

R14-22

PRE-FILED TESTIMONY – JASON M. RAY

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AUG 19 2014

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Pollution Control Board



ORIGINAL

1. Introduction of Jason M. Ray

a. Background

- i. Associate of Applied Science degree in Computer-Aided Drafting Technology from ITT Technical Institute in 1995
- ii. After serving in the United States Air Force I was hired in 2004 as a Forging Engineer at Clifford-Jacobs Forging
- iv. Moved to Sales Engineer, Sales Manager and Vice President – Sales for IMT Forge Group & IMT Machining Group
- v. Promoted to General Manager of Clifford-Jacobs Forging in 2012
- vi. Nearly 10 years of forging industry experience

2. Operations

a. Forging process

- i. Forging is often confused with casting or machining, but is different in important respects and produces products that are much stronger than their cast counterparts
- ii. That added strength is critically important in many aerospace, automotive, agricultural, mining and construction applications
- iii. Markets
 1. Agriculture
 2. Aerospace
 3. Automotive
 4. Construction
 5. General industrial equipment
 6. Material handling
 7. Mining
 8. National defense

b. Closed die forging

i. Process

1. 2 dies are brought together and the work piece undergoes plastic deformation until its enlarged sides touch side walls of the die
 2. A small amount of material begins to flow outside the die impression forming flash that is gradually thinned
 3. The flash cools rapidly and presents increased resistance to deformation
 4. This also helps build up inside the bulk of the work piece that aids material flow into unfilled impressions
- ii. Dimensions/sizes can vary yielding to more complex shapes with closer tolerances

- iii. Flexibility in shapes can lead to incorporating all sorts of design elements (flanges, protrusions, holes, cavities, pockets, etc.) that can make forgings very non-symmetrical
- iv. Types of metals/alloys forged also vary from carbon and alloy steels, tool steels and stainless, aluminum and copper alloys and titanium alloys

3. Clifford-Jacobs Forging Company History

- a. Founded by W.E.C. “Cass” Clifford and David B. Jacobs
- b. Founded in 1919/Current location since 1923
- c. World War II/Military forgings play a significant role in both our past and future
- d. Acquired by IMT in 2007
- e. Today’s Clifford-Jacobs
 - i. Physically demanding work of 115 hard-working employees/Hammers to CAD simulation software and CNC machines
 - ii. Capital reinvestments totaled \$7.3M+ in the past 6.5 years/This year’s sales are anticipated to exceed \$40M
 - iii. Limitations to growth
 - 1. Tax/Workers Compensation structure/law
 - 2. Hours of operation
 - 3. Cyclical nature of our business/2011 example

4. Present State of the Forging Industry

- a. Parts for a company’s own internal use (referred to as ‘captive’ forgings)
 - i. These forgings are their own product (ex. Caterpillar)
- b. Standard parts for resale (referred to as ‘catalog’ forgings)
 - i. These forgings may be purchased direct (exs. Crosby or Lebus)

c. Parts to order for customers

- i. Largest sector of forging industry with over \$6B in annual sales
- ii. There is about 250 custom forging companies in North America
- iii. We are 1 of only 158 of them that still reside in America employing approximately 45,000 people. These numbers have significantly declined the last 10 years




Champaign County
**CHAMBER
OF COMMERCE**



ORIGINAL

TO: Illinois Pollution Control Board

FROM: Laura E. Weis 
President & CEO
Champaign County Chamber of Commerce

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**STATE OF ILLINOIS
Pollution Control Board**

DATE: August 10, 2014

As the president & CEO of the Champaign County Chamber of Commerce, I am authorized by the chamber board of directors to speak on behalf of the Chamber in support of Clifford-Jacobs Forging's proposal to be allowed to operate its forging shop on a 24-hour basis.

Clifford-Jacobs Forging has a rich history in Champaign County. Their original facility started in Urbana, Illinois back in 1919. A fire destroyed the original facility and they moved the forging company to an area of Champaign County that is referred to as Wilbur Heights in 1923.

Wilbur Heights is 36-acres of unincorporated land that was rezoned by county ordinance in 1973 to industrial. Although a few residential houses still exist in Wilbur Heights, the intention of the ordinance was to slowly move the area to be completely industrial. The intention of the ordinance is clear given the language included which prohibits residents from any rebuilding or substantial remodeling of residential property.

Additionally, the location of the area, set against the railroad tracks and close proximity to Interstates 74, 57 and 72 makes this area of the county ideally suited for industrial zoning.

