



Beryllium Health and Safety Committee

Steve Abeln, Committee Chairman

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Meeting Minutes

May 1-3, 2001

Las Vegas, Nevada (DOE Facility – North Las Vegas)

A meeting of the Beryllium Health and Safety Committee was held in Las Vegas, Nevada at the North Las Vegas DOE Facility. The meeting agenda is appended as Attachment A. A list of attendees is appended as Attachment B. A list of discussion topics and associated notes is given below.

Tuesday May 1, 2001

1. 9:00 a.m. – 9:20 a.m., Overview of previous meeting's minutes (J. McKenney).

The Committee reviewed previous meeting (November 28 – 30, 2000) minutes.

2. 9:20 – 10:00, Uniform Implementation of the Be Rule (M. Garcia)

Chronic Beryllium Disease Prevention Program (CBDPP) Plan Implementation for AL Contractors (M. Garcia) -

The Committee convened for a collective dialogue on the recent CBDPP Plan Implementation for AL Contractors. Significant issues were as follows:

- The committee had a discussion on the freedom that is afforded to the Committee, as there is both significant flexibility and restrictions with an ad hoc committee. The committee addressed the issue of our limitation by being ad hoc and yet being liable for Federal Advisory Committee Act (FACA) issues.
- The Committee discussed the Joint Working Group (JOWOG) mechanism to be utilized as the vehicle to have effective input into the beryllium policy, development of significant performance measures and best practices protocols. However, there is a consensus that what we do as a JOWOG type committee needs to be looked at more closely. Discussion on this issue was deferred until tomorrow's committee meeting.

3. 10:00 – 10:30, Paper Reviews (B. Marrone):

- "Inhibition of Normal Lung Fibroblast Growth by Beryllium" – (Lehnert, Gary, Marrone, Lehnert). B. Marrone gave a list of papers to the Committee for review. For additional information, please contact B. Marrone.
- B. Marrone reviewed the papers. The paper reviews by B. Marrone are posted from an information standpoint only. It is not necessarily a collective consensus document by the

BHSC. Any questions regarding the material should be directed to the authors of the paper or B. Marrone.

- In addition, Babs gave an update on what work is being done at LANL (LANL Beryllium Health Effects Project). The goal of the study is to develop better tests for predicting and diagnosing Chronic Beryllium Disease. This is accomplished by collecting blood samples from individual beryllium Workers with their informed consent. Additional information can be obtained by contacting B. Marrone directly.

4. 10:45 – 11:15, Paper reviews (Conducted by Kathy Creek):

The following papers were reviewed:

“Metal-Induced Lung Disease: Lessons from Japan’s Experience- Y. Kusaka et al., *J. Occup. Health*, 43:1-23, 2001”

“Impact of a Worker Notification Program: Assessment of Attitudinal and Behavioral Outcomes - D. Tan-Wilhelm, et al. *Am. J. Ind. Med.*, 37:205-213, 2000”

Kathryn Creek of LANL reviewed the papers. The paper reviews by K. Creek are posted from an information standpoint only. It is not necessarily a collective consensus document by the BHSC. Any questions regarding the material should be directed to the authors of the paper or K. Creek.

5. 11:15 – 12:00, Paper review (Conducted by Sally Tinkle):

The following papers were reviewed:

“Particle Clearance and Histopathology in lungs of C3H/HeJ mice administered beryllium/copper alloy by intratracheal instillation” – J. Benson, A. Holmes, E. Barr, K. Nikula, T. March, - *Inhalation Toxicology*, 12:733-74

S. Tinkle of LANL reviewed the papers. The paper reviews by S. Tinkle are posted from an information standpoint only. It is not necessarily a collective consensus document by the BHSC. Any questions regarding the material should be directed to the authors of the paper, S. Tinkle.

