

PETROLEUM AND NATURAL GAS REGULATORY BOARD

NOTIFICATION

New Delhi, _____, November, 2020

F.No. PNGRB/Tech/14-IMSNGPL/(1)/2019.-In exercise of the powers conferred by section 61 of the Petroleum and Natural Gas Regulatory Act, 2006 (19 of 2006), the Petroleum and Natural Gas Regulatory Board hereby makes the following regulations, further to amend the Petroleum and Natural Gas Regulatory (Integrity Management System for Natural gas pipelines) Regulations, 2012, namely: -

1. Short title and commencement.

- (1) These regulations may be called the Petroleum and Natural Gas Regulatory Board (Integrity Management System for Natural gas pipelines) Amendment Regulations, 2020.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Petroleum and Natural Gas Regulatory Board (Integrity Management System for Natural gas pipelines) Regulations, 2012: -

- (1) for Regulation 2,

- (i) in sub-regulation 1;

- (a) for clause (e), the following shall be substituted, namely: -

“"risk" means the measure of potential loss in terms of both the incident probability (likelihood) of occurrence and the magnitude of the consequences;”

- (b) clause (f) shall be omitted and clause (g) and (h), shall be re-lettered as clause (f) and (g)

- (c) for clause (f), the following shall be substituted, namely: -

““risk assessment” means a systematic process in which potential hazards from facility operation are identified, and the likelihood and consequences of potential adverse events are estimated. Risk assessments can have varying scopes, and can be performed at varying levels of detail depending on the operator’s objectives;”

- (d) for clause (g), the following shall be substituted, namely: -

“"risk management" means an overall program consisting of identifying potential threats to an area or equipment; assessing the risk associated with

those threats in terms of incident likelihood and consequences; mitigating risk by reducing the likelihood, the consequences, or both; and measuring the risk reduction results achieved;”

(e) after clause (g), the following clauses shall be inserted, namely:

“(h) "transmission pipeline" means one or more segments of pipeline usually interconnected to form a network that transports gas from a gathering system, the outlet of a gas processing plant or a storage field to a high, medium or low-pressure pipeline system, a large-volume customer or another storage field;

(i) "sub transmission pipeline" means a high-pressure pipeline connecting the main natural gas pipeline to the city gate station;”

(f) clause (i), (j), (k) and (l) shall be re-lettered as clause (j), (k), (l) and (m).

(g) in clause (l), for the word “use”, the word “user” shall be substituted and after the word “ROU”, the words, “Right of Way (RoW)”, shall be omitted.

(h) after clause (m), the following clauses shall be inserted, namely:

“(n) “Shall” indicates that the provision in which it occurs is mandatory;

(o) “Should” indicates that the provision in which it occurs is recommendatory but not mandatory;”

(ii) after sub-regulation (1), the following shall be inserted, namely:

“(2) Other definitions or terminologies used for integrity assessment like anomaly, defect, MAOP etc. not defined above, shall be as defined in ASME 31.8S”

(iii) sub-regulation (2) shall be re-numbered as sub-regulation (3).

(2) in regulation 3, after the words, “all the entities”, the words, “engaged in”, shall be inserted.

(3) In regulation 4, the words, “that is”, shall be substituted by the words, “such as”.

(4) in regulation 5, the words, “integrity management plan”, shall be substituted by the words, “Integrity Management Plan (IMP)”.

(5) for regulation 7,

(i) in sub-regulation (1), the words, “through implementation schedule” shall be omitted and the words, “and Schedule-8”, the words “Schedule-8 and Schedule-9”, shall be substituted;

(ii) in sub-regulation (2),

- (a) after the words, “implementation schedule”, the words, “and compliance”, shall be inserted;
- (b) in clause (i), the words beginning with the words, “within the time” and ending with the words, “Act shall apply;” shall be substituted by the following, namely:-

“with time schedule and make good all short comings within the time schedule. If the entity fails to complete activities within the specified time schedule, relevant penal provisions of the Act shall apply;
- (6) in regulation 9,
 - (i) for sub-regulation (2), the following shall be substituted, namely:

