UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE ADMINISTRATOR

In the Matter of	)
	)
Bradley Petroleum, Inc.,	) Docket No. RCRA (9006)-VIII-94-08
	)
	)
Respondent	)

RCRA Underground Storage Tanks -- Release Detection Inventory Control

Complaint, which was based on contention that alterations in Respondent's daily records of measurements of gasoline volume in its underground storage tanks rendered its method of inventory control unreliable, was dismissed where evidence failed to show that monthly inventory control (reconciliation) as practiced by Respondent was incapable of detecting a release of one percent of flow-through plus 130 gallons in accordance with 40 CFR § 280.43(a).

Appearance for Complainant:

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Appearance for Respondent:

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INITIAL DECISION

This proceeding under Section 9006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6991e, was commenced on March 31, 1994 by the filing of a Complaint, Compliance Order and Notice of

Opportunity for Hearing charging Respondent, Bradley Petroleum, Inc. (Bradley or Respondent), with violations of RCRA and regulations at 40 CFR Part 280, Subpart D. In broad terms, the Complaint (¶ 11) alleged that Bradley failed to provide a "release detection" method for 35 [underground storage tanks] (USTs) at 11 facilities owned and operated by Respondent in accordance with 40 CFR §§ 280.40, 280.41(a) and 280.43. For these alleged violations, it was proposed to assess Respondent a penalty of $2,250 for each of the 35 tanks, for a total of $78,750.

Bradley answered, alleging that it maintained inventory control documentation which, according to its records, was properly reconciled in accordance with 40 CFR Section 280.43. Bradley denied the alleged violations, and requested a hearing. The parties exchanged prehearing information. Pursuant to a Joint Motion to Amend the Complaint, the number of alleged violations was reduced from 35 to 32, for the reason that two tanks at each of three stations were manifolded tanks which under EPA policy are regarded as one tank. Consequently, the proposed penalty was reduced to $72,000.[(1)]

RCRA § 9003, 42 U.S.C. § 6991b(a), authorizes the Administrator to promulgate release detection, prevention and correction regulations applicable to all owners and operators of USTs which contain "regulated substances." "Regulated substances" include petroleum. 42 U.S.C. § 6991(2). Section 9003(c)(1) of RCRA, 42 U.S.C. § 6991b(c), provides that regulations promulgated under this section shall include, inter alia, "(1) requirements for maintaining a leak detection system, an inventory control system together with tank testing, or a comparable system or method designed to identify releases in a manner consistent with the protection of human health and the environment;" and "(2) requirements for maintaining records of any monitoring or leak detection system or inventory control system or tank testing or comparable system;..." This authorization resulted in the regulations at 40 CFR Part 280, Subpart D, "Release Detection" (53 Fed. Reg. 37194, 1988). At issue in this proceeding is the adequacy of Respondent's compliance with the mentioned regulations. A hearing on this matter was held in Denver, Colorado on October 1 and 2, 1996.

Based upon the entire record, including the briefs and the proposed findings and conclusions of the parties, I make the following:

FINDINGS OF FACT

1. Bradley Petroleum, Inc., is a corporation and a "person" as defined in Section 9001(6) of RCRA, 42 U.S.C. § 6991(6), and 40 CFR § 280.12.

2. Bradley is an "owner" and/or "operator," as defined in Sections 9001(3) and (4) of RCRA and 40 CFR § 280.12, of USTs, as defined at Section 9001(1) of RCRA and 40 CFR § 280.12. Bradley owns or operates some 35 to 40 stations. There are 32 USTs involved in this action at eleven facilities (stations) identified in the complaint as follows:

		[Bradley Station No.]
1.	2160 E. Havana, Aurora, Colorado	21
2.	1121 E. Alameda, Denver, Colorado	10
3.	2698 W. Alameda, Denver, Colorado	11

4.	4015 E. Warren, Denver, Colorado	04
5.	5000 [N.] Federal, Denver, Colorado	08
6.	5100 W. Dartmouth, Denver, Colorado	09
7.	7880 E. Mississippi, Denver, Colorado	06
8.	2122 Grand Ave., Glenwood Springs, Colorado	13
9.	1403 Townsend, Montrose, Colorado [(2)]	12
10.	3305 W. 72nd Ave., Westminster, Colorado	07
11.	7403 W. 38th Ave., Wheatridge, Colorado	05

3. During the period July through October 1993, Bradley used inventory control as permitted by 40 CFR § 280.43(a) and tank tightness testing in accordance with 40 CFR § 280.43(c) as a leak detection method for its USTs (Tr.205). Tank tightedness tests were documented by Bradley (Tr. 150, 314; R's Exh G) and are not at issue herein.

