Minutes of the meeting on "Review of the Static & Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004" at PESO, Nagpur on 16th March 2012

Further to the decision taken in the meeting on 13th September 2011 chaired by Shri Chaityana Prasad, Jt. Secretary, DIPP, Ministry of Commerce & Industry, New Delhi and further discussion with the Director, DIPP, meeting of major stakeholders of gas cylinders and pressure vessels were called at headquarter, Nagpur on 16th March 2012 to discuss various amendments to be proposed for the Gas cylinders Rules, 2004 & SMPV(U) Rules, 1981. The meeting was started at 1200 hrs and concluded at 1630 hrs.

The list of participants is attached as annexure I.

Shri T.R. Thomas, Chief Controller of Explosives chaired the meeting. The minutes of the discussions, deliberations and recommendations are as follows:-

1. At the outset, on behalf of PESO, Shri D.K. Gupta, Dy. Chief Controller of Explosives welcomed all the participants from AIIGMA, PSU Oil Companies, manufacturer of pressure vessel, gas cylinders, valves, competent persons and members of industry. He explained that Chief Controller of Explosives has called this meeting to Review Static & Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004 on the initiatives taken by DIPP.

He informed that as per the policy of Govt. of India, the rules are revised from time to time to meet the changing requirements of industry due to technological developments, globalization, opening up of economy including environmental concerns. PESO believes in being part of the process of industrial development and keeping this in view the Gas Cylinders Rules, 1981 were superceded by Gas Cylinders Rules, 2004 & SMPV(U) Rules, 1981 were amended from time to time for introduction of LPG, CNG, Hythane, tube cylinders, cryogenic liquids, composite cylinders, mounded/underground tanks, cavern storages, LOT, ATD, etc.

He explained that the international scenario has not changed much except recent concept of introduction of non-renewable energy resources such as Hydrogen, Bio-gas and most recently Hythane. The Gas Cylinders Rules, 2004 have already been amended to incorporate the mixture of Hydrogen and Methane (Hythane) for automotive use. As such, there has not been further revision of Gas Cylinders Rules, 2004 & SMPV(U) Rules, 1981 except for the minor amendments which may be discussed during the meeting. The review of rules is required to be restricted to only technical up gradation, simplification of procedures and minimum public interface with the authorities. Further, he informed that references are being received wherein it has been observed that some industries including MNCs are taking commercial advantage by distorting interpretation of the rules and resorting to unsafe practices without bothering to the safety issues. They should try to adopt good engineering and safety practices by following international codes and practices which are in fact more stringent than compared to Indian regulations.

It has been observed that the exemption limit enhanced under the Gas Cylinders Rules, 2004 is creating lot of unsafe practices amongst the traders. The traders are storing cylinders without any infrastructure required for safe handling and storage of cylinders.

He brought to the notice of the participants that there have been references from AIIGMA in the month of October 2011 regarding review of Gas Cylinders Rules, 2004 & SMPV(U) Rules, 1981 without specifically mentioning the areas in which amendments in the provisions of Static &

Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004 are required. Similarly, there was representation from GIA on porta cryogenic container issue. Keeping these aspects in view, this meeting is being organized with industry members to discuss and deliberate the various provisions of the said rules for any amendment, if required.

2. Shri T.R. Thomas, Chief Controller of Explosives also welcomed the participants and informed that the origin of this meeting is a follow up of previous meeting which was held at DIPP in the month of September 2011 with representatives from PESO & stakeholders under the Chairmanship of Joint Secretary, DIPP. In fact Shri Chandrakar Bharti, Director, DIPP was expected in today's meeting but due to certain unavoidable circumstances he is not able to participate in this meeting. As already explained by Shri D.K. Gupta, Dy. CCE, the Gas Cylinders Rules, 2004 and SMPV(U) Rules, 1981 were amended time to time keeping in view the technological development in the country. Although the rules are user friendly but at the same time there is a lack of self-regulation in the industry which is defeating the very purpose of government's objective while framing the rules and regulations. He further explained that in this meeting various issues will be discussed and a draft committee may be formulated for onward transmission to DIPP so that the final committee appointed by the competent authority i.e. DIPP will have legal sanctity for the purpose of amendment of SMPV(U) Rules, 1981 & Gas Cylinders Rules, 2004. He reminded that the implementation of Task Force recommendations on Auto LPG was challenged by the Hon'ble Court of Calcutta and direction were passed not to implement such recommendations unless it has legal standing by bringing into the rules. He informed that PESO already received representations and requests from stakeholders on certain points for changes and some points in PESO's considerations due to the changed technological scenario. All those points will be presented in the meeting by Shri D.K. Gupta, Dy. CCE in his power point presentation. After the presentation the additional points from the stakeholders will be noted. He further appealed to the participants to be attentive during the power point presentation and participate in the deliberations to contribute for the objective of this meeting so that the recommendations can be forwarded to DIPP for further necessary action.