“Entity operating and maintaining natural gas pipelines shall have a written plan or philosophy of deploying qualified and trained manpower at the installations based on activities required for compliance to this regulation.”
 - (ii) for sub-regulation (3), after the words, “by the Board”, the words “from time to time”, shall be inserted.
- (7) in Schedule-1,
 - (i) the words, “also minimize business”, shall be substituted by the words, “minimize”.
 - (ii) the word, “transporter”, shall be substituted by the words, “operator or transporter”
 - (iii) after the words, “Integrity Management System”, the words, “shall be”, shall be substituted by the words, “should aim to”.
 - (iv) the word, “Ensuring”, shall be substituted by the word, “Ensure”.
 - (v) the word, “Promoting”, shall be substituted by the word, “Promote”.
 - (vi) the word, “increasing”, shall be substituted by the word, “Enhance”.
 - (vii) the word, “optimizing”, shall be substituted by the word, “Enhance”.
- (8) in Schedule-2, the Sub-heading, “Quality Control”, shall be substituted by the words, “Quality Plan”.
- (9) in Schedule 3;
 - (i) under Sub-heading, “PHYSICAL DESCRIPTION:”,
 - (a) the words beginning with, “Description of natural gas” and ending with the words, “details such as:”, shall be substituted by the following, namely: -

“Description of natural gas pipeline shall include specific description of the pipelines compressor stations, valve stations and major installations details such as:”;
 - (b) the words, “Trunk Pipeline”, shall be substituted by the words, “Transmission Pipeline”;

- (c) the words, “Intermediate Pigging Stations”, shall be substituted by the words, “Pigging Stations”;
- (d) the word, “Control Stations”, shall be substituted by the words, “Control Rooms”;
- (e) the words beginning with, “depending upon Captive power”, shall be omitted;
- (f) the word, “SCADA”, shall be substituted by the words, “Telecom or SCADA or Data Transfer System”;
- (g) the word, “Equipments”, shall be substituted by the word, “Equipment”; and
- (h) The words, “Delivery Stations’, shall be substituted by the words, “Dispatch Terminal or Receiving Terminal”.

(ii) under Sub-heading, “OTHER DESCRICPTION:”

- (a) The Sub-heading, “OTHER DESCRICPTION;”, shall be renumbered as 3.2 and para nos. 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6 and 3.1.7 shall be re-numbered as para 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6 and 3.2.7.
- (b) The para nos. 3.2.5, 3.2.6 and 3.2.7 shall be omitted.

(10) in Schedule-4,

(i) under paragraph 4.3,

- (a) the words beginning with, “pertaining to technical aspects”, and ending with the words, “Integrity Management System for Natural gas pipeline”, shall be omitted and after the words, “Management of Change”, the following shall be inserted, namely: -

“process pertaining to technical aspects. However, Entity may adopt more rigorous IMP within a prescriptive IMP based on their in-house assessment.”

(11) in Schedule-5,

- (i) the heading, “INTEGRITY ASSESSMENT TOOLS”, and the contents of the heading, shall be substituted by the following namely:-

“INTEGRITY ASSESSMENT, MONITORING AND SURVEYS

Some of the tools for Integrity assessment, surveys, monitoring & surveillance are provided below. The operator shall employ at least one integrity assessment tool and should use all applicable surveys, monitoring & surveillance tools necessary for the integrity management of natural gas pipeline. It may be noted that the baseline data for specific measurement should be available with the

operator. The operator of a pipeline system shall develop a chart of most suited integrity assessment tool, surveys, monitoring & surveillance and interval for each threat or risk and further develop appropriate specifications and quality control plan for such assessment. After establishing effectiveness of assessment, the interval of assessment may be further modified subject to any other code requirement such as Petroleum and Natural Gas Regulatory Board (Technical Standards and Specifications including Safety Standards for natural gas pipelines) Regulations, 2009. A suggested chart is placed at APPENDIX –III.”

- (ii) before the para heading, “In-Line Inspection”, the following sub-heading, shall be inserted, namely: -

“5.1 INTEGRITY ASSESSMENT TOOLS”.