4. Inventory reconciliation is performed by Bradley on a daily and a monthly basis (Lemke, Tr. 453; C's Exh 12). Bradley's practice is to "record the deliveries into the tanks....record withdrawals by reading the pumps,..and record the amount that's still in the tanks by sticking the tank each day and writing it on the station report" (Lemke, Tr. 403).

5. Mr. Douglas Lowe was employed by Bradley Petroleum for about four months (May to September 1993) as an accounts receivable clerk (Tr. 12, 46). He testified that for the first two and a-half months or so his main duty was to add up the batch reports for the credit cards from each station and also check for any forgeries and any duplicate batches that would come through. He stated that this information was on daily reports [received from each station]. After the initial two and a-half month period, he was shown how to input information [from the daily reports] into the [computer] system, information such as stick readings [converted to gallons], gallons sold, and price changes at the wholesale level for gasoline (Tr. 13).

6. Mr. Lowe testified that, although he received daily stick readings from the stations, he never received stick readings taken before and after deliveries of product into any of the tanks.[(3)] Mr. Lowe had previously been employed for six-month periods by Exxon and Circle K (Tr. 51). He testified that at these companies they were required to "stick" the tanks immediately before and after deliveries were made (Tr. 23). He indicated that the purpose of this procedure was to verify that the amount shown on the invoice had actually been delivered (Tr. 23, 24). On cross-examination, however, he acknowledged that on the rare occasions at Bradley

when he saw delivery receipts [bills of lading or loading tickets] the tickets contained notations indicating stick readings before and after delivery (Tr. 71, 74, 75, 76).

7. Testifying with reference to monthly inventory records for Bradley's East Warren station (No. 04) for the months of July through October 1993 (C's Exhs 11-14), Mr. Lowe noted the large number of deliveries where gallons delivered were shown in even numbers (Tr. 26-30). He testified that this almost never happened at Exxon or Circle K (Tr. 30, 68, 70). The implication is that Bradley recorded deliveries based on loading ticket or invoice amounts rather than sticking the tanks before and after delivery as required by the inventory control regulation.(4)

8. Explaining inventory control as conducted by Bradley, Mr. Lowe stated that each month started with a stick inventory [which was actually the closing inventory for the previous month] before any product was delivered or sold (Tr. 21). To that figure deliveries for the day were added while gallons pumped or sold that day were subtracted, which resulted in the book inventory for a particular tank for that day. At the close of the day (actually before business commenced at the start of a day) a stick reading was taken which was compared with the book inventory.(5) He pointed out that these numbers should be fairly close but would vary a few gallons either way due [among other things] to a [lack of precision in stick readings].

9. At the end of the month the gallons pumped were totaled and multiplied by one percent (Tr. 21, 22). This figure plus 130 gallons equals the "leak check" result (40 CFR § 280.43(a)), which is compared with the "over/short number, i.e., the difference between the book inventory and the "stick inventory". The "over/short" number should not exceed the "leak check" result. Mr. Lowe acknowledged that leak check calculations were performed by Mr. Lemke rather than himself (Tr. 53, 91, 93). An example, in Complainant's view, of the application of these computations for inventory control purposes is the Monthly Inventory Record for Bradley's East Warren station for the month of October 1993 (C's Exh 12). The log for the no lead tank reflects that 51,413 gallons were pumped from this tank during the month and that the "over/short" number is a minus 669 gallons.(6) One percent of 51,413 plus 130 gives a "leak check" result of 644 gallons which is less than the "over/short" number. The inventory form provides that, if the "over/short" number is larger than the "leak check" result for two months in a row, notify regulatory agency.

10. Mr. Lowe testified that on a daily basis he received telephonic reports from the managers of each of Bradley's service stations data concerning gallons sold, total revenue, which included sales of merchandise in addition to gasoline, quantities delivered, "stick readings" and "over/short" calculations (Tr. 13, 17, 18, 76-78). "Stick readings" were converted into gallons at the stations (Tr. 444). From this data, he manually prepared a daily report. This report, which was prepared by nine o'clock in the morning, was, inter alia, to enable Bradley's management to detect problems or potential problems with inventory, cash shortages, etc. Mr. Lowe testified that if there were more than 100 gallons over/short [between the book inventory and the stick inventory] his instructions were to call the station manager and, inter alia, have him verify the stick readings (Tr. 79, 80). He indicated that this happened infrequently (Tr. 80). If he were unable to resolve the discrepancy with the station manager, he turned the problem over to Mr. Lemke (Tr. 82).