3. Shri D.K. Gupta, Dy. CCE gave a power point presentation on Review Static & Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004. The excerpts are given below:-

- In exercise of powers vested in Section 17 of the Explosives Act, 1884 vide Notification No. M-1272(1), dated 28th September 1938 declared "any gas when contained in any metal container in a compressed or liquefied state" to be **'an explosives**' within the meaning of Explosives Act, 1884.
- Both SMPV(U) Rules, 1981 and Gas Cylinders Rules, 2004 are notified under Explosives Act, 1884.

Gas Cylinders Rules, 2004

- DIPP constituted an Expert Group to review the Gas Cylinders Rules, 2004 in the backdrop of technological developments, international industrial trends and practices triggered by economic liberalization and globalization. AIIGMA played a major role in formulation of rules. The Gas Cylinders Rules, 2004 were notified vide GSR-637(E), dated 21st September 2004.
- Gas Cylinders Rules, 2004 are primarily aimed at prevention of accidents by ensuring safe design, manufacture, inspection and quality control of cylinders, valves and regulators
- Rules also cover safety aspects concerning filling, possession, transport and import of compressed gases in cylinders

- Rules are in consonance with the policy of Government of India to make the rules simpler and user friendly
- The thrust being mainly more on **self-regulation** in tune with modern concept of management being followed internationally
- The rules also aimed at making the overall industrial environment conducive for a faster growth and investor friendly in the country
- Composite cylinders and containers up to 2500 liter water capacity and LPG/CNG as auto fuel Composite cylinders under Rule 2.
- Rule 47 – The requirement of obtaining prior approval from Chief Controller in respect of non-toxic non-flammable gases is made not mandatory
- Rule 44 – Exemption limit for licence Non toxic non-flammable, non-toxic and flammable, dissolved acetylene enhanced
- Maximum period for which licences granted/renewed – 10 year
- Rule 55 – Renewal of licence
- Change of ownership - Licences are transferred to the new owner by way of an amendment of the licence.
- Rule 60 :- The licence can be transferred to the legal heir by a simple amendment of the licence
- Rule 28 - It is not mandatory to obtain prior permission from Chief Controller of Explosives for conversion of cylinders from one gas service to another within gas group of Nitrogen, Argon, Helium, Oxygen and compressed air

Amendment to Gas Cylinders Rules, 2004

- Considering developments and introduction of hydrogen and methane mixture as auto fuel as required by the Ministry of Surface & Transport, Automotive Research Association of India (ARAI), Road Transport Authority, etc., the **Rule 2 (viii)** was amended incorporating the following :-
  "**suitable mixture of hydrogen and methane" after the word "methane"**
- Rule 66 incorporating "provided that the reasons for such suspension or modification are recorded in writing" and the same was published on 24th October 2007 as per Lok Sabha Secretariat recommendation

Amendment proposed

- Rule 24(2) – Cylinders subjected to action of fire – The rule have to be amended for incorporation of the following :
  "dissolved acetylene cylinders which have been damaged by fire shall be condemned and destroyed by person conversant with hazards involved in the handling of dissolved acetylene cylinders and also capable of handling a situation arising out of accidental explosion of cylinders during condemnation"
- The feasibility may be explored to amend the said rule for incorporation of the qualification and experience, etc. of the inspecting authority

Issues for Discussion

- Introduction of cryogenic liquids
- Definition of Liquefied gas to be harmonized as per ISO standard- Terminology
- Test Pressure - To be replaced with Test Pressure as per the standard to which the cylinder is made

