

Supplemental Environmental Project: Import Tracking Compliance System

Drexel Chemical Company ("Drexel") agrees to undertake the Supplemental Environmental Project ("SEP") described herein in connection with settlement of the EPA enforcement matter described in the Consent Agreement and Final Order ("CAFO"). Specifically, Drexel agrees to implement a technology-based Import Tracking Compliance System ("ITCS"). Drexel estimates that the cost to complete this SEP will be approximately \$184,000.

Background

Drexel historically has been a "paper-driven" company and has not utilized information technology and electronic databases to any significant degree for document development and control and import tracking functions. Drexel recognizes that the lack of a technology-based system contributed to the circumstances that led to EPA's enforcement action and that implementation of this system will assist Drexel's compliance regarding its imports.

Implementing a system of this nature will require substantial changes to Drexel's document management and shipment tracking process, including new hardware, infrastructure, architecture, software and training to assure the accuracy, security, reliability, and manageability of Drexel's product and shipping records and compliance data.

Establishment of a New Document Production and Management System

Drexel will establish a new document production and management system (DMS) using Laserfiche Enterprise Content Management (ECM) software. The new system will be completely browser based and hosted on a private network at Drexel, which, in addition to facilitating ease of use, will provide protection from internet-based threats. The Laserfiche ECM system provides add-ons for Microsoft Office and Adobe Acrobat, which will enable documents and correspondence (including emails) to be attached to (and correlated with) specified records in the DMS, enabling easy tracking of and access to comprehensive records relating to Drexel products and shipments. The document access tools in the ECM system (e.g., electronic file cabinets, workflows, and views) also will be customized to meet Drexel's regulatory compliance requirements and provide authorized Drexel employees easy and efficient access to needed records.

Drexel's existing procedures for the creation and management of Confidential Statements of Formula (CSFs) also will be integrated into the new ECM to ensure continued compliance, and the CSFs for each product will be encompassed within the ECM. Drexel's already has put into place new procedures for the creation of CSFs and has established a comprehensive database system (consisting of an electronic approved CSF database with a hard copy spreadsheet) that keeps Drexel's management advised of Drexel's approved facilities and also shows all new pending production facilities for Drexel's technical grade active ingredients (TGAs). This database contains a list of all Drexel products, along with the approved CSF for each product. The spreadsheet is utilized by Drexel upper management and the Director of Drexel's Registration Division to track Drexel's products to ensure their compliance. The spreadsheet is maintained by the Registration Manager, who is the only individual with authorized "Write Capabilities" for the spreadsheet and the database system (in order to ensure the accuracy of the

information in the system regarding our current and pending production facilities and eliminate any potential for data errors). The information in this database will be linked to and integrated with all other documents relating to an imported product so that all relevant records for the product can be easily accessed together.

Integration of Primary Record, Workflow, and Document Types to Enhance Compliance

Reference to Entry Number

The ECM system will be structured using the shipment entry number for the primary point of reference for all import documents. Once the shipment Entry Number is obtained, it will become the master root number for the product file in the ECM, with all documents entered and/or created in the ECM prior to issuance of the Entry Number thereafter linked to (and through) the Entry Number (and the Notice of Arrival (NOA)) in the DMS system. The ECM also will display a graphic chart with columns containing information relating to the product shipment, including the Entry Number, Vessel, Date of Delivery, Product Name, EPA Registration Number, EPA Establishment Number, Unit Size, Quantity and Port of Entry, with each column hyperlinked to the relevant related documentation in the DMS for the designated item. The documents also will be linked to various "triggers" throughout the system to help ensure compliance through early identification of any issues regarding the production facility, EPA registration number, shipment details, etc. While the entry number will be the root/parent of the shipment record, the record file will include all other related documents, correspondence (including email), and Meta data, including the NOA, Ocean Bill of Lading (BOL) EPA Registration number, EPA Establishment Number, CSF, Purchase Order (PO) number, broker and shipper information, estimated arrival date, and other relevant information.

