TABLE OF CONTENTS

SUMMARY

This preannounced, comprehensive Level II QSIT inspection of a Class II/III medical device manufacturer was conducted under Compliance Programs 7383.845 (Inspection of Medical Device Manufacturers) and 7383.001 (Medical Device Premarket Approval and Post Market Inspections) in addition to a CDRH generated assignment dated April 30, 2009. The inspection was conducted at DePuy Orthopaedics, Inc. located at 700 Orthopaedic Dr. in Warsaw, IN 46582-3994. The telephone number for the facility is 574-267-8143. The facsimile numbers for the facility are department specific. The FACTS ID for this inspection is 1048447/4150342 and TURBO ID 192380.

On 05/26/2009, I presented my credentials and issued an FDA-482 (Notice of Inspection) to Mr. Steven K. Dowell, Director Regulatory Compliance. Mr. Dowell indicated he was the most responsible person available at the issuance of the 482. This inspection was preannounced to Ms. Randa Franklin who is listed as DePuy's (Warsaw, IN) Official Correspondent on 05/15/2009. Ms. Franklin explained that my contact would be Mr. Steven Dowell, to whom the 482 was issued.

The previous inspection focused on Depuy's post market surveillance activities and changes instituted (i.e., design, manufacturing, and quality assurance system) since the pre-market approval in 2004 of their Duraloc® Options Acetabular Cup device. The device is a Class III medical device designed for hip replacement in humans, or modular hip endoprosthesis. The inspection also covered a product recall initiated by DePuy in 2005 and 2007 for their P.F.C ® E Knee System Stabilized Tibial Insert (STAB) product. The 2005 recall was initiated due to failures with a final packaging operation at Depuy's Maynham, MA facility where inner pouches for finished products were improperly sealed. The 2007 was an extension to the 2005 recall because the scope of Depuy's root-cause investigation in 2005 was found to be inadequate to identify all nonconforming products that resulted in the 2007 recall. Three discussion items were noted and discussed with DePuy management at the conclusion of this inspection. Those items related to failure to initially provide complete DHRs until being questioned about acceptance records, complaints that were open for greater than 90 days (the firms self imposed time limit) and lack of a definition acceptable limits listened in a design history file.

The current inspection covered Management Controls, Design Controls, Production and Process Controls as well as CAPA and Corrections and Removals. The inspection was initiated as a result of a PMA (b) (4) filed by DePuy for a (b) (4) (b) (4) in detail and manufacturing processes for the (b) (4) (b) (4) were reviewed as they are manufactured in Warsaw, IN. (b) (4) was not covered in detail because of an impending inspection at the manufacturer in accordance with the PMA inspection. At the conclusion of this inspection, no FDA-483 (Inspectional Observations) was issued to the firm. However, four discussion points and three comments were discussed with the firm at the close-out meeting on 06/01/2009. Those discussion points dealt with the lack of a formal protocol for the package stability testing for the packaging used on the ceramic insert component, shop notes found written in the laser etch area, the (b) (4) on the RO system were replaced at an interval greater than (b) (4) (Manufactures recommendation and DePuy's procedural requirements) and

good documentation practices. I also discussed three comments with the firm which included possible expansion of approvals on DFMEAs to include additional core team members, more specific Design Inputs and use of ISO symbols on medical device product labeling. The firm instituted some corrections prior to the close-out of this inspection. Specifically, the firm addressed the first two discussion points. It appears that the firm has addressed comments from the previous inspection. Voluntary corrections for both inspections have been entered into CARS.

The firm is currently registered and device types are listed with the USFDA.

No samples or photographs were taken. No refusals were encountered.

