpanches / taluka, village level officers.

In addition, any citizen of India can seek information on the services of BBMB under Right to Information Act, 2005 and concerned PIO is duty bound to provide the requisite information in timely manner and in accordance with laid down procedures.

Customers and beneficiaries of welfare services can be satisfied only if concerned employees delivering the services are satisfied. Therefore, employees' satisfaction is of paramount importance. For this goal have been set. These goals are further converted into the actionable targets and progress is reviewed/ monitored to ensure timely action and fulfilment of targets/commitments. In addition, tools such as employee's satisfaction surveys, exit interviews and grievances handling mechanism ensure that issues relating to employees are settled in time bound manner.

REFERENCE

| | |
|---|-------------|
| Guidelines/ Generic Steps/Guidelines for Preparing, Monitoring and Display Of "Customer Satisfaction Indexes" | MR/IMS/P/15 |
|---|-------------|



9.1.3 Analysis and evaluation

(IS/ISO 9001 Clause 9.1.3)

Important data needed for Quality Management shall be identified, generated, collected and compiled to analyze 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 analyzed is indicated below:

- Energy Generation
- Peak Demand
- Machine Availability
- Transmission System Availability
- Water Discharged from Dams
- Instrumentation Data
- Geodetic data
- Reservoir Capacity Data
- Silt Data
- Rainfall Data
- Drainage Galleries Seepage Data
- Earthquake Data
- Inspection Data including Pre / Post Monsoon Inspections
- Financial Data such as Expenditures & Receipt Data, Cost of Energy,
- Personal Ledger Account (PLA)
- Customer Satisfaction / Dissatisfaction / Complaints
- Supplier / Contractor Performance
- Monthly Progress Reports

Above data shall provide information conforming to product requirements. All the processes being followed are defined in the Procedure manuals of respective MRs which shall be monitored regularly, and corrective action shall be taken accordingly.

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9.1.4 Evaluation of compliance

(IS/ISO 14001 & ISO 45001 Clause 9.1.2)

BBMB has a systematic procedure for periodic evaluation of compliance. Consistent with the commitment to compliance, BBMB periodically evaluates compliance with applicable legal and other statutory/regulatory requirements. CMR/MR will carry out compliance evaluation at least once in **six months**, planned along with internal audits. MR maintains records of the results of evaluation and compliance with legal requirements and other applicable requirements is kept with nominated nodal officer.

REFERENCE

| | |
|---|-------------|
| Procedure for Access, Updating & Compliance to EMS & OHSMS Legal and other Requirements. | MR/IMS/P/17 |
|---|-------------|

9.2 Internal audit & Programme

(IS/ISO 9001, IS/ISO 14001 9.2 and ISO 45001 clause 9.2)

BBMB has established and maintains internal audit procedures. Internal audits are conducted at planned intervals (once in **six month**).

REFERENCE

| | |
|--|-------------|
| Procedure for Internal Audit of Quality, Environmental and Occupational Health & Safety Management System. | MR/IMS/P/10 |
|--|-------------|

9.3 Management Review

(IS/ISO 9001, IS/ISO 14001 & IS/ISO45001 clause 9.3)

The Management Review meeting (MRM) shall be held at following two levels to review the operation and effectiveness of IMS.

- a) **By Top Management of BBMB:** MRs of the Board Secretariat, MRs of Field offices and Administrative Top Management of work areas shall participate as per the audit plan prepared by the CMR (Director/ HRD).
- b) **By Administrative Top Management of work areas:** Concerned MRs of the respective areas and other related officers as desired by MRs under EICs/CEs shall participate.

Management Reviews at the level of MRs/CMR shall be conducted in accordance with a documented procedure at a frequency of about once in **six months or earlier**, to ensure continuing suitability and

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effectiveness of Management System in meeting Management system Policies & objectives. The same shall be followed by a review at top management level in accordance with a documented procedure.

Minutes of Management Review meetings shall be recorded and circulated for improvement of IMS and corrective actions

Modification of procedures and controls that effect IMS, as necessary, to respond to internal or external events, including changes to:

- Business\Partner State requirements
- Regulatory or legal requirements
- Contractual obligations and
- Levels of impact/hazard risks and/or criteria for accepting impact/risks

In addition to the above, many other forums exist for review of performance, such as full Board meetings, Budget Meetings, Conferences of Chief Engineers with whole time Members & Chairman, Technical Committee Meetings, Power Sub-Committee meetings, Periodical Performance Reviews on various relevant aspects including financial performance, physical performance to provide directions for improvements etc. Timely actions on decisions taken shall be ensured and followed up at suitable levels.

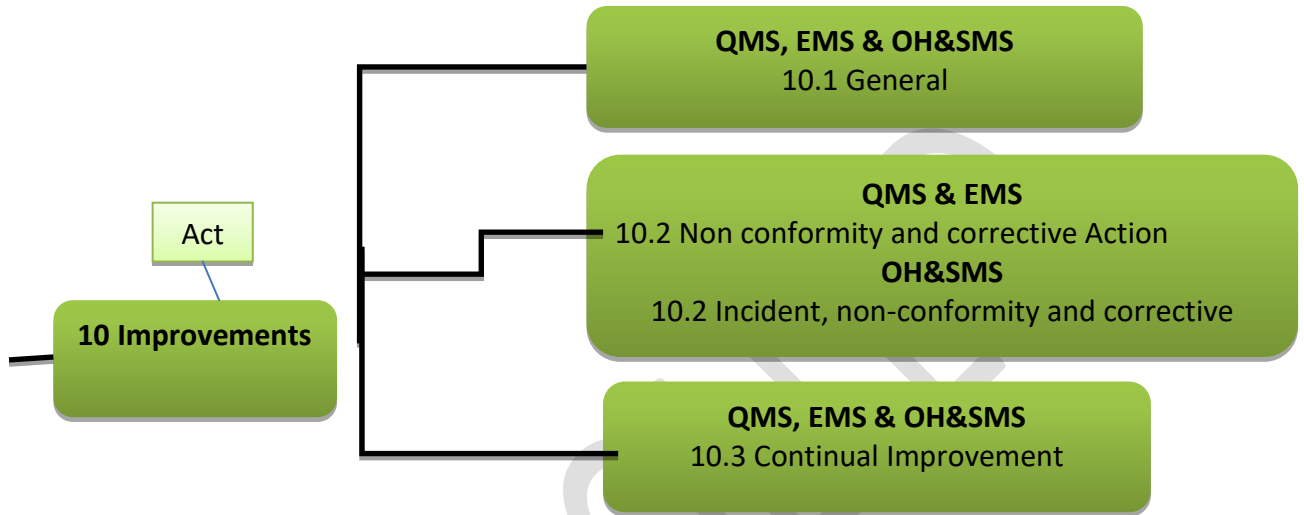
After the review, the MR consolidates all action items, and prepares an IMS improvement plan with the help of core team of ISO coordinators, and acts upon the action items.

REFERENCE:

| | |
|--|-------------|
| Procedure for Management Review | MR/IMS/P/08 |
| Procedure for Communication on IMS and Performance | MR/IMS/P/27 |



10 IMPROVEMENT





10 IMPROVEMENT

10.1 Incident investigation, Nonconformity and corrective action

(ISO 9001,14001 and 45001 Clause 10.2)

Control of nonconforming product/service under QMS

(IS/ISO 9001 Clause 8.7)

Documented procedures (MR/IMS/P/11) exist for Control of Non-Conformities during execution of various major processes involved in activities of BBMB including management of various works, operation & maintenance activities in the context of both irrigation wing, power wing, including activities of Finance and Accounts, Secretarial support activities including activities of CVO, Secretary, Special Secretary, Director/Security & Consultancy and Director/HRD as well as Welfare Services of BBMB, in order to prevent unintended use of nonconforming materials/works /processes, the results there of, through activities such as inspections, audits, documentation, evaluation and disposition of all non-conformities.

Where applicable, concerned Engineers/officers shall identify non-conformities and provide the decision including rectification/repair/replacement depending on the nature of non-conformity. Wherever non-conformity is of a serious nature it shall be reported to the concerned senior officers for review.

Record of nature of non-conformities and any subsequent actions taken, including concessions obtained shall be maintained. The decision to accept any deviation shall not be taken at a level lower than concerned senior officers as mentioned below.

| | |
|--------------------|---|
| Field | : SE / Dy. CE |
| Design | : Director |
| Board Secretariat | : CVO / Secy / SplSecy / Director Security & Consultancy/ Director HRD/Director NHP |
| Finance & Accounts | : FA & CAO |

If it is felt that a non-conformity will not have significant impact on the works and safety/structural stability/security/health, a deviation from defined Criteria may be permitted and under intimation to the next higher level for information. Record of all deviations shall be maintained.

Records of non-conformities including proposed repair/rework/replacement/permitted deviation shall be documented and communicated to the concerned personnel for implementation.

Reworked/repared/replaced materials/works shall be re-inspected for their conformity before clearance. In the event of a non - conformity being detected having consequences on local population, District Administration shall be informed.

10.2 Accident, Incident, NC, Corrective and Preventive action under EH&S

(IS/ISO 14001 & ISO 45001 clause 10.2)

A Documented procedure (MR/IMS/P/07) has been established and maintained for defining responsibility and authority for handling and investigating nonconformities/ incidents and for acting to mitigate any impacts caused and for initiating and completing corrective and preventive action. The purpose of this procedure is to:-

- determine underlying Environmental and OHS deficiencies and other factors that might be causing or contributing to the occurrence of incidents;
- identify the need for corrective action

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- c) identify opportunities for preventive action
- d) identify opportunities for continual improvement
- e) communicate the results of such investigations

The investigations are performed by the safety Committee, Safety officer, Welfare officer (if deputed at site) and involving relevant staff, and departmental heads, as appropriate. Investigations are carried out in a timely manner. Any identified need for corrective action or opportunities for preventive action are dealt with in accordance with the procedure. The results of incident investigations are documented and maintained. Where required by legislation this action will include notifying the appropriate regulatory authority and agreeing required corrective action. Any changes in the documented procedures resulting from corrective and preventive action are implemented and recorded. A summary of nonconformities, incident investigations, and corrective and preventive actions are considered as part of the management review process.

REFERENCE

| | |
|--|-------------|
| Procedure for control of IMS Non- Conformities and Incident investigations | MR/IMS/P/11 |
|--|-------------|

10.3 Corrective Actions under QMS & EMS

(IS/ISO 9001 clause 10.2)

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

- a) Effective handling of any feedbacks received from Partner States, reports of work-related non-conformities / deviations noticed at any stage, data analysis, customer satisfaction data, 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.
- d) Application of controls to ensure that corrective action is taken
- e) Maintenance of records of the results of action taken.
- f) Ensuring effectiveness of the corrective actions through reviews

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 and image of the organisation.

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

10.3 Continual Improvement

(IS/ISO 9001 and 14001, 45001 CI 10.3)

The responsibility for continual improvement of the effectiveness of the IMS rests with every member in the organization.

Continual improvement is one of the most important elements of the policy of BBMB. A continual improvement philosophy is deployed throughout the Organisation, to continually improve the quality of services including support services and welfare services, efficiency and effectiveness of various processes involved, including the effectiveness of IMS implemented.

Opportunities for improvement shall be identified through various mechanisms such as reviews of management policies, objectives & goals, and management programs, and management review, audit

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results, data analysis, corrective & preventive actions, feedbacks etc. Based on any further identification of continual improvement issues, objectives /goals and their deployment plans shall be modified. Perspective plans are prepared, and schedules are drawn for its implementation in a time-bound manner.