- Rule 4 – to be amended to incorporate valves conforming to other standards as approved by the Chief Controller
- Rule 6 – Marking on cylinders -
- Marking of minimum wall thickness, H for hydrogen compatible cylinder, cylinder inlet thread to be stamped on the cylinder shoulder
- Rule 8 – Identification colours
- Colour coding of aluminium alloy cylinders, LPG cylinders of parallel marketeers
- Rule 19(1) – To include list of other highly toxic gases for restriction of filling in welded cylinders similar to rule 15(4).
  The working pressure for low pressure and high pressure liquefiable gases for use of welded and seamless cylinders may be defined.
- Rules 15- General Precautions, Rule 18- Handling & Use- to be amended for minimum infrastructure comprising of neutralisation/ scrubbing system, technical manpower, training etc
- Safety distances for toxic and flammable gas storages to be incorporated.
- Traders – Exemption limit and import conditions to be reviewed
- Rule 27 – To be corrected to read as "the owner of a cylinder shall keep **record** for the life of each cylinder….."
- Rule 28 – Chart to be provided on allowable conversion from one gas to other including conditions.
- Rule 35 – Schedule IV- to incorporate new standards, water jacket method, ultrasonic flaw detection, cylinder condemnation facility, painting, degassing facilities etc. Certification of test certificates by competent persons may be incorporated.
- Cylinder testing station to be made mandatory during grant of licence.
- Rule 36 – Service life of CNG storage/cascade cylinders may also be incorporated.
- Rule 44 for deletion "for filling and" in the title. Cylinder connected to the manifold for immediate consumption excluding standby may be exempted under the said rule. For LPG cylinder manifold IS:6044 Part 1 may be incorporated.
- Provision for NOC to be incorporated for Form 'F'/LPG cylinders storage shed.
- Rule 49 regarding application for grant, renew of licence to incorporate list of documents to be submitted for grant of licence.
- Concept of safety certificates and recognition of competent persons for Form 'E' & 'F' and 'G' licences
- Provision for quality of CNG to be incorporated for CNG dispensing station (condition of licence).
- CNG Task Force Committee recommendation to be incorporated. Requirement for External Safety Audit for Form 'G' to be incorporated.
- Reference of various national and international standards including OISD standards to be incorporated in the relevant provisions related to LPG & CNG.
- Schedule V to be amended for authority empowered to grant licence.
- Licence endorsement provision to be made in both the rules.
- All the relevant executive orders issued for Gas Cylinders Rules, 2004 & SMPV(U) Rules, 1981 by PESO may form part of the respective rules.
- Porta-cryo containers -
- The cryogenic containers are designed to transport, store, and dispense liquid oxygen, nitrogen, argon, etc. in their liquid state only.
- Such containers are also called as low pressure container or atmospheric containers and are normally designed for pressure in the range from 0.5 bar to 1.5 bar gauge.
- Since the water capacity of these containers is less than 1000 liter therefore, exempted from the purview of SMPV(U) Rules, 1981.

- Further, the working pressure in these containers is not exceeding 1.5 bar gauge, such containers does not come under the definition of gas cylinder under Gas Cylinders Rules, 2004.
- During the visit of various industries by the officers of this organisation, it has been observed that cryogenic containers are installed in various user locations such as hospitals, small industries, etc. which are convenient to the user and supplier without adhering to any safety norms and are filled with mobile road tankers licensed in Form IV of SMPV(U) Rules, 1981.
- As per condition (5) of the said licence, the licensed vehicle shall not be loaded or unloaded except in a place which is approved within premises licensed for the purpose under the rules by the Chief Controller.
- Therefore, unloading of such licensed road tankers to the small cryogenic liquid containers violates the condition (5) of the licence as mentioned above and fraught with safety issues.
- It has also been observed that the vacuum insulated cryogenic liquid cylinders, with pressure ratings more than 1.5 kg/cm2 ranging from 3 bar to 24 bar, are being misused widely for filling and storage of liquid Oxygen/Nitrogen/Argon and such cryogenic liquids are then vapourised in the same cryogenic cylinder through in-built pressure building circuit which allow rapid pressure rise and high liquid transfer rate thereby using the cryogenic liquid cylinders as compressed gas cylinders thereby jeopardising safety
- These small installations without vapourizers are installed while other cryogenic installations are with vapourizers as per standard engineering practices. The decanting of liquid to the small cryogenic vessel is fraught with danger and jeopardize public safety.
- Such cryogenic liquid cylinders when used for compressed gas application attract the provisions of the Gas Cylinders Rules, 2004.
- The prevailing practice of use of porta cryo as static vessel and filling thereof by road tanker licensed in Form IV of SMPV(U) Rules, 1981 without observing necessary safety distances is also not conducive to safety.
- There have been some incidences in the past elsewhere in the world causing a catastrophic failure by excessive pressure in the cryogenic container during filling operations which focused the attention of the gas industry on the fact that a cryogenic storage tank/container/cylinder can be pressurized above its bursting pressure during filling including filling incorrectly industrial nitrogen in the medical oxygen container.
- A meeting was held with Gas Industries Association on 8th August 2011 to discuss the issues related with cryogenic containers less than 1000 liter water capacity.
- It was decided that pending amendment of the SMPV(U) Rules, 1981, such cryogenic container installation may have the layout including minimum safety distances as per Table 6 of SMPV(U) Rules, 1981 including observance of 4.5M safety distance from the centre of hard stand (which are lesser than the requirements of NFPA 55) so that the road tankers licensed in Form IV can be permitted for unloading into such cryogenic containers without compromising on the safety aspects thereby ensuring public safety which was agreed by the Gas Industries Association.
- Further, it was decided that the approval of design, manufacture and testing of cryogenic container/cylinder may be considered as per the provisions of the Gas Cylinders Rules, 2004 or SMPV(U) Rules, 1981.
- The Gas Industries Association proposes to get approvals for filling of these small size vessels, already installed at various locations, without adhering to any safety norms with respect to cryogenic tankers violating the conditions of the tanker licence and short cutting of safety requirements.
- The Cryogenic containers are designed as per