- (iii) in para heading, “In-Line Inspection”,

- (a) the para heading, “In-Line Inspection”, numbered as para no.5.1 shall be re-numbered as 5.1.1.
- (b) the words beginning with, “preliminarily characterize”, and ending with the words, “in-line inspection”, shall be substituted by the words, “characterize indications, such as, metal loss due to internal or external corrosion and other mechanical damage or deformation.

- (iv) under para-heading, “HYDROTESTING”,

- (a) the para heading, “HYDROTESTING”, shall be substituted by, “Hydro or Pressure Testing of In-service Pipelines” and shall be re-numbered as 5.1.2;
- (b) after the word, “Hydro”, the words, “or Pressure” shall be inserted;
- (c) after the words, “Regulations, 2009.”, the following shall be inserted, namely:

“Hydro testing or Pressure testing can also be employed as an integrity assessment tool during service life.”

- (v) the para-heading, “DIRECT ASSESSMENT AND EVALUATION”, shall be re-numbered as 5.1.3 and the content thereof shall be substituted by the following, namely: -

“Direct assessment is an integrity assessment method utilizing a structured process through which the operator is able to integrate knowledge of the physical characteristics and operating history of a pipeline system or segment with the results of inspection, examination, and evaluation, in order to determine the integrity.

External Corrosion Direct Assessment (ECDA), Internal Corrosion Direct Assessment (ICDA) and Stress Corrosion Cracking Direct Assessment (SCCDA) are the available tools for direct assessment and evaluation.

5.1.3.1 External Corrosion Direct Assessment (ECDA) can be used for determining integrity for the external corrosion threat on pipeline segments.

While implementing External Corrosion Direct Assessment if the pipe is exposed, the operator is advised to conduct examinations for threats other than that for external corrosion also (like mechanical and coating damages).

5.1.3.2 Internal Corrosion Direct Assessment (ICDA) can be used for determining integrity for the internal corrosion threat on pipeline segments.

5.1.3.3 Stress Corrosion Cracking Direct Assessment (SCCDA) can be used for determining integrity for the stress corrosion threat on pipeline segments.

Each of these assessments are carried out in four steps as below-

- (a) Pre-assessment- determining feasibility of Direct Assessment, incorporating various data gathering, database integration and analysis
- (b) Indirect Inspection- using either tools or calculations to flag possible corrosion sites, or calls, based on the evaluation or extrapolation of the database
- (c) Direct/Detailed Examination- excavation and examination to confirm corrosion at the identified sites and remediation as provided in Schedule 6 of these regulations.
- (d) Post-assessment- to determine the fitness for service of pipeline, re-assessment interval and effectiveness of Direct Assessment.”

(vi) after para 5.1.3, the following paragraph shall be inserted, namely:

“5.1.4 Other Integrity Assessment Methodology:

Other proven integrity assessment methods for pipeline may exist for use in managing the integrity of pipeline. For the purpose of these regulations, it is acceptable for an operator to use these inspections as an alternative to pressure testing or direct assessment (and where ILI is not feasible due to operational or other constraints)”

(vii) after para 5.1.4, the following sub-heading shall be inserted namely: -

“5.2 MONITORING AND SURVEYS.”

(viii) the para heading, “Cathodic Protection (CP) Monitoring”, shall be re-numbered as 5.2.1; and the heading and the content thereof shall be substituted by the following, namely: -

“5.2.1 Cathodic Protection (CP) System Monitoring

Following cathodic protection monitoring methods are available:

- (i) Pipe to Soil Potential Survey

- (ii) Transformer Rectifier Unit or Cathodic Protection Power Supply Module - current and voltage monitoring method
- (iii) Closed Interval Potential Logging Survey
- (iv) Coating Health Surveys (Current Attenuation Test, Direct Current Voltage Gradient survey and Alternating Current Voltage Gradient Survey)
- (v) Pipeline AC & DC Interference Survey* including survey at Foreign Pipeline Crossings, Power Transmission line crossings or parallelism and other Stray current sources

* It shall be obligatory for all the entities involved to facilitate other entities to conduct studies or surveys and in implementation of mitigation measures.