CONTROLLED

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11 Annexure 1 - Correspondence between IMS Clauses described in the IMS Manual and IS/ISO 9001, IS/ISO 14001, and IS/ISO 45001

| Section No | Description | QMS IS/ISO 9001:2015 | | EMS IS/ISO 14001:2015 | | OHSMS IS/ISO 45001:2018 | |
|------------|--|----------------------|--|-----------------------|--|-------------------------|--|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 1 | Introduction -Document information -Content -Revision record -BBMB intro -IMS intro -Doc Control system for IMS Manual -Scope | 1 | Scope | 1 | Scope | 1 | Scope |
| 2 | Normative References | 2 | Normative References | 2 | Normative References | 2 | Normative References |
| 3 | Terms and Definition | 3 | Terms and Definition | 3 | Terms and Definition | 3 | Terms and Definition |
| 4 | Context of the Organization | 4 | Context of the Organization | 4 | Context of the Organization | 4 | OHS Management System requirements |
| 4.1 | Understanding the organizations and its context | 4.1 | Understanding the organizations and its context | 4.1 | Understanding the organizations and its context | 4.1 | Understanding the organizations and its context |
| 4.2 | Understanding the needs and expectations of Interested Parties | 4.2 | Understanding the needs and expectations of Interested Parties | 4.2 | Understanding the needs and expectations of Interested Parties | 4.2 | Understanding the needs and expectations of workers and Interested Parties |
| 4.3 | Determining the scope of IMS Management System | 4.3 | Determining the scope of Quality Management System | 4.3 | Determining the scope of Environment Management System | 4.3 | Determining the scope of OH&S Management System |
| 4.4 | Integrated Management System | 4.4 | Quality Management System | 4.4 | Environment Management System | 4.4 | OH&S Management System |
| 5 | Leadership | 5 | Leadership | 5 | Leadership | 5 | Leadership and worker participation |
| 5.1 | Leadership and Commitment | 5.1 | Leadership and commitment 5.1.1 General 5.1.2 Customer Focus | 5.1 | Leadership and Commitment | 5.1 | Leadership and Commitment |



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|------------|--|----------------------|---|-----------------------|--|-------------------------|--|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 5.2 | Policy | 5.2 | Quality Policy 5.2.1 Establishing the Quality Policy 5.2.2 Communicating the Quality Policy | 5.2 | Environment Policy | 5.2 | OH&S Policy |
| 5.3 | Organizational Roles, Responsibilities and Authorities | 5.3 | Organizational Roles, Responsibilities and Authorities | 5.3 | Organizational Roles, Responsibilities and Authorities | 5.3 | Resources, Roles, Responsibilities, Accountability and Authority |
| | | | | | | 5.4 | Consultation and participation of workers |
| 6 | Planning | 6 | Planning | 6 | Planning | 6 | Planning |
| 6.1 | Actions to address Risk and Opportunities | 6.1 | Actions to address Risk and Opportunities | 6.1 | Actions to address Risk and Opportunities | 6.1 | Actions to address Risk and Opportunities |
| 6.1.1 | Determine Risk and Opportunities | 6.1.1 | General | 6.1.1 | General | 6.1.1 | General |
| 6.1.2 | Action Plan for Risk and Opportunities | 6.1.2 | General | 6.1.2 | Environmental Aspects | 6.1.2 | Hazard identification, Risk Assessment and Determining Controls |
| 6.1.3 | Compliance Obligation | 6.1.3 | -- | 6.1.3 | Compliance Obligation | 6.1.3 | Determination of Legal Requirements and Other Requirements |
| 6.1.4 | Planning Actions | 6.1.4 | -- | 6.1.4 | Planning Actions | 6.1.4 | Planning Actions |
| 6.2 | Objectives and Planning to achieve them | 6.2 | Quality Objectives and Planning to achieve them | 6.2 | Environmental Objectives and Planning to achieve them | 6.2 | OH&S objectives and planning to achieve them |
| 6.2.1 | Objectives | 6.2.1 | Quality Objectives | 6.2.1 | Environmental Objectives | 6.2.1 | OH&S Objectives |
| 6.2.2 | Planning Actions to achieve IMS Objectives | 6.2.2 | Planning Actions to achieve Quality Objectives | 6.2.2 | Planning Actions to achieve Environmental Objectives | - | - |
| 6.3. | Planning for Changes | 6.3. | Planning for Changes | 6.3 | Planning for Changes | 6.3 | Planning for Changes |
| 7 | Support | 7 | Support | 7 | Support | 7 | Support |
| 7.1 | Resources | 7.1 | Resources | 7.1 | Resources | 7.1 | Resources |
| 7.1.1 | General | 7.1.1 | General | - | - | - | - |



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|------------|---|----------------------|---|-----------------------|-------------------------------|-------------------------|-------------------------------|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 7.1.2 | People | 7.1.2 | People | - | - | - | - |
| 7.1.3. | Infrastructure | 7.1.3. | Infrastructure | - | - | - | - |
| 7.1.4. | Environment for Operation of Processes | 7.1.4. | Environment for Operation of Processes | - | - | - | - |
| 7.1.5. | Monitoring and Measurement of Resources | 7.1.5. | Monitoring and Measurement of Resources | - | - | - | - |
| 7.1.5.1 | General | 7.1.5.1 | General | - | - | - | - |
| 7.1.5.2 | Measurement Traceability | 7.1.5.2 | Measurement Traceability | - | - | - | - |
| 7.1.6. | Organization Knowledge | 7.1.6. | Organization Knowledge | - | - | - | - |
| 7.2 | Competence | 7.2 | Competence | 7.2 | Competence | 7.2 | Competence |
| 7.3 | Awareness | 7.3 | Awareness | 7.3 | Awareness | 7.3 | Awareness |
| 7.4 | Communication | 7.4 | Communication | 7.4 | Communication | 7.4 | Communication |
| 7.4.1 | General | 7.4.1 | General | 7.4.1 | General | 7.4.1 | General |
| 7.4.2 | Internal Communication | 7.4.2 | - | 7.4.2 | Internal Communication | 7.4.2 | Internal Communication |
| 7.4.3 | External Communication | 7.4.3 | - | 7.4.3 | External Communication | 7.4.2 | External Communication |
| 7.5 | Documented Information | 7.5 | Documented Information | 7.5 | Documented Information | 7.5 | Documented Information |
| 7.5.1 | General | 7.5.1 | General | 7.5.1 | General | 7.5.1 | General |
| 7.5.2 | Creating and Updating | 7.5.2 | Creating and Updating | 7.5.2 | Creating and Updating | 7.5.2 | Creating and Updating |



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| Section No | Description | QMS IS/ISO 9001:2015 | | EMS IS/ISO 14001:2015 | | OHSMS IS/ISO 45001:2018 | |
|-------------|--|----------------------|--|-----------------------|--|-------------------------|---|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 7.5.3 | Control of Documented Information | 7.5.3 | Control of Documented Information | 7.5.3 | Control of Documented Information | 7.5.3 | Control of Documents |
| 8 | Operation | 8 | Operation | 8 | Operation | 8 | Operation |
| 8.1 | Operational Planning and Control | 8.1 | Operational Planning and Control | 8.1 | Operational Planning and Control | 8.1 | Operational Control |
| 8.1.1 | General | - | - | - | - | 8.1.1 | General |
| 8.1.2 | Eliminating Hazards and reducing OH&S Risks | - | - | - | - | 8.1.2 | Eliminating Hazards and reducing OH&S Risks |
| 8.1.3 | Management of Change | - | - | - | - | 8.1.3 | Management of Change |
| 8.1.4 | Procurement | - | - | - | - | 8.1.4 | Procurement |
| 8.2 | Requirements of Products and Services / Emergency Preparedness and Response | 8.2 | Requirements of Products and Services | 8.2 | Emergency Preparedness and Response | 8.2 | Emergency Preparedness and Response |
| 8.2.1. | Customer | 8.2.1 | Customer Communication | - | - | - | - |
| 8.2.2 | Determining Requirement of Products and Services | 8.2.2 | Determining Requirement of Products and Services | - | - | - | - |
| 8.2.3. | Review of Products and Services | 8.2.3. | Review of Products and Services | - | - | - | - |
| 8.2.4. | Changes to Requirements | 8.2.4. | Changes to Requirements | - | - | - | - |
| 8.3. | Design and Development of Products and Services | 8.3. | Design and Development of Products and Services | - | - | - | - |



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| Section No | Description | QMS IS/ISO 9001:2015 | | EMS IS/ISO 14001:2015 | | OHSMS IS/ISO 45001:2018 | |
|-------------|---|----------------------|--|-----------------------|--------------------|-------------------------|--------------------|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 8.3.1 | General | 8.3.1 | General | - | - | - | - |
| 8.3.2 | Design and Development Planning | 8.3.2 | Design and Development Planning | - | - | - | - |
| 8.3.3 | Design and Development inputs | 8.3.3 | Design and Development inputs | - | - | - | - |
| 8.3.4 | Design and Development controls | 8.3.4 | Design and Development controls | - | - | - | - |
| 8.3.5 | Design and Development outputs | 8.3.5 | Design and Development outputs | - | - | - | - |
| 8.3.6 | Design and Development changes | 8.3.6 | Design and Development changes | - | - | - | - |
| 8.4. | Control of Externally Provided Processes , Products and Services | 8.4 | Control of Externally Provided Processes, Products and Services | - | - | - | - |
| 8.4.1. | General | 8.4.1. | General | - | - | - | - |
| 8.4.2 | Type & Extent of Control | 8.4.2 | Type & Extent of Control | - | - | - | - |
| 8.4.3. | Information for External Providers | 8.4.3. | Information for External Providers | - | - | - | - |
| 8.5. | Production and Service Provision | 8.5 | Production and Service Provision | - | - | - | - |
| 8.5.1 | Control of Production and Service Provision | 8.5.1 | Control of Production and Service Provision | - | - | - | - |
| 8.5.2 | Identification and Traceability | 8.5.2 | Identification and Traceability | - | - | - | - |
| 8.5.3 | Property Belonging to Customers or External Providers | 8.5.3 | Property Belonging to Customers or External Providers | - | - | - | - |
| 8.5.4 | Preservation | 8.5.4 | Preservation | - | - | - | - |



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|-------------|--|----------------------|--|-----------------------|--|-------------------------|--|
| | | Clause No. | Clause Description | Clause No. | Clause Description | Clause No. | Clause Description |
| 8.5.5 | Post Delivery Activities | 8.5.5 | Post Delivery Activities | - | - | - | - |
| 8.5.6 | Control of Changes | 8.5.6 | Control of Changes | - | - | - | - |
| 8.6 | Release of Products and Services | 8.6 | Release of Products and Services | - | - | - | - |
| 8.7. | Control of Non-Conforming Outputs | 8.7. | Control of Non-Conforming Outputs | - | - | - | - |
| 9 | Performance Evaluation | 9 | Performance Evaluation | 9 | Performance Evaluation | 9 | Performance Evaluation |
| 9.1. | Monitoring, Measurement, Analysis and Evaluation | 9.1. | Monitoring, Measurement, Analysis and Evaluation | 9.1. | Monitoring, Measurement, Analysis and Evaluation | 9.1 | Monitoring, Measurement, Analysis and Evaluation |
| 9.1.1. | General | 9.1.1. | General | 9.1.1. | General | 9.1.1. | General |
| 9.1.2 | Customer Satisfaction | 9.1.2 | Customer Satisfaction | 9.1.2 | Evaluation of compliance | 9.1.2 | Evaluation of compliance |
| 9.1.3. | Analysis and Evaluation | 9.1.3. | Analysis and Evaluation | - | - | - | - |
| 9.2 | Internal Audit | 9.2 | Internal Audit | 9.2 | Internal Audit | 9.2 | Internal Audit |
| 9.2.1 | General | - | - | 9.2.1 | General | 9.2.1 | General |
| 9.2.2 | Internal Audit Program | - | - | 9.2.2 | Internal Audit Program | 9.2.2 | Internal Audit Program |
| 9.3. | Management Review | 9.3 | Management Review | 9.3 | Management Review | 9.3 | Management Review |
| 9.3.1 | General | 9.3.1 | General | - | - | - | - |
| 9.3.2 | Management Review Input | 9.3.2 | Management Review Input | - | - | - | - |
| 9.3.3 | Management Review Output | 9.3.3 | Management Review Output | - | - | - | - |
| 10 | Improvement | 10 | Improvement | 10 | Improvement | 10 | Improvement |
| 10.1 | General | 10.1 | General | 10.1 | General | 10.1 | General |
| 10.2 | Non-Conformity and Corrective Action | 10.2 | Non-Conformity and Corrective Action | 10.2 | Non-Conformity and Corrective Action | 10.2 | Incident, non-conformity and corrective action |
| 10.3 | Continual Improvement | 10.3 | Continual Improvement | 10.3 | Continual Improvement | 10.3 | Continual Improvement |