  - BS EN 1251-3:2000, DOT:4L, TC-4LM(Canadian),

- 49 CFRCh.1, ASME, GB:5458-1997 and other international standards typically of diameter ranging from 508mm to 660mm, height 1200mm to 1500mm and service pressure up to 34.5 bar water capacity 1000 liters.
- As per the information available , the manufacturer of the cryogenic containers includes M/s. Taylor Wharton, USA, M/s. Chart Industries, USA, M/s. Inox Air Products, India, M/s. Chart Cryogenic Engineering Systems, China, M/s. Chengdu Golden Phoenix Liquid Nitrogen Container Co. Ltd., China under third party inspection agencies such as M/s. Apragaz, M/s. One CIS Insurance Co., Boston, etc.

- There are various international codes/regulations concerning safety aspects of cryogenic containers such as

- NFPA 55 – Compressed Gases and Cryogenic Fluids Code 2010 Edition
- EIGA Document No. IGC Doc. 93/03/E - Safety Features of Portable Cryogenic Liquid Containers for industrial and medical gases,
- US Code Chapter 32 on Cryogenic Fluids (New York City Fire Code), 49 CFRCh.1,
- AIGA Document No. AIGA 054/08 – Prevention of Excessive Pressure during Filling of Cryogenic Vessels,
- Keeping in view the national and international standards/codes and regulation, the static installations comprising of portable cryo container of water capacity up to 1000 liter or otherwise may have the layout of the installation as per the provisions of SMPV(U) Rules, 1981 and approval of design & manufacture & testing of the cryogenic container/cylinder as per the provisions of SMPV or Gas Cylinders Rules
- **LNG** bottling and distribution proposal, LNG re-gassification & cylinder filling proposals.

Review of SMPV(U) Rules,1981

- After notification of SMPV(U) Rules, 1981, minor amendments with respect to definitions of bottling plants, competent person, compressed gas, critical temperature, auto LPG etc. were made in the said rules in the year 1993 & 2000.
- Further, major amendments were done in the year 2002 vide G.S.R. 372(E), dated 17/05/2002 for incorporation of cryogenic liquid, cryogenic pressure vessel including Table 6 for cryogenic liquids.

Issues for Discussion

- Cryogenic containers of less than 1000 liter water capacity and their filling in pressure vessel installation
- Definition of cryogenic pressure vessel to be amended to include cryogenic containers of less than 1000 liter water capacity
- Provision for refrigerated storage to be incorporated
- One more table may be considered for LNG and other refrigerated storage.
- Static vessels with SRV of tanker type to be replaced with angle type valve. All existing tanker type SRV to be replaced on completion of 10 yrs of their service.
- Rule – 19[(1A)] to be amended for periodic hydro test of liquid Carbon dioxide vessel and periodicity including procedure of inspection & testing of mounded and underground LPG/Propane storage tanks to be included
- Notification No. S.L. 557(E) dated 26/07/1994 regarding exemption for hydro test of Horton spheres for Ammonia to be incorporated in Rule 19.
- Notification No. S.O. 705(E), dated 17/08/1998 regarding installation of mounded & underground vessels to be incorporated.