Clifford-Jacobs Forging has been a staple in the Wilbur Heights area since the formation of Wilbur Heights. The company was responsible for establishing the residential area as a place for its workers to live while working at the forging facility. In a 2010 News-Gazette article about the area, many of the

residents publicly acknowledge that the noise made by the hammering at Clifford-Jacobs does not bother them.

As well as being a nationally known defense supplier, Clifford-Jacobs Forging also has a significant economic impact on Champaign County. They currently employ 114 individuals with an annual payroll of approximately \$5,150,000. Additionally, they have a local economic impact of \$2,360,000 in local spending with area businesses.

Adding a 3rd shift is critical to the future of their company. While it is only estimated at this time, the additional shift is estimated to add 72 new jobs for Champaign County. Most importantly though, this request is important to the health and well-being of its current workforce. Given the nature of the industry, the ability to "beat the heat" by adjusting hours creates a better work environment while still allowing Clifford-Jacobs to meet the needs of its customers.

Given Clifford Jacobs Forging longevity and its economic impact on our community through payroll and local spending and recognizing that their request will make for a better, safer working environment for its current employees and the potential for new jobs created, the Champaign County Chamber of Commerce supports Clifford-Jacobs Forging's request to the Illinois Pollution Control Board.

Thank you.



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PRE-FILED TESTIMONY – GEORGE MARTZ

My background includes a B.A degree as well as a Master's degree in Industrial Technology from Eastern Illinois University. I have also attended both Joliet Community College and the University of Illinois at Urbana-Champaign.

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I joined Clifford-Jacobs Forging's Engineering Department in 1978. I have served in a number of capacities including Engineer, Plant Engineer, Engineering Manager, Vice President and most recently as Facilities Manager.

Forging at Clifford-Jacobs in layman's terms is cutting steel bars to size, heating the steel billets to around 2350 degrees and then hitting it with a steam-driven hammer on to closed die impression forgings. This then makes a part to customer requirements.

The steel we use comes from mills throughout the United States, on flatbed semis. We ship our forgings on semi-tractor trailers as well. Our parts go into a variety of different end products including mining, huge Caterpillar tractors, oil and gas drilling equipment, U.S. Defense Department missiles, and Chinook and Apache attack helicopters.

We currently have 10 hammers that range in size from 25,000 pounds to 1,500 pounds. They are as follows:

<u>HAMMER #</u>	<u>POUNDS</u>
1. #16	20,000
2. #15	8,000
3. #14	25,000
4. #13	8,000
5. #12	12,000
6. #10	6,000
7. #11	6,000
8. #8	3,000
9. #6	2,500
10. #2	1,500

In virtually all circumstances, all 10 hammers do not run at the same time. Though it is not highly technical to perform this work, certain aspects of our process can be more challenging than others.

Product runs vary, as we are a Job Shop that strives to meet each customer's needs. However, it is not uncommon to have runs of 300-400 parts that originally started with 9-10 inch rounded steel. We normally run 7 hours on a shift.

PRE-FILED TESTIMONY – GEORGE MARTZ

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There is no substitute for the flexibility of a hammer. Especially for the larger pieces that we run, no other piece of equipment can forge out at the size, grade and shape customers require as a hammer.

Forging plants are not air conditioned and working during the day and early afternoon in the summer months can be particularly difficult. Our proposal would allow us to work up to an additional 7 hours a day, enhancing our employee's health and safety during warm summer days. A third shift option will also be critical to us at times when our customer demands outstrip current operational capacity.

While our hammers do generate a certain level of noise, we are not the only source of noise in the area. Directly east of our facility is the Canadian National Railway (formerly the Illinois Central Gulf (ICG) Railroad). Our consultant actually had to suspend monitoring because of the noise level generated by the trains coming directly by our facility.

Other buildings lie between our Forge Shop (Building #4) and Wilbur Heights, including our Die Shop/Storage areas, Inspection and Shipping/Warehouse department/area. Wilbur Heights is a combination of light industrial/commercial and residential buildings/homes located southwest of our facility.

Additionally, the Eastern Prairie Fire Protection District fire house is located directly southwest of Clifford-Jacobs. Most of the property around us is zoned heavy industry. We have a number of distribution related businesses north of us in an industrial park. Initially developed by Clifford-Jacobs, since the 1970's the Wilbur Heights area has been zoned for heavy-to-light industry. Today it includes warehousing, excavating, recycling, concrete, construction and trucking businesses with varying degrees of related truck traffic.

