

Foreword.

I have a most productive and enjoyable visit to the office of BP in Naperville and BP Chemicals Nitriles Manufacturing Facility in Lima from September 21---October 5. I am pleasure to express my comments on this program and my planing in applying the knowledge what I have leaned during my visit.

I have worked for SINOPEC for 13 years. SINOPEC is a giant petroleum and petrochemical enterprise group, established in July 1998 by the State on the basis of former China Petrochemical Corporation, with over 70 wholly owned enterprises, or with equity participation, including majority controlled, in exploration and production, refining, chemicals, marking, research and foreign trade, and well over 9500,000 employees.

It has a sound safety management system. Not only the corporation headquarter and each enterprise have a safety and environment department, but also mayor production plants are staffed with safety engineers, responsible for technical and management issues relating to safety.

The company also has set up a complete set of safety regulation by which each position has its rules to follow. Such as fire-use operation, in-facility operation, working high above the ground, and equipment maintenance, an “work permit” and a confirmation are required.

The safety situation and safety management level of SINOPEC is better than other companies in China. Even though in the early half 2002 it has been 25

reportable accidents, I believe its safety ideal or HSE management level should have been closed to level of the developed country. Having finished two week IUPAC safety training program by studying and work with employees of BP, I have change my originally safety ideal.

The main feelings are as follows:

Feelings of IUPAC safety training program in BP

Having received two-week IUPAC\UNESCO\UNIDO safety training in BP, I have a lot of feelings in safety ideal and safety management.

1. Better HSE culture in BP

(1) Safety (HSE) first

First Safety is a slogan in both BP and SINOPEC, but its really meaning has been understood differently.

In BP, the first leader's main work of unit is responsible for public and society. Purpose of carrying HSE is responsible for public and society, so the first leader not only knows the main performance of HSE, but also familiars with the work procedure of HSE department. In BP, Premcor and Akzo Nobel, HSE manager's offices are always the neighbors of the first leaders' office, and the managers are the friends of the first leaders'. Normally, HSE manager has more or same power than other managers of production, personal etc.

In china, the first or main leaders of state-owned enterprise are appointed by local or center government. At now, keeping society stability and developing production are main work of government. That will also be the main work of state-owned enterprise.

In other hand, china hasn't strictly laws on HSE that requires enterprises to carry on seriously rules on safety, environment and health. Leaders of

enterprises won't be punished seriously if they don't carry on HSE regulations, except some catastrophic accidents happening in their enterprises.

So, the first leader's main work of unit is responsible for production, marketing, absolutely not HSE. Normally, manager of production (vice manager in china) is responsible for HSE department. HSE manager is less power than manager of production and other manager of department (vice manager of unit in china).

Thus, HSE managers have a lot of troubles in keeping on HSE running when they deal with other departments.

In SINOPEC, the manager of production (vice manager in china) is responsible for HSE department basing on "who are responsible for production, then who are responsible for safety". But, many people in china don't know HSE is a complicated management system, not only safety production. Safe operations depend not only on the technically sound plant and equipment, but on competent people and active HSE culture, and that no activity is so important that it cannot be done safely. That is critical to an enterprise's success.

(2) Commitment to HSE

BP's Commitment to HSE is: no accidents, no harm to people, and no damage to the environment (three zeroes).

In BP, all most emissions and discharges are treated before into river and air. For instance, every safety valve except of steam valve connects with the flare, even though during of unit shutdown, you can't see and smell any chemical gas.

Since BP has complicated HSE management system, everything can be carried by its procedure, BP has ability and brave to commitment: no accidents, no harm to people, and no damage to the environment.

Otherwise, SINOPEC has no ability and brave to commitment to get the goal of "three zeroes".

The main reasons are followings:

Since some impacts of traditional planing economic model can't confirm that every operation process is effective via the HSE Assurance process.

The goal of SINOPEC HSE is "do our best to reduce the accidents, harm to people and damage to the environment mostly". Although the HSE management has been carried on in SINOPEC, many actions still according to the traditional experiences are carrying on. For instance enterprise Death Target are still as one of the codes of auditing the performance of enterprises, the death ? 0.2% means a enterprise with 2000 employees is allowed to have 4 death persons in accidents. If the number of death persons is less than 4, the enterprise can get award from the high-up company. Otherwise, it will get nothing. This means if you want to SINOPEC, which can't create a

injured and incident free workplace for you, because its safety targets will give it excuse to explain the predictable effects of accidents.

Apparently, our HSE management system still needed to be improved.

(3) Democracy, sharing

In BP, there is a slogan, “Everybody who works for BP, any where, is responsible for getting HSE right. Good HSE performance is critical to the success of our business”. In our company also has this slogan. In BP you can see almost every employee loves BP, cares for BP, and same time, BP cares for every employee, employee’s profits and wages are higher in local. But in our company, company pays less attention to employee’s profits and wage, so many employees also pay less attention to the future of company. Thus, who will be glad to care about for “responsible for getting HSE right”.

(4) Positively reinforce safe behavior

In BP, Anybody has a right to intervene and stop unsafe behavior, employees who made unsafe behaviors will be positively reinforce safe behavior when who are observed, not be punished. Employees like to be checked when they work on site, like to be found their unsafe behavior. But in SINOPEC, strictly auditing performance of an employee and seriously checking behaviors of an employee are the core of SINOPEC’S HSE management system. If Employees’ behaviors are found unsafe, even though one time, they will be punished heavily in bounce and other hands. So, Employees

don't like and scare to be checked when they work on site. The checking men and checked men are always in the state of being hostile. Typically, during the whole safety checking by the headquarters of SINOPEC, sub-companies always stop contractors to work on site in case that their unsafe behaviors are found.

