Esteemed Readers,

To encourage outstanding safety performance of the industry and to inculcate a positive culture of competitiveness among the industry members, the Ministry of Petroleum and Natural Gas, Government of India introduced a system of 'Oil Industry Safety Awards' in the year 1987.

"Oil Industry Safety Awards" for the year 2015-16 and 2016-17 were presented by Shri Dharmendra Pradhan, Hon'ble Minister of Petroleum & Natural Gas; Minister for Skill Development and Entrepreneurship on 13th January, 2018. Secretary, PNG and Chairman, Safety Council; Joint Secretary (R) and leaders of Oil & Gas Industry were present in the award ceremony organised at Bhubaneswar.

These awards are given for recognizing the efforts of Oil & Gas Industry in enhancing safety performance of the installations thereby improved productivity, profitability and sustainability.

These awards also recognise the contribution made by individuals in enhancing safety in Oil & Gas industry.

In the field of further enhancing our knowledge partnerships, OISD conducted workshops on "Asset Integrity & Safety in E&P Sector" and "Audit of LPG Bottling Plant". I firmly believe that Industry must have definitely benefitted out of such interactions.

Various OISD Safety Standards, Guidelines and Recommended Practices are under revision. The same have been detailed in the newsletter. We look forward to active contribution from the industry.

The increase in incidents in recent past, once again gives a clear message that there is no room for complacency in Oil & Gas industry. We must continue to strengthen and implement the SOPs, put in practise the work permit system in letter & spirit and improve supervision of work.

Looking Forward for your valuable comments and suggestions.

Wish you all a safe 2018.

[Signature]

V. Janardhana Rao
External Safety Audits (ESA)

- **IOCL**
  - LPG Bottling Plant at Sekmai, Manipur was carried out during 5th - 7th July, 2017.
  - POL terminal at Tikrikalan, New Delhi was carried out during 8th - 10th July, 2017.
  - LPG Bottling Plant at Bishalgarh, Tripura was carried out during 10th - 12th July, 2017.
  - LPG Bottling Plant at Dumad, Gujarat was carried out during 14th - 26th July, 2017.
  - LPG Bottling Plant at Bhopal, Madhya Pradesh was carried out during 18th - 20th August, 2017.
  - POL terminal at Mysore, Karnataka was carried out during 21st - 23rd August, 2017.
  - LPG Bottling Plant at Varanasi, Uttar Pradesh was carried out during 21st - 23rd August, 2017.
  - POL terminal at Madurai, Tamil Nadu was carried out during 28th - 30th August, 2017.
  - Lube depot at Aseoti, Haryana was carried out during 14th - 16th September, 2017.
  - Haldia-Barauni Main line (499Km) + Loop line (499Km)--Part of PHBPL Crude line + Dock Lines was carried out during 18th - 22nd September, 2017.
  - Digboi Refinery was carried out during 9th - 13th October, 2017.
  - POL terminal at Bijwasan, New Delhi was carried out during 12th - 16th October, 2017.
  - POL terminal at Bareja, Gujarat was carried out during 27th - 29th November, 2017.
  - LPG Bottling Plant at Baddi, Himachal Pradesh was carried out during 30th - 1st November, 2017.
  - LPG Bottling Plant at Kanpur, Uttar Pradesh was carried out during 6th - 8th November, 2017.
  - LPG Bottling Plant at Illyangudi, Tamil Nadu was carried out during 27th - 29th November, 2017.
  - LPG Bottling Plant at Bikaner, Rajasthan was carried out during 30th - 2nd December, 2017.
  - LPG Bottling Plant at Ujjain, Madhya Pradesh was carried out during 11th - 13th December, 2017.
  - POL terminal at Jalandhar, Punjab was carried out during 11th - 14th December, 2017.
  - Guwahati-Siliguri Product Pipeline was carried out during 11th -16th December, 2017.
  - POL terminal at Balasore, Odisha was carried out during 14th - 16th December, 2017.
  - LPG Bottling Plant at Karnal, Gujarat was carried out during 18th - 20th December, 2017.
  - LPG Bottling Plant at Trichy, Tamil Nadu was carried out during 18th - 20th December, 2017.

- **HPCL**
  - POL terminal at Kandla, Gujarat was carried out during 25th - 27th July, 2017.
  - POL terminal at Jaipur, Rajasthan was carried out during 21st - 23rd August, 2017.
  - Mumbai-Pune-Sholapur Product Pipeline was carried out during 28th -31st August, 2017.
  - LPG Bottling Plant at Hoshiarpur, Punjab was carried out during 11th - 13th September, 2017.
  - POL terminal at Tirunelveli, Tamil Nadu was carried out during 23rd - 25th October, 2017.
  - LPG Bottling Plant at Irumpanam, Kerala was carried out during 23rd - 25th October, 2017.
  - Visakh Refinery was carried out during 23rd - 27th October, 2017.
  - POL terminal at Amousi, Uttar Pradesh was carried out during 27th - 29th November, 2017.
  - Mumbai Refinery was carried out during 11th - 15th December, 2017.

