A FOX IN THE HEN HOUSE:

MADE-TO-ORDER SCIENCE AND INDIA'S ASBESTOS POLICY

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Document endorsed by:

All India Trade Union Congress; Centre for Indian Trade Unions; Chennai Metropolitan Constructions and Unorganised Worker's Union; Hind Mazdoor Sabha; Krantikari Kamgar Union; New Trade Union Initiative; Nirman Mazdoor Panchayat Sangam; Trade Union Centre of India; Asian Network for the Rights of Occupational Accident Victims; Ban Asbestos Network of India; Occupational Health and Safety Association; Occupational Health and Safety Centre; People's Training Research Centre.

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1. Introduction

In 2004, the Indian Ministry of Chemicals and Fertilisers commissioned the National Institute of Occupational Health (NIOH), a premier research institute under the Indian Council of Medical Research (ICMR), to conduct a study titled *Implementation of Rotterdam Convention on Prior Informed Consent Procedures- Study of Health Hazards / Environment Hazards resulting from use of Chrysotile Variety of Asbestos in the country.*

The study was commissioned in the light of the proposed inclusion of chrysotile (popularly known as white asbestos) in the Prior Informed Consent (PIC) list of the Rotterdam Convention, which was recommended in 2005 and 2006 by the Chemical Review Committee of the Convention. On the face of it, the Government's decision to base its position on science is laudable. However, documents obtained through the Right to Information (RTI) Act reveal that the Government is conducting the study merely to justify its position that white asbestos does not pose an unmanageable risk. The made-to-order study, partly funded by the asbestos industry, is being tweaked by a review committee some of whose members are representatives of the asbestos industry. At no point in the study will members of public, workers' organizations or independent physicians be allowed to comment.

This is not surprising because India, along with Canada and other chrysotile-producing countries, has displayed a hard-line pro-asbestos stance at the last two Conferences of Parties (COP) to the Rotterdam Convention. India followed Canada, its second largest supplier of chrysotile, in opposing the inclusion of chrysotile in the PIC list. So why this study? Why create such an elaborate façade to cover up a deeply entrenched position? Because India wants to look respectable, rational and scientific when it goes out to the next COP. Ostensibly, this study would form the "scientific" basis for India's position on PIC listing of chrysotile.

2. Cooking the Books-Why this Study is a sham!

Judging from the available information, mostly minutes of the review committee meetings of the study and some internal communications, the directions and "scientific validity" of the study are highly dubious:

A. Predisposition of the Study: "the deliverables will include generation of data which would justify the safe standards of its usage as also the reasons/rationale justifying its non-inclusion/or otherwise in the PIC ambit…"- *Letter dated 24.4.2006 from Under Secretary to the Government of India, Dept. of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilisers to Director, NIOH.*

B. Conflict of Interest:

• **Industry funded:** "The government will contribute Rs 43.66 lakhs, while The Asbestos Cement Product Manufacturers Association (ACPMA) would contribute Rs 16.00 lakhs towards the total cost of the study".– *Letter from Under Secretary to the Government of India, Dept. of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilisers to Director, NIOH in a letter dated 24.4.2006*

• **Composition of Review Committee:** Representatives from the industry dominate the Review

Committee meetings with 50% representation from the industry. The remainder includes bureaucrats from the Ministry of Chemicals and scientists from NIOH. There is no representation from independent public health scientists, trade unions or public interest groups. – *Minutes of the meeting of Review Committee 14.9.2006, 18.4.2007, 7.11.2007*

• **Industry consultations/facilitations:** In almost every meeting of the review committee, the conditionality for industry consultation prior to finalization of the study report is emphasized:

i. "The report will be finalized after due discussions with the asbestos industry."-*Minutes of the meeting of Review Committee dated 19.12.2006*

ii. "It will specifically indicate as to how technology has made working conditions better. The same will include relevant photographs showing protective measures being undertaken"-*Minutes of the meeting of Review Committee dated 18.4.2007.*

iii. "After submitting the draft report, NIOH will organize a national workshop to discuss the findings with the relevant industry stakeholders and based on the feedback the final report will be prepared" – *Letter from Under Secretary to the Government of India, Dept. of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilisers to Director, NIOH in a letter dated 24.4.2006*