(5) Critic oneself

In china, people tend to look for “ something” or “someone” to blame and punish when an accident happened, because it's easier than looking for “root” or “system” causes. In BP, always ask everyone to check and ask oneself, do I have:

Taking shortcut (easily increasing chance for injure)

Being overconfident (can lead to an injure)

Starting a task with incomplete instructions

Poor housekeeping (creating hazards of all types)

Ignoring safety procedures (being “casual” about safety lead to a casualty)

Failure to pre-plan the work (not think through the process can put you in harms way)

If you have, you may not have been injured---but next time you may not be so lucky. By this measures, enforce employees and contractors safety awareness.

2.Complicated HSE management system and measures

(1) Scientific and procedure of work

BP has set up a complicated HSE management system and carry on it effectively. Everyone (including all lines leaders) in BP are do everything must accord to the 13 elements (or related) of BP's HSE management system framework. Anyone hasn't any right to change the procedure made. If some work procedures or rules really need to be changed, which must be carried on the basis of HSE audit requirement.

For instance, Incident Investigation should accord to the 12th element (Incidents Analysis and Prevention) of BP's HSE management system framework requirement that any Incident investigation should be according to the Comprehensive list of cause (A Tool For Root Cause Analysis) and Accident investigation procedure to find incident reasons and make protection measures.

Work of Leadership should be accorded to the first (Leadship and Accountability), second (People, Training and Behaviors) and third (Management) elements of BP's HSE management system framework requirement to be made. Especially, requires that leaders should engage in "face to face" safety discussions with contractors and employees during plant walkabouts, weekly meeting minutes and informal lunch.

We also have HSE management system, and have 10 elements (or related) of

SINOPEC'S HSE management system framework, but it isn't complicated and detailed. For instance, when we instigate the incidents always accord to work experiences, not according to the Comprehensive list of cause (A Tool For Root Cause Analysis), so incident reasons founded aren't always complete.

In SINOPEC or china, we also have strictly safety regulations, laws and standards, but we can't obey them strictly.

Because China isn't a complete democratic country, leader's thoughts, opinions are over regulations, rules and standards. Leaders always like employees or sub-leaders to execute his orders without conditions. People always accord to the leader's thoughts to guide their work not accord to the regulations, rules and standards. If leaders are specialists in HSE management, maybe that situation is ok, but in fact, many leaders know a little or nothing safety knowledge. So, if the management system of "absolute power of leader" won't be changed in the future, even though HSE management system will has been set up, procedures of HSE management aren't still to run correctly for some leaders intervening without formally assessed, documented and approved.

In the mean time, in china Leaders are appointed some time not by his ability, just by his relations with more high-up leaders, or by his apparently performances. Many leaders want to hold their powers, they always want to

set up a new safety theory, rules and ignore the exiting HSE system and rules. People always are confused by the inconstant safety theory, safety regulations. For instance, in our company, “Hot Work permit” had been changed completely three times in two years.

(2) Complicated treating system on waste and emissions

In BP, because all most emissions and discharges are treated before into sky or river, the environment of BP Nitriles Manufacturing facility in Lima are very well.

In china, profits of many enterprises are not good, enterprises won't invest fund in environmental equipments, typically in protection of air.

Although china has made a lot of laws on environmental protection, in generally, the situations of the many enterprises are still in paying little attention on environmental protection. The main reason is that local governmental environment departments don't supervision seriously.

(3) Actual and effectible scientific measures of work.

In sinopec, there are a lot of safety meetings, such as team safety meeting a time of twice week, a time of every month workshop safety meeting etc. What are we doing in safety meetings, reading newspaper, studying documents of country or company, doing some surface things. Many safety meetings make employees drowsy. Employees' safety awareness and safety skill are not improved actually.

In BP, I participated a lab safety meeting, the procedures are:

First, introduced a not-reportable fall down incident happened in BP.

Second, an employee demonstrated what reasons resulted in the incident with safe-belt.

Third, watched a video on how to use safe-belt correctly.

Finally, anyone must take a exam about using safe-belt correctly.

Safety meeting's effect is very well.

(4) Others

BP has a lot experiences on HSE that are good for me to study. Such as crisis management, safety training, safety education, spirit of team etc. I will introduce to china in other media.

3.My plan in HSE

As a trainee of IUPAC safety training, I have responsibility to propogandize police of IUPA and good performance of BP.

First, in a short time, I will write some articles in newspaper or magazine to propogandize police of IUPA and good performance of BP.

Second, I will apply what I had leaned in BP into my business.

4.Hopes

Although our safety management level and safety ideal backward developed country over ten year, we have got a far more progress than before. With

entering WTO, our safety management ideals and measures are catching up with that of developed country. I believe in short future, china people are getting more and more strong. Sky in china will be getting bluer and bluer.

Finally, I would like to express my thanks to my many hosts in the united states, including George E. Tacquard (Business unit lesder, Nitriles) Dr. Mark C, Cesa, (Secretary of the IUPAC Committee on COCI) Geoffrey L, Gilman; Mr. Mike Markowicz;; Mr. Kevin Spragne (HSE manager of Lima Complex), Grace S. Chiang, Dr. Muyen Michael Wu, Charles F. Treloar and other persons of BP, Premcor and Akzo Nobel.