- **BPCL**
  - POL terminal at Kota, Rajasthan was carried out during 13th - 15th July, 2017.
  - LPG Bottling Plant at Sinnar, Maharashtra was carried out during 7th - 9th August, 2017.
  - POL terminal at Rajbandh, West Bengal was carried out during 28th - 30th August, 2017.
  - POL terminal at Piyala, Haryana was carried out during 11th - 13th September, 2017.
  - LPG Bottling Plant at Lalru, Punjab was carried out during 27th - 29th September, 2017.
• LPG Bottling Plant at Jhansi, Madhya Pradesh was carried out during 9th -11th October, 2017.
• POL terminal at Mughalsarai, Uttar Pradesh was carried out during 23rd - 25th October, 2017.
• POL terminal at Tirunelveli, Tamil Nadu was carried out during 26th - 28th October, 2017.
• POL terminal at Bijwasan, New Delhi was carried out during 08th - 11th November, 2017.
• POL terminal at Karur, Tamil Nadu was carried out during 15th - 18th November, 2017.
• LPG Bottling Plant at Dharwad, Karnataka was carried out during 16th - 18th November, 2017.
• POL terminal at Balasore, Odisha was carried out during 11th - 13th December, 2017.
• Kochi Refinery was carried out during 11th - 15th December, 2017.
• POL terminal at Bareja, Gujarat was carried out during 28th - 30th December, 2017.

➢ ONGC
• Ankleshwar GPP was carried out during 21st - 24th August, 2017.
• Dahej GPP was carried out during 27th - 31st August, 2017.

➢ GAIL
• Dadri-Bawana-Nangal NG Pipeline was carried out during 4th to 9th September, 2017.
• Vijaipur GPP was carried out during 11th - 15th September, 2017.
• Dandewala - Gamnewala - Ramgarh & Langtala - Ramgarh NG Pipelines was carried out during 17th - 20th November, 2017.
• Dabhol-Bangalore P/L of GAIL from Gokak IP3 to Bidadi - 30" dia + Bidadi to Bangalore, 18" dia NG Pipelines was carried out during 17th -23rd December, 2017
• PATA petrochemical complex was carried out during 18th - 22nd December, 2017

➢ PETRONET
• LNG Dahej was carried out during 29th Aug - 1st September, 2017
• Mangalore-Hassan-Bangalore Product Pipeline was carried out during 18th-22nd December, 2017.

➢ MRPL
• SPM & offshore pipeline facilities at MRPL Mangalore was carried out during 26th-27th October, 2017.

➢ ONGC-Onshore /Offshore Installations/rigs:
• Ahmedabad Asset was carried out during 10th - 14th July, 2017.
• Rajahmundry Asset was carried out during 17th - 24th August, 2017.
• Mehsana Asset was carried out during 11th -15th September, 2017.
• Assam Asset was carried out during 30th Oct -03rd November, 2017.
• Two Mobile offshore drilling rig of Western Offshore Asset, Mumbai, were carried out during 13th-17th November, 2017.

➢ CAIRN
• Onshore Installation of Rajasthan Asset was carried out during 6th-11th November, 2017.

➢ FOCUS ENERGY
• Onshore Installation of Rajasthan Asset was carried out during the period 18th -22nd December, 2017.

➢ OIL INDIA LTD
• Drilling Rig at Krishna Godavari Asset was carried out during the period 22nd -23rd August, 2017.

➢ BGEPIL (SHELL)
• PMT JV Offshore Platform (PPA & MA) was carried out during the period 11th-15th December, 2017.

Pre-commissioning Safety Audits (PCSA)

➢ IOCL
• PCSA of POL terminal at Khunti, Jharkhand was carried out during 6th & 7th July, 2017.
• PCSA of New Tank at Karwar, Karnataka was carried out during 8th July, 2017.
• PCSA of DHDT revamp project, JR was carried out during 13th - 14th July, 2017
• PCSA of Koyal-Viraramgam pipeline section of KSPL was carried out during 16th July, 2017
• PCSA of 32 km of MPPL replacement was carried out on 21st October, 2017
• PCSA of additional TLF bay at Bareja, Gujarat was carried out on 27th July, 2017.
• PCSA of 47.8 km replacement of BKPL was carried out during 4th to 5th August, 2017.
• PCSA of 2.3 km new line near Navagam for conversion of KAPL into ATF line was carried out during 30th August, 2017
• PCSA of Chiller unit of Butadiene, Panipat Refinery was carried out on 18th September, 2017
• PCSA of Station Facilities at Bolpur under PHBPL Aug project was carried out during 19th - 20th September, 2017.
• PCSA of 157 km of Paradip - Balasore section of PHDPL LPG Pipeline with station facilities at Paradip & Balasore was carried out during 26th - 28th September, 2017.
• PCSA of 40 km of MPPL replacement was carried out during 8th to 9th October, 2017.
• PCSA of Mounded Storage Vessels facility at Cochin, Kerala was carried out during 21st October, 2017.
• PCSA of MS tank no. 27 at Devanagonthi, Karnataka was carried out during 4th November, 2017.
• PCSA of POL terminal at Golai, Assam was carried out during 10th & 11th November, 2017.
• PCSA of Mounded Storage Vessels facility at Cochin, Kerala was carried out during 20th November, 2017.
• PCSA of NSU revamp, FGU, PCK & LA, Barauni Refinery was carried out during 20th - 21st November, 2017

HPCL
• PCSA of new 6 bay ATF loading gantries with allied piping at Bahadurgarh, Haryana was carried out during 19th July, 2017.
• PCSA for revamping of Depot at Jabalpur, Madhya Pradesh was carried out during 28th & 29th July, 2017.
• PCSA of WHRS AT FCCU-2, Visakh Refinery was carried out on 2nd December, 2017

BPCL
• PCSA of POL terminal at Haridwar, Uttarakhand was carried out during 23rd September, 2017.
• PCSA of existing Depot being reopened after modifications at Sankari, Tamil Nadu was carried out during 20th - 21st October, 2017.

