DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

P107059082

FACILITY: International Bulk Service, Inc.		**SRN / ID:** P1070
LOCATION: 24002 Vreeland Road, FLAT ROCK		**DISTRICT:** Detroit
CITY: FLAT ROCK		**COUNTY:** WAYNE
CONTACT: Joel Schneider , Regional Manager		**ACTIVITY DATE:** 06/23/2021
STAFF: C. Nazaret Sandoval	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** Synthetic Minor
SUBJECT: FY 2021 Scheduled Inspection		
RESOLVED COMPLAINTS:		

SRN: P1070
SOURCE NAME: International Bulk Service, Inc. (IBS)
FACILITY ADDRESS: 24002 Vreeland Road, Flat Rock, MI 48134
INSPECTOR: Nazaret Sandoval, AQD – Detroit District Office
MAIN CONTACT: Joel Schneider, IBS - Regional Manager

1. BACKGROUND INFORMATION

International Bulk Service, Inc. (IBS) - AKA Stellar Distribution Services, Inc.- is a wholly owned subsidiary of the Canadian National Railroad Company (CN) with transloading facilities across Canada and the U.S. IBS runs a fuel transloading operations at 24002 Vreeland Road, Flat Rock, Michigan. The address corresponds to the location of CN Flat Rock CargoFlo, one of the 18 CN's bulk distribution facilities for liquid and dry bulk transloading. More specifically, the transloading services at this CN CargoFlo facility includes the handling of liquids in two transfer modes, rail to truck and truck to rail. The maximum track capacity is 9 railcar spot(s). The facility is equiped with security and safety features such as fencing, lighting and paved roads.

The facility is located in a mixed industrial/residential area, with the Flat Rock Yard east of the site, across the Smith Creek and the Ford Flat Rock Assembly Plant, Gate No 2 at ¾ of a mile east of the CN office building. There are residential neighborhoods at the North and NW of the CN office building, across Peters Rd., with the closest homes located a quarter of a mile northwest. There are a few commercial businesses at the south, along Vreeland Road. For details of the location and layout, refer to the attached aerial view from Google Earth.

Historically, the operations conducted by IBS at the Flat Rock terminal include the transfer of diesel fuel from tanker trucks to railroad tanker cars. Those operations did not require a permit authorization from the Michigan Department of Environment, Great Lakes and Energy (EGLE) - Air Quality Division (AQD). However, in recent years IBS expressed its interest in expanding its transloading operations to handle other liquids from petroleum and operating using both transfer modes (truck to rail and rail to truck). The company submitted a permit application to AQD requesting authorization to conduct such operations. Permit To Install (PTI) No. 126-19A, issued on 5/6/2020 to Stellar Distribution Services, Inc. d/b/s International Bulk Service, Inc. authorizes IBS to transfer gasoline, jet fuel A, denatured ethanol, synthetic crude oil and crude oil.

As of the date of the inspection on 6/23/2021 IBS has continued with its historical operations, unloading diesel fuel from tank trucks to railcars. IBS will notify AQD when the transloading of additional commodities authorized by the PTI are initiated.

2. FACILITY DESCRIPTION

Liquid products are received via tank trucks. A tank truck capacity ranges from 6,000 to 13,000 gallons, depending on the number of storage compartments per truck (i.e., 3 or 4). A truck enters the facility and follows the paved road circuit identified in the attached drawing. After driving the path marked as segments A and B, the truck is parked at the loading/uploading station. Once the transloading operation is completed, the truck goes across segments C and A to complete the circuit and leaves the facility.

For the transfer operations IBS uses a portable platform Model AV400, identified by IBS staff as the “Gantry Pump”. A drawing showing the general arrangement for a similar model platform is attached for reference. The Gantry is a modular unit with the following features: a towable heavy-duty wagon, an elevated platform approximately 4 ft x 6.5 ft, a stairway access and aluminum walkway, a 400 GPM Corken Vane pump, a liquid control meter, a pressure gauge, loading arms, a vapor recovery connection, shutoff valves, a control panel, Scully ground verification / truck overfill protection, flexible hoses, and valves necessary for the fuel transfer operations. There is also a safety shower at the top of the platform and a 200 gallon slop reservoir at the bottom.