iv. "The asbestos industry will formulate the proposal for organizing a meeting of interested state parties so as to formulate a coordinated stand on the usage of chrysotile asbestos in early February. In this meeting important chrysotile asbestos producing and consuming countries will be invited so as to evolve a consensus." -*Minutes of the meeting of Review Committee dated 7.11.2007*

v. "The asbestos industry will facilitate undertaking of study on socio-economic impact of chrysotile usage. The Dept. of Chemicals and Petro chemicals will facilitate the same, if required." -*Minutes of the meeting of Review Committee dated 7.11.2007*

C. Doctoring the report: A copy of the report on a study of Everest Industries (an asbestos roofing, sheet and pipe manufacturing factory in Kolkata, West Bengal) obtained from NIOH under RTI showed "about 32% of the workers with impaired lung function. The major abnormality was restrictive type."- *Minutes of the meeting of Review Committee dated 14.9.2006.* These results had obviously upset the industry and the government. NIOH officials on condition of anonymity informed activists about a visit by Everest Industry officials to NIOH after the study results were revealed in the review committee meeting in 2006. In every subsequent meeting of the review committee, NIOH was asked to explain the reasons for detecting such high level of abnormalities-"NIOH was requested to incorporate scientific justification for the abnormalities and indicate whether abnormalities are due to absorption of asbestos or due to some other factors supported with scientific reasoning." The Committee finally decided that "S. Ganesan of ICC (Indian Chemical Council) and NIOH representatives will redraft/re-word the Kolkata report keeping in view the international sensitivities." - *Minutes of the meeting of Review Committee dated 18.4.2007*

D. Industry Science: Not only is the industry being consulted on the study, it is also providing the science for it. "The asbestos industry will make available the scientific data relating to effect of usage of Chrysotile of human health and environment as available with them to the department for submission to the Chemical Review Committee under PIC ambit (sic)" according to *the minutes of the meeting of the review committee held on 16.6.2005.* There is no way of knowing the extent to which the industry data will be selective, and without knowing that it is impossible to confirm whether industry's input to

the study will be truly representative of industry's actual experience and knowledge.

E. And what scientific data does the industry provide to the Indian government?—*Understanding Chrysotile Asbestos: A New Perspective Based Upon Current Data* by a freelance toxicologist Dr D.M. Bernstein. A Switzerland-based industry apologist, Dr Bernstein is known for doing "industry-sponsored" science for the (Canadian) Chrysotile Institute and has often attended international scientific meetings to advocate the "innocence" of chrysotile. Bernstein contends that chrysotile is "safer" because animal studies in rats show that chrysotile fibers are removed faster from the body than amphibole fibers and thus do less damage. Bernstein criticizes epidemiological studies that have shown harmful effects of asbestos claiming that the failure of investigators to differentiate between the types of asbestos fibers has been prejudicial to chrysotile. Dangerously, this is the kind of science that the review committee members are encouraging the NIOH to consider –"Industry will make available similar relevant reports to NIOH"- *Minutes of the meeting of Review Committee dated 18.4.2007.* Bernstein's arguments and reasoning have been discredited by independent researchers, scientists and the esteemed Collegium Ramazzini, a highly reputed international academic society.

F. Denial and Secrecy: For a study which would form the basis for the Indian government's position on asbestos at home and internationally, and have a large impact on public health, especially for workers handling asbestos, it has been closely guarded from trade unions, public interest groups and even the Indian Parliament. Meanwhile, the industry is being consulted at every step of the way. Even the information unearthed under RTI Act was selective, and given following repeated requests by the author under the Act. It appears that there is a systematic effort by the government, no doubt encouraged by the industry, to stonewall all requests for information about the study. The Review Committee, which mostly comprises asbestos industry representatives, decided at their *meeting of 18.4.2007* that "…it was decided that while generic information could be provided, the results of the study which was underway could not be shared till the same was finalized."