12 Annexure 2 - List of common Procedures and their numbers

Common Procedures

| # | Documents | Numbering |
|------------|---|--------------|
| 01 | Procedure for Control of Internal Documents. | MR/IMS/P/01 |
| 02 | Procedure for Control of Internal Documents- Upkeep of Common Document Folders. | MR/IMS/P/02 |
| 03 | Procedure for Documents of External Origin. - Standards & Product Manual. | MR/IMS/P/03 |
| 04 | Procedure for Documents of External Origin. - Government Circulars Memos /Rules/Regulations etc. issued by various Govt. agencies from time to time. | MR/IMS/P/04 |
| 05 | Procedure for Handling Request for Information from Indian Citizens Under Right to Information Act- 2005. | MR/IMS/P/05 |
| 06 | Procedure for Handling of Appeals from Indian Citizens Under Right to Information Act- 2005. | MR/IMS/P/06 |
| 07 | Procedure for Control of Records. | MR/IMS/P/07 |
| 08 | Procedure for IMS Management Review. | MR/IMS/P/08 |
| 09 | Procedure for IMS Training. | MR/IMS/P/09 |
| 10 | Procedure for Internal Audit of Quality, Environmental and Occupational Health & Safety Management System. | MR/IMS/P/10 |
| 11 | Procedure for control of Non- Conformities | MR/IMS/P/11 |
| 12 | Procedure for Corrective / Preventive Actions. | MR/IMS/P/12 |
| 13 | Procedure for Providing Technical Consultancy Services. | MR/IMS/P/13 |
| 14 | Procedure for Filing Service Tax Returns. | MR/IMS/P/14 |
| 15 | Guidelines/ Generic Steps/Guidelines For Preparing, Monitoring And Display Of "Customer Satisfaction Indexes" | MR/IMS/P/15 |
| 16 | Format for Master List of Documents (Internal Origin). | MR/DC/F/1-01 |
| 34 | Risk and opportunity Assessment | MR/IMS/P/32 |
| EMS | | |
| 17 | Procedure for Identification & Environmental Aspects and Evaluation of their Significance. | MR/IMS/P/16 |
| 18 | Procedure for Access, Updating & Compliance to EMS & OHSMS Legal Requirements. | MR/IMS/P/17 |
| 19 | Procedure for Control of Air Pollution. | MR/IMS/P/18 |
| 20 | Procedure for Control of Water Pollution. | MR/IMS/P/19 |
| 21 | Procedure for Waste Management. | MR/IMS/P/20 |
| 22 | Procedure for dealing with Environmental and OHS Emergencies. | MR/IMS/P/21 |



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| | | |
|--------------|---|-------------|
| 23 | Procedure for Environmental Guidelines & Controls during Operation and Maintenance. | MR/IMS/P/22 |
| 24 | Procedure for On Site Emergency Plan- Preparation and Implementation | MR/IMS/P/23 |
| 25 | Procedure for External Communications on IMS and Performance. | MR/IMS/P/24 |
| 26 | Procedure for Monitoring of Compliance to Environmental & OHS, Objectives, Targets and Legal Requirements. | MR/IMS/P/25 |
| 27 | Procedure for Disposal of E-Waste & other Electronic/ Computer Related Hardware | MR/IMS/P/26 |
| OHSMS | | |
| 28 | Procedure for Identification of Occupational Health and Safety Hazards, risk assessment and determining controls. | MR/IMS/P/27 |
| 29 | Procedure for incident investigation. | MR/IMS/P/28 |
| 30 | Procedure for OHS Operational control | MR/IMS/P/29 |
| 31 | Procedure for Communications on OHSMS and OHS Performance. | MR/IMS/P/30 |
| 32 | Emergency preparedness and response, Critical Incident Recovery plan | MR/IMS/P/31 |
| OTHER | | |
| 33 | BBMB ORGANISTAION SPECIFIC DIVISION PROCEDURE MANUAL | --- |
| | | |



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13 Annexure 3 - Responsibilities, Accountabilities and Authorities

| S No. | ISO 9001 & 14001:2015 | IS/ISO 45001:2018 | Activities | Responsibility | Authority | Accountability |
|-------|-----------------------|-------------------|---|--------------------|--------------------|--------------------|
| 1 | 4.1 | 4.1 | Understanding the organization and its context | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Chairman & Members |
| 2 | 4.2 | 4.2 | Understanding the needs and expectation | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Chairman & Members |
| 3 | 4.3 | 4.3 | Determining the scope of the IMS. Define and document the scope of the IMS | CMR & MR | Concern SE (HQ)/CE | Chairman & Members |
| 4 | 4.4 | 4.4 | IMS and its processes (department and others) Establish, document, implement, maintain and continually improve IMS. Ensure that all documents and records as required by respective standard are documented and maintained. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | MR/CMR |
| 5 | 5 | 5 | Top management shall demonstrate leadership and commitment with respect to the IMS by : <ul style="list-style-type: none"> • taking responsibility and accountability for the effectiveness of the IMS; • promoting the use of the process approach and risk-based thinking; • ensuring that the resources needed for the IMS are available; • all points mentioned form (a) to (m) w.r.t. standards for all components of IMS. | Concern SE (HQ)/CE | CMR & MR | Chairman & Members |
| 6 | 7.5 | 7.5 | Ensure availability of latest version of IMS documents | Concern SE (HQ)/CE | CMR & MR | CMR & MR |
| 7 | | | Approval of IMS Manual | CMR & MR | CMR & MR | Chairman & Members |
| 8 | | | Issue of IMS Manual | CMR & MR | CMR & MR | CMR & MR |
| 9 | | | Approval of departmental documents | Concern SE (HQ)/CE | Concern SE (HQ)/CE | CMR & MR |
| 10 | | | Issue of departmental documents | Concern SE (HQ)/CE | CMR & MR | CMR & MR |
| 11 | | | Ensure documents of external origin are determined and their distribution controlled. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 12 | | | Establish and maintain records as necessary to demonstrate | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |

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|-------|-----------------------|-------------------|--|--------------------|------------------------|------------------------|
| | | | conformity to the requirements of its IMS. | | | |
| 13 | | | Establish, implement and maintain a procedure(s) for the identification, storage, protection, retrieval, retention and disposal of records. | Concern SE (HQ)/CE | CMR & MR | Concern SE (HQ)/CE |
| 14 | | | Documented Information (Records) shall be and remain legible, identifiable and traceable. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | CMR & MR |
| 15 | 6.1.1 | 6.1.1 | Access the risk and opportunities and take action | Concern SE (HQ)/CE | CMR & MR | Chairman & Members |
| 16 | | | Establish, implement and maintain a procedure for ongoing identification of environmental aspects, determination of significant aspects. | Concern SE (HQ)/CE | CMR & MR | Concern SE (HQ)/CE |
| 17 | 6.1.2 | 6.1.2 | Establish, implement and maintain a procedure for ongoing identification hazards and risks and carry out risk assessment and determination of necessary risk controls. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 18 | | | The Organization shall plan action to address risk and opportunities. Integrate, Implement and evaluate the effectiveness of these action. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 19 | | | Establish, implement and maintain a procedure for identifying and accessing the applicable Compliance Obligations pertaining to IMS | Concern SE (HQ)/CE | Concern SE (HQ)/CE/CMR | Concern SE (HQ)/CE/CMR |
| 20 | 6.1.3 | 6.1.3 | Periodic review and keeping information on Compliance Obligations up-to -date. | Concern SE (HQ)/CE | Concern SE (HQ)/CE/CMR | Concern SE (HQ)/CE/CMR |
| 21 | | | Communicate relevant information on IMS Compliance Obligations to persons working under the control of the Organization. | Concern SE (HQ)/CE | Concern SE (HQ)/CE/CMR | Concern SE (HQ)/CE/CMR |
| 22 | | | Establish, implement and maintain documented IMS Objectives at relevant levels and functions. | Concern SE (HQ)/CE | MR | Chairman and Members |
| 23 | 6.2 | 6.2 | Establish, implement and maintain documented programmes for achieving the IMS Objectives. | Concern SE (HQ)/CE | Concern SE (HQ)/CE& MR | Chairman and Members |
| 24 | | | Review the programmes at regular and planned intervals and adjust as necessary to | Concern SE (HQ)/CE | Chairman and Members | Chairman and Members |



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|-------|---|----------------------------------|--|--------------------------------|--|----------------------------------|
| | | | ensure that objectives are achieved. | | | |
| 25 | 7.1 | 7.1 | Provide resources essential to establish, implement, maintain and improve IMS. | Chairman and Members | Chairman and Members | Chairman and Members |
| 26 | | | Define, document and communicate roles, responsibilities, accountabilities, authorities to facilitate effective IMS. | CMR / MR | Chairman and Members | Chairman and Members |
| 27 | | | Appointment of Management Representative / Management Appointee and IMS steering committee. | Chairman | Chairman | Chairman |
| 28 | | | Nomination of IMS Champion & Coordinator | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Chairman and Members |
| 29 | | | Report on the performance of the IMS to Top management for review. | MR & Concern SE (HQ)/CE | MR | MR |
| 30 | | | 7.2, 7.3 | 7.2 , 7.3 | Define competence requirements (education, training or experience) for <ul style="list-style-type: none"> ▪ Processes ▪ Activity associated with Significant environmental aspect, ▪ Activity associated with unacceptable risks. | Concern SE (HQ)/CE |
| 31 | Identify training needs : <ul style="list-style-type: none"> ▪ For IMS Requirements ▪ For activities associated with significant environmental aspects and unacceptable OH&S Risks. ▪ For ensuring desired competence. | Concern SE (HQ)/CE | | | Concern SE (HQ)/CE / Learning Organization | Learning Organization |
| 32 | Evaluate the effectiveness of training. | Learning Organization | | | Learning Organization | Learning Organization |
| 33 | Maintain competence records, Training records. | Concern SE (HQ)/CE/ Director/HRD | | | Concern SE (HQ)/CE/ Director/HRD | Concern SE (HQ)/CE/ Director/HRD |
| 34 | 7.4 | 7.4 | | | Internal communication among various levels and functions with regard to IMS | Concern SE (HQ)/CE |
| 35 | | | Communication with contractors. | Concern SE (HQ)/CE or Head C&M | Respective Department Incharge | Concern SE (HQ)/CE / MR |
| 36 | | | Communication with Regulatory authorities. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 37 | | | Receiving, documenting and responding to relevant Communication from other external interested parties. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Chairman and Members |



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|-------|-----------------------|-------------------|--|----------------------------------|----------------------------------|--------------------------|
| 38 | | | Ensure worker's participation in <ul style="list-style-type: none"> ▪ Hazard identification and Risk assessment. ▪ Incident investigation. ▪ Development and review of EHS Policies and objectives. | Concern (HQ)/ CE/ Safety Officer | Concern SE/CE | Concern SE(HQ)/CE/CMR |
| 39 | | | Ensure workers are consulted where there are changes that affect their OH&S. | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ MR/CMR |
| 40 | | | Ensure worker's representation on OH&S matters. | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ MR/CMR |
| 41 | | | Make workers aware of who is their OH&S Representative. | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ Safety Officer | Concern (HQ)/ CE/ MR/CMR |
| 42 | 9.3 | 9.3 | Conduct Management review at planned intervals and assess opportunities for improvement and need for changes to the IMS Policy and IMS Objectives. | MR/CMR | Chairman and Members | Chairman and Members |
| 43 | | | Maintain records of Management reviews. | MR/CMR | MR/CMR | MR/CMR |
| 44 | | | Ensure that Management review outputs are made available for communication & consultation. | MR/CMR | MR/CMR | MR/CMR |
| 45 | 8.1 | 8.1 | Plan and develop the processes needed for product ¹ realization. Determine the following, as appropriate: <ul style="list-style-type: none"> a) objectives and requirements for the product b) the need to establish processes and documents, and to provide resources specific to the product c) required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance d) records needed to provide evidence that the realization processes and resulting product meet requirements | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 46 | 8.2 | 8.2 | Determine the requirements specified by the customer, including the requirements for delivery and post-delivery activities, requirements not stated by the customer but necessary for specified or intended use, where known. , | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |

¹ Product here mean Power transmission and distribution to South and west Delhi consumer's



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|-------|-----------------------|-------------------|--|--------------------------------|--------------------------------|--------------------------------|
| 47 | | | Determine statutory and regulatory requirements applicable to the product, and any additional requirements considered necessary by the organization. | | | |
| | | | Review the requirements related to the product prior to the commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders). | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| | | | Determine and implement effective arrangements for communicating with customers in relation to product information, enquiries, contracts or order handling, including amendments, and customer feedback, including customer complaints | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 49 | 8.4 (QMS 9001:2015) | ---- | Ensure that the purchased product conforms to specified purchase requirements. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 50 | | | Purchasing information shall describe the product to be purchased, including, where appropriate, a) requirements for approval of product, procedures, processes and equipment, b) requirements for qualification of personnel, and c) Quality management system requirements. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| | | | Ensure the adequacy of specified purchase requirements prior to their communication to the supplier. Ensure purchasing information is clearly indicated in the Purchase orders | | | |
| 51 | 8.4.2 (QMS 9001:2015) | ---- | Establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements. State the intended verification arrangements and method of product release in the purchasing information (Where the | Concern Procurement Officer/CE | Concern Procurement Officer/CE | Concern Procurement Officer/CE |