The attached flow diagram and layout illustrates the truck to rail unloading set up at the portable platform. The transfer of petroleum products results in emission of Volatile Organic Compounds (VOC) due to evaporation at the liquid-air interface and the vapor being displaced from the tank being filled. As seen in the illustration, the product line is a 4” flexible hose that is hooked up to the top of the tank truck and it is connected to the transfer pump which discharges the product into the tanker car. There is a high-level probe inside the tanker car which shuts down the pump to prevent overflow of the product. A vapor balance line is used to collect the VOC emissions which are routed back to the tank truck being emptied, via a flexible hose (2” vapor line).

The facility operates an 8-hour shift, Monday through Friday, the shift can be extended to ten hours per day based on business demand. The operational procedures for the transloading process are briefly discussed in the next section of this report.

3. INSPECTION NARRATIVE

On 6/23/2021, at about 10:00 AM, I arrived at 24002 Vreeland Road, Flat Rock, Michigan and met with Joel Schneider, IBS Regional Manager, and Greg Polk, IBS Terminal Manager.

The purpose of the inspection was to evaluate the facility's compliance with respect to the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), and the conditions of PTI 126 -19A.

We met at the office where IBS keeps the hardcopies of the records for their transloading operations as well as their daily job briefings, safety procedures, and miscellaneous information required by other state regulatory agencies or programs. The operator showed me some of the records (i.e., bill of lading, transloading operating checklists, etc.). As I examined the records in the file cabinet, I verified that they are kept for several years. I asked the operator to show me the written loading procedures. I was told that unlike most regular gasoline bulk terminals, where self-loading is conducted by the carrier, that’s not what they do at the IBS Terminal. The procedures at IBS are dictated by the parent

company, CN Railroad (CN). CN requires the terminal operators to obtain an eRailSafe certification card. The eRailSafe is a Workforce Safety and Security Management program for Class 1 Railroads and for the businesses that serve them. The purpose of the program is to improve the security of the operators, the operations, and the facilities. Badges ID are issued upon successful completion of the program. The badges need to be renewed every two years. The tank truck driver must remain inside their trucks during the whole unloading operation while the eRailSafe certified operator at IBS Flat Rock will brief the driver about all the details of the process.
In conclusion, the eRailSafe ID Badge authorizes IBS operators to handle the fuel loading operations at the Flat Rock Terminal. The certified operators are responsible for completing the “Transload Operating Checklist Diesel Truck to Railcar Top Load Gantry Pump” and for verifying the accuracy and completeness of the information collected in the “General Service Tank Car Inspection Form”. Examples of both forms were provided during the inspection. The “Load briefing with driver” is one of the multiple activities that must be completed by the certified operator as part of the “loading checklist”.
In the briefing, the drivers receive information about the sequence that will be taking place from the time the driver arrives at the facility until the completion of the fuel transfer operations. The IBS operator shows the driver the traffic pattern, the location of the Gantry and where to meet the person who will be unloading the tank truck. Instructions are given about the information and paperwork that the operator will be collecting from the driver regarding the truck and the product amount. IBS is responsible for filling out and signing the paperwork.
Regular carriers know the procedures, but they are still briefed. New clients receive orientation from IBS and are responsible to convey the information to their drivers before coming to the facility. Everything for the driver must be mapped out ahead of time by the certified operator. There is always another operator assisting the Terminal Manager during the whole process.

After the initial talk in the office building, we walked west across the parking lot towards the location of the Gantry, which was set up near the railroad track line that runs west/east, parallel to Vreeland Rd, at a short distance from the south property limit of the parcel.

The portable unit was not in operation at the time of the visit. I was told that the operations have ceased on January 7, 2021, and since then the facility has been idle.

