

**Team
RIO**

MINUTES OF MEETING

Meeting Number	Date of Meeting	Location of Meeting
MOM031002	02-Oct-03 10:00 AM	Az Zubair PS, Iraq
Purpose of Meeting: Qarmat Ali Water Treatment Plant – Sodium Dichromate contamination issue		
Attendees:		
KBR Chuck Adams Sudhir Desai Ed Rea Herb Myers Mark Daniels Emma Sotillo	USACE Jerry Balcom Russell Holeman DA MAJ Kenneth McPherson MAJ Thomas Deik	SOC Kifah Numan Faisal Kh.wadi Salim Abdulla Yas Salem
Report Issued by:	E. Sotillo	02-Oct-03

DESCRIPTION OF DISCUSSION
Opening comments:
Introduction of attendees: Chuck Adams – KBR HSE Manager for Team RIO South Iraq Jerry Balcom – USACE HSE Project Manager for Team RIO Salim Abdulla – Chief of Chemicals, SOC Water Injection Manager Faisal Kh. Wadi – Water Injection Projects Coordinator MAJ Mc Pherson – Liaison officer for occupational health, US Army MAJ Deik – Industrial Hygienist, Air sampling plan, survey for soil Russell Holeman – Officer in charge of Team RIO South Iraq Sudhir Desai – HSE Manager, Industrial Hygiene, KBR Mark Daniels – KBR Project Manager, Qarmat Ali Herb Myers – KBR Construction Manager Team RIO Ed Rea – KBR Project Manager, Water Injection Yas Salem – SOC Project Coordinator
General discussion:
Purpose of meeting as requested by SOC is to understand the issue on Sodium Dichromate contamination and explain results of HSE investigation. Chuck Adams: We are here to talk about the problem and share information so that we all are on the same page Around May-June we identified what type of chemicals were present Around July realized that Sodium Dichromate was in more places than supposed to be, basically open to atmosphere, scattered all over the water treatment plant. Sodium Dichromate has been banned in USA, no longer used for Water Injection Sodium Dichromate has been identified as a high carcinogen Started doing testing to assess potential problem. Results showed high levels of Chrome III and Chrome VI Air samples results did not show threat Urine and blood sample showed elevated levels of chromium, meaning that there was a significant exposure <i>(continued on next page)</i>

DESCRIPTION OF DISCUSSION

Chuck Adams: (cont'd)

Started doing some sealing in the area but people were breaking the seals

Went back to do re-sealing

Cannot allow personnel to be exposed, the company will be liable if let this happen

Soil samples being tested for Chrome IV

Residual left at the old warehouse building

Undetermined number of bags have been deteriorated by the weather, wind circulates these particles in the air and is inhaled.

Dry dust is scattered around the site

Should do blood test to people shoveling the dust into bags, if exposed too long may cause death

We are also concerned about the public that are exposed

Set up decontamination unit, shower, go into clean room, put on clean clothes

Is presenting a problem to the village, not only the personnel

Need awareness of the long term effects as a result of continuous exposure

Need to rationalize what long term effects will have in children

Looting caused the chemical to be scattered in the area

In all instances, the use of Sodium Dichromate right now is not in a closed system, also exposing other people that work around.

Although this system has functioned for so many years, now needs

Can no longer work with SD

Shudir Demai:

Effect of chemical can last long, then could become chronic

There is enough clinical data now to prove that Sodium Dichromate is a carcinogen

Effect may be visible in next generation, long term effect

Make sure contractors work to protect on a long term

Use another chemicals for water injection other than Sodium Dichromate

Handed out copies of literature provided by US Army, can be read by non-chemist experts

Samplings:

Levels in the air will dictate what protective equipment is required

Soil samples show high levels of Chromium III and Chromium VI

Strong concentration present on site may get in clothes and food

How does it get into our bodies: Inhalation, Eye membrane, skin perspiration, direct contact.

Does affect different parts or organs of the body

It is difficult to determine what effects will have Chrome III once it gets into the body

Sodium Dichromate has penetrated into the soil, dogged up to 4 feet and found Sodium Dichromate coloration

Chemicals are not being injected in a closed system as they should, it is being spread all over the place.

Salim Abdulla:

Use of SD at the WTP only, people preparing solution of Sodium Dichromate in the treatment system are exposed

DESCRIPTION OF DISCUSSION

They are aware of the hazard of the chemical

Need updated literature, Mr. Salim is using a book that is 25 years old

Personnel has been exposed for 25 years with no problems, they are experienced with this chemical

Use of Sodium Dichromate:

Less expensive

Excellent anticorrosion inhibitor

Operators are using gas mask when preparing the chemicals for injection

Yas Salem:

SOC wants to get over this chemical issue and continue working

Will discuss options with SOC management

Managers encouraged Mr. Yas to help convince SOC management for another course of action

A decision needs to be made quickly

Options:

Move completely out of QA, set up another location some place else stop dumping money in QA

Change the chemicals being used, but will still be exposed to what is around

Plan:

More tests to be made

Go back to re-start work on 08-Oct

Wear full PPE

Need a cool down room (ordered)

Take all PPE at lunch time and dispose it

Brand new PPE needed to go back to work

15 KBR

200 workers

200 people from local villages

productivity 20% of what would be in normal condition

Air sample results should be acceptable levels may allow for lessen PPE

This indicates that the option to move to another location is the most viable

This will take a big engineering effort

Have to work a plan for major remediation

Ed Rea:

Presented design for two new water plants to Mr. Jabar 2 months ago

70 MM m3

Supplier for WI skids under Water for Food program -- interim solution to move to another location

Equipment in QA is over 30 years old, we are now struggling to get it to operate

Should consider the newer technology that would lessen overhead cost

The problem now is time, need water injection in less than one month

Meet on Monday at Az Zubair

DESCRIPTION OF DISCUSSION

Jerry Balcom:

DA personnel to do sampling on site from Sunday to Sunday.
Looking at alternatives to improve the system but whatever we do has to be safely
Chemicals required to maintain integrity of the formation
Personnel on site are part of the medical surveillance required by DA
Our goal is to leave a project that is safe for the locals
Review information for options and make decision with management

Mr. Kifah

Requested Meeting Minutes to be distributed to management
Test people that is physically working inside the plant and CPSs
Understand the big picture and take it further up in management
Requested an analysis that makes sense as far as what effects and hazards are exposed
How bad is it? How long does it take? What are the allowable levels?

Collecting more samples for accuracy of data
Expect 200 samples: all personnel that has being exposed
15 to 20 people per day, trying to advance as quickly as possible
Testing people not exposed for comparison

Concern: shoveling and re-bagging dust may get on top of what we are sealing now in the outside
buildings and become airborne - picked up by the wind
This may mislead the sampling that DA will start on Sunday
Results of air sampling expected to be ready early next week

Medical surveillance program extends to USA and UK
Also testing security guards and all units that have worked in the WTP

Additional concern is Selenium and Chlorine cylinders
Portable equipment used by DA indicates a high level of these chemicals
Identify leaking cylinders

Continue doing the normal routine so that it does not alter results of sampling

Action items:

1. Contact WIS supplier and confirm supposed contract with SCOP to bring equipment in country (Ed Rea)
2. Blood results and info package for SOC management (Chuck Adams)
3. Bring report and meeting minutes on Sunday (Emma)
4. Copy of health effects data (Ed Rea)