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|-------|-----------------------|-------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|
| | | | organization or its customer intends to perform verification at the supplier's premises), | | | |
| 52 | 8.5 (QMS 9001:2015) | ---- | Plan and carry out production and service provision under controlled conditions. | Respective SEs/CEs | Respective SEs/CEs | Respective SEs/CEs |
| 53 | 8.5.3 (QMS 9001:2015) | ----- | Identify the product by suitable means throughout product realization. Identify the product status with respect to monitoring and measurement requirements throughout product realization. Where traceability is a requirement, control the unique identification of the product and maintain records. | Respective SEs/CEs | Respective SEs/CEs | Respective SEs/CEs |
| 54 | 8.5.4 (QMS 9001:2015) | ----- | Exercise care with customer property while it is under the organization's control or being used by the organization. Identify, verify, protect and safeguard customer property provided for use or incorporation into the product. Report to the customer if any customer property (includes intellectual property and personal data) is lost, damaged r otherwise found to be unsuitable for use. | Respective SEs/CEs | Respective SEs/CEs | Respective SEs/CEs |
| 55 | 8.5.4 (QMS 9001:2015) | | Preserve the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. Ensure that the preservation includes identification, handling, packaging, storage and protection. Also ensure that the preservation applies to the constituent parts of a product. | Stores Incharge & Concern SE (HQ)/CE | Stores Incharge & Concern SE (HQ)/CE | Stores Incharge & Concern SE (HQ)/CE |
| 56 | 7.1.5 (QMS 9001:2015) | 9.1 | Determine the monitoring and measurement to be undertaken and the monitoring and measuring equipment needed to provide evidence of conformity of product to determined requirements. Establish processes to ensure that monitoring and | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |



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|-------|-------------------------|-------------------|---|-------------------------|-------------------------|--------------------|
| | | | measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements. | | | |
| 57 | 9.1 | 9.1 | Plan and implement the monitoring, measurement, analysis and improvement processes needed a) to demonstrate conformity to product requirements, b) to ensure conformity of the QMS, and c) to continually improve the effectiveness of the IMS. Ensure that the planning includes determination of applicable methods, including statistical techniques, and the extent of their use. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 58 | 9.1.2 | 9.1.2 | Determine the methods and obtain information relating to customer perception as to whether the organization has met the customer requirements. Monitor information relating to customer perception as to whether the organization has met customer requirements. | TCM Members | TCM Members | Chairman |
| 59 | 9.2 | 9.2 | Conduct internal audits at planned intervals to determine whether the IMS | IMS Internal Auditor(s) | IMS Internal Auditor(s) | MR/CMR |
| 60 | 9.2.2 | 9.2.2 | Apply suitable methods for monitoring and, where applicable, measurement of the IMS processes. | MR/Concerned HODs | MR/ Concerned HODs | MR/ Concerned HODs |
| 61 | 8.6 (QMS of 9001: 2015) | ----- | Monitor and measure the characteristics of the product at appropriate stages to verify that product requirements have been met. Evidence of conformity with the acceptance criteria shall be maintained. Records shall indicate the person(s) authorizing release of product for delivery to the customer. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 62 | 8.7 (QMS of 9001: 2015) | ---- | Ensure that product which does not conform to product requirements is identified and controlled to prevent its | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |



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|-------|----------------------------|-------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | unintended use or delivery. | | | |
| 63 | 9.1.3 (QMS of 9001: 2015) | ---- | Determine, collect and analyse appropriate data to demonstrate the suitability and effectiveness of the IMS and to evaluate where continual improvement of the effectiveness of the QMS can be made. This shall include data generated as a result of monitoring and measurement and from other relevant sources. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 64 | --- | 10 | Monitor on routine basis, the key characteristics related to the Environmental, Health and Safety Management System. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 65 | | | Monitor data on incidents accidents and near misses | Safety Officers | Safety Officers | Safety Officers |
| 66 | | | Monitor data on ill-health, incidents (accidents and near misses | PMO | PMO | PMO |
| 67 | | | Monitor the extent to which Functional Objectives are met. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 68 | 6.2.1 | 6.2.1 | Establish and maintain procedures for the Calibration and maintenance of equipment used for measurement and monitoring. | PMO | PMO | PMO |
| 69 | 7.1.5 (QMS of 9001: 2015) | ---- | Maintain records of Calibration and maintenance. | Concern SE /CE | Concern SE /CE | Concern SE /CE |
| 70 | 6.1.3 (EMS of 14001:2015) | 6.1.3 | Periodically evaluate compliance with Legal requirements and other requirements that are applicable to the Organization. | Concern SE (HQ)/CE | MRs/CMRs | Concern SE (HQ)/CE |
| 71 | | | Maintain records of results of periodic evaluations. | HODs | HOD | HOD |
| 72 | | | Record, investigate and analyze incidents, determine causes, identify the need for Corrective and Preventive action and identify opportunities for improvement. | Safety Officer / Concern SE (HQ)/CE | Safety Officer / Concern SE (HQ)/CE | Safety Officer / Concern SE (HQ)/CE |
| 73 | 10 | 10 | Document and maintain the Results of incident investigation and Communicate the results of such investigation. | Safety Officer / Concern SE (HQ)/CE | Safety Officer / Concern SE (HQ)/CE | Safety Officer / Concern SE (HQ)/CE |
| 74 | | | Investigate Nonconformities, determine their causes and take necessary corrective action in order to prevent recurrence. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 75 | 10.1 | 10.1 | Continually improve the effectiveness of the IMS through the use of the IMS policy, quality | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |



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|-------|-------------------------|-------------------|---|--------------------|--------------------|--------------------|
| | | | objectives, audit results, analysis of data, corrective and preventive actions and management review. | | | |
| 76 | 10.2 | 10.1 | Corrective actions shall be appropriate to the effects of the nonconformities encountered. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |
| 77 | 8.7 (QMS of 9001: 2015) | --- | A documented procedure shall be established to define requirements for a) reviewing nonconformities (including customer complaints), b) determining the causes of nonconformities, c) evaluating the need for action to ensure that nonconformities do not recur, d) determining and implementing action needed, e) records of the results of action taken, and f) reviewing the effectiveness of the corrective action taken | MR/CMR | MR/CMR | MR/CMR |
| 78 | 10.2 | 10.2 | Determine action to eliminate the causes of potential nonconformities to prevent their occurrence. | Concern SE (HQ)/CE | Concern SE (HQ)/CE | Concern SE (HQ)/CE |

A. BBMB SECRETARIAT

1. Chairman, BBMB:

He is over all Head of the Organization. He is responsible for interacting with the State & Central Government authorities. He chairs the Board meetings & provides the policy direction to the organization & set organizational goals. As the Chairman of the Board, he reviews the performances of various departments & provides necessary resources.

For Quality, Environmental and Occupational Health & Safety management system, Chairman has issued the IMS policy for BBMB. This policy has been deployed throughout the organization & necessary objectives, procedures & plans are formed. Chairman along with the Member(Irrigation), Member(Power)& other key functionaries conducts Management Reviews to evaluate the IMS& endeavor in their continual improvement.

He designates responsibilities of Safety officer and Environmental Nodal officer for each project site and Board Secretariat.

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2. Member (Irrigation):

Member (Irrigation) is whole time Member of Board and would act as advisor to the Chairman for technical matters especially relating to the following irrigation projects and other matters as the Chairman may deem fit:

- a. Bhakra Dam Complex
- b. Beas Dam, Talwara
- c. Beas Sutlej Link Project, Sunder Nagar
- d. Nangal Dam and Nangal Hydel Channel

For IMS, Member (Irrigation) takes Review Meetings with concerned CEs and provides necessary inputs to maintain the excellence in Quality, Environment and Health & Safety at all areas in his jurisdiction. As a member of BBMB, Member Irrigation, is involved in decision making for upgrading of technology, human resource development & detailed investigations etc.

3. Member (Power):

Member (Power) is whole time Member of Board and act as advisor to the Chairman for technical matters especially relating to the following and other matters as the Chairman may deem fit:

- a. Generation Wing
- b. Transmission Wing
- c. System Operation

For IMS, Member (Power) takes review meetings with concerned CEs, provides necessary inputs to maintain the excellence in Quality, Environment and Health & Safety at all areas in his jurisdiction. As a member of BBMB, Member (Power), is involved in decision making for upgrading of technology, human resource development & detailed investigations etc.

4. Chief Vigilance Officer:

Chief Vigilance Officer (CVO) BBMB is appointed by Ministry of Power. CVO ensures compliance to the statutory guidelines of the Chief Vigilance Commissioner for maintaining the transparency in the commercial transactions. He insures that fair play prevails in the organization.

5. Financial Advisor and Chief Accounts Officer (FA& CAO):

FA& CAO is principal officer of the Board to operate 'Personal Ledger Account' of the Board and issues necessary instructions related to accounts. FA& CAO is responsible for:

- Rendering advice to Board on all financial matters.
- Take appropriate action to obtain adequate funds from the participating States and ensures that the negative balance does-not figure in the Personal Ledger Account.
- Arranging pre-checks of all claims, purchase proposals and other transactions related to accounts.
- Verification of Stores including T&P.
- Compilation of income & expenditure accounts of the Board.
- Internal audit of financial and accounting transactions.



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For IMS, he takes Review Meetings with concerned Deputy FA & Dy. CAOs and provides necessary policy directions for making excellence in the working of Accounts Wing of BBMB.

6. Secretary:

He assists in the smooth working of the Board and mainly deals with the tasks pertaining to Irrigation Wing and land issues of project properties apart from the other assignments entrusted to him from time to time. He looks after HR planning, deployment, promotions, transfer of officer cadre (group A & B) in accordance with rules laid down by concerned State Governments and as per the direction of Chairman, BBMB. He organizes the Board meetings from time to time and is the front-end officer of BBMB for all other Government and non-Government organizations. He is responsible for maintenance of Class-I & II promotion roster of BBMB cadre with reference to reservation policy. All the legal/court cases of Class I & II are routed through him.

The legal cell in the Board Office takes care of legal aspects of various cases/activities of the BBMB. The legal cell interacts with the advocates defending the cases on behalf of BBMB in different courts of law. Various lease deeds, agreements, contracts and warranty deeds etc. to be executed by the Board office and different Chief Engineer in BBMB are critically examined and advice given accordingly by the legal cell as and when referred to them. The judgments as received via the respective Chief Engineer's and sections are examined and advice given as to whether these should be implemented or appeal filed. The SLP/Writ petitions/Written statements to be filed in the various courts are vetted by the legal cell. Cases are also conducted before the Industrial Tribunal cum labour court by the legal cell. Also advice of the standing counsel and CLA is sought by the legal cell in the cases which involve policy of the Board, principle of law and huge financial implications.

7. Special Secretary (Spl. Secy)

He assists in the smooth working of the Board and mainly deals with the tasks pertaining to Power Wing apart from the other assignments entrusted to him from time to time. He looks after the pertinent issue of Rules and Regulations regarding the service conditions of HRs in BBMB. The policy decision of the Board is dealt with by the Rules and Regulation Section. Although the administrative control of Group 'C' & 'D' employees vests with the concern SE (HQ)/CE i.e. respective CEs (both Irrigation & Power Wing) in the field, FA & CAO for Finance Wing and Secretary for the concerned staff in Board Sectt., the general service conditions, pay and allowances, regulations and management of cadre are carried out by the office of Spl Secretary.

The induction of staff (Group C & D) from the partner States i.e. Partner State Govts and State Power Utilities is entrusted to the office of SplSecy, BBMB. So far as the postings and transfers and other administrative decisions are concerned, the concern SE (HQ)/CE exercise their power as per laid down statutes and procedures with in their administration. All interaction with external agencies (viz various office s of Government of India, Commissions, etc on reservation policy is done by Special Secretary. He is Nodal Officer for redressal of grievance/ complaints/representations by SC/ST/BC employees in BBMB

Besides, the demands put forth by various recognized unions are processed and settled after due negotiations with their authorized representatives, for which SplSecy plays a pivotal role. The regular

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holding of general meetings and correspondence etc. are held as per labour laws and executive instructions. All the legal/court cases of Class III & IV are routed through him.