5.2.1a: Internal corrosion monitoring should be done through Corrosion coupon / ER Probe, debris analysis from cleaning pigging, quality monitoring of gas at source etc.”

- (ix) in the para-heading, “Thickness assessment and periodic review against baseline values”,
 - (a) the para no.5.6 shall be re-numbered as 5.2.2 and after the words, “Integrity Assessment tool.”, the following words shall be inserted, namely:

“Possibility of thickness survey shall be explored whenever underground portion of the pipeline is exposed for whatsoever reasons.”
 - (b) the words beginning with, “The operator of a pipeline system”, and ending with the words, “APPENDIX –III”, shall be omitted.
- (x) the para heading, “Pipeline equipment Health Monitoring”, shall be re-numbered as 5.2.3.
- (xi) the para heading, “Surveillance”, shall be substituted by, “Surveillance of pipelines”.
- (xii) under Para heading, “Surveillance”,
 - (a) the point no. I, II and III shall be renumbered as sub para 5.3.1, 5.3.2 and 5.3.3.;
 - (b) in sub para 5.3.1, the words, “Right of Way/”, shall be omitted and the words, “Right of Use”, shall be substituted by the words, “Right of User”;
 - (c) in sub para 5.3.2, the words beginning with, “The above system”, and ending with the words, “attacks by terrorists or otherwise”, shall be substituted by the following, namely: -

The above system may use various types of detection systems such as:

1. Fiber Optics System,
2. Ground Sensor System,

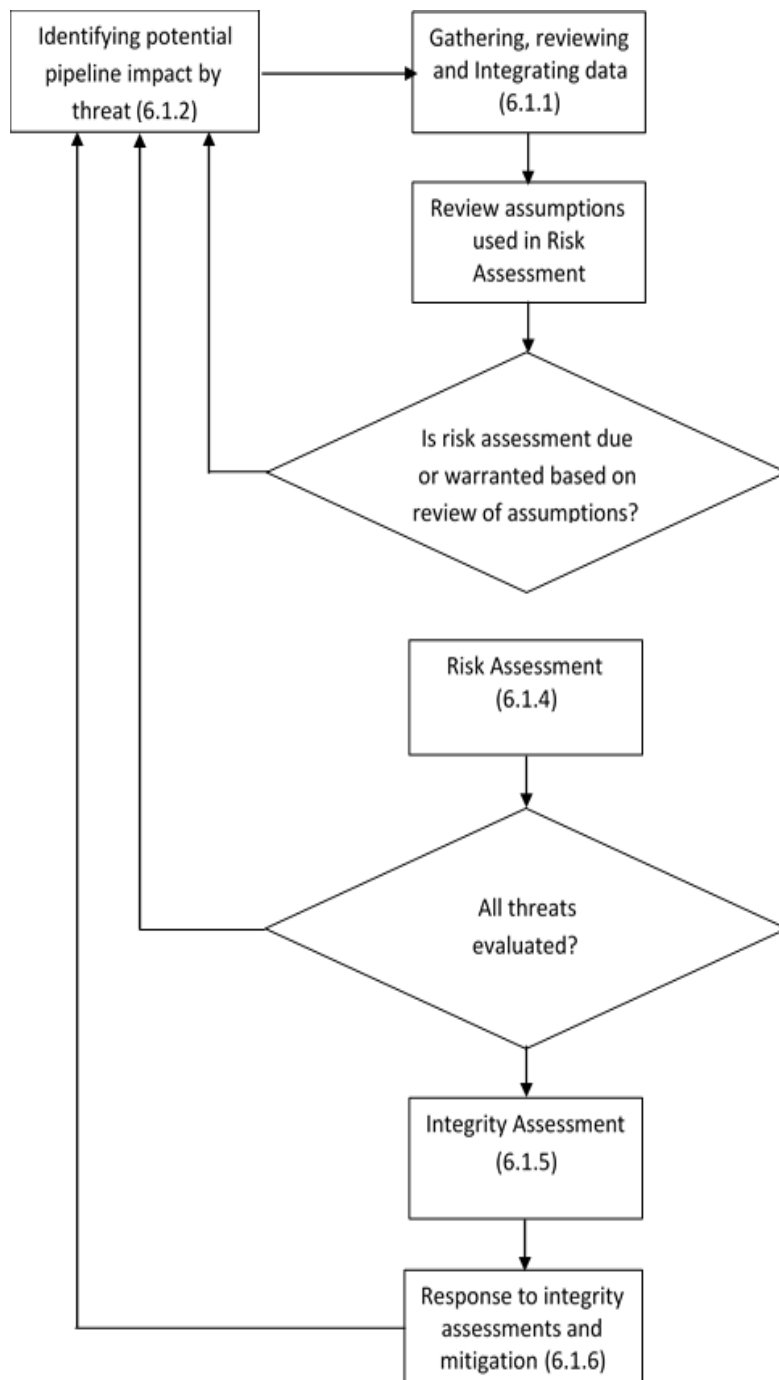
- 3. Radar based detection system
- 4. Fence secure data access system:

(xiii) paragraph heading, “Review of existing pipeline Class Location”, shall be omitted.

(xiv)

(12) in Schedule-6,

(i) the diagram given in Figure-1 shall be substituted by the following: -



- (ii) under paragraph heading, “Threat Identification:”,
 - (a) in sub para heading, “Time Dependent Threats”, the words beginning with, “Internal corrosion” and ending with the words, “to be considered” and also the words beginning with, “*Refer the Petroleum”, and ending with the words, “Regulations, 2008” shall be omitted.
 - (b) in sub para heading.” Time Independent Threats”, the words beginning with, “Heavy Rains”, and ending with the words, “(iii) River Bed movements”, the following shall be substituted, namely:
 - “(iii) Hydro technical: water-related threats including, but not limited to, liquefactions, flooding, channeling, scouring, erosions, floatation, breaches, surges, inundations, tsunamis, ice jams, frost heaves, and avalanches, creek area effects, river meandering, river bed or bank movement;
 - (iv) Geotechnical: earth movement threats including, but not limited to, subsidence, extreme surface loads, seismicity, earthquakes, fault movements, mining, and mud and landslides, muddy land effects; and
 - (v) High wind.”
- (iii) under paragraph heading, “Consequence and Impact Analysis”,
 - (a) the words beginning with, “consequence estimation” and ending with the words, “Areas are identified”, shall be omitted.
 - (b) the word beginning with, “Clause no.3.2” and ending with the words “potential impact area”, shall be omitted.
- (iv) under sub- para heading, “Developing a Risk Assessment Model”, the word, “Model”, shall be substituted by the word, “Approach”.
- (v) under sub-para heading, “Risk Assessment for the pipeline system”, the words, “at least”, shall be omitted.
- (vi) under the paragraph heading, “Integrity Assessment”, the words beginning with, “Hydro testing” and ending with the words, “(ISS) etc.”, shall be substituted by the following, namely: -
 - “(i) Pressure testing;
 - (ii) Inline inspection (ILI);
 - (iii) Direct Assessment (ECDA, ICDA and SCCDA);
 - (iv) Any other Integrity Assessment methodology.”
- (vii) after the words, “method and assessment interval”, the punctuation mark and the words, “, prevention and mitigation measures”, shall be inserted.

(viii) under the paragraph heading, “Mitigation and Response (Repair and Prevention),”

- (a) the words beginning with, “After the completion of assessment”, and ending with the words, “threat to pipeline integrity” shall be substituted by the following, namely: -

“After the completion of Integrity assessment and monitoring / surveys, like inline inspection and, Direct Assessment, coating health surveys, etc., the results shall be evaluated and the necessary repairs and preventive actions shall be undertaken to eliminate or reduce the threat to pipeline integrity.”

- (b) after the words, “until the next reassessment”, the following shall be inserted, namely:

“The entity shall have a plan for ensuring safety of personnel and pipelines by suitable means such as pressure reduction, wherever warranted.”

- (c) in point (iii) of sub-sub para heading, “Immediate repair conditions”, the words, “a detected”, shall be omitted.