- Mounded storage tanks may be extended to cover other compatible flammable gases.
- Rules for transport of compressed gases to be amended to include provision for unloading pump in cryogenic liquid road tankers
- Introduction of internal excess flow valve instead of conventional external type excess flow valve in order to prevent release of hazardous chemicals during accident due to shearing off protruded part of the valve
- Periodicity of inspection & testing of Excess Flow Valves installed in flammable & toxic/ corrosive static vessels during periodic testing
- Rule 28 to be amended for quantification of fire fighting facilities for general installations which are not covered under OISD-144 & 169
- Provisions relating to competent persons/inspectors to be suitably amended for incorporation of generation of certificates online through computer module, fixing of age limit, requirements of photographs, etc.
- Approved degassing station to be linked with recognition of competent persons.
- Appendix III to be revised for degassing facilities including age of competent person, etc.
- Safety distance tables to be updated in the light of OISD codes.
- References of various national and international standards including OISD standards to be incorporated in the relevant provisions related to LPG, CNG & AUTO LPG (OISD-144, OISD-150, OISD-169, OISD-179, OISD-210, NFPA, etc.)
- Relevant recommendations of the Task Force Committee on Auto LPG to be incorporated in the rules
- Installer to be excluded from the purview & operators to be brought under the rules
- Period for grant/renewal of licence to be increased
- Revision of fees
- Provision to include protection of action in good faith to be incorporated

4. Shri T.R. Thomas, Chief Controller of Explosives invited the view of the participants.

5. Shri Karan Bhatia, Uttam Air Products, Faridabad appreciated the efforts taken by PESO for review of the Rules and endorsed the views regarding unsafe practices being followed by the traders of gas cylinders. He opined that traders should be brought within the purview of licence for storage under the Gas Cylinders Rules, 2004 irrespective of the numbers of the cylinders so as to ensure public safety. He suggested that the exemption limit should be only for end users and filling plants and not for the traders. He informed that obsolete cylinders/service life expired are entering the market through traders for industrial application. CCE informed that it is the responsibility of the licensed filling plant to ensure that such cylinders and test due to cylinders are not filled in the filling plants. Therefore blaming traders will not suffice the purpose. Shri Karan Bhatia also requested that the service life of the industrial cylinders should also be incorporated in the rules as in the case of CNG ONB cylinders. He also suggested less than 0.5 liter water capacity filled with 200 bar pressure should be covered under the Gas Cylinders Rules, 2004. He was of the opinion that air receiver which are being used for many industries should be covered under SMPV(U) Rules, 1981.

CCE informed that air receivers, autoclaves do not come under the purview of the SMPV(U) Rules, 1981. Further, since the air receivers are the part of the process and storage of compressed gas for consumption normally do not exceed 16 hours and therefore are exempted from the purview of the rules. Such receivers and vessels are covered under Factories Acts and the rules framed thereunder.

6. Shri Saket Tikku, President, AIIGMA applauded the efforts of PESO for arranging such meeting comprising of various stakeholders at single platform. He was of the opinion that the traders of gas cylinders should also come under the purview licence under the Gas Cylinders Rules, 2004. He further informed that monolithic porous asbestos mass should be replaced with environment

friendly glass fiber base porous mass as the use of asbestos is hazardous to the health of the workers working in such processes resulting into lung diseases, etc. The use of asbestos is already banned in developed countries. He was of the opinion that no new DA cylinder should be manufactured with asbestos as porous mass and the old cylinders should be phased out in a time bound period. He further informed that the majority of the members of AIIGMA are of the opinion that there is no need to change of rule as far as porta cryo is concerned. Such containers may be covered under SMPV(U) Rules, 1981 with some riders like safety distances, etc so as to ensure public safety.

7. Shri M.K. Divekar of M/s. Mec Elec suggested that Rule 12 & 36 of SMPV(U) Rules, 1981 pertaining to design of pressure vessel may be amended to incorporate certification of quality assurance procedures/documentation and necessary facilities for fabrication of pressure vessels by internationally accreditated certification agencies. He also suggested that provision for suitable corrosion allowance for LPG bullets and LPG tankers may also be incorporated in the design. He opined that provision for assessing the conditions of manhole cover studs and nuts during hydro testing of the vessel is required to be incorporated in rule 19 & 20 of the said rules.

8. Shri Alok Gupta, DGM, HPCL, Mumbai appreciated the efforts taken by PESO for organising this meeting. He informed that most of the points have already been covered under the power point presentation. However, certain important codes such as IS:6044 Part 1 for multi cylinder LPG installations may be incorporated in the Gas Cylinders Rules, 2004. Also, the detailed elements for QMS may be incorporated in Schedule IV of the said rules. He further informed that proposed amendments will be forwarded to Shri D.K. Gupta, Dy. CCE in due course of time. The representatives of M/s. IOCL & BPCL endorsed the views expressed by Shri Alok Gupta.