SplSecy has also been designated as Director, Grievances for BBMB as a whole. In this respect a quarterly progress report indicating the position of pending grievances in respect of various administrations is compiled and sent to the Ministry of Power. He consolidates the necessary information as per MIS from various projects /departments, organizes Middle level Purchase committee meetings for purchase cases of Power Wing and compiles agenda papers and issues minutes of meeting/directions of the Board on various issues. These include performance related objectives, targets, legal and other issues of critical importance.

Co-ordination cell of BBMB is also looked after by him.

8. Director/Security & Consultancy:

8.1 Security

Director/Security & Consultancy has been entrusted with the responsibility of uniformly implementing the Security related decisions and directives of Board level at all the Project Stations besides coordinating with all the project authorities of BBMB at Bhakra Dam, Beas Dam, BSL project and TS, Central and State Intelligence & Police agencies and Ministries etc. Besides these, he is responsible for issuing "Red Permits" for VIP visitors (both India and Foreign nationals) after seeking necessary approval from Chairman/BBMB or Ministry of Home Affairs and Ministry of Power, GOI as the case may be.

In liaison with Safety office, he is responsible for conducting Emergency Mock drills.

8.2 Consultancy Services

Director/Security & Consultancy is also responsible for organizing and providing consultancy to all outside Organizations in Irrigation and Hydro Power Sector through in house support from the Service Providers/CEs. Director/Security & Consultancy has been appointed as Central Management Representative (CMR) for IS/ISO 9001 (QMS), IS/ISO 14001 (EMS) and ISO 45001 (OHS&MS). He is responsible for:

- a) Ensuring that processes needed for IMS are established, implemented and maintained
- b) Reporting to the top management of BBMB, on the performance of the IMS and any need for improvement, through management review meetings and normal channels of communication.
- c) Promotion of awareness of customer requirements throughout the Organization, holding awareness programmes, conducting meeting at appropriate stations/centers
- d) Liaison with consultants, certifying body on all matters relating to IMS consultancy training, certification & surveillance.

9. Director / HRD

He is also responsible for organizing and providing training to all the Officers/officials of organization keeping in view their job requirements. He is the in-charge of Bhakra Beas Training centre, Nangal Township where training is being imparted to employees of various Power Utilities. He also monitors In-house/training being conducted at various stations of BBMB.

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He is responsible and in liaison with CMR/MR to identify the need of trainings for all the projects.
Director/HRD is responsible for the conduct of department papers for the employees (Class III & IV).

10. Director/National Hydrology Project (NHP)

Director NHP is responsible for Development of Real Time Decision Support System for Integration operation of BBMB Reservoirs under NHP Project. The Project includes selection of Model, Development of Data Acquisition System. Sensors for different Hydro Meteorological Parameters, Software & Hardware related to Project in consultation with the MoWR, World Bank& Consulting firm.

B. BHAKRA DAM ORGANISATION (BHAKRA COMPLEX, IW)

1. Chief Engineer / Bhakra Dam, Nangal (CE/Bhakra Dam)

CE is head of the project and is responsible for overall planning, coordination, water regulation, Dam safety & project security, operation and maintenance of civil structures, upkeep of Township, Hospital & D.A.V. school railway network, training centre, guest houses, electrical & mechanical equipment/machinery, arrangement of materials/spares, regular inspection of works by concerned engineers/officials for ensuring Quality, environmental, OH&S issues and timely completion.

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2. SE / HQ and Management Representative for IS/ISO 9001, IS/ISO 14001 and IS/ISO45001 for Bhakra Complex:-

- a) To assist CE/Bhakra Dam for carrying out day to day working in an effective manner.
- b) Screening of Establishment matters such as postings, transfers, promotions, pay fixation etc. and submission of proposal to CE/Bhakra Dam for consideration.
- c) Collecting & compiling periodic returns from various Circles/Divisions.
- d) Interface with other processes of BBMB as and when required.
- e) To conduct Mock Fire Exercise and periodic security checks at Bhakra Nangal Projects.
- f) Processing of cases of Administrative approvals/Technical sanctions of estimates, completion reports etc. and all other matters relating to works under Bhakra Dam Administration for submission to CE/Bhakra Dam.
- g) As Management Representative of Nangal Centre, he is responsible for:
 - i) Ensuring that processes needed for IMS are established, implemented and maintained.
 - ii) Reporting to the administrative top management of work area on the performance of the IMS and any need for improvement, through management review meetings, quality/ environmental, Occupational Health & safety audits and normal channels of communication.
 - iii) Promotion of awareness of customer (Partner State and interested parties) requirements in the area of his jurisdiction, holding awareness programmes , conducting meeting at appropriate project sites/works
 - iv) Liaison with CMR consultants, certifying body on all matters relating to IMS consultancy, training, certification & surveillance.

3. SE /Nangal Mechanical Circle:-

- a) Operation of Radial Gates and Irrigation Outlets installed at the Bhakra Dam to release flood water as and when required.
- b) To carry out the Yearly Inspection and Maintenance of the Radial Gates, Irrigation Outlets, Trash racks and Penstock Head Gates installed at Bhakra Dam.
- c) To carry out capital maintenance of Radial Gates, Irrigation Outlets, Penstock Head Gates along with its Hoisting Arrangements as per norms.
- d) Operation and Maintenance of Earth Moving Machines & Transport Vehicles.
- e) Maintenance of Railway Track from Nangal to Bhakra along with running and maintenance of workers train.
- f) Deployment of Heavy Earth Moving Machines along the Nangal Hydel channel and other places as per field requirement.
- g) Maintenance of Transmission System from Bhakra Dam to Nangal Township.
- h) Operation & Maintenance of all Electrical installations installed at Bhakra Dam and Nangal Township.
- i) Uprating of Pumps Impeller & Casing unit for the Lift Canals of Haryana State.
- j) Work of Procurement of material and management of Stores of Irrigation Wing of BBMB at Nangal.
- k) Repair/Maintenance/Fabrication of New jobs for different units of BBMB and Partner states.
- l) To carry out slope protection works of hills slope around Bhakra Dam by Grouting & Guniting.

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m) Maintenance of Bhakra Beas Training Centre, Nangal.

4. SE /Bhakra Dam Circle:-

- a) Maintenance of Civil Works & Inspection of D&G Galleries of Bhakra Dam.
- b) Collection of data from the instruments installed in the body of Bhakra Dam.
- c) Under water inspection of spillway apron of Bhakra Dam and Nangal Hydel Channel through Diving Team.
- d) Conducting Low Head Inspection of Bhakra Dam.
- e) Reservoir Capacity Survey.
- f) Capital maintenance of Spillway By-pass Gates as per norms.
- g) Monitoring maintenance of Nangal Hydel Channel.
- h) Conducting geodetic survey of Bhakra Dam and Gobind Sagar Reservoir to monitor settlements etc. during the filling and depletion period.
- i) Maintenance of River Head and Canal Head Regulator Gates along with civil structures.
- j) Maintenance of BBMB residential colony, non-residential buildings, guest houses, Hospitals, DAV school and Training Centre at Nangal

5. Director/Water Regulation:-

- a) Coordination with states and BBMB Chairman/Members in connection with Regulation matters.
- b) To prepare agenda for Irrigation Sub-Committee meeting relating to Water Regulation.
- c) To prepare agenda for Technical Committee meeting.
- d) Water account reconciliation/circulation.
- e) Day today monitoring of Reservoir releases, supplies for optimum utilization to avoid flood.
- f) To prepare state's share based on inflows.

6. Director/Dam Safety:-

- a) To arrange inspection of Bhakra Dam, Beas Dam and Pandoh Dam to assess their health Status by Dam Safety Committee as per norms.
- b) Preparation & publication of Dam Safety Committee Reports and its distribution to all concerned including CWC.
- c) Compilation of Pre/Post monsoon Inspection Reports.
- d) Monitoring & implementation of recommendations of Dam Safety Committee as well as Dam Safety Committee Inspection Report by the field staff.
- e) Submission of Yearly Health Status Report of Dams under BBMB to CWC.
- f) Functioning as Estate Officer for Nangal Township.

7. Director/Bhakra Beas Design Directorate:-

- a) Processing the data of the instruments installed at Bhakra Dam, Beas Dam and Pandoh Dam so as to monitor the health status of these structures.
- b) Publication of the Annual Observation Report of Bhakra Nangal Project, Beas Project Unit I & Unit II after compilation of the field data on yearly basis (period 1st Oct to 30th Sep) and it's circulation to all concerned.

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- c) To suggest remedial measures for the problems referred by the field units.
- d) To issue Design & Drawings of different structures pertaining to Bhakra Nangal Project, Beas Unit I & Unit II as and when referred by the field Units.
- e) To offer comments on the changes proposed in the documents of external agencies like BIS/ISI and other agencies.
- f) Preparation of memos covering the specific problems pertaining to Bhakra Nangal Project, Beas Project Unit I & Unit II for presentation before the committee of Technical Experts to suggest remedial measures.

8. Principal of BBMB School at Nangal

He is responsible for the smooth functioning of the academics and extracurricular activities of the school.

9. Principal Medical Officer of BBMB Hospital at Nangal

He is responsible for smooth functioning of the Hospital for providing medical care to the people.

10. Project Security Officer (PSO)

Two PSOs of the rank of Deputy Superintendent of Police (DSP) viz. one from IRBn Battalion (HP Police) at Bhakra Dam and the other one from CID (Punjab Police) at Nangal Dam are responsible for Security of Installations at Bhakra Dam and Nangal Dam Complex respectively

C. BSL ORGANISATION (BEAS PROJECT UNIT-I, IW)

1. Chief Engineer / BSL, Sunder Nagar (CE/BSL)

CE is head of the project and is responsible for overall planning, coordination, water regulation, safety & security of Pandoh dam and its water conductor system, operation and maintenance of civil structures, electrical & mechanical equipment/machinery, arrangement of materials/spares, regular inspection of works by concerned engineers/officials for ensuring Quality and timely completion upkeep of townships, hospital, dispensary, school, Guest Houses at Sundernagar, Manali and Pandoh.

2. SE /HQ and Management Representative for IS/ISO 9001, IS/ISO 14001 and IS/ISO45001 for Beas Project-I:-

- a) Assists CE/BSL for carrying out day to day working in an effected manner.
- b) Screening of establishment matters such as postings, transfers, promotions, pay fixations, loan/advances, etc. and submission of proposal to CE/BSL for consideration.
- c) Processing of cases for administrative approvals/ technical sanctions of estimates, completion reports etc. and all other matters relating to works under BSL administration for submission to CE/BSL.
- d) Collecting in compiling periodical returns from various circles/divisions.
- e) Activity related to distribution and updation of documents of internal origin.
- f) Running of BBMB Hospitals and Schools at Sunder nagar, Slapper & Pandoh.
- g) Interface with other processes of BBMB as and when required.

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h) Security System

i) As **Management Representative of Sunder Nagar Centre, he is responsible for:**

- i. Ensuring that processes needed for QMS and EMS are established, implemented and maintained.
- ii. Reporting to the administrative top management of work area on the performance of the QMS, EMS and OHS MS and any need for improvement, through management review meetings, quality/environmental/Health & Safety audits and normal channels of communication.
- iii. Promotion of awareness of customer requirements in the area of his jurisdiction, holding awareness programmes , conducting meeting at appropriate project sites / works
- iv. Liaison with CMR consultants, certifying body on all matters relating to QMS, EMS and OHSMS consultancy, training, certification & surveillance.

3. SE / BSL Circle no. I

- a) Operation, maintenance & repair of all work relating to Pandoh Dam, its appurtenant works (Civil, Electrical & Mechanical).
- b) Maintenance & Repair of Pandoh Baggi Tunnel and its works.
- c) Reservoir management upstream of Pandoh Dam including entire catchment area, silt and discharge observations and flood warning system.
- d) All works relating to Pandoh and Sundernagar colony including Public Health works, Estate Officer & Vigilance Officer.
- e) Operation and maintenance of Baggi Control works at Baggi and Hydrel Channel at Sunder nagar and also the road along the Hydrel Channel, Protection works of BaggiKhad and maintenance of Silt Ejector. Operation and maintenance of Tail Control Gates and Sundernagar.
- f) All cases pertaining to Industrial Workers on the project
- g) All public amenities like Schools, Fire fighting and public relation at Sundernagar, Pandoh and Slapper.
- h) All seismological laboratories/ observations at Sunder nagar& Shimla.
- i) Monitoring Progress & Quality of new constructions.