- (d) in sub-sub para heading, “Monitored conditions”, the word, “interval”, shall be omitted.

(ix) in sub-para heading, “Mitigation through Preventive Actions”,

- (a) the words, “The few”, shall be substituted by the words, “Few” and the word, “Use”, shall be substituted by the word, “User” and the words, “Cleaning / Pigging” shall be substituted by the words, “Cleaning, Pigging”.

- (b) after the sub para heading, the following shall be inserted, namely:

“If class location changes are perceived due to demographic changes along the existing pipelines, population density survey may be carried out to ascertain the changes in class location.

The change in Location Class shall be evaluated in accordance with relevant provisions of ASME B31.8 and where action is indicated on account of such change, risk assessment of the impacted pipeline section shall be carried out considering the increase in population density and appropriate mitigation actions shall be taken if required. The mitigation actions should include as many of the following but as a minimum shall include those indicated in the table given underneath the list of actions:

- (a) The concerned pipeline section shall be declared as vulnerable and frequency of patrolling to be increased as per new Location Class.
- (b) Awareness program among local populace.
- (c) Warning Markers shall be installed at lesser interval of

- (d) Pipeline earth cover survey and Mitigation at closer intervals
- (e) CP monitoring and surveys shall be carried out more rigorously
Frequency of Integrity Assessment shall be increased to a minimum of once in 7 (seven) years or as indicated by risk assessment whichever is more frequent.
- (f) Engineering Assessment of the impacted section and mitigation of identified vulnerabilities.
- (g) Pipeline barrier protection shall be provided by installing concrete slabs / concrete coating / composite wraps / sleeves etc.

Minimum Required Action after Risk Assessment

Change from lower class to	Minimum action from list above
Location Class 2	(a) to (d)
Location Class 3	(a) to (g)
Location Class 4	(a) to (h)

In addition to above, any other actions indicated by risk assessment shall be taken.”

- (x) in sub-paragraph heading, “Update, integrate and review data”, the words, “soft, hard”, shall be substituted by the words, “soft or hard”.
 - (xi) in paragraph heading, “Performance Evaluation Plan”, the words beginning with, “Refer ASME B31”, and ending with the words, “matrix respectively”, shall be omitted and the word, “number”, shall be substituted by the word, “Number”.
 - (xii) in sub-paragraph heading, “Performance Measures”, the word, “pigging”, shall be omitted and the word, “programmes” shall be substituted by the word, “program”.
 - (xiii) in point no. (II) of sub-paragraph heading, “External Communication”, after the word, “Public”, the words, “or Public institutions like schools, hospitals or other like institutions”, shall be inserted.
 - (xiv) the paragraph heading, “Management of Change”, shall be substituted by the words, “Management of Change Plan”.
 - (xv) in paragraph heading, “Quality Control”, the word, “Control”, shall be substituted by the word, “Plan” and the words beginning with, “Internal Audits” and ending with the words, “and documented” shall be omitted.
- (13) in Schedule-7,
- (i) under paragraph heading, “MANAGEMENT APPROVAL”,
 - (a) the words, “team of the entity”, shall be substituted by the words, “or Maintenance of the entity”; and

(b) before the word, “Conformity”, the words, “Verification of”, shall be inserted.

(ii) the paragraph heading, “ACCEPTANCE BY PETROLEUM AND NATURAL GAS REGULATORY BOARD (PNGRB)” and the content therein shall be omitted.

(iii) under paragraph heading, “APPROVAL FOR IMPLEMENTATION”,

(a) the words, “Step#6”, shall be substituted by the word, “Step#5”; and after the words, “by the Board”, the words, “of the entity”, shall be inserted.

(b) the note shall be substituted by the following, namely:

“Step#6: Approved IMS document along with confirmation from entity of its implementation shall be submitted to the Board.”

(14) in Schedule-8,

(i) in Sr.No.1 of column heading, “Time Schedule”, the words beginning with, “YES/NO confirmation”, and the words ending with, “of these regulations”, shall be substituted by the words, “Confirmation to be submitted to PNGRB along with submission of approved IMS document.”.