Generation of the ISF and Workflow

As PO's are written for raw materials to be produced, the Importer Security Filing (ISF) documentation (generated by the shipper prior to shipment) will be entered into the ECM to ensure accuracy in the shipment and also assist the identification of any issues prior to the shipment's arrival in the US. An initial and final version of the ISF will be generated by the shipper as the shipment progresses, and both ISFs will be stored in the ECM as separate (but attached/related) documents, with all correspondence (including emails) relating to the shipment also linked to the ISFs. Correlation and integration of these documents in this fashion will allow Drexel (and EPA via inspection) to review the history of any shipment and all communications and correspondence that resulted in the generation of the ISFs.

Generation and Association of Shipment Documentation

As the import process moves forward for any given shipment, a series of documents and correspondence (again, including emails) will be generated, attached to, and correlated with the entry number for the shipment. As noted, these documents will include but will not be limited to the NOA, Ocean BOL, invoice from seller, packing list, Certificate of Analysis, Cargo Transportation Insurance Policy, arrival notice freight invoice, broker BOL invoice, CBP form entry summary, CBP form entry / immediately delivery form, local cartage receipt, warehouse dock receipt, cartage BOL receipt, PO, and any other shipping documents.

Document Retrieval

The ECM system will enable all shipment documents and emails to be stored, correlated and indexed into a searchable database. Custom views and pre-defined search fields will be built to allow for quick and efficient location of -- and access to -- all needed documentation and easy and instant viewing of

them. In addition to promoting greater compliance, this will facilitate review and inspection of Drexel's documentation for compliance purposes.

Infrastructure

Overview

Drexel will install substantial new hardware to support this advanced system (and the numerous applications) and ensure their optimal performance. The system will be hosted on a High Availability Cluster that will be housed on-site at Drexel, both to facilitate operation of the system and ensure security. As noted, the DMS will not be internet-facing to protect the data from internet-based attacks. All data will be backed up daily at the VM snapshot level and application level. The application level backups also will be sent off site to a secure private data center. Moreover, both the physical and virtual infrastructure for the system will have dual redundancies, so that no single point of failure could occur in either the physical or virtual infrastructure (including routers, firewalls, switches, server hardware, storage hardware, generators, batteries, internet service, and virtual objects). This will result in almost continual uptime of the system. The infrastructure also will include a "disaster recovery" plan to ensure the preservation of all records and related data in the event of an unanticipated event (such as a natural disaster) that might result in damage to the system and/or infrastructure.

Storage and Input Capacity

Drexel will need to add significant data storage capacity, along with dual redundancies, to adequately house the volume of documents, emails, correspondence and other materials relating to its import shipments, to ensure preservation and accessibility of these items for compliance purposes. Optical Character Recognition (OCR) technology will also be incorporated and utilized to integrate hard-copy materials into the system and enable searching of their contents. Drexel also will add additional I/O (input/output) technology for optimal performance and accessibility of data.

To ensure optimal implementation of the high availability data cluster (and provide necessary storage) Drexel also will install at least three additional large memory servers (likely Dell FX2). The servers will be installed in conjunction with the VMWare vSphere Essentials Plus software virtualization platform to support high application availability and data protection and prevent system downtime (e.g., in the event of a hardware failure on any single host). Drexel will install at least two enterprise scanners (likely HP ScanJet Enterprise Flow N9120s) to enable two employees to scan and input documents simultaneously and provide redundancy.

Redundant Firewalls and Switches

Two firewalls (likely a pair of Fortinet FG-200D firewalls) will be installed to ensure that all data being transmitted is scanned for not only known signature based threats but also anomaly based activity. This technology also will enable Drexel to perform reverse SSL decryption to inspect encrypted transmissions, as well as provide access to such information for compliance purposes. In addition, the firewalls will be equipped with and operated in "automatic failover mode" that will provide backup appliance in the event of hardware failure. An additional HP 2910g switch also will be installed to ensure that the failure of a single switch will not result in downtime or create issues with document creation, storage or access.

Support Technology

Drexel also will install an additional chiller as a back-up to its existing coolant system to protect against

overheating of the new hardware during normal operations, as well as in the event that a chiller fails. Likewise, Drexel will install a large-power back-up generator to provide for continued system operation (and protection against data losses) in the event of a power outage. The generator will ensure continued functioning of the system infrastructure in the event that Drexel experiences a loss of externally provided power at its facility.