3. The Asbestos Cement Products Manufacturers Association (ACPMA)

It is pertinent to elaborate on the credentials of the ACPMA and why their sponsorship and continued presence in the review committee is contentious. By their own admission, ACPMA was formed "with an objective to aid, stimulate and advise promotion of chrysotile asbestos cement products (sheets and pipes) in India." Twelve of India's major asbestos-product manufacturing companies are members of ACPMA. ACPMA's website proudly announces its affiliation to the US-based International Chrysotile Association (ICA), "an international body formed by various country Associations" with "membership of 23 countries prominent being Canada, Brazil, China, Russia, Mexico amongst others." The website further states that the "ICA actively represents the interest of chrysotile industry world over and takes up issues with various international forums namely, WHO, ILO, WTO, EC, etc. on matters related to latest scientific findings on the controlled use of chrysotile. ICA is dedicated to collecting latest scientific evidence on safe use of chrysotile for comparing with substitute materials being promoted. ACPMA regularly receives from ICA latest information on various technical, scientific and health related issues connected with the safe use of chrysotile. All such information is disseminated amongst Members and others connected with the Industry including Govt. regulatory bodies." (http://www.acpma.com)

4. The Study

A. Remit: On 22.6.2005, the Director of the NIOH sent a proposal (revised) to the Ministry of Chemicals and Fertilisers to conduct the study titled - *An Environmental cum Epidemiological survey in and around Chrysotile Asbestos based Industries.* The NIOH submitted the proposal after receiving a request from the Ministry and after several rounds of consultations on an:

"environmental cum epidemiological study….in and around the following industries (organized sectors) in the following sequence:
• Asbestos cement industry manufacturing asbestos cement sheets
• Asbestos industry manufacturing asbestos containing friction materials
• Asbestos cement industry manufacturing asbestos cement pipes
• Asbestos textile industry"

The duration of the proposed study was 4 years with a sample size of 1500 people, which covers workers and people residing in the vicinity of these industries. The methodology proposed was the use of a "pre-designed questionnaire to collect information in relation to personal, occupational and morbidity details of the workers; lung function tests; and radiological examination a per ILO guidelines." The collected data were proposed to be analyzed by using "Epi Info 6 and SPSS 6.1.4 software"
Letter dated 22.6.2005 from Director, NIOH to Under Secretary to the Government of India, Dept. of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilisers

B. Findings: The Ministry of Chemicals and Fertilisers has repeatedly denied requests for information under the RTI Act 2005 to make public the interim reports submitted by NIOH of their studies at different factories. The only study report made available by the NIOH to public health activists under the RTI Act was on the Kolkata factory of Everest Industries. Since the disclosure of that report, none other has been forthcoming from the NIOH. As has been mentioned previously, in its meeting on 18.4.2007, the review committee asked NIOH not to share study reports with the public.

-Everest Industries Limited, Kolkata: Operating since 1934, produces asbestos based corrugated sheets and other moulded products. 288 out of 300 workers were surveyed. NIOH reported:
"1. There were no complaints related to respiratory system
2. About 32% of the workers showed impaired lung functions. The major abnormality was restrictive type.
3. Prevalence of restrictive type of impairment was correlated with duration of work and smoking habit.
4. Largest number of cases of restrictive impairment were found in non-smokers."
Minutes of the meeting of Review Committee dated 14.9.2006

-M/s Western India, Silvasa, Dadra and Nagar Haveli: Only a 10 year old unit with 60 workers with average age of workers 27 years and mean duration of work 4.5 years. NIOH reported:
"1. Asbestos fibre level were below the national/ international norms. The fibre concentration was 0.0077 to 0.011 fibre/ml.
2. PFT abnormality was observed in 6.8% of the samples. No worker was found to have restrictive type of pulmonary impairments. The abnormality was of obstructive type."
Minutes of the meeting of Review Committee dated 18.4.2007.

-Vapi, Gujarat (name of industry not mentioned): A 15 year old factory. 70 workers were examined, 3% lung abnormality levels has been been noticed and further investigation are being carried out. NIOH reported:
"1. In pulmonary function test, Koch's infection (right upper zone) were observed in two workers. One of them had right sided pleural effusion also.