(ii) in Sr.No.2 of column heading, “Activities”, after the word, “Operation”, the words, “or Maintenance”, shall be inserted.

(iii) in Sr.No.2 of column heading, “Time Schedule”, the word, “regulations”, shall be substituted by the word, “regulations*”.

(iv) in Sr.No.3 of column heading, “Time Schedule”, after the words, “approval by”, the word, “the”, shall be inserted and the words, “team of the entity”, shall be substituted by the words, “or Maintenance of the entity”.

(v) Sr.No.4 shall be omitted.

(vi) Sr.No.5 and 6 shall be re-numbered as Sr. No. 4 and 5.

(vii) in Sr.No.4 under the column heading, “Activities”, the words, “approval for implementation by the entity”, the words, “Approval for implementation by the Board of the entity for the first time and approval of subsequent periodic review by CEO or Full-time Director of the entity” and under column heading, “Time Schedule”, the words beginning with, “within 3 months” and ending with the words, “Natural gas regulatory Board”, the words, “Within 3 months from the conformity assessment by Third Party Inspection Agency (TPIA)”, shall be substituted.

(viii) in Sr.No.5, under the column heading, “Time Schedule”, the word, “Sr. No. 5”, shall be substituted by the word, “Sr.No.4”.

(ix) in Sr.No.5, under the column heading, “Time Schedule”, the words and number, “Sr. No. 5” shall be substituted by the words and number, “Sr. No. 4”.

(x) after Sr.No.5, the following shall be inserted, namely:

“

Sr. No.	Activities	Time Schedule
6	Submission of Integrity Management System document to Petroleum and Natural Gas Regulatory Board	1 month from the approval as mentioned at Sr. No. 4 above

”

(xi) in Sr.No.7, under the column heading, “Time Schedule”, the word, “within 1 year”, shall be substituted by the words, “every year”.

(xii) in the note, after the words, “in Schedule-7”, the following shall be inserted, namely: -

“* - For new pipelines, the above shall be complied within one year of date of commissioning.”

(15) in Schedule -9,

(i) in sub heading, “Periodicity of review of Integrity Management System”, the words beginning with, “Entities shall review” and ending with the words, “various departments”, shall be substituted by the following, namely: -

“Entities may review their existing Integrity Management System from time to time but not exceeding an interval of every 3 years and update the same if required in accordance with the provisions of Schedule 7 based on the performance of Integrity Management Program and /or changes if any in the statutory / regulatory requirements. However, changes of dynamic nature such as addition, deletion, modification of assets, key personnel, interfaces with other utilities etc. may not require revision in the IMS and the same can be kept updated periodically by the concern entity”.

(ii) after the sub heading, “Periodicity of review of Integrity Management System”, a new heading shall be inserted namely:

“9.2 Integrity Management System Audit

Audit of the Pipeline Integrity Management System shall be performed on a regular basis. The purpose of the audits is to ensure compliance with the policies and procedures as outlined in these regulations. Recommendations and corrective actions taken shall be documented and incorporated into the Pipeline Integrity Management System. The following essential items will be focused

for any internal and external audit of the entire Integrity Management System, namely:

- (a) IMS document is developed, approved and is valid;
- (b) Activities are performed in accordance with the Integrity Management System;
- (c) Verify if annual performance measures have been evaluated;
- (d) All action items or non-conformances are closed in a timely manner;
- (e) The risk criteria used have been reviewed and documented; and
- (f) Prevention, mitigation and repair criteria have been established, met and documented.

(iii) for the sub para heading, "Review of Internal and External audit",

- (a) in the heading, the word, "Review", shall be substituted by the word, "Frequency" and shall be re-numbered as 9.3.
- (b) the words beginning with, "(a) Internal audit", and ending with the words, "every 3 years", shall be substituted by the following, namely;

“(a) Internal Audit - Every year.

(b) External Audit - Every 3 years in-line with the approved IMS by third party empaneled by the Board.”