CCE informed that Schedule IV of the Gas Cylinders Rules, 2004 is proposed to be systematically reviewed to cover various aspects of cylinder testing station.

9. Shri V.V. Ramana, Country Manager, Asia of M/s. BOC stated that most of the points pertaining to Gas Cylinders Rules, 2004 have already been covered by Shri D.K. Gupta, Dy. CCE during his presentation. He suggested that separation distances/safety distances in respect of DA plant are required to be reviewed in wake of number of accidents in DA plant. He also requested to prescribe minimum safety distances for storage of gas cylinders as prevailing in other countries conforming to various international standards. He also suggested that contents of the warning label under rule 9 of the Gas Cylinders Rules, 2004 are required to be reviewed for incorporation of hazchem, UN No., scheme of testing in line with ISO:7225:2005. Various important IS & ISO Standards need to be incorporated in the rules. Lot of cylinders including hydrogen cylinder cascade, CNG cascades are in operation for which there are not rules and regulation regarding mechanical design of such cascades. The provision for approval of cylinder cascades may be incorporated in the rules. He also stressed on the need for bringing less than 500 ml containers under the purview of the Gas Cylinders Rules,2004 as lot of such small containers (thousands and more) filled with Propane/Butane are stored at one place and hence fraught with danger.

CCE appreciated the concern and informed that necessary amendments are required to be done for approval of cascade cylinders as well issue of less than 500 ml containers.

10. Shri D.K. Garg, Kamrup Industrial Gases Limited, Kolkata stated that some provisions may be made in the Gas Cylinders Rules, 2004 for providing flash back arrestor especially for flammable gases. Further, he informed that there are a lot of traders who are importing carbide in huge quantity without licence. CCE informed that this meeting is review of SMPV(U) Rules, 1981 & Gas Cylinders Rules, 2004 and carbide do not come under the purview of the said rules.

11. Shri Manvinder Singh, M.D., Bhiwadi Cylinders, Bhiwadi informed that there is a lot of demand for LPG cylinders for fork lift used as material equipments in the industries. Some provision for the same is required to be in the Gas Cylinders Rules, 2004 as is done in case of Auto LPG. He was also of the opinion that the limit for filling pressure/working pressure in respect of welded cylinders may be defined in the Gas Cylinders Rules, 2004 to prevent confusion in the user industry. Necessary guidelines/regulations of IMDG code may be referred while reviewing the said rules. He also suggested to define the service life of cylinders.

12. Shri Pramod Samvatsar, Director, Everest Kanto Cylinders Ltd., Mumbai has stated that most of the points have already been covered in the power point presentation. He suggested that definition for porous mass need to be aligned with EN:13807:2003 wherein multi components substance introduced to allow absorption of the solvent and the acetylene gas. He was of the opinion that under the definition of gas cylinders, the water capacity needs to be further enhanced in case of tube cylinders to compete international market. He also suggested certain amendments in Clause 4 with respect to valve for CNG onboard cylinders, Clause 6 (ii) to incorporate date of expiry for CNG onboard cylinders and Auto LPG containers, Clause 7 – temperature and pressure range for CNG valve PRD needs to be mentioned. He also suggested to amend Clause 8 for the colour coding of the cylinder for mixture gases. Sl. No. 1 of Schedule III may be modified to incorporate the name of the manufacturer. He informed that other amendments will be forwarded to Shri D.K. Gupta, Dy. CCE for perusal and consideration.

13. Shri Sanjay Mande, Director, Rama Cylinders Pvt. Ltd., Mumbai suggested that Schedule I is required to be updated from time to time. The service life of industrial cylinders may be fixed and incorporated in the drawing. The other amendments required have already been forwarded to Shri D.K. Gupta, Dy. CCE for necessary action.

14. Shri K.H. Vaidyanathan, Vice President, Euro Cylinders Pvt. Ltd., Mumbai suggested that porta croyo containers should be in line with international regulation and code of practices.

15. Shri Milan Sarkar, Praxair India Ltd., Bangalore suggested to incorporate more elaborated user guidelines for handling and storage of cylinders. Reference of ISO standard for transportation of cylinders may be incorporated. He also suggested to incorporate guidelines for hose/tube for high pressure cylinders connected to the manifold. Guidelines for disposal of acetylene cylinders in line with international guidelines may also be incorporated in the rules. He informed that Praxair will abide by the decision of PESO for porta cryo containers observing the relevant rules and regulations.