ONGC
• PCSA of NFU, storage tanks, Hazira was carried out on 25th September, 2017

HMEL-Bhatinda
• PCSA of DHDT revamp project was carried out during 18th - 19th July, 2017
• PCSA of RFG & Oxygen enrichment plant was carried out during 21st - 22nd December, 2017

BORL-BINA
• PCSA of Modular PENEX Unit was carried out during 24th - 25th October, 2017

CPCL-MR
• PCSA of SWRU, ARU, SRU, DCU Slop Tank was carried out during 30th - 31st October, 2017

Surprise Safety Audits (SSA)

IOCL
• POL terminal at Kandla, Gujarat was carried out during 28th July, 2017.
• POL terminal at Rajbandh, West Bengal was carried out during 31st August, 2017.
• Gujarat Refinery was carried out on 1st Sept, 2017
• LPG Bottling Plant at Una, Himachal Pradesh was carried out during 14th September, 2017.
• POL terminal at Mughalsarai, Uttar Pradesh was carried out during 26th October, 2017.
• LPG Bottling Plant at Lucknow, Uttar Pradesh was carried out during 26th October, 2017.
• POL terminal at Amoussi, Uttar Pradesh was carried out during 30th November, 2017.
• LPG Bottling Plant at Madurai, Tamil Nadu was carried out during 30th November 2017.

HPCL
• POL terminal at Tikrikalan, New Delhi was carried out during 11th July, 2017.
• POL terminal at Madurai, Tamil Nadu was carried out during 31st July - 1st August, 2017.
• LPG Bottling Plant at Nashik, Maharashtra was carried out during 10th August, 2017.
• POL terminal at Rajbandh, West Bengal was carried out during 1st September, 2017.
• LPG Bottling Plant at Bhopal, Madhya Pradesh was carried out during 22nd September, 2017.
• POL terminal at Mughalsarai, Uttar Pradesh was carried out during 27th October, 2017.
• LPG Bottling Plant at Hubli, Karnataka was carried out during 20th November, 2017.
• LPG Bottling Plant at Indore, Madhya Pradesh was carried out during 14th December, 2017.
• POL terminal at Balasore, Odisha was carried out during 18th December, 2017.

BPCL
• POL terminal at Kandla, Gujarat was carried out during 29th July, 2017.
• POL terminal at Mysore, Karnataka was carried out during 24th August, 2017.
• LPG Bottling Plant at Kochi, Kerala was carried out during 26th October, 2017.
• POL terminal at Lalkuan, Punjab was carried out during 15th - 16th December, 2017.

Consents to operate accorded to:
• ONGC for unmanned Well Head Platform BH of B&S Asset on 06th July, 2017.
• ONGC for Process platform BCPA-3 and BLQ-3 on 22nd September, 2017.
• ONGC for mobile offshore drilling unit, Drillship Rig "Platinum Explorer" on 24th November, 2017.
• ONGC for Offshore Modular Rig "Sundowner 7" on 21st December, 2017.
• First time a consent for decommissioning has been issued for process facilities of Tapti field to BGEPIL on 21st December, 2017.
• ONGC for mobile offshore drilling unit, Semisubmersible Rig "Olinda Star" on 28th December, 2017.

Meetings
• ED-OISD and Addl. Dir. (PL) attended meeting at Shastri Bhawan on 8th June, 2017 regarding shifting of CBP pipeline of M/s GEECL from ROW of NHAI for highway expansion chaired by Secretary, MoPNG.
• ED-OISD attended meeting on review of draft reply to the performance audit by CAG on "Safety preparedness of oil & gas transmission pipelines relating to IOCL" chaired by Joint Secretary(R), PNG on 10th July, 2017 at Shastri Bhavan.
• ED-OISD participated in working group meeting of CHT held at Scope Complex, New Delhi on 20th July, 2017 which was chaired by Joint Secretary(R), PNG.
• ED OISD and Dir (E&P) along with other officers of E&P held meeting with ONGC at ONGC HQ, N. Delhi to review progress of long pending ESA observations of ONGC on 26th July, 2017.
• ED-OISD attended the Workshop organized by ONGC on Oil Mines Regulations 2017 held on 15th September, 2017 at Mehsana. DG, DGMS also attended the workshop.
• ED-OISD attended the Parliamentary standing committee meeting on "Safety, Security and Environmental Aspects in Petroleum Sector" on 24th October, 2017 at PHA Extension Building, A-Block, New Delhi.
• Meeting with ONGC officials for resolving long pending ESA recommendations of pipelines was held on 7th November, 2017.
• Meeting with OIL officials for resolving long pending ESA recommendations of pipelines was held on 21st November, 2017.
• Half yearly review meeting with OMCs on pending ESA/SSA recommendations more than two years was carried out on 23rd November, 2017 at OISD.
• Dir (E&P) along with officers of E&P held meeting with BGEPIL Facilities team, DGH & JV partner RIL & ONGC regarding decommissioning of Tapti field at OISD NOIDA on 14th December, 2017.
• Dir. (E&P) attended meeting on 19th December, 2017 with the Indian Coast Guard officers regarding offshore security coordination management at Indian Coast Guard headquarters, Delhi.
• Dir (E&P) attended meeting regarding posting of armed guard at offshore locations (OSCC subcommittee meeting) with Indian Coast Guard at their headquarters in New Delhi on 19th December, 2017.
• Four officers from OISD attended meeting at DGH regarding well P & A of ONGC NELP block (West Patan) in Mehsana Asset for creation of site restoration fund on 19th December, 2017.
• Meeting between ONGC Crisis Management team, Head Safety, other officers and OISD to discuss long
pending ESA issues of ONGC and BOP recertification of Onshore Rigs (Both Drilling & Workover) was held at OISD NOIDA on 22nd December, 2017.