At the portable platform, Mr. Schneider and Mr. Polk identified the components of the transloading system and explained the standard procedure that is followed by the IBS certified operators for the unloading of fuel from tanker trucks to railcars. For details of the working procedures refer to the attached “Transload Operating Checklist”, “IBS CargoFlo Working Procedures” and the “General Service Tank Inspection Form”. Only IBS authorized employees can carry out the activities described in the cited documents.

The “portable platform layout and flow diagram” depicts the final configuration during fuel transfer from truck to railcar. The arrows in the flow diagram show the direction of the flow for the product line and the vapor balance line.

The average loading for diesel transfer operations is three to four railcars in a day. Each railcar has a capacity of 30,110 gallons. The number of trucks per railcar loading depends on the tanker truck capacity. However, in general IBS uses two trucks per railcar loaded. After unloading, the trucks must leave the facility completely empty. On the other hand, the railcars are not loaded to full capacity. For example, on November 5, 2020, IBS loaded 3

railcars for a total loading of 78,234 gallons. Under this scenario, the facility received 6 trucks with capacities of approximately 13,0000 gallons/truck and unloaded 2 trucks per railcar. In other words, the cars were loaded at approximately 87% of their capacity.

The maximum track capacity is 9 railcar spot(s). At the current demand IBS gets restocked with new cars once a day. At the end of the day when the cars are loaded, CN Railroad personnel pulls out the loaded cars and switch them with new empty cars for the next day operations. At the closure meeting Mr. Schneider reminded me that when IBS applied for the permit to install, the PTE was based on an assumption that cars replenishment would ocurr twice per day. Under this assumption, the number of cars that could potentially be loaded doubles from 9 to 18 a day. IBS is far below those capacities.

I concluded the inspection and left the facility at about noon time.

Visit Follow-up and records collected
I requested facility records previous to the site visit and Mr. Schneider provided them via email on 6/18/2021. Additional records were requested on the day of the inspection, and they were emailed to me on the same day (6/23/2021). I also did some online research to become familiar with the railroad transloading operations and its terminology. The collected records were evaluated and are part of this report.

On 8/12/2021 I had a virtual meeting with Mr. Schneider and Mr. Polk to clarify some of the records and the information I have gathered during my conversations with them at the facility. All my concerns were addressed during the meeting. I informed them that the final inspection report will be available online and that they will be notified when it is completed.

4. PERMIT BACKGROUND AND APPLICABLE REGULATIONS

State Regulations
On 5/6/2020, the facility was issued PTI 126-19A, which contains enforceable restrictions limiting the Potential To Emit (PTE) for VOCs to less than 100 tpy. The facility is therefore a synthetic minor with respect to the Title V and the New Source Review (NSR) program.
Since the facility has a VOC limit of less than 10.0 tons per year, the same restrictions are limitting the company's HAP emissions as well; therefore, a HAP limit was not included in the permit. The facility must operate a vapor balance system to control their PTE for individual and aggregate HAPs and VOCs.

Federal Regulations
40 CFR 63 Subpart BBBBBB - NESHAP for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities
Controlled PTE for gasoline: The vapor balance unit has a 99.2% capture/collection efficiency for trucks that pass MACT level annual leak test.
The facility will be subject to this regulation when commencing gasoline transloading. However, the State of Michigan does not have delegation for this area source MACT. This regulation is listed in the “Other Requirements” in PTI 126-19A.

The following regulations don’t apply:
40 CFR 60 Subpart XX - NSPS for Bulk Gasoline Terminal.
40 CFR 63 Subpart R - NESHAP for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

Subpart XX and Subpart R are not applicable to the facility operations because the facility does not meet the definition of “Bulk Gasoline Terminal.”

40 CFR 63 Subpart CCCCCC - NESHAP for Gasoline Dispensing Facilities
The facility is not subject to this regulation because the facility is not a “gasoline dispensing facility”.