4. SE /BSL Circle no. -II, Sunder nagar.

- a) Operation, maintenance and repair of Sunder nagar Slapper Tunnel, Surge Shaft, Bye-pass gates and Chute (Civil, Electrical and Mechanical).
- b) Silt control and Dredging operation in Balancing Reservoir, Sunder nagar.
- c) Maintenance of all mechanical installations downstream to Dehar Power House except Butterfly Valves.
- d) Procurement and upkeep of Stores etc. for entire BSL Project.
- e) All cases relating to Land acquisition on BSL project, Field Design, Control Survey, Upkeep of completion plans and other data processing and Liaison with Beas Design organization.
- f) Main workshop at Sunder nagar.
- g) Autosshop at Slapper.

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- h) Transport yard at Sunder nagar, Slapper including maintenance & repair of vehicles and transportation of staff.
- i) Disposal of all surplus material like stores, machines, workshops, plants etc. at Pandoh, Sunder nagar, Harabagh& Slapper.
- j) Electrical supply to project area and colonies.

5. Principals of Schools at Sunder Nagar, Slapper & Pandoh

All the principals are responsible for the smooth functioning of the academics and extracurricular activities of the school.

6. Principal Medical officer / Medical officers at Sundernagar, Slapper and Pandoh

They are responsible for smooth functioning of the Hospital / Dispensaries for providing medical care to the people.

7. PSO

He is a DSP level officer from IRBn Battalion of HP Ploice and is responsible for Security of BSL Project

D. BEAS DAM ORGANISATION (BEAS PROJECT UNIT-II, IW)

1. Chief Engineer / Beas Dam, Talwara (CE / Beas Dam)

CE is head of the project & is responsible for overall planning, coordination, safety & security of all works related to Beas Dam administration.

Operation & maintenance of civil structures, electrical & mechanical equipment /machinery, arrangement of materials/spares, & management of B.B.M.B. school & hospital Regular inspection of works by concerned officers/officials for ensuring Quality, Environmental, Occupational Health& Safety issues & timely Completion of all activities related to Beas Dam administration (i.e. Dam, T/ship, school & hospital)

2. SE / H.Q and Management Representative for IS/ISO 9001, IS/ ISO 14001 and IS/ISO45001 for Beas Project-Unit II:-

- a) Assists CE/Beas Dam for carrying out day to day working an effective manner
- b) Screening of establishment matters such as postings, transfers, promotions, pay fixations, loan/advances etc&submission of proposal to CE/Beas Dam for considerations
- c) Processing of cases for administrative approvals/technical sanctions of estimates, completion reports etc& all other works relating to works under Beas Dam administration for submission to CE/ Beas Dam.
- d) Collecting &compiling returns from various circles/divisions.
- e) Activity related to distribution & updating of documents of internal origin
- f) Running of B.B.M.B Hospital & school at Talwara.
- g) Interface with processes of B.B.M.B as &when required.
- h) As Management Representative of Talwara center, he is responsible for
 - i) Ensuring that process needed for QMS, EMS & OHSMS are established implemented &maintained

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- ii) Reporting to the top management on the performance of the QMS, EMS & OHSMS & any need for improvement, through management review meetings, quality /environmental/ Occupational Health & Safety audits & normal channel communication.
- iii) Promotion of awareness of customer requirements in the area of his jurisdiction, holding awareness programmes , conducting meeting at appropriate project sites / works
- iv) Liaison with CMR, consultants, certifying body on all matters relating to QMS, OHSMS & EMS consultancy, training, certification surveillance.

3. S. E /Pong Dam Circle

- a) Operation, maintenance & repair of all works relating to the Beas Dam, its appurtenant works (civil, Electrical)
- b) Reservoir management upstream of Beas Dam including catchments & silt survey.
- c) All cases relating to land acquisition.
- d) Collection of data from instruments installed in the body of Beas Dam.
- e) Conducting geodetic survey of Beas Dam & Ranapratap sagar reservoir to monitor settlements etc during filling & depletion period, Reservoir capacity survey.
- f) Capital maintenance of penstock tunnel, Irrigation tunnel spill way.
- g) All public amenities like firefighting & public relation at Talwara& Pong Dam.
- h) All cases pertaining to work charged establishment on the project.
- i) To maintain close liaison with XEN /Director Water regulation for rains, floods.
- j) Under water inspection of intake structures through Diving team.

4. SE / Talwara Circle

- a) All works relating to Talwara T/ship colony including Nursery Horticulture, Plantation & Parks, Operation maintenance & repair of mechanical works relating to Beas Dam, transport –yard.
- b) Procurement & upkeep stores etc for entire Beas project.
- c) Disposal of all surplus material like stores, machines, scrap etc.
- d) Transport yard at sansarpur terrace including maintenance &repair of vehicles &transportation of staff.
- e) All works related to inspection &maintenance of building (residential /nonresidential), water supply sewage system, colony roads etc. (excluding electrical maintenance)

5. Principal of BBMB School at Talwara

He is responsible for the smooth functioning of the academics and extracurricular activities of the school.

6. Principal Medical officer of BBMB Hospital at Talwara

He is responsible for smooth functioning of the Hospital for providing medical care to the people.

7. PSO

He is a DSP level officer from IRBn Battalion of HP Police and is responsible for Security of Pong Dam and Talwara Township.

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E. GENERATION ORGANISATION (PW)

1. Chief Engineer/Generation, Nangal. (CE/SO)

CE/Generation is administrative head of the Bhakra Left and Right Bank Power Houses, Pong Power House, Dehar Power House, Ganguwal & Kotla Power Houses and is responsible for all planning, coordination, generation, operation and maintenance of electrical & mechanical equipment/machinery, arrangement of materials/spares, regular inspection of renovation & modernization works by concerned engineers/officials for ensuring Quality, environmental, Health & Safety and timely completion of capital, scheduled & break down maintenance.

2. SE /HQ, Generation and Management Representative for IS/ISO 9001, IS/ISO 45001& IS/ISO 14001 for Bhakra Complex including Computer Centers.

- a) Assists CE/Generation for carrying out day-to-day working in an effective manner.
- b) Screening of establishment matters such as posting, transfers, promotion, pay fixation, Loan/ Advances etc. and submission of proposal to CE/Generation for consideration.
- c) Processing of cases for Administrative Approvals/Technical Sanction of estimates, Completion Report etc. and all other matters relating to works under 'Generation' Organization for submission to CE/ Generation.
- d) Collecting and compiling periodic returns from various Circles/ Divisions.
- e) Activity related to distribution and updation of documents of internal origin.
- f) Interface with other processes of BBMB, as and when required.
- g) Monitoring the training activities for the officers/officials of the Bhakra Nangal Project.
- h) As Management Representative for Generation Administration, he is responsible for:
 - i. Ensuring that processes needed for IMS are established, implemented and maintained
 - ii. Reporting to the top management on the performance of the IMS and any need for improvement, through management review meetings, quality/environmental/Health & Safety audits and normal channels of communication.
 - iii. Promotion of awareness of customer requirements in the area of his jurisdiction, holding awareness programmes, conducting meeting at appropriate project sites / works
 - iv. Liaison with CMR consultants, certifying body on all matters relating to QMS/EMS/OHS MS consultancy, training, certification & surveillance.

3. SE/Bhakra Power House Circle:

- a) Administrative and technical head of Bhakra Left Bank and Right Bank Power Houses.
- b) Overall control and review of operation and maintenance Renovation, Modernization and uprating of Bhakra Left Bank & Right Bank Power Houses.
- c) Sanction of administrative approvals and technical estimates falling under his powers as per "Delegation of Powers" document of PSEB.
- d) Review and forwarding of budget in respect of Bhakra Left Bank and Right Bank Power Houses for Board's approval through CE/Generation. Regular monitoring of expenditure and progress of works.

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- e) Procurement of material and spares required for operation and maintenance of BhakraPHs, residential and nonresidential buildings and offices including civil maintenance under his control as per Delegation of Powers.
- f) Overall control of transport/heavy motor vehicles and their maintenance, overall control of stores and disposal through concerned Xen/SDO.
- g) Overall control of testing Lab. at Bhakra Left Bank Power House.
- h) To operate Bhakra Left and Right Bank PH generating units as per system requirement as decided by Director/PR, BBMB, Chandigarh.

4. SE/Canal Power Houses Circle:

- a) Administrative and technical head of Ganguwal and Kotla PH's, Major Interlinking Sub-Station and 220 kV Bhakra–Ganguwal, 220kV Dehar-Ganguwal DC line and 66kVBhakra - factory feeders.
- b) Overall control and review of operation and maintenance, renovation, modernization and uprating of Ganguwal and Kotla Power Houses and Major Interlinking Sub-Station and feeders.
- c) Sanction of administrative approvals and technical estimates falling under his power as per "Delegation of Powers" document of PSEB.
- d) Review and forwarding of budget in respect of Ganguwal and Kotla Power Houses, Major Interlinking Sub-Station and feeders of Board's approval through CE/Generation. Regular monitoring of expenditure and progress of works.
- e) Overall control of transport motor vehicles and their maintenance, overall control of stores and disposal through concerned Xen/SDO.
- f) To make all efforts to achieve the generation target fixed by Central Electricity Authority.
- g) To operate the Ganguwal and Kotla Power House generating units as per system requirement as decided by Director / PR, BBMB, Chandigarh.

5. SE/Pong Power House Circle:

- a) Administrative and technical head of Pong Power House.
- b) Overall control and review of operation and maintenance, renovation, modernization and uprating of Pong Power Houses.
- c) Sanction of administrative approvals and technical estimates falling under his power as per "Delegation of Powers" document of PSEB.
- d) Review and forwarding of budget in respect of Pong Power Houses, Major Interlinking Sub-Station and feeders of Board's approval through CE/Generation. Regular monitoring of expenditure and progress of works.
- e) Overall control of transport motor vehicles and their maintenance, overall control of stores and disposal through concerned Xen/SDO.
- f) To make all efforts to achieve the generation target fixed by Central Electricity Authority.
- g) To operate the Pong Power House generating units as per system requirement as decided by Director/PR, BBMB, Chandigarh.

6. SE/Dehar Power House, Slapper:

- a) Administrative and technical head of DPH Circle. He is responsible for:
- b) To make all efforts to achieve the generation target fixed by Central Electricity Authority.

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- c) To operate the DPH generating units as per system requirement as decided by the Director/PR, BBMB, Chandigarh.
- d) To carry out all the required maintenance of Dehar generating units and the Switchyards to keep them in readiness to meet the system demand.
- e) To prepare perspective plan for further improvement in the overall functioning of DPH.
- f) Overall planning/scheduling/priority fixation of various mtc. jobs relating to Plants, Tools and machinery.
- g) To arrange required manpower for smooth running and maintenance of DPH.
- h) Arrangement of required spares/materials for smooth running and maintenance of DPH.
- i) Administrative approval of works/Technical sanctions of estimates and placement of purchase order/work orders, preparation/finalization of budget with higher authorities of BBMB as per powers delegated by BBMB.
- j) Technical audit/Inspection of mtc Jobs from time to time & monitoring of progress/ performance of various works.
- k) Corrective/preventive actions/measures depending upon actual/potential problems.
- l) Holding of general meetings with subordinates and higher authorities regarding administrative/ technical matters/reviews as and when need arises.
- m) Maintenance of Slapper Township including Hospitals, School, Guest House & Club etc

7. Principal of BBMB School at Ganguwal

He is responsible for the smooth functioning of the academics and extracurricular activities of the school.

8. Medical officers of Dispensaries at Ganguwal&Kotla

They are responsible for smooth functioning of the Dispensaries for providing medical care to the people.

F. TRANSMISSION SYSTEM ORGANISATION (PW)

1. Chief Engineer/Transmission System, Chandigarh (CE/TS)

CE/TS is the head of the TS of BBMB and is responsible for overall planning, coordination, transmission infrastructure including kVs and operation and maintenance of electrical & mechanical equipment/machinery, arrangement of materials/spares, regular inspection of renovation & modernization works by concerned officials for ensuring Quality and timely completion of capital, scheduled & break down maintenance.

P&D(TS) Dte. under CE/TS is responsible for design and procurement of equipment / material in respect of Transmission Line, Sub-station and Protection. As per prevailing arrangements P&D(TS)Dte. is involved in strengthening of Transmission System with respect to uprating of BBMB Power Houses for some of the decided power equipment.