ADMINISTRATIVE DATA

Inspected firm:	DePuy Orthopaedics, Inc.
Location:	700 Orthopaedic Dr. Warsaw, IN 46582-3994
Phone:	574-267-8143
FAX:	574-269-7938
Mailing address:	PO Box 988 700 Orthopaedic Dr. Warsaw, IN 46581-0988
Dates of inspection:	5/26/2009, 5/27/2009, 5/28/2009, 5/29/2009, 6/1/2009
Days in the facility:	5
Participants:	Eric S. Pittman, Investigator

On 05/26/2009, I presented my credentials and issued an FDA-482 (Notice of Inspection) to Mr. Steven K. Dowell, Director Regulatory Compliance. Mr. Dowell indicated he was the most responsible person available at the issuance of the 482. This inspection was preannounced to Ms. Randa Franklin who is listed as DePuy's (Warsaw, IN) Official Correspondent on 05/15/2009. Ms. Franklin explained that my contact would be Mr. Steven Dowell, to whom the 482 was issued.

The current inspection covered Management Controls, Design Controls, Production and Process Controls as well as CAPA and Corrections and Removals. The inspection was initiated as a result of a PMA (b) (4) filed by DePuy for a (b) (4) (b) (4) were covered in detail. At the conclusion of this inspection, no FDA-483 (Inspectional Observations) was issued to the firm. However, four discussion points and three comments were discussed with the firm at the close-out meeting on 06/01/2009.

NOTE: As explained by Mr. Dowell, if mail is sent to DePuy's PO box, the zip code is 46581. If mail is sent to the physical address of the facility the zip code is 46582.

FMD-145
A copy of this report and all post-inspectional correspondence should be sent to:

Mr. David Floyd, President
DePuy Orthopaedics, Inc.
PO Box 988
700 Orthopaedic Dr.
Warsaw, IN 46581

HISTORY

DePuy was established in 1895 to develop a fiber splint to replace the wooden barrel staves used to set fractures. The firm has had a long history in Warsaw, IN which is considered the Orthopedic Capital of the World based on the number of large orthopedic companies and just-in-time manufacturers located in that city and the surrounding areas. DePuy Orthopaedics manufactures over (b) (4) products in their faculties including total joints, extremities and trauma device.

DePuy Orthopaedics is one of four companies that comprise DePuy. In addition to the orthopaedic company, DePuy Spine, Inc (spinal care solutions), DePuy Mitek, Inc. (pain management and soft tissue repair products) and Codman and Shurtleff, Inc. (diagnosis and treatment of neurological disorders) are part of the overall DePuy Corporation. DePuy is wholly owned subsidiary of Johnson & Johnson (J&J).

No major changes have occurred since the previous inspection.

The previous inspection focused on Depuy's post market surveillance activities and changes instituted (i.e., design, manufacturing, and quality assurance system) since the pre-market approval in 2004 of their Duraloc® Options Acetabular Cup device. The device is a Class III medical device designed for hip replacement in humans, or modular hip endoprosthesis. The inspection also covered a product recall initiated by DePuy in 2005 and 2007 for their P.F.C ® E Knee System Stabilized Tibial Insert (STAB) product. The 2005 recall was initiated due to failures with a final packaging operation at Depuy's Maynham, MA facility where inner pouches for finished products were improperly sealed. The 2007 was an extension to the 2005 recall because the scope of Depuy's root-cause investigation in 2005 was found to be inadequate to identify all nonconforming products that resulted in the 2007 recall. Three discussion items were noted and discussed with DePuy management at the conclusion of this inspection. Those items related to failure to initially provide complete DHRs until being questioned about acceptance records, complaints that were open for

greater than 90 days (b) (4) and lack of a definition acceptable limits listed in a design history file.

INTERSTATE COMMERCE

Depuy's sales are (b) (4) wholesale to distributors and user facilities (i.e., hospitals and surgical clinics) in the U.S. and Rest of World (ROW). About (b) (4) of the firm's finished product devices are sold outside the State of Indiana. DePuy distributes their medical device products to approximately (b) (4) distributors in the U.S, as well as abroad.