5. COMPLIANCE EVALUATION (PTI 126-19A)
As PTI 126-19A was issued on 5/6/2020, I requested loading records for diesel transfer operations from trucks to railcars for the period from June 2020 to June 2021. IBS provided monthly records from 7/28/2020 to 1/7/2021. In the excel calculation sheet I observed that the facility did not record diesel loading data for the months previous to the permit issuance date and the cells were left blank, although the terminal was operating previous to May 6, 2020. I also noted that there were various weeks within the reported months when no loading was occurring. The loading operations are not continuous and they depend on demand. To avoid confusion going forward, I asked the facility to fill in the cells with zeros instead of leaving them blank.
The collected records were examined to evaluate compliance with permit limits. Most of the written information cited below has been extracted from the answers given by Mr. Schneider in his email of 6/18/2021 in response to AQD records request. For convenience, the permit conditions are paraphrased below.

EUTRANSFER
A petroleum products and organic liquids transfer operation equipment that can move throughout the facility with a maximum capacity pump of 30,000 gal / hr. A vapor balance system is used to control VOC emissions. This maximum throughput is based on the pump rated capacity.

The single transfer pump (Gantry Pump Model AV-400) currently used at the IBS Flat Rock terminal is a Corken Vane pump rated at a capacity of 400 gallons per minute at 780 RPM as per the invoice attached. The invoice represents last pump replaced and installed on the transfer unit in 2019 which is a replica of the failed pump used prior to 2019.

The 30,000 gal/hr (500 gpm) pump cited in the PTI will be a new Gantry Pump that will be purchased by IBS once the approved transloading of the other commodities (gasoline, jet A, denatured ethanol, etc.) starts.

SC I. EMISSION LIMITS – In Compliance
The 12-month rolling VOC emissions from EUTRANSFER is limited to 5.23 tpy

The supporting records in the attachment include the monthly VOC calculations provided by IBS in an excel sheet. The records for the 12-month rolling show that the VOC emissions were very low and below the threshold limit, with a maximum value of 0.00027 tpy, reported in January 2021.

SC II. MATERIAL LIMITS – In Compliance
The facility has a throughput limit of 541,980 gallons per calendar day for the total products and organic liquids that are handled by the transloading operations at EUTRANSFER

The supporting records in the attachment include the daily throughput for #2 Ultra Low Sulfur Diesel (ULSD). The operational data are in pounds and are converted to gallons. The records show a maximum diesel transfer of 131,994 gallons on 1/7/2021. The value is below the permit limit.

SC III. PROCESS/OPERATIONAL RESTRICTION(S) – In Compliance

SC III.1

The permittee shall not transfer materials other than gasoline, jet fuel A, diesel fuel, denatured ethanol, synthetic crude oil, or crude oil through EUTRANSFER.

The attached records include the "Operating Data" listing the materials transferred from June 2020 to June 2021. The excel sheet identifies the materials in column AC. For the evaluated period, the only material transferred was #2 ULSD. IBS keeps on site records of the bill of lading information for each transfer indicating the product name transferred. An example of the manufacturer's documentation as a carrier delivery waybill is attached for the operations conducted on 11-05-2020." Also attached is the shipper's SDS describing the diesel fuel transferred.

SC III.2

The permittee shall install, maintain, and operate in a satisfactory manner, a vapor tight collection line which delivers the organic vapor back to the vessel being emptied when loading any delivery vessel with an organic compound having a true vapor pressure greater than 1.5 psia, or when loading a delivery vessel which has previously contained an organic compound having a true vapor pressure greater than 1.5 psia.

This requirement only applies if fuel being transferred exceeds a vapor pressure of 1.5 psia. The only fuel transferred during the evaluated period is diesel fuel utilizing vessels with prior contents listed as diesel fuel. The corresponding diesel fuel SDS provided indicates a vapor pressure of 1.6 mm Hg (0.03 psi).

When the permitted commodity transferred exceeds the 1.5 psia such as gasoline, IBS will employ a written monitoring plan as outlined in the attachment "Flat Rock Written Monitoring Plan."

SC III.3

The permittee shall not load any petroleum product or organic liquid into EUTRANSFER unless the delivery vessel has passed the MACT-level annual leak test of not more than 1-inch water column pressure change in 5 minutes after pressurizing to 18 inches water followed by pulling a vacuum of 6 inches water.