The hammers and 16 furnaces are located in Building 4, and it was constructed to both let heat escape while protecting the equipment. The building is over 25,000 square feet and reaches 45 feet into the air at its peak to disperse heat. Each furnace can heat up to 3.5 ton of steel per hour to a temperature approaching 2350 degrees, which creates a significant ventilation requirement for the building. While open doors and windows assist with removing the heat, they also contribute to impulsive sounds generally directed to toward the non-residential areas to the east rather than towards the Wilbur Heights area, which lies to the southwest.

The forging process itself is a source of noise. Noise sources from hammers include dies hitting steel and steam going through exhaust pipes. The latter is more of an internal than external noise source to the area surrounding Clifford-Jacobs.

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Years ago we reviewed a number of alternatives to lessen noise levels with no success. This included trying commercially manufactured mufflers specific to our industry to mitigate the noise. However, they were found not to be an effective short or long term solution.

It is not practical to either enclose or air condition a Forge Shop due to the 2,350+ degree heat furnaces generate. This limits our ability to sound-proof the Forge Shop as well.

Due to the nature of forging, in part the physical limitations and necessary design of Building 4 and in part the heavily-industrialized character of the area, no other viable economically reasonable, technically feasible measures can be taken.



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August 18, 2014



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**Champaign County
Economic Development
Corporation**

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To: Illinois Pollution Control Board CO/ Phil Van Ness

From: Craig Rost, Executive Director

Re: Support of Clifford Jacobs Forging, 24 hour operation

The following is a summary of the anticipated testimony of Craig Rost in favor of allowing Clifford Jacobs Forging to operate a third shift with 24 hour operations.

- Craig Rost is the Executive Director of the Champaign County Economic Development Corporation (EDC), a not-for-profit agency that coordinates and supports economic development activity in Champaign County, IL.
- The EDC works closely with manufacturing employers in Champaign County (population 206,000) to grow and retain a diverse workforce including light and heavy manufacturing, warehouse/distribution.
- The current workforce of 114 employees and the potential to add 72 employees on a third shift to meet demand is a significant employment impact on the County industrial workforce.
- The dwindling number of die forgers of this type today in America suggests that business lost can be lost forever if the customer has to turn to another US facility that is not operating under such restrictions - that labor force would be lost for Champaign County and production could be lost to an offshore facility.
- An estimated 70% of industrial workforce growth in Champaign County is the result of retention and expansion of existing industries and employers.



**Champaign County
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- Champaign County employers draw from at least 10 neighboring counties and a large portion of the industrial employment in the county is located in or near the population centers of Champaign, Urbana and Rantoul.
- Due to large capital outlays, land cost and railroad access, the likelihood of locating a new foundry is highly unlikely, making the potential success and expansion of this foundry's capacity a priority for the County.
- Clifford Jacobs has been a long-term employer in Champaign County with a record of good relations with existing commercial and residential neighbors.
- The location of the existing Clifford Jacobs plant is ideal considering road, employee and railroad access.
- The EDC has supported the Clifford Jacobs management and staff to assure their continuation as a key industrial employer in the County.

Considering all of these factors, the Champaign County Economic Development Corporation is fully in support of the request by Clifford Jacobs to add a third shift when needed to increase capacity and keep the foundry operating and competitive in Champaign County.

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August 18, 2014

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-BY FedEx-




RE: Clifford-Jabobs Forging Co., *Proposal for Amendment to 35
ILL. ADM. CODE 901.119 [R14-22]; Prefiled Testimony*

Dear Mr. Therriault:

Enclosed are the originals and eight copies of the Prefiled Testimony of witnesses Jason Ray, George Martz, Laura Weis and Craig Rost in the above-entitled proceeding. The fifth scheduled witness on behalf of Clifford-Jacobs Forging Co., namely, Paul Schomer, Ph.D, P.E., has previously supplied a lengthy *Noise Assessment and Feasibility Report*, which has already been provided to the Board as Exhibit D to the Proposal; this report should serve as Dr. Schomer's prefiled testimony.

We ask that you provide one copy of this package of materials to Hearing Officer Powell and return a file-stamped copy to us for our records. If you determine that there is any missing or incomplete documentation, please do not hesitate to contact the undersigned.

Sincerely,


Phillip R. Van Ness
WEBBER & THIES, P.C.

Encls.

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