6. 1:30 p.m. – 2:00 p.m., Cardiff Decommissioning (Graham Cogbill)

Critical Dates:

- Closure Announcement – Jan 20th 1995
- Cessation of Production – Feb 1997
- Post Operative Clean Out (POCO) – Feb 1998
- Demolition began April 2001
- Scheduled Completion – August 29, 2001

50,000 ft² on 15 acre site, located in a residential area of N. Cardiff. The manpower peaked during the mid 80's at approx. 100. In 1998, contract awarded to GEC-ALSTHOM. Value for Beryllium approx. \$ 7M. AWE role to manage the contract – provide specialist advice, safety, security, public relations, etc.

The documentation produced was discussed:

- Environmental assessment
- Decommissioning Plan
- Pre-works Safety Reports
- Decommissioning Safety Case
- Health and Safety Demolition Plan
- Hazop Study
- Method Statements
- Risk Assessments
- Emergency Response Arrangements
- Facility Rules

Phases:

- Site Characterization

Basis: Extensive Monitoring Results
Anecdotal Information (1960-1997)
Desk Top Study
Ground Conditions, Borehole Survey
200 Samples Sitewide

- POCO Removal of Plant/Machinery
Transfer items required by AWE (A)
- Pre-Works
Decommissioning Ring Main
Ventilation Modifications (MMFU's)
Provision of Waste Buffer Zones (2)
Consideration of Over-Building
- Manpower Up to 30 Contractors/AWE Involved

Waste Issues:

- Pre tender decision by MoD that all items from the facility would be disposed of to a Licensed Landfill Site
- Waste Double Wrapped and Packed, Many Machine Tools also palletised and transported in Steel Containers.
- To date about 1K tons consigned to Landfill (excludes Building Fabric).

- Exit Route for Wastes via 2 Purpose Built Buffer Zones.
- Drains Cleaned and will be Grouted prior to lifting.
- Provision of alternate temporary, effluent plant to permit removal of Flocculation Treatment Plant.
- Stack Disposal

Beryllium End Point (BEP)

- Set at <10 microgram/square foot.
- Walls wet washed
- Floors scabbled unless original concrete, paint, resin coating removed as appropriate.
- At BEP Tie down coating applied
- Demolition approved

Ventilation:

- Main ventilation sequentially reduced/removed
- Negative pressure/balanced air achieved by use of Mini Mobile Filtration Units (MMFU's), HEPA filtered.
- Discharges via stack – Normal (non detectable)
- Ductwork removal via mobile elevated work platforms (MEWP's), catwalks, using sleeving technique. Loosen/remove the existing bolts at flanges, replace some. Sleeve with H.D. Polyethylene (excess). Remove bolts through polyethylene. Roll- out Poly, twist and cut steel, cover ends.
- Typical sizes: 5' dia, 7' x 4' rectangular sections in 12 ' lengths.

Other Issues

- Training Site
 Facility
 Specific Competency
 Regular Tool Box Talks
- Work Control Work Control Centre – AWE operated
 WAF's
- Safety Related Incidents:
 - Injuries: Restricted in the main to minor cuts to hands; 2 injuries involving absence from work (few days)
 - Incidents: Dropping/falling o items; non-adherence to safe system of work; spurious fire alarms
- Asbestos: Removed by specialists when identified

7. 2:00 – 2:45, Skin Exposure (Sally Tinkle)

Presentation: “Particle Penetration of the Skin as a Potential Route of Sensitization in Beryllium Disease”

S. Tinkle discussed the work done by the NIOSH-Morgantown Interdivisional Beryllium Research Team that investigates the CBD Immunopathology and the route that the beryllium potentially takes via the skin. Any questions regarding the material should be directed to the S. Tinkle. (Particles less than 1 micron in diameter with motion can penetrate the skin. The particles were NOT beryllium, the emphasis was meant to be proof of concept that particles could penetrate the skin).

2:45 – 3:30, NIOSH/Brush Study Status (McCawley, mam2@cdc.gov)

M. McCawley discussed the History (MOU w/ BWI, previous work), Collaborative Work (Access to plants), To Date Issues (7 facilities, 3 years) and the Hypotheses (Particle Number/Dermal Penetration, Genetic Factors, etc).