- a) O&M of 3705 Ckt-Km of 400 kV, 200kV, and 66kV Transmission Lines.
- b) Operation & Maintenance of 16 Nos. 400kV, 220kV, and 66kV Grid Sub Stations.
- c) Operation & Maintenance of protection equipment and fault analysis of BBMB System.
- d) O&M of PLCC/Optical Fiber /Microwave /EPABX etc. of BBMB Communication System.

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- e) Administration of TS organization having strength of about 120 officers/1814 staff located at various stations.
- f) Provisioning of resources to meet the current and future needs.
- g) Planning of activities and allocation of budget.
- h) Approval of Expenditure/Purchases and decisions as per SOP (Standard Operation Procedure).
- i) Upkeeping of residential/ non residential buildings of BBMB.
- j) Provision of medical facilities at identified locations.
- k) Transportation.

2. SE/HQ, Transmission System and Management Representative for ISO 9001, ISO 14001 and IS/ISO45001 for Transmission System administration.

- a) Assists CE/TS for carrying out day-to-day working in an effected manner.
- b) Screening of establishment matters such as posting, transfers, promotion, pay fixation, Loan/ Advances etc. and submission of proposal to CE/TS for consideration.
- c) Processing of cases for Administrative Approvals/ Technical Sanction of estimates, Completion Report etc. and all other matters relating to works under 'TS' Organisation for submission to CE/TS.
- d) Collecting and compiling periodic returns from various Circles/ Divisions.
- e) Activity related to distribution and updation of documents of internal origin.
- f) Interface with other processes of BBMB, as and when required.

As Management Representative for Transmission system administration, he is responsible for:

- a) Ensuring that processes needed for IMS are established, implemented and maintained
- b) Reporting to the top management on the performance of the IMS and any need for improvement, through management review meetings, quality/environmental / Occupational Health & Safety audits and normal channels of communication.
- c) Promotion of awareness of customer requirements in the area of his jurisdiction, holding awareness programmes, conducting meeting at appropriate project sites / works.
- d) Liaison with central management representative (CMR) consultants, certifying body on all matters relating to IMS consultancy, training, certification & surveillance.

3. SE/ O&M Circle, Panipat :

- a) To inspect the maintenance works carried out by the field offices in respect of 400kV Sub Station, Panipat& 220 kV Sub Stations, Delhi, Narela & Kurukashetra as well as connected transmission lines and 400 kV Dehar-Panchkula-Panipat& 400kVDehar-Rajpura– Bhiwani Transmission Lines and residential / non residential buildings under the control of respective Circles so as to ensure satisfactory performance of various equipments for providing uninterrupted power supply.
- b) To monitor the Transmission System availability with respect to planned & forced outages and to devise ways to improve the same.
- c) To propose up-gradation, modernization & augmentation of various equipments so as enhance the efficiency.

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- d) To scrutinize the proposals for renewal, renovation, repairs, and maintenance overhauling of equipment prepared by the Divisional Offices under the control of Circle.
- e) To procure the material required for general use and petty purchases for execution of various works to be carried out for the operation and maintenance of substations, lines and residential/non-residential buildings etc. as per requirements of the field offices under its control.
- f) To ensure that the works are being executed by various field offices under the prescribed norms/rules.
- g) To obtain and convey the administrative as well as technical sanctions to various works as per delegation of powers.
- h) To redress the genuine grievances of the employees under his Circle.
- i) To attend meetings of various committees to investigate the performance of various equipment renewal and replacement, causes of damage etc.
- j) To ensure that the system of management prevailing in his circle is efficient and economical.
- k) To ascertain and report on the efficiency of the subordinate offices and the establishment.
- l) To inspect each divisional office at least once in a year to examine initial accounts, account of stock, tools & Plants and stock register, register of works and other divisional books, mode of preparation of estimate, contract agreement, contractor's accounts, system of recording plans and papers and office work generally.
- m) To get settled various audit paras made by Internal Audit/AG Audit Party during audit.
- n) To deal court cases relating to his circle.
- o) To ensure compliance to applicable regulatory/legal requirements.
- p) To initiate actions for minimization of pollutions and its improvement.
- q) To review and forwarding of budget proposals in respect of Sub Station and transmission lines for Board's approval through CE/TS.
- r) Over all control of transport vehicles and their maintenance and overall control of stores and disposals through concerned Xen/SDO.
- s) Regular monitoring of expenditure and progress of works.

4. SE/O&M Circle, Jamalpur:

- a) To inspect the maintenance works carried out by the field offices in respect of 220 kV Substation Jamalpur, Jalandhar, Jagadhri, Sangrur and Dhulkote, & 66 kV Sub-station Chandigarh as well as connected transmission lines and residential/non residential buildings under the control of respective Circles so as to ensure satisfactory performance of various equipments for providing uninterrupted power supply
- b) To monitor the Transmission System availability with respect to planned & forced outages and to devise ways to improve the same.
- c) To propose up-gradation, modernization & augmentation of various equipments so as enhance the efficiency.
- d) To scrutinize the proposals for renewal, renovation, repairs, and maintenance overhauling of equipment prepared by the Divisional Offices under the control of Circle.

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- e) To procure the material required for general use and petty purchases for execution of various works to be carried out for the operation and maintenance of substations, lines and residential/ non-residential buildings etc. as per requirements of the field offices under its control.
- f) To ensure that the works are being executed by various field offices under the prescribed norms/ rules.
- g) To obtain and convey the administrative as well as technical sanctions to various works as per delegation of powers (document of PSEB).
- h) To redress the genuine grievances of the employees under his Circle.
- i) To attend meetings of various committees to investigate the performance of various equipment renewal and replacement, causes of damage etc.
- j) To ensure that the system of management prevailing in his circle is efficient and economical.
- k) To ascertain and report on the efficiency of the subordinate offices and the establishment.
- l) To inspect each divisional office at least once in a year to examine initial accounts, account of stock, tools & Plants and stock register, register of works and other divisional books, mode of preparation of estimate, contract agreement, contractor's accounts, system of recording plans and papers and office work generally.
- m) To get settled various audit paras made by Internal Audit/AG Audit Party during audit.
- n) To deal court cases relating to his circle.
- o) To ensure compliance to applicable regulatory/legal requirements.
- p) To initiate actions for minimization of pollutions and its improvement.
- q) To review and forwarding of budget proposals in respect of Sub Station and transmission lines for Board's approval through CE/TS.
- r) Over all control of transport vehicles and their maintenance and overall control of stores and disposals through concerned Xen/SDO.
- s) Regular monitoring of expenditure and progress of works.

5. SE/O&M Circle, Bhiwani :

- a) To inspect the maintenance works carried out by the field offices in respect of 400 kV Substation, Bhiwani, 220 kV Substation , Hissar, Ballabgarh, Samaypur, Ch. Dadri and Barnala, as well as connected transmission lines and residential / non residential buildings under the control of respective Circles so as to ensure satisfactory performance of various equipments for providing uninterrupted power supply
- b) To monitor the Transmission System availability with respect to planned & forced outages and to devise ways to improve the same.
- c) To propose up-gradation, modernization & augmentation of various equipments so as enhance the efficiency.
- d) To scrutinize the proposals for renewal, renovation, repairs, and maintenance overhauling of equipment prepared by the Divisional Offices under the control of Circle.
- e) To procure the material required for general use and petty purchases for execution of various works to be carried out for the operation and maintenance of substations, lines and residential/ non-residential buildings etc. as per requirements of the field offices under its control.

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- f) To ensure that the works are being executed by various field offices under the prescribed norms/ rules.
- g) To obtain and convey the administrative as well as technical sanctions to various works as per delegation of powers (document of PSEB).
- h) To redress the genuine grievances of the employees under his Circle.
- i) To attend meetings of various committees to investigate the performance of various equipment renewal and replacement, causes of damage etc.
- j) To ensure that the system of management prevailing in his circle is efficient and economical.
- k) To ascertain and report on the efficiency of the subordinate offices and the establishment.
- l) To inspect each divisional office at least once in a year to examine initial accounts, account of stock, tools & Plants and stock register, register of works and other divisional books, mode of preparation of estimate, contract agreement, contractor's accounts, system of recording plans and papers and office work generally.
- m) To get settled various audit paras made by Internal Audit/AG Audit Party during audit.
- n) To deal court cases relating to his circle.
- o) To ensure compliance to applicable regulatory/legal requirements.
- p) To initiate actions for minimization of pollutions and its improvement.
- q) To review and forwarding of budget proposals in respect of Sub Station and transmission lines for Board's approval through CE/TS.
- r) Over all control of transport vehicles and their maintenance and overall control of stores and disposals through concerned Xen/SDO.
- s) Regular monitoring of expenditure and progress of works.

6. Director/ P& C:

- a) To monitor/supervise the following jobs required to be conducted by various P & T Cell/ CC Divisions under P & C Directorate:-
 - 1) Periodical testing of:
 - a. Relay & Protection Schemes.
 - b. Carrier Channel for protection schemes.
 - 2) Periodical Thermo vision scanning of BBMB network & deposit work of other utilities.
 - 3) Attending the emergency breakdowns relating to:
 - a. Relay / Protection Schemes.
 - b. Electrical equipment.
 - 4) Testing & commissioning of new/ replaced equipment.
- v) Condition monitoring of various electrical equipments existing in BBMB network with various testing instruments.
- vi) Analysis/ taking remedial measures of:
 - 1. Trippings
 - 2. Hot Points
 - 3. Resistive leakage current of MOSAs.
 - 4. Non-functional relays/ Protection Schemes.

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- b) Operation & Mtc. of BBMB Carrier Communication System & SLDC equipment installed at various locations.
 - c) Installation, Testing & Commissioning of new/ replaced Carrier Communication equipments.
 - d) To co-ordinate & conduct meetings of Renewal & Replacement of Communication equipment. Director/ P&C is also member of other various Replacement and Renewal Committees in TS Organization constituted for replacement of equipment other than Protection & Carrier Communication.
 - e) To ascertain the cause of damage of equipment and suggest remedial measures, as a member of investigation committees.
 - f) Director P&C is made member of different committees to decide/finalize various issues
 - g) Presently Director/ P&C is member of committees formed for framing Road Map for modernization of protection system in BBMB and preparation of maintenance schedule for various equipments installed at BBMB Sub Stations.
 - h) To assist CE/TS in respect of protection, carrier communication, system studies and strengthening of Transmission System at various forums.
 - i) Drawing & Disbursing officer of his Directorate at Chandigarh.
- The Deputy Director/ Technical, P&C Directorate assists the Director/ P&C, in carrying out the above works.

7. Director/ P & D (TS):

- a) Transmission System design & procurement of equipment and material in respect of Transmission lines, Sub stations and Protection.
- b) Attending to day to day design problems pertaining to the Substations and Transmission Lines under TS Administration.
- c) To look after Civil works related problems of entire Power Wing of BBMB.
- d) Publication of NITs/ Notices with DAVP for its own Directorate.
- e) To co-ordinate and conduct meetings of Renewal and Replacement Committee
- f) To participate in various Investigation Committee Meetings in respect of damage to equipment etc.
- g) Providing Engineering & related technical & consultancy services of new Sub /Stn. /Feasibility studies.
- h) To render necessary assistance to CE/ SO in respect of technical matters, as may be assigned from time to time.
- i) To ensure that the equipment to be procured does not result into environmental pollutions
- j) Load Flow Study, analysis & solutions in case of addition of Lines/Generation.
- k) Fault study in case of addition of New Transmission Lines and Generation due to addition/uprating.
- l) Strengthening of Transmission System with respect to uprating of BBMB Power Houses injected through other sources.

In order to perform the above functions, the Director/ P&D(TS) is assisted by 4 Nos Dy. Directors (Elect) and 1 No. Dy. Director (Civil) alongwith their allied staff.

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G. SYSTEM OPERATION ORGANISATION

1. Chief Engineer/ System Operation, Chandigarh

CE/SO is the head of the Power system operations and is responsible for overall planning, coordination, BBMB grid management, load dispatch, design & procurement of machinery and spares for the BBMB generating units & awarding RM&U contracts including management of all the computer centres of BBMB.

For carrying out above responsibilities, Chief Engineer has well defined organization under him. They include, SEs at circle level, Directors at directorate level, AddISEs / Sr XENs / XENs at Divisional level and Sub Divisional Officers / JEs at sub division / activity level.

CE/SO is also Chairman Centralized Staff Selection Committee and is responsible for recruitment of Class III & IV employees, not provided by the State Government/State Power Utilities as per the procedure defined in the Class 3 & 4 (Recruitment and Conditions of Service) Regulations 1994 amended from time to time.

