

**Ms. Lynn Russo
ExxonMobil**

FAX: 703-846-4169

May 7, 2001

**SUBJECT: Benzene Health Research Consortium
Shell Letter of Concerns**

Dear Lynn;

As requested on the conference call May 3, attached is a copy of the letter that Shell submitted in support of the Benzene Health Research Consortium. We believe that we have had all our concerns adequately addressed. Shell will be supporting based on a fixed dollar contribution and also seats on the three committees: executive, technical and communications. We will be nominating someone for communications, but until that happens, please keep me on the list.

Please feel free to contact me, 713-241-2521, if you would like to discuss.

Best Regards,

**Patsy M. Clegg
Product Steward
Product Stewardship & Regulatory Compliance, HSE**

Attachment

BC w/o attachments:

HSE ARS, Shanghai File

Shanghai Benzene Epidemiology Study
Consortium Conference Call
April 24, 2001

Shell Notes

1. Budget

- ◆ Not all companies have paid \$15K seed money
- ◆ Expenses to be paid:
 - Chinese bioethicist
 - Reconvening protocol review panel
- ◆ 3 research assistants working for Irons funding ends May 31. Must notify by May 15 as to continuation of position. Consortium commitment would be enough to continue. Monies to cover 3 are included in the study budget

2. Commitments

- ◆ May 15 commitment date
- ◆ May 1
 - Firm letter to API indicating commitment with conditions
 - Shell conditions include (1) critical mass, (2) Government/NGO representation on review panel, (3) a voice in overseeing the project, (4) assurance of cost control.
 - Comments on draft contract
- ◆ May 3
 - Conference call to determine if critical mass (enough shares are committed) meets company needs

3. Ethical Issues Review

See notes on Ethics Paper dated April 24, 2001

4. Protocol Review

There was a lot of discussion around the first review in 2000 and the role of the review panel in reviewing protocols as the study progresses.

Original review panel:

R. Larsen, Hematologist, University of Chicago Medical School
E. Delsell, epidemiologist, University of Alabama
N. Mueller, epidemiologist, Harvard
D. Albertini, genetic toxicologist, University of Vermont

Written comments from original review cannot be found (highlights need for document control)

Second Review

Shell expressed requirement to have non-industry representation. Possible candidates include: Richard Hayes, Nathaniel Rothman, EPA, WHO, IARC (Pat Butler)

Next protocol will happen in about 6 weeks. Proposal was to have original 4 review protocols and then spend 1 day with PIs.

Concern was expressed that a NGO/government review might derail project. Response was that it is better to address critics now, rather than later. Also, it will be the responsibility of the PIs to address the comments, not the consortia. This is an extension of the ethics opinion that PIs have control of study.

Suggestion: Develop a written role description and procedures for the Review Group. Document would be a scope/charter for the scientific review.

- Get ethics review
- Need an exposure assessment expert (S Tsai)

2 approaches suggested:

- Government scientist on review panel
- Larger stakeholder group not on panel to include NGO/ government

Scientific review for the life of the project

- Expectations of reviewers
- Describe reviewers work product

◆ Shell will clarify review process condition in our letter of commitment

5. Contract

Shell will send comments to API by May 1 – Christi

6. Consortium Administration

Shell concerns: Legal review; document management; scope of APIs administrative service

◆ Legal Review

- Need a more structured approach
- Need legal representation that understands consortium company concerns
- Documents need legal review before release
- Suggestion to put legal review with PR function

◆ Document Management

- Repository
- Controls
- Accountability
- Classification

◆ API Administrative Services

- Funding management
- Legal review
- Document management
- Meeting organization
- Possible API membership in consortium

7. Concern about spy plane incident

Dr. Wong reported that Dr. Fu, Fudan University had expressed concern. Dr. Wong agreed to contact Dr. Fu to get details of his concern

Dr. Xu, bioethicist Fudan University, is very supportive of project.

Patsy will contact Shell DC office who may have contact with Chinese embassy

8. Consortium structure

Monetary sponsors have vote

9. Exit strategy

Need a statement if critical mass is not achieved and study is not done – Referred to Lynn Russo and Communication team

Question of reimbursing API seed money (Shell's position is that those who made the commitment are responsible for money.)

10. Cost escalation

Believe that budgets are well constructed and include inflation factors.

Put language in contract to protect consortium members from escalating costs with consent.

Believe that there is an opportunity for government grants after study is under way.