JURISDICTION

DePuy is a registered multinational company specializing in the development and manufacture of orthopedic devices such as knee, hip, shoulder and trauma devices (See exhibits #1 & 2). The firm develops and manufactures Class II and III devices in the Warsaw, IN location, among other locations within DePuy. DePuy has listed themselves as a:

- Specification Developer
- Manufacturer
- Repackager/Relabeler
- US Manufacturer of Export Devices Only.

DePuy is the holder of numerous 510(k)s for various devices such as the Anatomic Locking Plate System (K082300), Delta Xtend Reverse Shoulder Modular Stem (K071379) and the Agility Ankle (K053569). These devices were cleared by the Agency and are manufactured and distributed in interstate commerce.

DePuy has submitted PMA (b) (4) to receive approval for the (b) (4)

(b) (4)

The firm maintains websites located at www.depuy.com/, www.jointreplacement.com/, www.hipreplacement.com/ and www.kneereplacement.com.

INDIVIDUAL RESPONSIBILITY AND PERSONS INTERVIEWED

Various individuals were present throughout the inspection, inclusive of the opening meeting, the inspection proper and the close-out meeting. Selected individuals will be discussed and their responsibilities will follow.

This inspection was preannounced on the telephone to (b) (6) Sr. Regulatory Specialist II who is listed as DePuy's (Warsaw, IN) Official Correspondent on 05/15/2009. (b) (6) was not spoken to after this announcement as she notified Mr. Steven Dowell who contacted me on the same day.

A copy of the Organizational Chart for the Quality organization at DePuy is attached as exhibit # 4.

Mr. David Floyd is the President of DePuy and is located in the Warsaw, IN facility. Mr. Floyd is the most responsible person for the company according to Mr. Steven K. Dowell. Mr. Floyd was not present during the inspection.

Mr. Steven K. Dowell, Director of Regulatory Compliance. Mr. Dowell is in charge of regulatory compliance for the Warsaw facility which includes internal compliance and complaint and MDR reporting. Mr. Dowell was present throughout most of the inspection and provided numerous documents to me during the inspection. Mr. Dowell also facilitated the transfer of documents from the Cork, Ireland facility to the Warsaw, IN location for my review during the inspection. Mr. Dowell demonstrated his authority by instructing individuals during the inspection to retrieve documents and also accepting the 482. At the initiation of the inspection, he stated he was the most responsible person and was authorized by Mr. Causillas and Mr. David Floyd to accept the 482. Mr. Dowell reports directly to Mr. Causillas. Mr. Dowell was present throughout most of the inspection. He did not accompany me on the walk through.

Mr. Robert J. Mann, Quality Engineering Group Manager. Mr. Mann has various duties and numerous direct reports throughout the quality organization as shown in the organizational chart. Mr. Mann has responsibility for Quality Engineering, Quality Assurance and Document and Records Management. Mr. Mann was present during the opening and closing meetings as well as throughout the inspection and walkthrough. Mr. Mann explained numerous documents as well as facilitated the facility tour. Mr. Mann reports directly to Mr. Dowell.

Mr. Dennis R. Gwaltney, Manager Quality Management. Mr. Gwaltney is responsible for the internal compliance of the DePuy Warsaw site. Mr. Gwaltney has one direct report and reports directly to Mr. Dowell. Mr. Gwaltney is specifically responsible for internal audits.

Mr. Matt Reimink, Manager, Hip Product Development. Mr. Reimink was present during the inspection proper and the close out meeting. Mr. Reimink has numerous product development engineers reporting directly to him. Mr. Reimink was present to explain the design rationale for the (b) (4) Mr. Reimink was not in this position when the project was originally conceived in

early (b) (4) Nor was actually involved in the development of the various components of the (b) (4) which were cleared under 510(k) premarket notifications. Mr. Reimink was speaking for the development engineers for the products that are no longer with DePuy.

