



## NEWS FROM TAYLOR DEVICES, INC. SHAREHOLDER LETTER, SPRING 2017

THIS NEWSLETTER IS DIRECTED TO ALL SHAREHOLDERS OF TAYLOR DEVICES. WE HOPE THAT IT WILL GENERATE INTEREST IN THE COMPANY, PLUS PROVIDE CURRENT FINANCIAL AND PROJECT INFORMATION. COPIES OF THIS NEWSLETTER WILL ALSO BE CIRCULATED TO SHAREHOLDERS WHO HAVE SHARES IN BROKERAGE ACCOUNTS.

### ITEM: FINANCIAL RESULTS

Taylor Devices completed the third quarter of its fiscal year on February 28, 2017. Comparative, unaudited, financial results for the third quarter and nine month periods are as follows:

<u>THIRD QUARTER</u>	<u>F/Y 16-17</u>	<u>F/Y 15-16</u>
SALES	\$5,672,720	\$8,326,147
NET INCOME	\$338,203	\$1,181,604
EARNINGS PER SHARE	\$0.10	\$0.35
<u>NINE MONTHS</u>	<u>F/Y 16-17</u>	<u>F/Y 15-16</u>
SALES	\$19,235,898	\$26,619,109
NET INCOME	\$1,486,317	\$3,115,911
EARNINGS PER SHARE	\$0.43	\$0.92
SHARES OUTSTANDING	3,431,312	3,397,613

The previous fiscal year 2016 was an outstanding year for Taylor Devices in which we had record highs in both sales and profits. 2016 sales were 17% higher than the prior record high while 2016 earnings were 65% better than the previous record high. It is always difficult to look good following such a year.

We just completed three quarters in fiscal 2017 and we will not have record breaking results. Prior to last year's record level of sales, the four-year average sales volume through three quarters is \$18.4 million. This year we are slightly higher at \$19.2 million.

This time last year we were working to close deals on three major defense contracts. The good news is we were awarded the contracts. The bad news is the funding for the contracts was delayed until this past November so shipments will not begin until the beginning of fiscal 2018. In the seismic market there have been similar delays by several owners / operators of buildings and bridges in starting new projects that have been in the planning stages for quite a while.

While we would have liked to have many of these defense and seismic projects included in our results for fiscal 2017, we are optimistic that future periods will benefit from them.

Our firm order backlog is \$19.5 million, as compared to \$21.5 million at the beginning of the fiscal year, and \$20.5 million at the end of the previous quarter.

We do not have record breaking earnings to report for the first three quarters of fiscal 2017 however, our earnings are the third best ever in the history of the Company for comparable periods. Prior to last year's record level of earnings, the four-year average earnings level through three quarters is \$1.3 million. This year we are slightly higher at \$1.5 million.

#### **ITEM: NEW ORDERS, AEROSPACE AND DEFENSE**

The following new orders for Aerospace and Defense related products were received during the quarter:

- *Phalanx Close-In Weapons System* – An order for 50 system sets of elevation axis shock absorbers was received for this critical ship's defense system.
- *RAM Point Defense System* – An order was received for 22 system sets of elevation axis shock absorbers for the shipboard defense missile system.
- *Navy Missile Canister Isolators* – A follow-on order was received which adds to orders announced in our winter newsletter for isolators for the U.S. Navy's SM-2 and SM-3 shipboard missiles.
- *NATO .50ca Machine Gun Buffers* – An order was received from one of the U.S. Allies in the NATO Alliance for 500 sets of soft-mount recoil buffers for the .50ca Browning machine gun.
- *NATO M109A6 Paladin Howitzer* – An order was received from one of the U.S. Allies in the NATO Alliance for 32 sets of suspension struts for this mobile 155mm Howitzer.
- *155mm Howitzer Gun-Sight Isolators* – An order was received for 75 sets of sighting system isolators for the U.S. 155mm Howitzer.
- *European Commercial Aircraft Program* – A follow-on order for 70 additional shipsets of custom actuators for this production aircraft was received. This adds to an order for 38 shipsets announced in the previous quarter.