11. Data Availability

Focus is on transfer of information to the outside

Data will be made available via the final report

TSCA reporting will be done as required

Communication committee is responsible

Concern about release of data during the study

Have to protect the confidentiality of the study participants

Shanghai Benzene Epidemiology Study
Consortium Conference Call
May 3, 2001

Shell Notes

Shell Actions from Call

Nancy:

- 1. Determine which option Shell will offer in the funding question as outlined in #1 below –
 - (1) Agree 2/13, cost to Shell 3.1MM**
 - (2) Define an upper \$\$ limit that we will commit: \$\$ = _____?****
- 2. Need to additional \$15K per company as seed monies until final decision is made June 1. API would like the money by May 14. This money, like the \$15K already contributed, would count towards the company's share.**
- 3. Exxon verbally supported all the concerns that we shared on the call. Exxon would like a copy of our letter to use in presentations to their management. Request permission to share letter; Christi said there was no legal reason not to share.**
- 4. Agreement that consortium members would have a vote on managing the project. The current proposed structure would have an executive/business oversight committee, a technical oversight committee and a communication committee. Where does Shell want to commit resources and who? I recommend that we volunteer resources early so we can be a part of interim decisions that will be made prior to consortium formation.**
 - Executive/business oversight committee: Nancy, Patsy, Christi??**
 - technical oversight committee: Stu, Shan??**
 - communication committee: Patsy, Sarah??**
- 5. Name of Project: Benzene Health Research Consortium**
 - Christi approved for Shell from a legal prospective**
 - Nancy, do you concur?**

Christi

- 1. Contract review – get comments to API**

Call Agenda

1. Role call of companies with indication of level of commitment

<u>Company</u>	<u>Commitment</u>	<u># Shares</u>
Shell	Yes, if concerns met	2
Chevron	Yes	2
BP	Probably	3
ExxonMobil	Probably	3, actually 3/14
Conoco	Probably	1
Ashland-Marathon	Probably	2
Phillips	Not expected	<1>
Total # shares expected to be volunteered		13

- **This does not meet the Shell requirement of 15 shares.**

Options:

(3) Agree 2/13, cost to Shell 3.1MM

(4) Define an upper \$\$ limit that we will commit

Potential ways to manage costs:

(1) Modify protocols to reduce costs

(2) Seek funding from additional sources such as Leukemia Society (have a \$14MM research budget) after the study begins

Potential consortium needs to decide what is critical mass in order to start the project, i.e. there are only 12 shares volunteered and/or companies are only willing to commit \$X, therefore to start the project with less than full funding.

2. Discussion of Shell's concerns as stated in the letter to API
 1. Concern 1: volunteer if 15 shares volunteered – see discussion above.
 2. Concern 2; Agreed that contract language would protect consortium members from escalated costs.
 3. Concern 3: Assurance of voice and vote in project. Shell needs to identify which roles it would like to actively commit resources.
 4. Concerns 4, 5: Participation of a government agency/NGO in peer review and consortium. No push back. Suggested that EPA might appoint a scientist to represent them, that person might not necessarily be an EPA staffer. **I sensed support for the recommendation, however, I feel that it is up to us to see that it actually happens if we join the consortium**

3. April 24, 2001 Minutes Discussion (led by Shell)

Outstanding commitments/Needs:

- Confirmed that \$25K allocated for peer review was sufficient to cover additional government agency/NGO representative.

Concern about spy plane incident:

- Added tensions between China, the US, and Taiwan. Agreed that Communications Committee would address.

Protocol Review:

- No progress in recovering lost comments from first peer review. Reiterated need for document management.

Contract Issues:

- Shell agreed to get comments on contract to API

4. Other Items

1. Name of Project: Benzene Health Research Consortium
Christi approved for Shell.

2. Project Time Line

- June 1: Firm commitment by consortium members
- Study begins: Suggested Sept 1
- Stakeholder meeting needs to be added. Stakeholder being defined as a broader audience with which consortium will share plans for the study
- Communication committee formation needs to be added
- Peer review and IRB review of protocols cannot occur concurrently. Agreed to do Peer review first, followed by IRB.

5. Shell Questions/concerns/suggestions not addressed during call

Consortium Organization:

- Open process
 - Agendas and minutes on web site
 - Will consortium web site be separated from API site?
 - What will define a quorum for decision making?
 - Will the consortium have a contract with API for administrative support?

Time Line:

- How can decision (company commitment) and executive committee formation occur on the same day?
- What is the method of gaining consortium approval for decision made May 15-June 27 (date of consortium formation)?
- Purpose of API and PI meeting on May 29
- What form will the commitment decision take – a letter?
- When will the contract be signed? Is this the June commitment date or June 27 formation date?