**Functional Committee Meetings on Safety Standards:**

- Revision of OISD-RP-205 on "Crane operation, maintenance & testing (for upstream)" organised at OISD on 10th July, 2017 & 13th October, 2017.
- Revision of OISD-RP-110 on "Recommended Practices on Static Electricity" was conducted at OISD on 14th July, 2017 and during 26th - 27th October, 2017.
- FC meeting for revision of OISD-STD-188 on "Corrosion Control of Offshore & Onshore Pipelines" was held at OISD on 13th October, 2017.
- Revision of OISD-GDN-180 on "Lightning protection" was conducted at OISD during 2nd - 3rd November, 2017.
- Revision of OISD-GDN-182 on Safe Practices For Workover and Well Stimulation Operations was conducted at OISD on 22nd December, 2017.

**Knowledge sharing by OISD Officials**

- ED OISD and Dir (E&P) conducted inspection of East coast offshore operations of ONGC, GSPC (ONGC), RIL & Cairn at Kakinada & S Yanam from 16th -18th August, 2017.
- Director (Pipelines)-OISD delivered a lecture on "Safety measures in oil and gas pipelines" at the 35th Activity Committee meet organized jointly by CHT and BPCL at Mumbai on 23rd August, 2017.
- Meeting between Cairn India and OISD regarding well plugging of Cambay Offshore platform was held at OISD, NOIDA on 19th September, 2017.
- Addl. Director (E&P) delivered lectures on "Site restoration & Reclamation, Important audit recommendations for Implementation" and "Standards & Guidelines for Oil Industry, Case Studies on oil field accidents" at the training program Challenges of Oil Industry Safety organized by ONGC at Bengaluru from 10th - 12th October, 2017.
- ED OISD along with E&P team held Meeting with private E & P operators on preparation of DMP, at OISD, NOIDA on 16th October, 2017.
- Meeting between BGEPIIL and OISD regarding decommissioning of Tapti field at OISD, NOIDA on 7th November, 2017.
- Workshop on decommissioning of Tapti field was organized by OISD on 24th November, 2017 at OISD office, NOIDA. The workshop was attended by personnel from M/s Shell and DGH.
- E&P group conducted workshop on "Asset Integrity & Safety in E&P" at OIDB Bhawan Auditorium, NOIDA during 4th -5th December, 2017.
- ED-OISD graced the Oil & Gas HSE Conclave organized by GAIL (India) Limited on 8th-9th December, 2017 at NOIDA as distinguished panellist for the panel discussion on "Role of Leadership in Developing World Class HSE Culture".

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"Intellectual growth should commence at birth and cease only at death."

- Albert Einstein

I am always doing that which I cannot do in order that I may learn how to do it.

- Pablo Picasso
SAFETY ALERT

Fire incident in Carousel at LPG Plant – A case study

THE INCIDENT:

- Major fire incident took place at carousel in one of the LPG Bottling Plant.
- A metallic guiding hook is provided on filling machine through which the filling hoses are passing for connecting to filling guns. Due to latching/de-latching movement of filling guns in each filling operation, outer braiding of LPG hoses got damaged due to rubbing with metallic guiding ring and became weak at that particular area.
- LPG leak occurred due to probable bursting/damage of that particular weakened portion of LPG hose of filling machine.
- LPG leakage caught fire due to static charge.
- Since the fire was not extinguished at initial stage, the size of fire was sufficient enough to damage the LPG hoses and LPG cylinders of adjacent filling machines.
- Duration of fire was approx. 65 min.

ANALYSIS:

- Fire starts at about 20:35. One contract employee at the inlet of carousel and another permanent employee little away from carousel reported seeing the fire. No gas leak is seen by any of these persons.
- From the intact 17 nos. Filling machines, it is seen that the LPG hoses are damaged near guide ring during movement in every filling operation. Only few LPG hoses were replaced since commissioning of the carousel and the rest are beyond useful life. Source of leak is from bursting of hose. There is no gas stop valve at the junction of the distribution pipeline and hose which could have prevented further leakage.
- Major breakdown in carousel when tripod below carousel was broken. Tripod was welded and carousel was restarted. For this repair work, all Filling Machines were removed, earthing cable of individual filling machine removed and carousel frame was raised by jacks. Source of ignition is static electricity which may have generated due to not fitting of earthing cables properly after the major maintenance.
- One monitor seems to have been directed at the fire on carousel on the intact 17 nos. filling machines - no BLEVE of cylinders in these filling machines observed.
- Mock drill has not been conducted above the carousel for more than 2 years. The devastation of carousel and the BLEVE of cylinders point out that the sprinkler over the carousel has not operated from beginning of fire.
- ROV on the LPG inlet line to carousel has not closed automatically on actuation of ESD and Break Glass buttons provided at unloading finger.
- Deluge Valve over carousel did not operate on actuation of Break Glass buttons provided at unloading finger. Probable reason for this may be isolation valves of this Deluge Valve might have been kept closed to avoid water sprinkler operation on carousel during mock drills/routine testing of sprinklers.
- The 17 intact filling machine containing half-filled cylinders are a stark contrast to rest of the devastated carousel. These 17 filling machines and the cylinders in them are unaffected due to the water monitor pointed at them and locked into position.
- There are total 4 deluge valves in the filling shed, other three deluge valves operated properly since there is no other major damage in the LPG shed area.
- Firefighting system provided in the plant could not be effectively utilised at the initial stage by the available employees. Fire extinguished only after supply of LPG exhausted i.e., body valve of the ROV on the LPG inlet line to carousel was manually closed or LPG in the pipeline between carousel and LPG pump house was totally burnt.
- All around road behind the LPG shed (as recommended in OISD-STD-144) is not available hence fire tender was used from distance.
- Roof of the shed above carousel area was badly damaged which indicates that pieces of busted cylinders might have fallen out of LPG shed.
REASONS OF FAILURE/ ROOT CAUSE:

- LPG hoses of the Flexspeed carousel filling machines have not been replaced since commissioning of carousel. Clause 7.5 of OISD-STD-135 states that LPG hoses have to be discarded after every three years of service or earlier in case the permanent elongation exceeds 5%.
- A metallic guiding hook is provided on filling machine through which the filling hoses are passing for connecting to filling guns. Due to latching/ de-latching movement of filling guns in each filling operation, outer braiding of LPG hoses got damaged due to rubbing with metallic guiding ring and became weak at that particular area and became source of leakage of LPG due to bursting of hose.
- Source of ignition is probably static electricity which may have generated due to improper fitting of earthing cables after the major maintenance of carousel.
- Non operation of sprinkler system over Flexspeed carousel. Plant had not carried out mock fire drill on this carousel since commissioning.
- Non-closure of ROV on the LPG inlet line to carousel on actuation of Emergency Shut Down (ESD) as well as Break Glass buttons for actuation of Deluge Valves.
- Poor maintenance of Flexspeed carousel and delay in attending the maintenance issues like filling gun leakages, carousel inlet/outlet problem etc.

MAJOR RECOMMENDATIONS:

- Replacement of LPG hoses being used in the plant at various facilities in line with clause 7.5 of OISD-STD-135.
- Whenever earthing connections are removed for maintenance of filling guns/ filling machines, electrical continuity of such filling guns/ filling machine should be checked, ensured and recorded appropriately before re-commissioning.
- Mock fire drill should be conducted periodically covering all risk scenario as per Quantitative Risk Assessment (QRA) and ERDMP including carousel area at least once every year to check readiness and constraints (if any) for all possible exigencies and record maintained.
- To ensure that carousel provided in LPG Plants are meeting the weather proof (IP Protection) requirement to take care of sprinkler, monitor and hydrant water spray during mock drills and any exigencies.
- To ensure that while maintaining the record for testing of various safety systems (ESD/ DVs etc.), all the safety trip provisions available should be checked and recorded.
- PLC based logging (with printing option) of firefighting system (Deluge Valve operation, ESD operation, MCP operation, Fire Pump operation etc.) should be ensured.
- Manual logging of events w.r.t. operation and maintenance of safety systems, critical equipment’s in shed, LPG Pump House and Fire Water Pump House should be ensured in the log books maintained by the person who is actually performing the job and same is reviewed by the concerned officers and signed.
- CCTV should be kept functional at all times.
- To review the internal safety audit system to ensure compliance/action taken of previous safety audits are thoroughly reviewed during subsequent internal audits.

Provided for information purpose only. This information should be evaluated to determine if it is applicable in your operations, to avoid reoccurrence of such incidents.

"Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young."

- Henry Ford
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Group</th>
<th>Unit basis considered for evaluation</th>
<th>Award Winners 2015-16</th>
<th>Award Winners 2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Oil &amp; Gas Assets (Onshore)</td>
<td>Onshore Asset</td>
<td>Vedanta Ltd. - Cairn Oil &amp; Gas (Mangala Oil &amp; Gas Mine)</td>
<td>Oil Natural Gas Corporation Ltd. (Rajahmundry)</td>
</tr>
<tr>
<td>2.</td>
<td>Offshore Production Platforms/Offshore Rigs</td>
<td>Offshore Asset</td>
<td>Oil Natural Gas Corporation Ltd. (B&amp;S Asset - BPB Platform)</td>
<td>Oil Natural Gas Corporation Ltd. (MH Asset North with Valiant Driller Rig)</td>
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<tr>
<td>3.</td>
<td>Refine/Other processing plant</td>
<td>Refinery/Other Processing Plants</td>
<td>Indian Oil Corporation Ltd. (Pipnipat Refiner)</td>
<td>Indian Oil Corporation Ltd. (Haldia Refinery)</td>
</tr>
<tr>
<td>5.</td>
<td>POL Marketing Organisations</td>
<td>Oil Marketing Company - POL</td>
<td>Indian Oil Corporation Ltd. (North Zone)</td>
<td>Indian Oil Corporation Ltd. (North Zone)</td>
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<tr>
<td>6.</td>
<td>LPG Marketing Organisations</td>
<td>Oil Marketing Company-LPG</td>
<td>Bharat Petroleum Corporation Ltd. (West Zone)</td>
<td>Hindustan Petroleum Corporation Ltd. (South Zone)</td>
</tr>
<tr>
<td>7.</td>
<td>Individual contribution towards safety</td>
<td>Individual (Company/contract employee)</td>
<td>Shri Khanderao Shivram Khot Tank Truck Driver (On contract with HPCL)</td>
<td>Shri Aji K. S. (TT Driver under M/s Ratheesh Abraham (On contract with HPCL)</td>
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<td>Shri Bhavesh Rakhohiya Essar Oil Ltd.</td>
<td>Shri Arun Kumar Singh IOCL-Panipat Refinery</td>
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<td>Shri Dilwar Singh IOCL-Panipat Refinery</td>
<td>Shri Satendra Verma, IOCL-Panipat Refinery</td>
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<td></td>
<td></td>
<td>Shri Yugander Jetty HPCL-Paharpur, LPG Plant</td>
<td>Shri Sajidur Rahman K, HPCL-Mangalore LPG Import Facility</td>
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<td>Shri Labeed Abdul Baasit ONGC-Sagar Ratna Rig</td>
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<td>Shri Abhai Shukla</td>
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<td>Shri Akshay Pathak</td>
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<td>Shri Samrath Patidar Bharat Oman Refineries Ltd.</td>
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"Tell me and I forget, teach me and I may remember, involve me and I learn."