#### **ITEM: NEW ORDERS, SEISMIC AND WIND**

The following new orders for the Company's Seismic and Wind Control Products were received:

- ***Beverly Hills Post Office – Beverly Hills, CA***
- ***Single Family Residence – Los Angeles, CA***



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- ***Electronics Manufacturing Building – Taiwan, ROC***
- ***Insurance Company Offices – Taiwan, ROC***
- ***Ginza 5<sup>th</sup> Street Building – Tokyo, Japan***
- ***Guayaquil Bridge – Ecuador***
- ***Rayiro Del Sol Pedestrian Bridge – Lima, Peru***

#### **ITEM: OPEN SPACES DAMPING SYSTEM**

In December 2016, the Company received a notice of allowance for claims on the first of two separate patents pending on Taylor Devices' Open Spaces Damping System for open storefront style buildings located in high seismic zones. The patent applications were filed in 2013. We expect the first patent to be formally issued by the Patent Office in the next few months.

#### **ITEM: 15<sup>th</sup> ANNIVERSARY OF THE RE-OPENING OF LONDON'S MILLENNIUM FOOTBRIDGE ACROSS THE THAMES**

The damper retrofit and re-opening of London, England's Millennium Pedestrian Bridge took place 15 years ago with extensive publicity in Europe. The bridge first opened with great fanfare on June 10, 2000, as part of London's Millennium celebrations. This stunning "signature design bridge" with a "Blade of Light" theme spans the Thames River in downtown London between St. Paul's Cathedral on the London side of the river, and the new Tate Modern Art Museum and Shakespeare's Globe Theater on the Southwark side. The bridge's architect was the renowned Norman Foster, who with ARUP, the engineering firm of record, faced the difficult task of fitting the bridge into a small cross section. This was due to a minimum clearance required for ship traffic under the bridge, and a height limitation imposed by the City of London so as not to obstruct the view of historic and architecturally significant buildings in the downtown area. This is a suspension style bridge, but with the height restriction, no towers were possible, so the highly stressed suspension cables were located alongside the bridge deck.

When first opened and crowds of people walked on the bridge, it swayed uncontrollably – and was closed 2 days later, at which time the bridge became unofficially known in the British media as "the Wobbly Bridge". Tests quickly took place on the bridge which revealed that although its maximum capacity was in the range of 2000 people on the bridge deck, a crowd of as few as 200 people would cause the uncontrollable swaying. The problem was traced to the swaying frequency of the bridge structure being very close to the walking pace of a person. Thus, the bridge exhibited a rolling motion, similar to a large ship, and when an unrelated group of people attempted to walk on the bridge, within a short time their stepping motions would be co-incident with the bridge's structural frequency, thus allowing a feedback effect to take place. The swaying motions of the bridge deck were so pronounced that many found it impossible to remain standing on the bridge. This phenomenon was later termed "Synchronous Lateral Footfall" by engineers, and has since been discussed and referenced in several textbooks.

An extensive engineering investigation followed the bridge closure, during which it was determined that the severe swaying could not be fixed by merely adding additional bracing to the bridge. This was due in part to the design restrictions on height and the minimum clearance for ship traffic. In fact, the only possible solution was to add substantial damping to the bridge – and the dampers must continuously cycle at 100% reliability for the expected 50 year life of the structure. This equated to more than 2 billion cycles of operation with no performance change allowable in the dampers.

Taylor Devices was contacted and proposed a damper design previously built for NASA and the U.S. Air Force for service on spacecraft and satellites, using a flexible welded metal bellows seal with essentially infinite life. The proposal was accepted, and a total of 37 dampers were integrated into the bridge structure, literally disguised as tubular support members, so as not to detract from the bridge's architecture. The largest of these were nearly 30 ft. in length. After the dampers were installed, the bridge successfully re-opened in 2002 under the watchful eyes of the London media –television, newspaper, and tabloid after some rather interesting and very comprehensive final tests. These tests involved using a controlled crowd of 2000 people traversing the bridge several times at various walking speeds. It was required that representatives of Taylor Devices be at the front of the crowd, and Alan Klembczyk, now Vice President of Sales and Engineering, and I attended to represent the Company. The testing was entirely successful, and even when loaded to full capacity with pedestrians, the bridge no longer swayed. After re-opening, the bridge quickly became, and is currently, a major tourist attraction, being used by millions of people each year, with zero problems.

This summer, a 15<sup>th</sup> anniversary celebration of the bridge's re-opening will be held as part of the 24<sup>th</sup> International Conference on Sound and Vibration (ICSV24). Presentations describing the addition of Taylor Devices' dampers will be made at the conference, followed by a procession of conference attendees who will walk over the bridge, with engineering aspects of the damper retrofit being discussed by me and others from the original design and retrofit team.

More information on the Millennium Bridge retrofit is available on-line on our web site at [taylordevices.com/papers/damper/damper.pdf](http://taylordevices.com/papers/damper/damper.pdf).

By:



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President