2. 11.4% workers were having obstructive disorder, 2.9% restrictive abnormality and rests were normal.
3. No worker was found to have radiographic features suggestive of interstitial lung fibrosis.
4. Fibre level in all work places were below national and international standards."
Minutes of the meeting of Review Committee dated 24.7.2007.

As per the Minutes of the review meeting held on 7.11.2007:

"….NIOH explained that they have completed all the field visits, the latest being at Hyderabad. During field visits they had covered both the community and end users. It was specifically intimated that 404 community subjects near Vishakha Industries had been studied and compared in the recent field study." On the issue of sample size of 1500 as originally proposed, NIOH mentioned that "…they had not been able to get field sample size of 600 community workers as originally planned but had appropriately covered the factory workers for proper results….". Further stating that the Institute was studying the collected data from field trips and "will be ready to submit the preliminary report which could be finalized after due discussions with various stakeholders". In this same meeting, the representatives of industry associations said that "they are taking necessary follow up action on the four cases which had been detected by NIOH and are suspected cases of interstitial fibrosis during the study of Everest Industries, Kolkata".

Since complete studies have not been made available it is difficult to assess the findings of the study. But from the little that has been gleaned from the minutes of the meetings, the following are evident:
• as originally proposed, the study has not been able to cover the 1500 sample size as per the WHO protocol;
• instead of four years, as originally proposed, the study is being conducted in haste in less than two years (the first field survey was conducted by NIOH in 2006 of Everest Industries, Kolkata)
• the studies are not being peer reviewed by independent scientists;
• the factories and workers selected as part of the survey are impropriate for the purpose given the high latency period of the health impact caused by all types of asbestos.

C. Critique of Design and Methodology of the Study: Four independent scientists, who have reviewed NIOH survey of Everest Industries factory in Kolkata, have sent letters to the Minister of Chemicals and Fertilisers stating:

Dr V Ramana Dhara, Adjunct Clinical Professor of Morehouse School of Medicine & Rollins School of Public Health of Emory University, Atlanta, USA

"…the proposed NIOH studies will not achieve the objective of detecting the health effects of asbestos and are thus a waste of valuable resources. It is also my opinion that Indian workers are being needlessly exposed to asbestos and the only prudent solution is to ban its production and use."

Dr V Murlidhar, occupational medicine specialist and former Associate Professor of the Department of Surgery, LTM Medical College, Bombay University

"*It took 40 years for researchers to follow up a large number of people and large number of peer-reviewed publications (more than thousand) to prove smoking causes lung cancer. If one has to prove smoking does not cause lung cancer it will need at least the same number of publications and reviews. The same is the case of diseases caused due to asbestos. The proposed study and the Kolkata study are unlikely to find a place in any peer-reviewed publication…. It is a waste of national wealth. It will be better spent in treating the thousands of asbestosis victims in India."*

Dr. Rakhal Gaitonde, community medicine expert and Training & Research Associate with Community Health Cell, Chennai, Tamil Nadu.

"If the Honorable Minister is serious about the health of workers and about accurately documenting the multi-faceted hazards of the asbestos industry (both formal and informal) on the workers and their families, much better effort needs to go into designing appropriate studies. The Proposal and the Kolkata Study are very poor examples of research in an area that is extremely well developed and of which there are numerous brilliant examples in India."

Dr Arindam Basu, physician-epidemiologist and Associate Director, Fogarty International Training Program in Environmental and Occupational Health, Indian Institute of Chemical Biology.

"…I found that both the study plan, the execution of the study at Kolkata and its reporting had serious methodological shortcomings, non-conventional data presentation, and interpretations. I request you to see that before this study can be used as a sufficient documentary evidence for policy framing, it be revised for methods and contents, and possibly re-done. It's recommended to revise the study plans and re-analyze the original data to start with. …It's hard to believe that a nationally important research center of excellence such as NIOH should produce methodologically incomplete and insufficient evidence with misinterpreted data on a serious national issue of asbestos hazard."

Till date the Minister has not responded to any of the scientists.