- Benjamin Franklin
Non-Sparking (NS) tools have been designed for use in potentially explosive environments, where "traditional" steel tools may create sparks. The potential risk of fire and explosion is caused by the presence of combustible or easily ignitable vapours, liquids and dust common in Petroleum industries. For these industries, safety is paramount and Non sparking tools are essential. OSHA (Occupational Safety and Health Administration) has developed best practice guidelines for certain chemicals and processes which calls for the use of non-sparking tools.

Conventionally Non-Sparking Hand Tools are made of the following two materials i.e. Copper Beryllium and Aluminium Bronze.

In solid form and as finished objects, beryllium copper presents no known health hazard. However inhalation of dust or fume containing beryllium can cause the serious lung condition - "chronic beryllium disease". Beryllium can ingress in human body through skin also. The International Agency for Research on Cancer (IARC) lists beryllium as a Group 1 Human Carcinogen. Disposal of damaged tools made out of Cu-Be remain a source of concern. Many countries are thus restricting/curtailing use of Cu-Be.

Due to the above reasons, some users have adopted Aluminium Bronze (Al-Br) for non-sparking tools. However, Al-Br has low tensile strength, hardness and electrical conductivity when compared to Cu-Be. Al-Br tools break very frequently leading to high consumption and risk of injury to the user.

What's New?
DRDO in India has successfully developed a technology to produce Copper Titanium alloy which is a perfect substitute to Copper Beryllium alloy. Copper Titanium Non-Sparking Hand Tools are certified and tested as per IS 4595-1969 Standards and are totally free from beryllium and have high strength characteristics. These tools have similar properties in terms of strength, hardness, elongation and IACS to Copper Beryllium tools.

A typical comparison of various properties of Non-Sparking Hand Tools are tabulated below:

<table>
<thead>
<tr>
<th>Property</th>
<th>Aluminium Bronze</th>
<th>Copper Beryllium</th>
<th>Copper Titanium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield Strength, MPa</td>
<td>250-350</td>
<td>860-1130</td>
<td>880-1150</td>
</tr>
<tr>
<td>Tensile Strength, MPa</td>
<td>600-750</td>
<td>900-1200</td>
<td>1000-1250</td>
</tr>
<tr>
<td>Elongation, %</td>
<td>10</td>
<td>1.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Hardness, HV</td>
<td>190-230</td>
<td>260-385</td>
<td>240-400</td>
</tr>
<tr>
<td>Elec. Conductivity % IACS</td>
<td>13</td>
<td>17-23</td>
<td>17-25</td>
</tr>
<tr>
<td>Magnetic</td>
<td>Magnetic</td>
<td>Non-Magnetic</td>
<td>Non-Magnetic</td>
</tr>
<tr>
<td>Durability</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Cost</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Advantages of Copper Titanium Non-Sparking Hand Tools are as follows:
- Free from health hazards.
- No environmental hazards on disposal after use.
- More yield strength - longer life of tools.
- Non-Magnetic.
- Cost effective when compared with Copper Beryllium tools.

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Live as if you were to die tomorrow. Learn as if you were to live forever.

- Mahatma Gandhi

Learning never exhausts the mind.

- Leonardo da Vinci
SAFETY ALERT

Fire incident in Tank Farm – A case study

Shri Parmod Kumar
Joint Director (Enng.)

Shri M Gupta
Addl. Director (P&E)

Introduction:
Title: Fire Incident at HSD Tank
Result/outcome: Fire. No injuries or causalities were reported.

What happened?
Heavy lightning struck HSD fixed roof tank in 2017 resulting in fire at tank top. The firefighting started by operating group but couldn’t be controlled. Support from mutual-aid partners also arrived at site & assisted in firefighting operation. It was observed that fire water header pressure was about 3.5 - 4.5 kg/cm2 resulting in ineffective firefighting. As the Tank was on full surface fire, therefore controlled burning was allowed. Product evacuation from effected tank & adjacent tanks was carried out. Adjacent tanks were kept under water cooling through sprinkler system. Finally, the fire was put off completely on 4th day.