16. Shri B.R. Gupta, Krison Engineering suggested that the concept of mounded storage tanks may be extended to other gas applications.

17. Shri J. Vedagiri of BPCL, Mumbai intimated that the views of PSU oil industry have already been communicated by Shri Alok Gupta of HPCL in this meeting and endorsed the views.

18. Shri Deep Roy, Chandra & Company, Mumbai endorsed the views of PESO for installation of internal excess flow check valve. However, he informed that standardization is required to be made with respect to flow rate of LPG required by the bottling plants. He further suggested that provision regarding cathodic protection approval during initial layout approval and auditing of cathodic protection may be incorporated in the SMPV(U) Rules, 1981. CCE informed that the installation of cathodic protection is a part of good engineering practice and is the responsibility of the industry to ensure that the same are working efficiently.

19. Shri S. Pant, IGL, New Delhi said that necessary changes with respect to Schedule IV regarding ultrasonic thickness monitoring and flaw detection to be incorporated and also the service life of CNG cascade cylinders to be fixed as is done in the case of CNG ONB cylinders. CCE communicated provisions in the Gas Cylinders Rules, 2004 are required to be made more stringent to ensure that the cylinders due to testing are not filled at the CNG/Auto LPG dispensing stations and filling plants in the interest of public safety.

20. Ms. Poonam Singh, Anand Gases India Pvt. Ltd., Gurgaon requested CCE for more clarify on 14th October circular regarding porta cryo containers. She said that industry is still installing the porta cryo and such containers are being illegally filled. CCE informed that she may supply the list of such premises for taking necessary action in the matter.

21. Shri Raj Kumar of Lloyd's Register suggested to include the sizing of the safety valves in the SMPV(U) Rules, 1981.

22. Shri Y.K. Behani of M/s. Techno Valves, Kolkata suggested to provide provision for bursting disc in the valves of high pressure liquefiable gases such as Nitrous Oxide, SF6, etc. He also suggested to incorporate design of two piece spindle valves in the Gas Cylinders Rules, 2004. He informed that remaining amendments required to be incorporated has already been forwarded to Shri D.K. Gupta, Dy. CCE.

23. Shri Atul Kharate – Senior Manager, Operations, SHV Energy Private Limited suggested to include service life of LPG cylinders. He also suggested to review the qualification of competent person under Appendix II for selection of competent persons. He also endorsed the views of PESO for incorporation of the procedure of testing of mounded storage tanks in the SMPV(U) Rules, 1981.

24. Shri Amit Malik, DGM, Adani Gas Ltd., Faridabad suggested to incorporate inter distances between CNG cascades in the condition of Form 'G' licences of Gas Cylinders Rules, 2004 in line with international regulation/standard.

25. Shri Vinod Agarwal, Explotech Engineers, Nagpur suggested to incorporate a uniform system of punching of identification number on the vessel manholes in the SMPV(U) Rules, 1981 as different manufacturers are resorting to there own method of punching ID number at various locations on manhole which is not the fixed part of the vessel.

26. Shri A.K. Niyogi, Vice President (Engineering), Inox India Ltd. suggested that ISO framed tankers i.e. ISO containers are not covered under licence in Form IV of the SMPV(U) Rules, 1981. CCE informed that this matter will be reviewed during amendment of the rules.

27. While thanking the participants for their active participation in the meeting and giving valuable suggestions, CCE suggested to formulate a draft committee comprising of various stakeholders from the respective field so that the composition of the committee may be forwarded to DIPP for further review and finalization. Accordingly, a draft committee was formulated comprising of the various stakeholders is enclosed as annexure II.

28. Ms. Poonam Singh, Anand Gases India Pvt. Ltd., Gurgaon showed to CCE some of the photographs of the unsafe installations of cryogenic containers which were installed below the high tension line, adjacent to the public assembly, below the fly over, etc.