Shanghai Benzene Study

Update: February 12, 2003

- Consortium Organization – Shell participation
 - Oversight Committee – Patsy
 - Technical Committee – Stu & Shan
 - Communications – Sarah
 - Recruitment – Patsy chairs
- 2003 Milestones
 - March – API Board Meeting – requesting funding
 - March – Shell/BP led workshop to develop strategy for NGO engagement
 - March/April – begin accepting cases at Shanghai clinic
 - Spring – Opening Ceremony in Shanghai
 - August – 1st annual meeting
 - 3Q - 5 sponsoring companies will have paid all committed funding
 - Decision on how to proceed based on funding level
 - On-going: Recruitment of new sponsors
 - On-going: NGO engagement
- Shell Activities
 - Recruiting potential sponsors
 - Leading engagement with organized labor – working with David Sauber
 - Leading engagement with NGOs – working with Lauren Iannarone
 - Internal Shell communications
 - Discussion of Shell's position on additional funding, if needed
- Other Benzene Activities
 - Benzene Product Stewardship presentation at AIChE conference
 - International Symposium in July 2004 in Lyon
 - Projects potentially impacting Group
 - Benzene OEL
 - Benzene emission reduction
- Other topics ?

Shanghai Health Study

- A project in Shanghai to study the effects of benzene exposure on the blood
- Principle Investigators: Dr. Richard Irons, University of Colorado
Dr. Otto Wong, Applied Health Sciences
- The \$21MM study is being funded by the Benzene Health Research Consortium which includes BP, ChevronTexaco, ConocoPhillips, ExxonMobil, Shell Chemical Company LP
- A clinical research lab has been built, equipped, and staffed on the campus of the School of Medicine at Fudon University in Shanghai. The lab will be gifted to the university.
- 26 area Shanghai hospitals are referring hematopoietic (blood and blood forming organs) related diseases to the study
- To date, just over 100 AML (acute myelogenous leukemia) and NHL (non-Hodgkin's lymphoma) cases have been referred.
- An independent Scientific Review Panel and an Ethics Review Panel have reviewed protocols and study progress.
- Shell is currently chairing the Oversight and Budget committees.
- The study is expected to conclude in 2007/8.

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Priority 3 - Continuous Monitoring



Shanghai Health study

What is the issue?

Shell has committed \$4m to a \$21M five-year multi-stakeholder health study in Shanghai, with the goal of better defining the hazards and health risks from exposure to benzene. This research follows a 1997 National Cancer Institute study of benzene-exposed workers in China, which concluded that benzene exposure might cause non-Hodgkin's lymphoma, (NHL). This study, which is part of our commitment to product stewardship, will help clarify previous assumptions regarding benzene health risks and will also help address some recent questions about benzene hazards and exposure. Further, this information will provide the industry with information, which we can use to determine what, if any, improvements are needed in existing protocols/previous assumptions regarding benzene health risks and will also help address some recent questions about benzene hazards and exposure.

Issue last updated 20/07/04

Issue Owner

Nancy Sullivan
Vice President Aromatics & Phenol

Messages

- Shell is contributing to a joint study in Shanghai that aims to better define the hazards and health risks from exposure to benzene as part of ongoing product stewardship and safety and health programs
- A state-of-the-art clinical and molecular laboratory has been built on the Fudan Medical University campus to support the research project and the Shanghai medical community and will remain at Fudan once the project is completed.
- The Joint Sino-US Clinical and Molecular Laboratory (JCML) is a collaborative effort established between the University of Colorado Health Sciences Center and Fudan University. JCML conducts research on occupational exposure to benzene, and studies the causes and effects between the infections of virus/drugs and blood/lymph system diseases.

The directors of the laboratory are Prof. Richard Irons, head of Molecular Toxicology & Environmental Health Sciences Research Program in the University of Colorado Health Sciences Center, and Prof. Fu Hua from School of Public Health, Fudan University. JCML staffs include American and Chinese specialists in hematology, pathology, and molecular biology. A few of the staffs of JCML have PhD and master's degrees, and some staffs have been trained abroad.