One theory of exposure is weight (one-micron particles) versus number (1 million 0.01 micron particles). The issue is probabilistic events of more particles doing greater damage by sheer odds.

A common misconception is that the probability of deposition in the lung approaches zero once the particle sizes decrease below a fraction of one micron. All particles once in the lung have a probability of being deposited in the lung. The issue is of the efficiency of the total deposition by Impaction/Sedimentation/Interception versus Diffusion. Once the particle size approaches 0.25 micron diameter, the efficiency becomes greater due to the diffusivity of the material.

The focus of the hypothesis was based on the sampling of small particles. Low-pressure impactors, particle counters, mobility analyzers, and specialized filtration systems were utilized for sampling of small particles.

Data and conclusions can be found in the presentation. Questions should be directed to M. McCawley

8. 3:30 – 4:30, CBD cases in the UK and the use of LPT testing (Tracy Thomas)

Moved to Wednesday due to time constraints.

9. 4:30 - Close, Wrap-Up (Steve Abeln)

The meeting adjourned following M. McCawley’s presentation

(End of day – finished at 5:25 p.m.)

Wednesday, May 2nd

1. 8:00 a.m. – 9:45 a.m., CBD cases in the UK and the use of LPT testing (Tracy Thomas)

Tracy Thomas reviewed CBD cases in the UK. Prof. Jones-Williams, MD, established the UK beryllium case registry. 69 cases of proven and probable beryllium disease between 1945 – 1993. Of these 51 CBD, 4 with preceding ABD. 1 ABD with recovery (due to fumes), 7 skin disease, 10 “suspect” cases.

UK Diagnostic Criteria:

- History of exposure to beryllium
- Consistent clinical and radiological features
- Presence of sarcoid-like granulomas
- Detection of beryllium in the tissues
- Evidence of beryllium hypersensitivity
- Jones-Williams, 1993

Fluorescent Lamp Industry

- BeO used ~1940-1948
- BeO in fluorescent lamps generally 5%
- Workplace exposures 2.7-39.1 ug/m³
- Typically no LEV/RPE
- Cases of beryllium disease noted between 1945-58, initially in research workers
- UD BCR = 18 CBD cases

Be metal and Be – Cu alloys

- UK BCR = 34 CBD cases

2% Be-Cu Alloys

- First cases – 1954 and 1957
- Worked in precious metal smelters handling solid alloys 3.5 years and 2 years)
- First Case
 - Skin and pulmonary symptoms
 - Positive patch test
 - Treated – skin lesions disappeared but no radiological improvement

“Probably due to contact through cuts or concomitant exposure through poor control of smelting operations elsewhere in factory”

- 5 cases identified in Essex 1959-1966
 - Workers in Foundries and Rolling Mills
 - One sub-acute case in 1959 Foundry worker for 1 week (fumes)
 - First CBD case misdiagnosed as sarcoidosis until second case (sub-acute) seen

- 1970 – CBD in smelting plant worker – one year exposure (fumes)
May have been exposed to fumes/dusts from operations to produce alloy using pure metal
- One case in Scotland
- Symptoms similar to CBD
- Be in lung, negative BLPT
- No improvement with steroids
- Initially exposure unknown
- Sciacky spot welding process (HSE advice)
 - *'Fumes evolved but main inhalation source would have been dust generated as welding rod wore down'*

AWE Cardiff

- Government Atomic Weapons factory fabricated beryllium (and alloys) since 1952
- Regular health surveillance
- Regular monitoring (PAS, SAS)
- One case of CBD (initially skin disease)
- Four cases of skin disease (1986)
- BLPT (BLTT) Series