29. CCE clarified that the porta-cryo containers are in use in this country for more than a decade as Dewar containers operating at atmospheric pressure and hence were exempted under the Gas Cylinders Rules. These cryogenic containers are designed to transport, store, and dispense liquid oxygen, nitrogen, argon, etc. in their liquid state only. Since the water capacity of such container was less than 1000 liter, therefore, such containers do not attract the provisions of SMPV(U) Rules, 1981. These small sized vessels are meant for filling at the cryogenic gas plant and to be transported to the use locations. However, it has been observed in the recent past that porta-cryo of less than 1000 liter water capacity operating pressure range from 5 bar to 20 bar are being installed as static vessel without observing any safety distances in the hospitals and other public places thereby endangering safety. Such containers with in-built vapourization mechanism having pressure rating more than 1.5 Kg/cm^2 containing liquid as well as compressed gas is deemed to be a gas cylinder. Therefore, approval of the same is required under the Gas Cylinders Rules, 2004 for porta-cryo containers and for static installation under SMPV(U) Rules, 1981, as the case may be. The unapproved cryo containers are required to be destroyed. He also informed that the details of the internationally recognized fabricators of cryo containers have already been covered by Shri D.K. Gupta, Dy. CCE during his presentation. CCE informed that pending review/amendment of the Gas Cylinders Rules, 2004 & SMPV(U) Rules, 1981, the cryogenic container installation (less than 1000 liter water capacity) shall be as per the provision of the SMPV(U) Rules, 1981 observing safety distances mentioned in Table 6 of the said rules including safety distance required for loading/unloading vehicles.

30. Shri Karan Bhatia, Uttam Air Products, Faridabad informed CCE that there are thousands of cryogenic installation/containers of less than 1000 liter water capacity in the country. He requested CCE to get some of his installations (around 20 numbers) inspected by Jt. CCE, NC, Faridabad to ascertain the status of safety. CCE agreed for his suggestion.

The meeting concluded with thanks to the Chair.

Meeting on Review of the Static & Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004 at PESO, Nagpur on 16th March 2012

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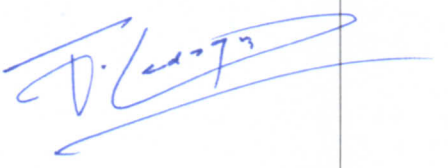
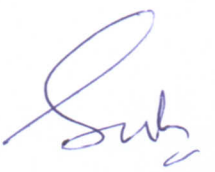
40	J. VEDAGIRI Bharat petroleum corporation ltd MUMBAI vedagirij@bharatpetroleum.in 9594096282	
41	SANJAY PHULLI Bharat Petroleum Corpn Ltd, Mumbai phullis@bharatpetroleum.in 9819709408	
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Annexure II

Draft committee for review of Static & Mobile Pressure Vessels (Unfired) Rules, 1981 and the Gas Cylinders Rules, 2004

Sl. No.	Name		Name of the organisation/association
1	Shri T.R. Thomas, Chief Controller of Explosives	Chairman	PESO
2	Shri Chandrakar Bharti, Director	DIPP, Observer	DIPP, M/o Commerce & Industry, New Delhi
3	Shri D.K. Gupta, Dy. Chief Controller of Explosives	Member Secretary	PESO
4	Shri Saket Tikku, President	Member	AIIGMA + 2 members
5	Manvinder Singh,	Member	LPG Cylinder Manufacturers Association
6	Shri V.V. Ramana	Member	M/s. BOC India Ltd.
7	Shri Pramod Samvatsar, Director	Member	Everest Kanto Cylinders Ltd., Mumbai
8	Maharashtra Gas Association Society	Member	
9	Shri. Neeraj Mittal	Member	North India Gas Manufacturers Association
10	Shri Nitin Shah	Member	Fire Protection Association of India
11	Shri M.K. Divekar	Member	Competent Person under SMPV(U) Rules, 1981
12	Shri A.K. Niyogi	Member	M/s. Inox India Ltd.
13	Shri V.N. Diwakar	Member	M/s. SHV Energy Pvt. Ltd.
14	Shri Paresh Veera, Green Globe	Member	CNG Cylinder Testing Station
15	Shri Alok Gupta,	Member	HPCL
16	IOCL, Nasik	Member	
17	Shri D.K. Garg	Member	Kamrup Industrial Gases Limited, Kolkata (DA manufacturer)
18	Shri Amit Malik, DGM,	Member	Adani Gas Ltd.
19	Shri Manjit Singh,	Member	IGL
20	Shri Sachiv Parekh	Member	M/s. Gas Technologies of India
21	Shri Sanjay Naphade	Member	M/s. Rama Cylinders Pvt. Ltd.,
22	Shri Milind Sarkar	Member	M/s. Praxair India Ltd.
23	Shri V. Agarwal	Member	M/s. Explotech Engineers