What caused it?
• HSD Tank was commissioned in 1988.
• During 1st M&I in 1997, 4 Nos. of pitted/ perforated/ cracked plates were replaced with 8 mm thick plate. During 2nd M&I in 2007, complete roof was replaced with 6 mm thick plate due to roof thinning & perforation at several locations.
• During external visual inspections between 1st & 2nd M&I, roof thickness measurement was not carried out.
• Considering the past corrosion rate history of roof plates it can be concluded that the tank- roof plates were thinned out / pitted after about 10 years of operation from 2nd M&I date.
• The root cause of Tank-1A fire was that roof plate thickness must have been less than 4.8 mm which got punctured due to intense lightning strike resulting in fire.

Corrective actions?
• During every external inspection of tanks roof thickness measurement shall be taken as per OISD-STD-129 (For fixed roof storage tanks to be considered inherently self-protecting against lightning, the roof shall have minimum thickness of 4.8 mm).
• M&I of Tanks shall be extended after complete integrity assessment of bottom, shell and roof plates.
• Fire water pressure at the farthest point to be ensured as 7 kg/cm2 at all the time.
• Extensive Fire fighting training to be imparted to all operating personnel.

"The beautiful thing about learning is that nobody can take it away from you."

- B.B. King
FAREWELL

Shri Sudharanjan Sahu, Additional Director (Admin-HR) superannuated from OISD on 31st July, 2017 on completion of his deputation tenure of 4 yrs.

A post graduate in science from Ravenshaw College, Cuttack, Odisha coupled with a LLB Degree from Utkal University, Bhubaneswar, he started his innings with M/S Bharat Petroleum Corporation limited in July, 1984 as LPG Sales Officer in Mumbai LPG Division. At OISD he was responsible for planning and implementation of all HR processes in the Directorate, that includes special projects, organization restructuring, talent acquisition, performance management, career planning, compliance of all statutory requirements and industrial relations.

We wish him a peaceful retired life.

Incoming Officers

Shri HS Chadha
Joined OISD on 3rd July, 2017 as Additional Director (E&P). He is Mechanical Engineer with MBA (Finance). He has 28 years experience in Oil & Gas field with more than 15 years in Offshore. He is an accredited QHSE Auditor and has got Workover Rigs of Assam Asset certified as per ISO/ OHSAS Standards.

Shri Parmanand Singh
Joined OISD on 6th July, 2017 as Additional Director (E&P). He is a Mechanical Engineer from Mangalore University. He has done MBA (Finance & International Mktg.) from FMS, New Delhi. He has 18 years of experience in Drilling (both On-land as well as Off-shore).

Shri Saurabh Kumar Arya
Joined OISD on 6th July, 2017 as Additional Director (E&P). He is a Chemical Engineer from Kanpur University. He has 28 years of experience of Production Platforms, Oil and Gas Processing Plants and Well stimulation services.

Naval Kishor Malik
Joined OISD as Joint director (IT) on 14th September, 2017. He is a Computer Engineer from Pune University. He is also holding certificate in Project Management and Lead auditor in Information Security management System (ISMS-ISO 27001). He has 21 years of experience in the field of IT.
Shri Kailash C Kushwaha
Joined OISD on 1st November, 2017 as Joint Director (PL). He is an Electrical Engineer from REC Bhopal. He has 19 years of experience in Pipeline Operations, Maintenance and ROU.

Shri Gaurav Borah
Joined OISD on 29th December, 2017 as Assistant Director (Admin). He has acquired MBA in Human Resource from Centre for Management Studies, Dibrugarh University. He has 7 years of experience which include working experience in SAP-S&D services in LPG marketing and administration, ancillary, support and personal relationship services in the P&U deptt. of IOCL (AOD)

Outgoing Officers

Shri Varun Prakash
Joined OISD on 1st July, 2010 as Assistant Director (Process & Engineering). He is Mechanical Engineer from Delhi college of Engineering. He contributed a great deal in revision process of OISD safety standards. His expertise was of great help to OISD especially P&E group. He was transferred back to his parent organisation HPCL in August, 2017 to enable him to pursue higher studies abroad.

Shri BK Gupta
Joined OISD on 3rd December, 2012 as Additional Director (Pipelines). He is Electronics & Communication Engineer from Bihar Institute of Technology. His expertise was of great help to OISD in various technical areas includes Integrity Management of Pipelines, Cathodic Protection and Process Safety. He was transferred back to his parent company Indian Oil Corporation on promotion as Head of Western Region Pipelines, Koyali Base.

Shri Rohit Acharya
Joined OISD on 5th May, 2017 as Assistant Director (Process & Engineering). He is Electrical Engineer from NIT, Bhopal (MP). He contributed a great deal in revision process of OISD safety standards. His expertise was of great help to OISD especially P&E group. He was transferred back to his parent organisation HPCL on 5th January, 2018 to enable him to pursue higher studies abroad.
The Safety Council

To ensure proper implementation of the various aspects of safety in the Oil & gas Industry, Government of India had set up a Safety Council at the apex under the administrative control of Ministry of Petroleum & Natural Gas. The Oil Industry Safety Directorate (OISD) assists the Safety Council, which is headed by Secretary, P&NG as Chairman and its members represent the entire spectrum of stakeholders – PSU, Pvt. Sector & JVs – as well as relevant expert bodies. To review the safety performance, the Safety Council meets once a year.