Cardiff CBD Case

- 1963 – Metal machinist cut finger on grinding wheel contaminated with BeO
- Smears (dry) on tool 200 – 450 ug
- Non-healing dry ulcer developed, failed to respond to steroids
- 1964 – skin biopsy identified non-caseating granulomata containing Be
- Positive Be skin patch test
- Jan 1965 – amputation of finger
- Jun 1965 – two nodules on forearm
 - Nodules excised; skin biopsy identified no-caseating granulomata containing Be
- 1968 – Further nodules on forearm, dyspnoea
- 1970 – Fibrosis and granulomas in lung, MIF positive, Be in urine
- 1980 - BLPT (BLTT) positive, MIF negative, Be in tissues
- 1970 – Treated with steroids
- Feb 1970 – Improvements seen in CXR
- May 1970 – Lung function improvements
- 1972 – Nodules on forearm gone
- Symptoms controlled by steroids
- 'Longest survivor' in UK BCR
- Died of cor pulmonale in early 1990's (into his 80's)

BLPT Series

Series 1 1986 – 1988

- 172 Cardiff workers
- 2 Be Concentrations used
- 5 (2.9%) workers with S1 >2.5
- 2 (1.2 %) workers with mean S1 > 2.5
 - 1 tested positive previously
 - 1 retest negative
- 79 Controls
 - No mean S1 > 2.5

Series 2 1989 – 1990

- 70 Cardiff workers
- 4 Be Concentrations used
- 10 (14.3%) workers with S1 >2.5
- 5 (7.1 %) workers with mean S1 > 2.5
 - 2 re tested negative
 - 2 not repeated, 1 retest borderline retest negative
- 23 Controls
 - No mean S1 > 2.5

BLPT Series

- MIF series by Jones-Williams (price et al 1977)
 - 50 workers handling pure metal
 - 7 positives
- MIF vs. BLPT series (Williams, JW 1982)
 - 35 WORKERS HANDLING PURE METAL
 - No BLPT positives
 - 7/7 CBD patients positive
 - MIF not reproducible
- BLPT series (JW, Williams 1983)
 - 117 Be workers (82 from 2 alloy/metal factories)
 - 2 positives from same alloy/metal factory
- Medical Data refers to 3 from Aldermaston
- One of the Aldermaston positive cases...

Aldermaston Case

- Diagnosed in 1978
- Metal machinist from 1962-78
- Machines enclosed with ventilation systems
- Investigation report referred to 'breaches of control measures'
- Positive BLPT (LTT)
- Died in 1992 aged 77

Ceramic Industry

- Few companies handled BeO
- One main ceramic factory (1952 – present)
- Subject of 30 year case study
- Company refined Be ore to produce BeOH, reduced to metal or calcined to BeO
- Exhaust ventilation applied
- Few workers wore masks
- Health surveillance
 - Pre-employment
 - Annual CXR
- 7 cases of Be disease
 - 4 definite, 1 probable, 2 suspect
 - Diagnosed: 1963 (4), 1965 (1), 1976 (1), 1981 (1)
 - 5 CBD, last two referred to as 'sub-acute'
- 17 workers noted high exposures
 - 2 recalled symptoms of ABD
 - 1 developed CBD 23 years of exposure

McConnochie et al 1988

- Two cases of CBD in twin brothers
 - 1) machinist 1979 –1982, diagnosed in 1983
 - 2) Machinist 1981- 1985, diagnosed in 1985
- Newspaper article 1993
 - Refers to four CBD cases
 - Latest in machinist for 18 months, made redundant in 1982
 - Diagnosed in 1993 after year of ill health

UK BCR

- States only 5 CBD cases in ceramic workers
- Refers to an ore crusher with CBD
- 10 problem cases
 - five without proven exposure
 - Four – No Be in lung, no immune tests
 - One – No granulomas in lung
- Five – No Be in lung
- 47 males and 12 females

Mortality Rate

- 30 deaths (no lung cancer as of 1996)
- Most deaths from cor pulmonale
 - 13 fluorescent lamp

- 9 metal/alloy machinists
- 2 millers
- 2 foundry workers
- one ceramic worker
- one air sampler
- one ore crusher
- one carpenter (Be machine shop)

Be Skin Cases

- 26 cases, 14 satisfied CBD criteria
- Eight only had skin disease
 - One from ulceration due to fluorescent lamp work
 - (later papers refer to only 7 skin only cases)
- 12 ‘suspect’ cases

2. 8:15 – 10:00, Uniform Rule Implementation (Garcia, Abeln)

Deferred later to accommodate T. Thomas’ presentation

3. 10:15 - 12:00 Update on BWI Medical Surveillance (D. Deubner)

D. Deubner update the committee on the current efforts in regard to surveillance review, preventative program, and the current on-going results.