Mr. Juan Carlos Causillas, US Director, Quality Systems and Compliance. Mr. Causillas is the Director of Quality Systems and Compliance for the US. Mr. Causillas reports to Mr. Carl Dover (VP World wide Quality Systems DePuy Ortho). Mr. Causillas heads a large group responsible for QA, Regulatory Compliance, Quality Engineering, Clinical Affairs as well as Project Management at DePuy. Mr. Causillas has 7 direct reports (including one admin) which encompass all areas of quality and regulatory compliance. Mr. Caisillas was present intermittently during the inspection due to previous scheduled commitments. Mr. Causillas was present for the close-out meeting on 06/01/2009.

(b) (6), Sr. Quality Systems Engineer. (b) (6) was present throughout the inspection save the morning of May 27, 2009. (b) (6) did not participate in the inspection. Mr. (b) (6) was the note taker and also communicated with the backroom during the inspection via an internet connection and facilitated the requests and tracking of documents. (b) (6) reports to Mr. Gwaltney.

Mr. Rod Patch, Worldwide Packaging Manager. Mr. Patch is responsible for the packaging operations for DePuy. Mr. Patch has several direct reports and is responsible for performing validation of packaging designs as well as performing shelf life testing of packaging configurations. Mr. Patch was present during the inspection proper.

Mr. Ed Arscott, Manager, Sterilization and Microbiology Sciences. Mr. Arscott is responsible for sterilization studies as well as microbiology for the Warsaw facility. Mr. Arscott's responsibilities extend to clean room validations (which were covered during this inspection) as well as monitoring and testing of the faculties two main RO water Systems (which were covered during this inspection). Mr. Arscott was present intermittently during the inspection when his areas of expertise were being reviewed. He was also present during the close-out inspection.

Additional employees that were interviewed as part of this inspection include Mr. Vance Kyle, Supplier Quality Manager (Supplier Audits) and Mr. Justin Grostefon, Hip Project Manger. Various employees were interviewed on the floor as part of the walkthrough of the manufacturing processes.

FIRM'S TRAINING PROGRAM

The firm has a robust training program which includes training on the firm's quality systems as well as procedures based on the employee's job codes. In addition to training on procedures and the quality systems, Mr. Dowell stated that the firm uses the (b) (4) to track training. The firm also subscribes to some of the modules used by the Agency in that system for training opportunities.

During this inspection, two employees training files were reviewed (b) (6). No objectionable conditions were noted.

MANUFACTURING/DESIGN OPERATIONS
DePuy has described the device in their PMA as follows:

(b) (4)

(b) (4)

(b) (4)

Additionally, the manufacturing processes used for the (b) (4) were reviewed to determine validation status as well as compliance to the QSR's as they were being manufactured on site during the inspection.

Design Controls

The firm appears to currently have a robust design control system which complies with the various requirements of Subpart C of 21 CFR 820. This process is currently controlled by several procedures which encompass the design process. In general the process by which the devices were developed which are the subject of this PMA are as follows. The design processes used for the

(b) (4)

(b) (4)

(b) (4)

The firm stated within the PMA and subsequent amendments that they were performing a review of the design and development process to ensure it meets the requirements for a design and development plan and stated it would be completed prior to a PMA EI. I reviewed the Design and Development overview prepared by DePuy for the device. This retrospective review of the (b) (4) device appears to conform to all design control requirements in the QSRs. I also reviewed the design validation activities performed by the firm for this device. All activities were reviewed in detail and appear to conform to the QSRs.

Design control aspects of the (b) (4) were reviewed during this EI. All appear to meet the prescribed requirements of the Quality System Regulations.

Production and Process Controls

Various components of the (b) (4) are manufactured in DePuy's Warsaw, IN location. (b) (4) Both of these processes were followed during this inspection.

All components have incoming receiving inspections.

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

Both the (b) (4) products have been on the market as they were cleared via the 510(k) premarket notification process. These processes appear stable and mature. All production and process controls appear to meet the requirements of the QSRs.