5. Conclusion

By no yardstick can this study be termed scientific. Ill-conceived and methodologically flawed, it is a travesty of what is considered credible science. Even more appalling, the fact that it is sponsored, reviewed, and vetted by those who stand to gain or lose from its verdict makes it absolutely unethical. Besides, the secrecy surrounding its findings makes it suspect in the public eye. Indeed, if the researchers refuse to share their findings on a public health issue that has serious implications for the lives of thousands of workers, who would trust them?

It is clear that the study needs to be urgently debated and reviewed. Unless and until the foregoing doubts and allegations are addressed, the study cannot absolve itself from the charges of being unscientific, tendentious and unethical.

Annex: 1 Rotterdam Convention and Prior Informed Consent

The text of the Convention was adopted on 10 September 1998 by a Conference of Plenipotentiaries in Rotterdam, the Netherlands. The Convention entered into force on 24 February 2004. There are 73 signatories and 119 parties to the convention. The objectives of the Convention are:

• to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm;
• to contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

The Convention creates legally binding obligations for the implementation of the Prior Informed Consent (PIC) procedure. The PIC procedure is a mechanism for formally obtaining and disseminating the decisions of importing Parties as to whether they wish to receive future shipments of those chemicals listed in Annex III of the Convention and for ensuring compliance with these decisions by exporting Parties. So far there are 39 chemicals listed in Annex III of the Convention, including 24 pesticides, 4 severely hazardous pesticide formulations and 11 industrial chemicals.

The Convention covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by Parties and which have been notified by Parties for inclusion in the PIC procedure. One notification from each of two specified regions triggers consideration of addition of a chemical to Annex III of the Convention. The notification is forwarded to the Chemical Review Committee in order for it to review and consider recommending the chemical for inclusion in Annex III of the Convention. For each of the chemicals listed in Annex III and subject to the PIC procedure a decision guidance document (DGD) is prepared and sent to all Parties. The DGD is intended to help governments assess the risks connected with the handling and use of the chemical and make more informed decisions about future import and use of the chemical, taking into account local conditions. Decisions by an importing country must be trade neutral (i.e., apply equally to domestic production for domestic use as well as to imports from any source).

For more information: http://www.pic.int/

Annex: 2 Current Asbestos Bans and Restrictions compiled by Laurie Kazan-Allen (Revised June 26, 2007)

National Asbestos Bans:[1]

Argentina
Australia
Austria
Belgium
Bulgaria
Chile
Croatia[2]
Cyprus*
Czech Republic*
Denmark
Egypt
Estonia*
Finland
France
Gabon
Germany
Greece*
Honduras
Hungary*
Iceland
Ireland
Italy
Japan [Major restrictions on asbestos use were introduced in October, 2004][3]
Jordan[4]
Kuwait
Latvia
Lithuania*
Luxembourg
Malta*
Netherlands
Norway
Poland
Portugal*
Saudi Arabia
Seychelles
Slovakia*
Slovenia
Spain
Sweden
Switzerland
United Kingdom (including England, Scotland, Wales and Northern Ireland)
Uruguay

Countries Planning Major Restrictions on Chrysotile Use:

South Africa[5]

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1. Exemptions for minor uses are permitted in some countries.
2. Croatia banned asbestos as of January 1, 2006. Six weeks later, the Ministry of Economy, under political and commercial pressure, forced the Ministry of Health to reverse its position with the result that the manufacture of asbestos-containing products for export was permitted again.
3. In July, 2005, the Japanese Government announced implementation of a total asbestos ban within 3 years.
4. An immediate ban on amosite and crocidolite was imposed on August 16, 2005; a grace period of one year was allowed for the phasing out of the use of tremolite, chrysotile, anthophyllite and actinolite in friction products, brake linings and clutch pads. After August 16, 2006, all forms of asbestos will be banned for all uses.
5. On June 21, 2004, South Africa announced a 3-5 year phase-out of asbestos use; a ban on asbestos which was under discussion in Vietnam in 2003 has been delayed.
* January 1, 2005 was the deadline for prohibiting the new use of chrysotile, other forms of asbestos having been banned previously, in all 25 Member States of the European Union; compliance with this directive has not been verified in countries with an asterisk (*).