4. 1:30 – 4:30, Subcommittee Meetings

Technical Practices, Standards, and Measures:

Mike Garcia, SC Chair

Participants	Facility	Phone	E-Mail
Mike Garcia	DOE/AL	505.845.6397	mgarcia@doeal.gov
Steve Abeln	LANL	505.667.3954	abeln@lanl.gov
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John L. McKenney	SNL/ABQ	505.844.6772	jmcken@sandia.gov

BeLPT Issues:

There is some need to educate the physicians regarding the issues surrounding the difficulty with the laboratory inconsistencies with the BeLPT. How do we accomplish this? Steve Abeln and Mike Garcia discussed the possibility of having a letter drafted from the University of California to DOE/EH-6, Dr. Paul Seligman, with recommendations on enhancing the test based on new information developed by LANL and the experiences of sites using the current BeLPT including BrushWellman.

The SC constructed the following recommendations:

- Expand the use of the Immuno BeLPT as a possible replacement of the BeLPT.
- Develop updated statistics and results of side-by-side comparisons of the two test methods; share information with Committee medical directors.
- Develop a consensus of Committee members to improve the overall QA/QC of the BeLPT.
- Document Committee's position for use by the respective sites as necessary.

PPE

The SC discussed a range of Personal Protective Equipment (PPE) issues (type of clothing, respirators, gloves, etc.). Particular attention was focused on the results of the information presented by NIOSH and BrushWellman regarding the potential for sensitization following skin exposures. Currently, there are a number of approaches being taken to address the potential for skin contact at the different sites. Some of the sites have taken a conservative approach (i.e. Approved PPE for all activities involving Be that might be released during work operations.) while other locations have not implemented extensive controls. The Be medical surveillance data (sensitization, CBD cases) from some sites would support the need for more attention to the use of PPE in the workplace.

A good example of a positive approach to address the potential for release of Be and the need for PPE has been the experience at BrushWellman. BWI's assertiveness and positive PPE control measures provides an indication of the actions that are necessary to address the potential for sensitization. The BHSC would clearly have the opportunity to provide guidance for the sites with the goal of establishing some consistency between the different sites.

Monitoring

Another potential area for enhancement is in the area of developing approaches for monitoring potential exposures to Be. There are a range of different approaches taken to monitor contamination levels and personal exposures. A number of opportunities for developing consistent monitoring approaches would be helpful particularly for those sites with ongoing Be operations.

Other Discussions

There was significant discussion that issues such as PPE, monitoring, and work practices controls should be approached more intensely at the task level with the IH's that interact directly with the worker. Moreover, in addition to the changes in control measures there is a need to develop performance measures geared towards cultivating leading indicators rather than trailing indicators. Mike further suggested that we may need to take a defense and in depth approach for all operations with the potential to release Be. Operators must understand their ability to influence the process with regard to monitoring and work practices.

In an effort to accomplish these goals the Committee should develop a “sense of the Committee” with the understanding the need to follow through at the respective sites. We should attempt to harness a positive control methodology in such a way that there is the ability to effectively influence the policy and rule.

There was some discussion as to whether the Rule allows postings of individuals, a practice that Cardiff has employed and appears to have some effectiveness with exposure control. The idea is that what one does affects another, and having the results posted helps to facilitate minimizing individual exposures.

In addition, there was some discussion regarding the JOWOG vehicle to be able to utilize the committee as a mechanism to influence beryllium related policy making. JOWOG’s are simply information exchanges between the UK and the United States. As a result, it does not appear that we can utilize this as a way to satisfy and/or abate the FACA issue. It appears that the committee would have to form an EFCOG group as a separate entity under the BHSC. An EFCOG is a contractor driven meeting that DOE can attend as an advisory mechanism. EFCOG has been utilized for the pressure safety committee as a mechanism for DOE to receive input. The main driver is not necessarily to get funding sources, but to get responsibility for issues such as PPE guidance.