(16) in Schedule-10, the words beginning with, "Entity will have to" and ending with the words, "Conform to Appendix-IV" shall be substituted by the following, namely:

“Entity shall have a written plan or philosophy of manning the installations based on activities required for compliance to this regulation and shall address the requirement of manpower for different stages of project, namely: Design, construction, commissioning, operation and maintenance in the above plan.”

(17) in Appendix-I, the point beginning with the words, "Gas Research Institute", and ending with the words, "natural gas pipelines", shall be omitted.

(18) in Sr. No. 6 of Appendix-II, under the Column heading, "Time Schedule", after the number and word, "2 Years", the words, "from the commissioning of pipeline" shall be inserted.

(19) in Appendix-III,

- (i) in the heading, "SUGGESTIVE CHART FOR SELECTION OF INTEGRITY ASSESSMENT METHOD* WITH RESPECT TO SPECIFIC THREAT", the word, "METHOD*", shall be substituted by the words, "MANAGEMENT METHODS*".

- (ii) in the column heading, “Integrity Assessment Method*”, after the word “Assessment”, the word, “METHOD*”, shall be substituted by the words, “Management Methods*”.
- (iii) the column heading, “Assessment interval*”, shall be substituted by “Interval”.
- (iv) in the column heading, “Integrity Assessment Management Methods*”, in the heading, “Time Dependent”,
 - (a) for External Corrosion the words beginning with, “Inline Inspection” and ending with the words, “Direct Assessment”, shall be substituted by the following, namely:

“Inline inspection or External Corrosion Direct Assessment (ECDA) or Pressure Testing or any other Integrity Assessment Methodology.”
 - (b) for Internal Corrosion, the words beginning with, “Inline Inspection” and ending with the words, “Direct Assessment”, shall be substituted by the following, namely:

“Inline inspection or Internal Corrosion Direct Assessment (ICDA) or Pressure Testing or any other Integrity Assessment Methodology.”
 - (c) for Stress Corrosion Cracking, the words beginning with, “Inline Inspection” and ending with the words, “Direct Assessment”, shall be substituted by the following, namely:

“Inline inspection or Stress Corrosion Cracking Direct Assessment (SCCDA) or Pressure Testing or any other Integrity Assessment Methodology”.
- (v) in the column heading, “Integrity Assessment or Management Methods*”, for the heading, “Stable”, the words, “Hydro-test (Post Construction), Inline inspection” shall be substituted by the following, namely:

“Inline inspection or Pressure Testing or any other Integrity Assessment Methodology.”
- (vi) for the heading, “Time Independent”,
 - (a) in the column heading, “Interval”, for the sub heading, “a) Third Party / Mechanical Damage”, the words, “Monthly /quarterly”, shall be substituted by the words, “Monthly or Quarterly”.
 - (b) in the column heading, “Integrity Assessment or Management Method*”,
 - aa. For ‘Lightning’, before the words, “Surge Diverters”, the words, “Inspection of” shall be inserted;
 - ab. for “Heavy rains or floods” the word, “Anti-buoyancy inspection” shall be substituted by the word, “Inspection”.

- ac. for “Creek Area Effects” the word beginning with, “Surveillance, Pipe” and ending with the words, “Integrated Surveillance System” shall be substituted by the word, “Surveillance, Leakage survey, Inspection”.
 - ad. for “Muddy/Marshy area effects”, the words beginning with “Surveillance, Pipe to” an ending with the words, “Integrated Surveillance System” shall be substituted by the words, “Surveillance, Leakage Survey, Cathodic Protection Monitoring.”
 - ae. for “River Bed Movements”, the words beginning with “Surveillance, Pipe to” an ending with the words, “Integrated Surveillance System” shall be substituted by the words, “Surveillance, Leakage Survey, Inspection”.
- (vii) at the end, for the word, “Assessment”, the words, “or Management” shall be inserted and the word, “briefed”, shall be substituted by the word, “mentioned”.
- (20) Appendix-IV shall be omitted.

VANDANA SHARMA, Secy.
[ADVT.-]

Foot Note: Principal regulations were notified vide no. F.No. Infra/IM/NGPL/1201dated 5th November, 2012.