The delivering carrier (truck) is controlled by the shipper. IBS does accept the delivery waybill which lists when the vapor tightness test is due on that unique vessel and verifies that the vapor tightness test is not overdue according to the waybill document. If overdue, the truck will be rejected. The contents of the truck will not be transferred until a vapor tightness test can be verified complete within the past year.

SC III.4

The permittee shall not load any delivery vessel subject to control, as specified in SC III.2, unless all provisions of Rule 627 are met. The provisions of Rule 627 include, but are not limited to the following:

a) There shall be no gas detector reading greater than or equal to 100 percent of the lower explosive limit at a distance of 1 inch from the location of the potential leak in the vapor collection system. Leaks shall be detected by a combustible gas detector using the test procedure described in Rule 2005.

b) There shall be no visible leaks, except from the disconnection of bottom loading dry breaks and from raising top loading vapor heads, where a few drops are permitted.

c) The vapor collection system shall be designed and operated to prevent gauge pressure in the delivery vessel from exceeding 0.6 pounds per square inch and to prevent vacuum from exceeding -0.2 pounds per square inch gauge.
d) Any delivery vessel or component of a vapor collection system that fails to meet any provision of this rule shall not be operated until the necessary repairs have been made, the vessel or collection system has been retested, and the test results have been submitted to the department.

Gas LEL detection instruments are clipped to the IBS person completing the transfer and the instrument can detect VOC. Procedures to control drips are identified on the attached standard General Service Tank Car Inspection Form (Inspection Form) Items 56 and 57. The use of a vapor collection system is not needed to meet VOC permit limits while loading diesel fuel. However, vapor collection is used as a safety precaution and the connection procedure is documented on the Inspection Form. The staff keeps a log which identifies vapor collection system malfunctions; however, staff indicates none have occurred to date. Only Diesel fuel has been transferred between June 2020 to the date of the inspection.

SC III.5
The permittee shall develop written procedures for the operation of all control measures and shall post the procedures in an accessible, conspicuous location near or on the loading device.

Standard operating procedures for the diesel transfers are present and available near the transfer area at the Flat Rock terminal. Loaders check list outlining the control measures is with the operator to be filled out prior, during, and upon completion of each transfer (Copies of the procedures and checklists were provided and are attached to this report).

SC III.6
The permittee must fill any delivery vessel by a submerged fill pipe.

IBS uses top loading and submerged fill pipe for its transloading operations.

SC III.7
The permittee shall not operate more than one pump within EUTRANSFER at any given time.

Currently the Flat Rock terminal is in possession of one transfer pump. In the event a second pump was brought to the terminal for use, the unit numbers of each pump would have usage start and end times documented to demonstrate two pumps are not used simultaneously.

SC IV. DESIGN/EQUIPMENT PARAMETER(S)
SC IV. 1
The permittee shall not fill any delivery vessel unless the vapor balance system is installed, maintained, and operated in a satisfactory manner as follows: The following is outlined per the standard operating procedure
a) The permittee shall connect the vapor-tight collection line to the delivery vessel before any petroleum product or organic liquid is transferred.
b) The permittee shall close the vapor-tight collection line upon disconnection to prevent release of petroleum product or organic liquid vapor.
c) The permittee shall close the hatch and other openings on the delivery vessel and make certain they are vapor-tight to prevent emission of displaced petroleum product or organic liquid vapor during transfer operations, except under emergency conditions.

d) The permittee shall equip the liquid transfer line with a device or shall implement a procedure to prevent liquid drainage from the line when it is disconnected and not in use. The permittee shall develop written procedures for the operation of all the control measures described above and shall keep such procedures available in an accessible location near the transfer equipment

The IBS standard operating procedures contain all the control measures cited above. In addition, IBS gives continues training and daily briefing to the employees that operate the transloading system.

SC IV. 2
The permittee shall not operate any pump within EUTRANSFER that exceeds a maximum capacity of 30,000 gal/hr.

Currently the Flat Rock terminal is in possession of one transfer pump with a rated capacity of 400 gpm. That's equivalent to 24,000 gal/hr.