Action Items:

- Steve Abeln will explore options for consolidating the current UC Be medical surveillance information, particularly the work of Dr. Marrone in the area of the Immuno-BeLPT, and presenting the information to the site Medical Directors and EH.
- Mike Garcia will contact EH-6 (i.e. Paul Wambach) to identify the status of efforts to develop QA/QC approaches for the BeLPT.
- John McKenny will work to determine what is necessary to post the 10 CFR 850 Rule (or a link) on the BHSC web site.

CBD Prevention:

Kim Ellis’ notes on CBD Prevention Subcommittee Breakout Session:

Participants	Facility	Phone	E-Mail
Tony Quinn	AWE	(44) 118-9882.5151	Tony.Quinn@awe.co.uk
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David Deubner	BWI	419.862.4391	DAVID_DEUBNER@brushwellman.com
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Deubner – looking for suits as form of PPE

SEA

Positive pressure demand powered air-purifying respirator:

- Respirator w/ split airflow between suit and mask
- Suit

Cost approximately \$2500 – respirator and 1 set of replacement filters, battery lasts full shift – has pressure sensors, alarms

Deubner – The way to determine “Be Worker” is based on migration control of Be and intelligence; there is no strict definition.

Be Article Exemption Discussion:

The SC discussed the possibility that it may not be valid to claim exemption; question was raised about articles cleaned 5 years ago – is this still good practice to assume that respirable beryllium particulate is not on the article?

Performance Measures

Brush Wellman – takes 8 program measures and 5 enabling factors

Commitment, performance measures

Clean, shipping shape

Keep it out of the lungs and off the skin

The SC discussed the possibility of developing a score card or progress summary that gives quantified scores for audit criteria.

Based on Alcoa model – mixed program elements and implementation

The SC discussed a potentially big project – To marry the Rule to ISM by developing a feedback system for measuring health and safety goals. 4 main objectives:

- Minimize the number of workers potentially exposed
- Minimize opportunities for workers to be exposed
- Minimize disability and lost work time due to Be related illness
- Set specific exposure reduction and minimization goals to reduce exposure to greatest extent possible

Develop leading and lagging performance measures to measure how well we are meeting the objectives.

CBD Prevention Subcommittee Performance Headings - (19 each, Incorporate Good Practices Information into an Evaluation Tool)

- Baseline Inventory
- Hazard Assessment
- Action Level
- Exposure Monitoring
- Exposure Reduction and Minimization
- Regulated Areas
- Hygiene Facilities and Practices
- Respiratory Protection/PPE
- Housekeeping
- Release Criteria
- Waste Disposal
- Be Emergencies
- Medical Surveillance
- Medical Removal
- Medical Consent
- Training/Counseling
- Warning Signs and Labels
- Record Keeping
- Performance Feedback

Example:

Audit Criteria for Hazard Assessment

HA – Systematic process that identifies possible hazard associated with a job/task. Analyzes and quantifies the degree of hazard.

Steps:

- Hazard possibility present or not
- Establish initial controls
- Measurement/sampling baseline assessment
 - Existing data, existing situation characteristics

Poor: HA is not a management objective
 No written program/process exists
 Inadequate resources committed
 Informal information exists

Fair: Management objective developed
 Written program exists
 Minimal resources committed
 Written documentation available for only a few jobs/tasks

Good: Fair plus adequate

Written documentation available on most tasks/jobs
Quantitative sampling/measurement variably performed
- HA's mostly current

Excellent: Good plus written documentation on almost all jobs/tasks
Quantitative sampling/measurement performed when relevant
Ongoing update HA/Protocols designed and current
Documentation/information readily available to all relevant parties

Talked about items from last meeting:

- Updating Good Practices Guide (not worth it/nobody uses it)
- Trading Be disease protection for other hazards (i.e. layers of PPE and respirator = heat stress). George talked about a possible pressure demand PAPP by SEA – splits airflow between suit and respirator. Tradeoff is that it is expensive \$2500/each
- Talked about article exemption and how it might work for recently cleaned parts, but after it sits a year, it's no longer an article (this is especially important in light of Sally Tinkle's Skin Sensitization model)
- Talked about performance measurement; Rule requires performance feedback, but we don't have criteria to judge this with regard to preventing disease. So we tried to look at elements of the Rule and will try to come up with criteria to measure performance.
- Challenge: Focus on preventing disease and make it usable for most facilities (tough with performance based rule)

CBD Research Needs:

Marc Kolanz will be adding the minutes from both the conference call meeting in March as well as the minutes from the SC meeting yesterday and today in the corporate BHSC minutes.

Meeting adjourned at 4:45

Thursday, November 30th

1. 8:00 – 10:00, Collective Dialogue/Subcommittee Meetings

The Committee convened for a collective dialogue on M. Garcia's request that we develop a mechanism for deliverables to Defense Programs that have an interest on getting input from the beryllium community.

The Committee agreed that the best approach to accomplish this would be to tackle a specific issue (BeLPT inconsistencies) and draft a proposal for solution for Mike Garcia to take to Steve Goodrum. In return for our work on these issues, we would request that Steve Goodrum provide a forum for the BHSC to provide feedback for relevant beryllium issues.

The Committee discussed the specific issues with the BeLPT problem. The first issue discussed was with the flow cytometry that B. Marrone utilizes to in her work for genetic markers. The Committee noted that we need to be careful that we focus on researching the replacement of the conventional LPT with Immuno LPT and not attempt to delve too far in to the genetic issues. The general consensus was that this seemed to be a reasonable approach. It was also noted that we needed to work through the year to accomplish this goal. The question was whether we had enough expertise within the DOE laboratory community to tackle this issue competently compared to private industry.

The committee discussed the among the issues that we might approach is the fact that the only avenue that we have to find if the current BeLPT testing labs are giving erroneous results is to find another lab. The only way that you find out if a lab is giving erroneous false positives is to send someone who has two false positives to get a bronchoscopy examination and we have documented cases where that has happened. This is an issue that we could focus on and pitch in favor of the flow cytometry technique change.

Another primary issue is the fact that there needs to be a validation of B. Marrone's technique. It is generally agreed that she will need to get consensus amongst the physicians to validate the technique.

The Committee bought up the point that it may be useful to set up a pathology review so that consensus among site physicians could be obtained.

From a program management perspective, the motivation for doing this is the cost savings from the current issue that whether or not an LPT sample is good, it is still paid for. In addition to the cost savings from eliminating bad samples, there would be significant savings from lost time off work for those workers that receive false positives.

There was also some discussion about the role of DOE EH in NNSA activities, and questions about where Paul Wambach would be in the scheme of things. It seems that there is some ambiguity about this issue. However, this appears to not be of particular concern. Steve Abeln suggested that if we funnel this work through DP and Steve Goodrum, it would be the DP program management side of the house to decide where funding should come from and solicit those funds accordingly.

In addition, the Committee discussed whether or not this would fall under FACA requirements. The Committee generally agreed that what we would be doing is soliciting funding for issues that are important to the beryllium community.

Initially, the Committee would identify medical surveillance (BeLPT) as it pertains to the rule to get the audience with DOE DP program management. Later issues might include targeting the weight requirement on ACGIH standards where most of the beryllium community feels that this is irrelevant as the real issue is how respirable the beryllium is and not how much mass is present in the area.

Future Meeting Date and Site

The committee discussed whether or not we wanted to meet more or not. It was suggested that the frequency of the corporate BHSC meeting should remain at twice a year, and the subcommittees need to meet more often in between, such as with conference calls.

Concern was expressed over having our meetings at DOE sites. This will be looked at. Kathy Creek will investigate the possibility of defining the logistics.

We will be linking our meeting with Sally Tinkles Basic Science Beryllium symposium in Bethesda (October 15th and 16th). October 17 – 19 appears to be the best available time for us to meet. Jim Slawski will be investigating the feasibility of a meeting site.