Statistics used in process validation reports was reviewed by center staff for (b) (4) and was found to have deficiencies that the firm later corrected in a PMA amendment. As a result of this, I reviewed three process validation/verification documents (b) (4)
(b) (4)
(b) (4)

Supplier audits of all components used in the (b) (4) have been performed and appear to be up to date. The audits were conducted according to the procedure and by trained personnel.

MANUFACTURING CODES
The manufacturing code placed on devices manufactured by DePuy is (b) (4) generated by the firm's computer system. As it is a (b) (4), no other meaning is assigned to the numbers as stated by Mr. Mann and reiterated by Mr. Dowell. For example, during my walkthrough of the (b) (4), I observed, at router step 10, Part number (b) (4) (b) (4) I confirmed with by Messer's Mann and Dowell that this was not a smart lot numbering system. They both confirmed that the lot is (b) (4)

CAPA/COMPLAINTS/MDR'S
A search of the FACTS database revealed two complaints received by the Agency for follow-up at DePuy during the next routine EI. The two complaints were 62296 and 68688. These complaints were researched at the firm as described below.

Complaint 62296: Was received from a consumer located in (b) (6) and dealt with an apparent allergic reaction (possible nickel allergy) to the device. The complainant reported severe pain in (b) (6) legs after a 07/07 hip arthroplasty surgery. Nickel or metal allergies are a relatively rare occurrence, but are known to DePuy. DePuy had not received any complaint for the patient or the physician relating to this product. Mr. Dowell stated that they cannot follow-up on the complaint fully without several bits of specific information, mainly: product name and lot number of the product. In instances where the company is made aware of apparent allergies, they try to obtain the implant to perform tests on it and also ensure that it meets specifications. In this case there was no product/lot information supplied so DePuy could not perform any research to see of any other

complaints were received for these lots. DePuy will report any metal allergies via an MDR to the Agency.

Due to lack of specific information on the type and identification of the hip prosthesis further investigation is impossible. If more information is learned about this complaint; then it would be possible to further investigate this product complaint.

Complaint 68688: was received from a consumer located in (b) (6) The complainant reported that the device was revised due to discomfort, grinding, popping and squeaking. The complainant did not immediately report this to DePuy.

DePuy did receive the implant back from the surgeon. Upon testing of the unit, there appeared to be no device related issues. Upon examinations of the x-rays provided by the hospital, it was determined that the implant was placed at an approximate 50° angle which is above the 35-45° angle recommendation. The implants were also observed to shown to have a dull appearance which would seem to suggest that the femoral head may have undergone subluxation. Subluxation is known to correspond to both popping and squeaking of implants when moving. This complaint triggered the filing of an MDR with the Agency.

DePuy did not find anything to suggest the implant was manufactured incorrectly or did not meet all specifications.

DePuy appears to have a robust complaint system in place with linkages to the CAPA and MDR systems. Several MDRs were reviewed and no objectionable conditions were noted. The MDR process is proceduralized and appears to be followed by the firm.

The CAPA system was also reviewed during this inspection. Eleven CAPAs were randomly selected and reviewed. The firms CAPA procedure appears to meet the requirements of the QSRs and is implemented.

RECALL PROCEDURES

The firm has documented recall procedures in place. During this inspection one recall was reviewed under the correction and removals section of the regulations. Specifically, a recall for the LCS Meniscal Bearing was reviewed to ensure that all reporting requirements were completed as required by regulation and the firm's internal procedures.

REFUSALS

No refusals were encountered. The firm was cooperative and responsive to requests and comments.

GENERAL DISCUSSION WITH MANAGEMENT
Discussion Points

1. There was no formal protocol for the initiation of the testing for the stability of packaging designs for hips and knees. The packaging configuration constituted of a (b) (4) tray with (b) (4) This was repeated for an exterior container.

(b) (4)

2. In the laser etch area for the (b) (4) the amperage used for the etching of the (b) (4) was written with black grease pen on the Plexiglas housing on the machine. This writing on the Plexiglas indicated the amperage used to etch the products and was used to determine if the etch was starting to become dull, the amperage could be upped without looking in any paperwork.