2. SE/HQ, SO and Management Representative for IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001 for P&D /PPs (Dte) , Power Regulation Dte.), SLDC Complex Chandigarh

- a) Assists CE/SO for carrying out day-to-day working in an efficient manner.
- b) Screening of establishment matters such as posting, transfers, promotion, pay fixation, Loan/ Advances etc. and submission of proposals to CE/SO for consideration/approval.
- c) Processing of cases for Administrative Approvals/Technical Sanction of estimates, Completion Report etc. and all other matters relating to works under 'SO' Organisation for submission to CE/SO.
- d) Collecting and compiling periodic returns from various Circles/ Divisions for further sending to Board office.
- e) Activity related to distribution and updation of documents of internal origin.
- f) Interface with other processes of BBMB, as and when required.

As Management Representative for System operation administration, he is responsible for:

- a) Ensuring that processes needed for IMS are established, implemented and maintained.
- b) Reporting to the top management on the performance of the IMS and any need for improvement, through management review meetings, quality / environmental / Health & Safety audits and normal channels of communication.
- c) Promotion of awareness of customer requirements throughout the organisation, holding awareness programmes , conducting meeting at appropriate project sites/works
- d) Liaison with CMR consultants, certifying body on all matters relating to IMS consultancy, training, certification & surveillance.

3. Director/ P & D (Power Plants):

- a) Consolidation of requirement & material including spares and take procurement action in respect of all Power Houses of BBMB including their switch yards, & major interlinking kVs (MISS) Ganguwal.
- b) Attending day to day design problems pertaining to all Power Houses of BBMB including their switch yards/(MISS) Ganguwal.

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- c) Co-ordination in conducting meetings of Renewal & Replacement Committee in respect of System Operation organization.
- d) Participation in various organization committees meeting in respect of damage to equipment etc. in respect of entire Generation organization & Dehar Power House.
- e) To render necessary assistance to CE/ SO in respect of technical matters, as may be assigned from time to time.

In order to perform the above functions, the Director/ P & D (PPs) are assisted by 5 Nos Dy. Directors along with their allied staff.

4. Director/Power Regulation:

Director/Power Regulation assisted by 5 Deputy Directors, Power Controller and Staff is responsible for:

- a) Monitoring and maintaining of system parameters and security in respect of BBMB Power System and to ensure integrated operation of the BBMB Power System with the Northern Region Grid.
- b) Co-ordination with Central Agencies like NRLDC, NRPC & CEA for fixing Generation Targets, Operation and Planning of the System.
- c) Preparation of Energy Account and handling all commercial issues regarding dues, payment and supply of power etc. to NFL, RFF, old HP, J&K and other commercial issues like outstanding dues, pooled/sales losses and wheeling charges etc.
- d) Handling the cases for providing 'Open Access' in BBMB Transmission System.
- e) Maintenance of SCADA/EMS Hardware and Software provided at BBMB SLDC Chandigarh and 4 Sub LDCs at Jamalpur, Ganguwal, Panipat and Dadri.
- f) Co-ordination with Power Grid and field offices of BBMB for maintenance of equipment provided under Unified Load dispatch and Communication Scheme of Power Grid.
- g) Procurement including finalization of specification of communication equipment required in BBMB System.
- h) Supplying technical/statistical data pertaining to Power and Commercial matters of BBMB to Central Agencies like NRPC, NRLDC, CEA etc. and to Board's Secretariat.
- i) Attending various meetings like Operation Co-ordination Committee, Commercial Engineers Meeting, Unified Load Dispatch Centre (ULDC) Scheme Monitoring Group Meeting of Northern Regional Power Committee (NRPC) and Technical Committee Meeting of BBMB.

H. As per requirement under IMS implementation duties/authority/responsibility of Safety Officer, Safety Committee, Contractors, Occupiers, MRs, Welfare Officers and Core Team are as follows

1. SAFETY OFFICER

The duties of the Safety Officer shall be to advise and assist the Project management in the fulfillment of its obligation, statutory or otherwise, concerning prevention of personal injuries and maintaining a safe working environment. These duties shall include the following namely;

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- a) to advise the concerned division in a project in planning and organizing measures necessary for the effective control of personal injuries.
- b) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;
- c) to advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs;
- d) to advise the purchasing and stores department in ensuring high quality and availability of personal protective equipment;
- e) to provide advice on matters related to carrying out plant safety inspections;
- f) to carry out plant safety inspections in order to observe the physical conditions of work and the work practices and procedures followed by the workers and to render advice on measures to be adopted for removing unsafe physical conditions and preventing unsafe actions by workers;
- g) to render advice on matters related to reporting and investigation of industrial accidents and diseases;
- h) to investigate all reportable accidents;
- i) to investigate the case of industrial diseases contracted and dangerous occurrences under Factory Act/Rule 96;
- j) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and industrial diseases;
- k) to promote setting up of safety committees and act as adviser and catalyst to such committees;
- l) to be instrumental in designing and implementing the various creative initiatives in association with the concerned departments like campaigns, competitions, contests and other activities which will develop and maintain the interest of the workers and enhance the workers participation in OH&S management.
- m) To design and conduct either independently or in collaboration with the training department, suitable training and educational programmes towards OH&S management.
- n) to coordinate with qualitative and quantitative risk assessment studies with either internal or external resources and follow up the compliance of all the recommendations/ suggestions;
- o) to coordinate all third party inspections/survey/investigations/testing and examinations either statutory or otherwise aimed towards management of occupational safety and health;
- p) To advise the management of the factory in fulfilling obligations under all occupations Safety and health related legislations applicable
- q) **Facilities:** An occupier of the factory shall provide each Safety Officer with such facilities, equipment, staff, information etc., as are necessary to enable him to discharge his duties effectively but not less than those recommended if any by the Chief Inspector, from time to time.
- r) **Prohibition of Performance of other duties:** No Safety officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of the duties defined above
- s) **Safety Officer's Report:** Every Chief Safety officer or Safety officer where there is no Chief safety officer, working in a factory as required under state factory rules, shall submit through the occupier of his factory, a report in writing with all relevant details to the Chief inspector of Factories, in the month of January every year, on the activities/initiatives taken up during the preceding calendar year and the progress achieved.

2. SAFETY COMMITTEE (Consisting members from BBMB site and Contractors)

- Safety Committee shall meet as often as necessary but at least once in a Quarter.
- Safety committee shall have the right to be adequately and suitably informed of the following
 - a) Potential safety and health hazards to which the workers may be exposed at workplace.

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- b) Data on accidents\incident as well as data resulting from surveillance of the working environment and of the health of workers exposed to hazardous substances so far as the Site / factory is concerned
- c) To use the data on a confidential basis and solely to provide guidance and advice on measures to improve the working environment and the health and safety of the workers.
- Function and duties of the Safety committee shall include-
 - a) Dealing with all matters concerning health; safety and environment and to arrive at practicable solutions to problems encountered ;
 - b) Creating safety awareness amongst all workers;
 - c) Discussing reports on safety, environmental and occupational health surveys, safety audits, risk assessment, emergency and disaster management plans and implementation of the recommendations made in the reports
 - d) Carrying out health and safety surveys and identify causes of accidents ;
 - e) Looking into any complaint made on the likelihood of an imminent danger to the safety and health of the workers and suggest corrective measures
 - f) Reviewing the implementation of the recommendations made by it.
 - g) Establish sub-committees as may be required to assist it.

3. CONTRACTORS

- Comply with the BBMB policies and IMS of BBMB and of the Occupier.
- Following of Operational Control Procedures (OCPs) and dos and Don'ts
- Reporting of unsafe acts and conditions and taking up required corrective and preventive actions
- Arranging for the periodical Occupational medical checkup of their employees and submitting Health Records / To take corrective action as per the recommendations

4. OCCUPIER:

In BBMB,s context occupier is respective SEs of Power Houses and Workshops

- Every occupier shall ensure the health, safety and welfare of all workers while they are at work in the site / Ensure that conducive working environment is provided.
- To ensure that the provision and maintenance of plant and systems of work in the factory that are safe and without risks to health, safety and Environment.
- The arrangement in the site for ensuring safety in connection with the use, handling, storage and transport of articles and substances;
- The provision of such information, instruction, training and supervision as are necessary to ensure the health and safety of all workers at work;
- The maintenance of all places of work in the Site / factory in a condition that is safe and without risks of health.
- The provision, maintenance or monitoring of such working environment in the site for the workers that is safe, without risks to health and adequate as regards facilities and arrangements for their welfare at work.
- Except in such cases as may be prescribed, every occupier shall prepare, and, as often as may be appropriate, revise, a written statement of his general policy with respect to the health and safety of the workers at work and the organization and to bring the statement and any revision thereof to the notice of all the workers in such manner as may be prescribed.

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Note: The authority to get the task completed as identified in the above roles and responsibilities lies with the immediate senior of the person in question. The unit head hold the ultimate authority for the compliance to the roles and responsibilities of all departments and individuals.

5. WELFARE OFFICER:

- To establish contacts and hold consultations with a view to maintaining harmonious relations between the site management and workers
- To bring to the notice of site management, the grievances of workers, individual as well as collective, with a view to securing their expeditious redress and to act as a Liaison Officer between the management and labour
- To study and understand the point of view of labour in order to help the site management to shape and formulate labour policies and to interpret these policies to the workers in language they can understand
- To advise on the fulfilment by the concerned Departments of the site management obligations statutory or otherwise concerning the applications of the provisions of the **Factories Act, 1948** and the Rules made there under and to establish liaison with the Inspector of Factories, and the Medical Services concerning medical examination of employees, health records, supervision of hazardous jobs, and convalescence, accident preventive and supervision of safety committees, systematic plant inspection, safety education, investigation of accidents, maternity benefits and workmen's compensation
- To encourage provision of amenities such as canteens, shelters for rest, crèches, adequate latrine facilities, drinking water, sickness and benevolent scheme payments, pension and superannuation funds, gratuity, payments, granting of loans and legal advice to workers
- To suggest measures which will serve to raise the standard of living of workers and in general, promote their well being

6. MR (IMS)

In addition to his present responsibilities & authorities, Management Representative (IMS) who acts as MR for IS/ISO 9001, IS/ISO 14001 and IS/ISO 45001 ensures that Management Systems requirements are established, Implemented & maintained in accordance with MS Standards through the following.

- Issue Management Systems Documents / Document Control in respective jurisdiction.
- Develop, review, revise & issue the Management Systems documents (except IMS Policy, IMS Manual, Common Procedures Manual, Common OCP' and Common Legal Manual).
- Set objectives / Targets in consultation with Site Incharge / HOD / Core Team/ SDO/SE/CE
- Identify & have access to legal and other requirements.
- Advise and approve new processes, activity or equipment related to IMS impact.
- Communicate established IMS to all concerned at respective areas.
- Interaction / Correspondence with certification agency
- Identifying internal auditors & providing training.
- Conduct internal IMS Audits. / Organize for External Audits through Certifying Body / Assist in the closure of Non conformities through corrective / preventive actions
- Ensure the overall compliance of company's IMS Policy.
- The defined role, responsibility, accountability and authority shall be communicated through Management System Manual distribution, Circulars and also by displayed at Notice Board
- Maintaining national & international standards through concerned Departments.
- Maintain records of IMS
- Reporting on the performance of IMS to Management.

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CORE TEAM

- Initial review, identification of Aspects / Impacts and Significant Aspect & Impact (FMEA) / Hazards / Risks and Un-acceptable Hazards & Risks.
- Assist MR (IMS) in setting up Objectives / Targets
- Evaluate the Significant Aspect & Impact and Un-acceptable Hazards & Risks to establish Operational Control procedure & Management Programs.
- Define objectives & targets & programmes.
- Monitoring & Measurement of Objectives & Targets
- Analyze Audit outcome / injury trends to further enhance IMS
- Provide guidance to MR (IMS) / Management in overall compliance of IMS

Note:

Core Team is nominated by respective MR in consultation with CE(s)/SE(s)/Xen(s)/DFA/Dy. CAO/AFA/AO. The core team includes representation from Sub-Divisions/Sections (AE/AEE/JE/Foreman/Superintendent) etc, other grade II, III (as needed) etc. For Board Secretariat, Secretary BBMB to constitute a core team comprising of personnel from each office viz. office of Secretary, Spl. Secretary, Director/HRD, Director/Security & Consultancy and Director/NHP.

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