2. 10:00 – 11:30, Subcommittee Reports

Technical Practices, Standards, and Measures Subcommittee

(Steve Abeln reported for the Technical Practices and Standards Subcommittee in lieu of Mike Garcia)

CBD Research Needs Subcommittee

Marc Kolanz reported on the activities of the CBD Research Needs Subcommittee. Marc noted that the CBDRN-SC met away on conference call between corporate meetings. The SC met to solidify the membership.

Marc Kolanz will be adding the minutes from both the conference call meeting in March as well as the minutes from the SC meeting yesterday and today in the corporate BHSC minutes.

CBD Prevention Subcommittee

Kim Ellis reported on the activities of the CBD Prevention Subcommittee. Kim Ellis will be adding the minutes from the SC meeting yesterday and today in the corporate BHSC minutes.

3. 11:30 – Close, Wrap Up (Abeln)

We discussed the need for ownership of the BHSC. In the past it has been convenient to be ad hoc. As the BHSC adds more value and input to the process, the structure of the Committee will most likely come under scrutiny. As a result, the Committee decided that Steve Abeln will pitch the ownership of the Committee Steve Goodrum under DOE DP.

4. Corporate BHSC Action Items (*Subcommittee Action Items ID'd separately*)

- We need to set up site criteria for meetings for logistics (large meeting room for corporate meeting, smaller rooms for the breakout sessions for the subcommittees to

meet, hub city where it's accessible, etc.). There was also discussion about the value added of site tours where people can see the facilities where the work gets done. Also, consideration for the DOE EH contingent (i.e. Weitzman, Wambach) needs to be looked at for the sites

- Steve is going to define ownership of the Committee (i.e. meet with Steve Goodrum)
- The SC's will need to get the meetings minutes to the BHSC secretary for posting.



Beryllium Health and Safety Committee

Steve Abeln, Committee Chairman
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Draft Meeting Minutes
May 1-3, 2001
Las Vegas, Nevada (DOE North Las Vegas Facility)

Attachment B, BHSC Attendance

Tuesday May 1, 2001

May 1, 2001

Name	Organization	Phone	email
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Beryllium Health and Safety Committee

Steve Abeln, Committee Chairman
Abeln@lanl.gov 505.667.3954

Draft Meeting Minutes
May 1-3, 2001
Las Vegas, Nevada (DOE North Las Vegas Facility)

Attachment B, BHSC Attendance

Wednesday May 2, 2001

May 2, 2001

Name	Organization	Phone	email
Steve Abeln	LANL	505.667.3954	abeln@lanl.gov
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Beryllium Health and Safety Committee

Steve Abeln, Committee Chairman

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Beryllium Health and Safety Committee Meeting Las Vegas, Nevada

Tuesday, May 1, 2001

8:30	Coffee, Welcome	
9:00	Overview of last meeting minutes	McKenney
9:20	Uniform Implementation of Be Rule	Garcia
10:00	Paper Review	Marrone
10:30	Break	
10:45	Paper Review	Creek
11:15	Paper Review	Tinkle, Creek
12:00	Lunch	
1:30	Cardiff Decommissioning	Graham Cogbill
2:00	Skin Exposure	Sally Tinkle
2:45	NIOSH/Brush Study Status	McCawley
3:30	CBD cases in the UK and use of LPT testing	Tracy Thomas
4:30	Wrap-up	



Beryllium Health and Safety Committee

Steve Abeln, Committee Chairman

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Beryllium Health and Safety Committee Meeting Las Vegas, Nevada

Wednesday, May 2, 2001

8:00	Coffee, Welcome, Agenda	Abeln
8:15	Uniform Rule Implementation	Garcia, Abeln
10:00	Break	
10:15	Update on BWI Medical Surveillance	Deubner
12:00	Lunch	
1:30	Subcommittee Meetings	
4:30	Wrap-up	

Thursday, May 3, 2001

8:00	Coffee	
8:30	Subcommittee Meetings	
10:00	Subcommittee Meeting Reports	
11:30	Wrap-up	