Mr. Mann provided me with a photograph (See exhibit # 12) documenting a new form called a (b) (4) (b) (4) Communication Sheet which is part of (b) (4) that shows the firm is moving away from the grease pen on the plexiglas to a more formalized documentation of the amperage. This photograph was provided however, the actual placement and use will have to be evaluated during the next establishment inspection.

3. The (b) (4) on the water system are supposed to be replaced every (b) (4) hours. According to logs provided to me, on instances the (b) (4) went up to 150 hours over on their life. The SOP for maintenance of the water system, requires the bulbs to be replaced at (b) (4) hour intervals without a +/- for that time frame.

Work Instruction (b) (4) (Purified Water System Operations, Monitoring and Maintenance Work Instruction-See exhibit # 13, page 10) requires that lights are replaced every (b) (4) hours and recorded. (b) (4) logs for water system A, B & G show (See exhibit # 14) that on each unit the firm went over the (b) (4) hour life which could affect the quality of the water used to clean implants prior to sterilization. The water systems were covered because the RO systems provide water to the cleaning processes for the (b) (4) Schematics of the water system referenced in Exhibit # 13 are attached as exhibit # 15.

4. On several handwritten documents, it was observed that various employees scratched out information or actually wrote over numbers in the documents.

As an example, see exhibit #14. During the inspection, documents that had scratch outs or other documentation issues were pointed out to the firm. Mr. Mann and Mr. Dowell stated they are working on removing all types of forms that have handwritten information. They continued by stating it would be a long process

Comments:

1. The DFMEA process has evolved over the past few years since the start of the (b) (4) project components in the early 2000s. Since the DFMEAs are living documents, it might behoove the company to look at earlier DFMEAs and expand on some of the information that is in the documents. I stated it would be appropriate to see sign-off by other core team members such as regulatory, marketing, etc. At this time only quality and engineering approve DFMEAs. The quality and completeness of the documents has increased over the past years as documented by newer DFMEAs conducted.

2. For the design inputs that I reviewed, specifically the ceramic inserts for the pinnacle cup, it appeared as if those inputs were very vague-maybe intentionally to allow many outputs to be used for a single input.

3. The FDA does not recognize the use of symbols on labeling. We are exercising enforcement discretion on ISO type symbols used on devices. These symbols are currently accepted for IVDs, but not for medical devices.

ADDITIONAL INFORMATION

The firm is ISO 14875 registered with BSi. DePuy CE marks their products with BSi's CE mark (0086). The last BSi audit was in March of 2009.

SAMPLES COLLECTED

No samples were collected during this inspection.

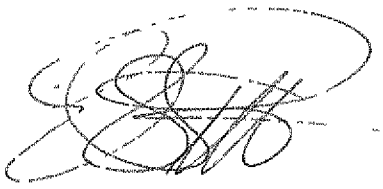
EXHIBITS COLLECTED

1. Registration (FDA Database) (1p)
2. Device Listing (FDA Database) (13pp)
3. Surgical Techniques (4pp [4 booklets])
4. Organizational Chart (14pp)

5. (b) (4) (15pp)
6. (52pp)
7. (b) (4) (1p)
8. Work Instructions for (b) (4) (141pp)
9. (b) (4) (2pp)
10. (b) (4) Work Instructions (150pp)
11. (b) (4) (5pp)
12. Photograph supplied by DePuy (1p)
13. Work Instruction (b) (4) (13pp)
14. UV Bulb Logs (3pp)
15. RO Water System Schematics (11pp)

ATTACHMENTS

1. FDA-482 issued to Mr. Steven K. Dowell, Director Regulatory Compliance, signed by Eric S. Pittman, Investigator.
2. Copy of CDRH Inspectional Request Memo dated April 30, 2009.



Eric S. Pittman, Investigator