The 34th Meeting of the Council was held on 14th September, 2017.

Key issues discussed & reviewed during the meeting are as under:

- Approval of eight numbers revised/amended OISD Standards/Guideline/Recommendatory practices.
- Analysis of OISD Safety Audits Compliance status (ESA/SSA).
- Analysis of Major Incidents in the Industry over the last three years.

Technical Seminar/ Conference/ Workshops

Technical Seminars/ Conferences/ Workshops for the Oil industry are conducted by OISD to discuss the latest technological developments, sharing of incident experience etc.

Many observations / recommendations being made during OISD audits should have been ideally reflected in the internal audit of the location. Hence need was felt to train the internal auditors of OMC.

- To achieve this one-day workshop for Auditors on "Audit of LPG Bottling Plant" was organised by Marketing Operations (LPG) group of OISD at IOCL LPG Bottling Plant, Bhopal on 21st September, 2017.

The workshop was attended by 23 participants from various locations of M/s. Indian Oil Corporation Ltd.

- Two-day Workshop on ‘Asset Integrity & Safety in E&P Sector’ was carried out at OISD Noida during 4th - 5th December, 2017.
Swachh Bharat Pakhwaada at OiSD

As per the directive of MOP&NG, various activities related to Swachh Bharat Pakhwaada were observed at OiSD during 16th July to 31st July, 2017. The major events like swachhta pledge by OiSDians to keep their premises and surroundings clean, self-cleaning of their respective rooms by all the OiSDians, collection and disposal of e-scrap, cleaning of entire premises by housekeeping staff speech competition on Swachhta Abhiyan for the employees of OISD/ OIDB/ CHT & ISRPL etc. were organized during the Pakhwaada.

Also, a joint tree plantation program was organized by OISD / OIDB / CHT / ISRPL outside the OIDB building. Plantation was followed by Walkathon to spread the awareness to the public on Swachha Abhiyan. Hoardings and banners were displayed.

At the end of the programme on 31st July, 2017, Housekeeping employees were rewarded for their additional efforts during the fortnight for effective cleaning process in and around the premises of OIDB Building.

ED OiSD Shri V J Rao along with his team during a walkathon activity organized during the Swachh Bharat Pakhwaada

हिन्दी पखवाड़ा आयोजन

हर वर्ष की मौटें इस वर्ष भी तेज उद्धरण निदेशक्ति में हिन्दी के प्रचार एवं प्रसार को ओर अधिक बढ़ाया देने हेतु हिन्दी पखवाड़ा का आयोजन किया गया। दिनांक 1 से 19 सितंबर, 2017 के दौरान आयोजित इस पखवाड़े में विभिन्न प्रतियोगिताएं एवं कार्यक्रमों का आयोजन किया गया। इन कार्यक्रमों में विभिन्न क्षेत्रों के अधिकारियों / कर्मचारियों ने बुद्धि कर बाह्य लिया।

पखवाड़ा का समापन दिनांक 19 सितंबर, 2017 को अप्रैल 3.00 बजे एक हिन्दी कार्यशाला के आयोजन के साथ किया गया। इस हिन्दी कार्यशाला का संचालन पेट्रोलियम एवं नृत्य गैस मंडल (राजस्थान) से श्रीमती उषा विजयलक्ष्मी, संगणक निदेशक, श्रीमती शोभना मोहनदास, साहित्य निदेशक एवं श्री जी एस राजन ने किया। मंडल से आए इन अधिकारियों ने अपने विरूद्ध समोक्ष में राजभाषा हिन्दी संयुक्त अधिनियम, नियमों और सरकार सरकार द्वारा समय समय पर जारी महत्वपूर्ण आदेशों का उल्लेख किया और सरकारी क्षेत्र में कार्यरत होने के नाटे उपस्थित अधिकारियों

एवं कर्मचारियों को राजभाषा हिन्दी संबंधी उनके दायित्व का बोध कराया।

हिन्दी पखवाड़ा आयोजन का मार्गदर्शन करते हुए कार्यकारी निदेशक श्री वी जे राम एवं मंडल (राजस्थान) के अधिकारी गण

Rashtriya Ekta Diwas at OiSD

National Unity Day or Rashtriya Ekta Diwas was celebrated, at OiSD, Noida on 31st October, 2017 by remembering the Iron Man and the architect of Modern India Sardar Vallabhbhai Patel on his birth anniversary. The day was marked by taking pledge to uphold the nation’s unity and quiz competition to highlight Sardar’s role at the critical juncture in India’s history.

OiSDians taking the pledge to uphold the nation's unity on observance of Rashtriya Ekta Divas at OiSD Noida on 31st October, 2017.
Observance of Samvidhan Divas at OISD

As per the decision taken by the Government of India, 26th November, 2017, the birth anniversary of the architect of our constitution Dr. B.R. Ambedkar, is to be observed as the Constitution Day or Samvidhan Divas every year. Accordingly, to mark the occasion, the event was organized at OISD. During the event, OISDians after reading out the Preamble to the Constitution, organized a quiz competition on the Constitution and its founders.

Inauguration of 22.32 KW Solar Power Panel for Admin Building Lightning at IOCL, VARANSI LPG Bottling Plant by OISD Audit Team on 23rd August, 2017

“Leadership and learning are indispensable to each other.”

- John F. Kennedy
Safety Audit: IOCL, KARNAL LPG PLANT (18-20.12.17)

Before

After


Before

After