JCML consists of sample log-in room, cell culture room, FISH room, molecular biology room, cytogenetics room, flow cytometry room, CBC and other routine examination room, as well as external contact and document handling office. The lab has sophisticated laboratory equipment including automatic chromosome analysis and photo taken systems, automatic biology and chemistry analysis device (Roche), automatic blood corpuscle analysis device (CD3700), immune analysis device (IMx), five-color flow cytometry device (FC500), PCR device, tissue cutting device, temperature/humidity controlling device, ModulyoD device, CyroMed controlled Rate Freezers, Cryopius Liquid Nitrogen Storage System, and fluorescence microscope, etc.

The project is sponsored by the international Benzene Health Research Consortium. The Consortium consists of British Petroleum, ChevronTexaco, ConocoPhillips, ExxonMobil and Shell Chemical Company. During the study, the Consortium will invest about 10 million US dollars.

JCML is an important part of the Sino-US project of benzene poisoning study. The project includes three tasks:

- Case and control study on acute myelogenous leukemia (AML) and non-Hodgkin's lymphoma (NHL);
- Study on aplastic anemia (AA), myelodysplastic syndrome (MDS), acute myelogenous leukemia (AML), and benzene poisoning disease progression;
- Study on molecular epidemic diseases on benzene exposed workers.

The collaboration has been established between JCML and more than 20 hospitals in Shanghai (mainly third level hospitals). The first class clinical laboratory examinations on blood, bone marrow, and lymphoma will be provided for the patients from the collaborative hospitals. The examinations include:

- Morphology
- Tissue immunology
- Flow cytometry
- Chromosomes
- FISH and recombination of the genes
- Molecular biology
- CBC, and diagnoses of leukemia and lymphoma according to WHO's standard classifications.

JCML is also responsible for other tasks of the study, including analyzing EB, HIV, C-liver and HHV virus from patients' blood samples; analyzing blood and chromosomes of the blood and bone marrow samples from the workers who exposed to benzene; studying on the genes which are susceptible to benzene; establishing lymph cell systems and culturing the bone marrow cells.

The study has been approved by related departments of Central and Shanghai governments, and by the ethical institutes of both China and USA. The study is also strongly supported by each big hospital in Shanghai, by SCDC and IPHS. The establishment of JCML will certainly make important contributions to Shanghai medical institutes, to the diagnoses, treatment and research of leukemia and lymphoma, and to the enhancement of occupational and labor protection.

Shanghai Health Study – Shell Resources

Draft – July 1, 2003

Shell's commitment to date is

- **\$3MM**
- **People resources on the Oversight, Technical/Budget, and Communications committees; financial consulting; and business sponsor**

Shell's investment in this project will be successful if:

- **There is clear, scientifically valid evidence to support or negate the association of benzene exposure to adverse health effects.**
- **The level of benzene exposure associated with adverse health effects is defined.**
- **Shell's reputation is positively enhanced by our participation.**

Shanghai Health Study
Shell Steering Team Charter - DRAFT

Adopted:

- PURPOSE: The purpose of the Shell Steering Team is
- Set the strategy
 - Provide guidance to Shell staff on the Benzene Health Research Consortium committees
 - Provide internal Shell communication on the progress of the study
 - Issue Management
 - Provide resources to support the study
- Team: The Shell Steering Team shall have representation from
- Business
 - External Affairs
 - Finance
 - HSE
 - Issue Management
 - Legal
 - Medical
- Roles & Responsibilities
- Chair
 - Secretary

Shanghai Health Study
Shell Steering Team
MOD – November 16, 2004

Action	Responsible Party	Due Date
Review TOR and Quarterly Issue Paper	Patsy with Nancy, Stacy, Sam	YE04
Add non-US person to Quarterly legal discussions	Patsy	YE04
Add date and author to slides	Patsy	Done
OEL Discussion	Patsy and Sam	On-going
Clean Air Act Residual Risk – Shell Team and possible industry team	Patsy with CAA RR team	On-going
High level summary of study progress	Patsy	1Q05
Intention Slide: • Add “We want more good data for decision making so that we canfollowed by current list on slide • Reference/link to Shell Commitment to HSE & Policy; specifically “no harm to people.”	Patsy with input and review from steering team	1Q05
Lab Sustainability • Not a challenge; it is a secondary objective • Need an exit strategy that protects reputation	Patsy to work with consortium oversight team	YE05
Issue Management representative on team; suggestion to add Nick Welch	Patsy will contact candidates	1Q05
Add Geert de Jong to steering team	Patsy will contact Geert	1Q05
Develop list of deliverables for the study – what does success look like?	Patsy to work with consortium oversight team	1Q05
Shell benzene strategy	Patsy will work with HSE leadership and business to develop	05