SC V. TESTING/SAMPLING – Not Applicable
There are no testing requirements associated with EUTRANSFER

SC VI. MONITORING/RECORDKEEPING
SC VI.1
The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.

All required calculations are completed in a monthly basis using an excel sheet and an acceptable calculation method. Transloading operation depend on demand and there are months in a year with no activity.

SC VI.2
The permittee shall calculate the VOC emission rate from EUTRANSFER monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request.

The VOC monthly and 12-month rolling emissions rates are calculated using acceptable methods. The calculations are in excel sheets and the tables tabulates the weight of fuels shipped by month, uses density to convert to volume, and uses an emission factor (AP-42) and collection/control efficiency to estimate VOC emission rates.

SC VI.3
The permittee shall keep records of the EUTRANSFER of each petroleum product and organic liquid for each calendar day. The permittee shall keep all records on file and make them available to the Department upon request.

Records for each calendar day for each product transferred are readily available on file and available to the Department upon request. For this inspection, in response to AQD request, IBS provided samples of supporting records for diesel unloading from trucks to railcars.

SC VI.4
The permittee shall keep records of the following:
a) Compliance with the appropriate leak test for each delivery vessel per SC III. 4.
b) All vapor balance system malfunctions or failures.

The shipper-controlled delivery vessels provide documentation of the vapor tight test due date and verified by the operator. No vapor balance system malfunctions or failures have occurred since June 2020. Sample records were provided.

SC VI.5
The permittee shall assign a unique ID to each pump within EUTRANSFER.

Only one pump resides on site currently and the entire unit has a unique number 09-1622. If another pump is brought to the Flat Rock terminal, it will also have a unique ID number.

SC VI.6
The permittee shall keep, in a satisfactory manner, a log of the time of operation for each pump within EUTRANSFER. The permittee shall keep all records on file at the facility and make them available to the Department upon request.

Records are currently filed on site that log the time of operation for the pump that currently resides on site. If a second pump is brought on to the site, the log of time of operation would be recorded in the same manner.

SC VII. REPORTING
SC VII.1
Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUTRANSFER.

No changes to the operation had taken place after the issuance of PTI 126-19A. The notification to transfer gasoline or any change to the current operation will be provided prior to such change or by the 18-month deadline, whichever comes first. As indicated in previous sections of this report, the Flat Rock terminal is currently idle. The last transfer took place on January 7th, 2021, it was a diesel transfer from trucks to railcar utilizing the Gantry Pump AV-400 currently on site.
On July 22, 2021, AQD received a formal notification letter dated July 19, 2021, where IBS indicated that the facility is able to transfer all fuels authorized by PTI 126-19A using the existing Gantry Pump AV-400. The PTI authorizes the purchase of a second pump, but that has not happened yet.

IX. OTHER REQUIREMENT(S)
SC IX.
The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and BBBBBB, as they apply to EUTRANSFER.

At this point in time the operations at the facility are not subject to the above cited standards because the terminal is only transferring diesel fuel. However, when gasoline transferring starts, the facility must comply with NESHAP, Subpart 6B. One of the requirements of Subpart 6B is that the facility must use a vapor collection and control system and limit emissions of gasoline vapor to no more than 80 mg/L. The facility uses a vapor collection system, but because the receiving container is mobile, there is no proposed control system. Instead, IBS prepared the attached Leak Detection and Monitoring Plan, dated March 2020, to be approved by U.S. EPA

Region V as an alternative to installing the control device as allowed under 40 CFR 63.11092(b)(1)(iv).
The proposed plan must be approved by U.S. EPA before the transfer of gasoline can take place.

6. COMPLIANCE STATUS

Based on the inspection conducted on 6/23/2021 and the review of the facility records for the period from June 2020 to June 2021, IBS appears to be operating in substantive compliance with the conditions of PTI 126-19A and the applicable state and federal air regulations.

Image 1(Gantry Pump AV 400) : Portable Pump Unit for Fuel Transloading Operations

NAME Nazaret Landoval DATE 9/2/2021 SUPERVISOR JK