For more information: http://ibasecretariat.org

Annex: 3 Debunking Junk Science

Throughout the world, there is growing consensus that exposure to all types of asbestos—including chrysotile—can kill. This understanding is shared by the International Labour Organisation, the World Health Organisation's International Agency for Research on Cancer, the International Programme on Chemical Safety, the European Union, the Collegium Ramazzini, the International Social Security Association, the World Trade Organisation, the International Commission on Occupational Health, the International Federation of Building and Woodworkers, the International Metalworker's Federation and governments of over 40 countries and scores of independent scientists.

Recent peer-reviewed articles confirming the dangers of chrysotile include:

- Terracini B. The Scientific basis of a total Asbestos Ban. Med Lav. 2006 Mar-Apr;97(2):383-92.

Worldwide, in the new millennium, standards for the protection of workers and the general population from asbestos risks are not equally stringent in all countries. The present review analyzes some arguments which in recent years have been proposed as a rationale for the reconsideration of the scientific background of a total asbestos ban, such as that adopted in the European Union. The conclusion is that in order to ensure adequate protection, there is no alternative to a total ban. The evidence for carcinogenicity of chrysotile is as good as for the amphiboles, the carcinogenic potency of chrysotile is lower than that of the amphiboles, but risk estimates must also be based on extent of exposure (nowadays chrysotile represents 95% of asbestos used worldwide).

- Lemen RA. Chrysotile Asbestos as a cause of Mesothelioma: Application of the Hill Causation Model. Int J Occup Environ Health. 2004 Apr-Jun;10(2):233-9.

Chrysotile comprises over 95% of the asbestos used today. Some have contended that the majority of asbestos-related diseases have resulted from exposures to the amphiboles. In fact, chrysotile is being touted as the form of asbestos which can be used safely. Causation is a controversial issue for the epidemiologist. How much proof is needed before causation can be established? This paper examines one proposed model for establishing causation as presented by Sir Austin Bradford Hill in 1965. Many policymakers have relied upon this model in forming public health policy as well as deciding litigation issues. Chrysotile asbestos meets Hill's nine proposed criteria, establishing chrysotile asbestos as a cause of mesothelioma.

- Nicholson WJ. The Carcinogenicity of Chrysotile Asbestos--A Review. Ind Health. 2001 Apr; 39(2):57-64.

The world production of asbestos has been declining dramatically in recent years, particularly in Europe and the United States. However, increases have occurred in Asian nations and chrysotile is the dominant fiber used. Important uses are in cement products, wallboards, friction products and textiles. From studies in the United States and Great Britain, chrysotile has been shown to increase the risk of lung cancer and to produce mesothelioma in exposed workers.

- Yano, Eiji, Wang, Zhi-Ming, et al. Cancer Mortality among workers exposed to Amphibole-Free Chrysotile Asbestos. American Journal of Epidemiology. Vol 184. No. 6; 154-8, 2001.

- Landrigan PJ, Nicholson WJ, Suzuki Y, Ladou. The Hazards of Chrysotile Asbestos: A Critical Review. J. Ind Health. 1999 Jul; 37(3):271-80.

- Case BW, Dufresne A. Asbestos, Asbestosis, and Lung Cancer: Observations in Quebec Chrysotile Workers. Environ Health Perspect. 1997 Sep; 105 Suppl 5:1113-9.

- Smith AH, Wright CC. Chrysotile Asbestos is the main cause of Pleural Mesothelioma. Am J Ind Med. 1996 Sep;30(3):252-66. Comment in: Am J Ind Med. 1998 Jan; 33(1):94-6.

- Stayner LT, Dankovic DA, Lemen RA. Occupational exposure to Chrysotile Asbestos and Cancer risk: A review of the Amphibole hypothesis. Am J Public Health. 1996 Feb;86(2):179-86. Comment in: Am J Public Health. 1997 Apr;87(4):687-8. Am J Public Health. 1997 Apr;87(4):688-9; author reply 690-1. Am J Public Health. 1997 Apr;87(4):689-90; author reply 690-1.

- Coin PG, Roggli VL, Brody AR. Persistence of long, thin Chrysotile Asbestos fibers in the lungs of rats. Environ Health Perspect. 1994 Oct; 102 Suppl 5:197-9.

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