11. Later each day hard copies of the station reports were received, which confirmed sales and inventory data, included stick readings in inches and gallons, and showed the difference between book inventory and the stick inventory for each tank (Tr. 79, 80, 87, 390; C's Exhs 21, 22; R's Exh E). Mr. Lowe answered in the affirmative when asked if he were ever told to change delivery amounts inputted into the computer from data reported by the stations (Tr. 31). He testified that he was told to do this by Mr. Al Lemke, Bradley's office manager and controller. According to Mr. Lowe, Mr. Lemke explained that the numbers had to be under one hundred gallons over or short before the reconciliation reports were sent to Bradley [Bradley Calkins, Respondent's president] (Tr. 32).

12. Mr. Lowe testified that changes in delivery amounts were made for the majority

of stations at one time or another (Tr. 32). Although information from daily reports was inputted to the computer daily, computer printouts were usually prepared on a weekly basis (Tr. 84, 85). After the reports were printed out, the reports were delivered to Mr. Lemke, who using a ruler, would go down the list to see what was off by more or less than 100 gallons and cross out the number for the delivery or the amount in the tank and insert the number which was to be inputted to the computer (Tr. 33, 87). Mr. Lowe explained, however, that adjustments were made only to deliveries and to amounts pumped and not to the "over/short" column (Tr. 34). The "over/short" column would be affected only to the extent that adjustments were made in amounts delivered or amounts pumped. He concluded that there was no real pattern to these adjustments and opined that the overriding concern appeared to be to make certain that the "over/short" column did not show more than a hundred gallons irrespective of what the station actually reported (Tr. 34, 47, 98, 99).

13. Under cross-examination, Mr. Lowe acknowledged that most of the changes he made to stick readings were in 100-gallon increments (Tr. 56). His basic concern was that changes in stick readings made the daily "over/shorts" as reported by the stations inaccurate (Tr. 60, 88). These changes were not to the stick readings in inches, but to the gallon conversions (Tr. 87, 90). He agreed, however, with the concept that mid-month correction of an error in a stick reading without more would correct itself because the following day it (the computer) would be off by an opposite exact amount (Tr. 92, 93). He also acknowledged that for the most part delivery amounts were only changed after Mr. Lemke said that he had looked into the matter and determined that an error had been made (Tr. 56, 60). Additionally, changes were almost never made to amounts pumped or sold (Tr. 88). Mr. Lowe testified that in most instances no changes were made to the station reports themselves (Tr. 61). He was instructed by Mr. Lemke to never change the opening stick reading for a month (Tr. 112-13).

14. Mr. Al Lemke, Bradley's office manager and controller, has a degree in accounting and has been employed by Bradley since 1989 (Tr. 382-83). Among his duties was responsibility for compliance with EPA regulations concerning inventory control. He testified that for inventory purposes all quantities were rounded to the nearest gallon (Tr. 385-86). Referring to the initial station reports described by Mr. Lowe, he stated that he observed mathematical, transposition, and stick reading errors on a daily basis (Tr. 391-93). He asserted that these were corrected "(a)s best we can,.." (Tr. 393). He pointed out that at the time the daily reports were being prepared, they rarely had a bill of lading or a delivery receipt reflecting actual deliveries and that these documents were received at a later time. Data were only inputted to the computer after it had been "checked out".

15. Mr. Lemke testified that he or someone on his behalf attempted to resolve "over/shorts" of 100 gallons or more shown on daily "call-in sheets" with the station manager (Tr. 394). If these attempts were unsuccessful and a discrepancy of that magnitude "survived" and appeared on computer reports, he would review the reports and, having the benefit of "hindsight", was able to determine that an overage on one day was matched or almost matched by a short the next day (Tr. 395). In such instances, he would conclude that there had to have been a "stick" error reported on that day.

16. Asked whether Bradley had any process to determine whether any variance in excess of 100 gallons was occasioned by a misrecorded delivery, Mr. Lemke replied that all deliveries to all stations were periodically reconciled to the bills of lading (Tr. 396). He explained that we enter into our bill of lading system every bill received from [e.g.] Sinclair Oil and that these are matched gallon for gallon with receipts at the stations (Tr. 396, 398, 405). He testified that tanks were "stuck" before and after deliveries were made (Tr. 398-99, 405). In this regard, Mr. Lemke stated that he did not personally convert the before and after stick readings in inches to gallons unless he suspected that there was some problem with the delivery (Tr. 398).

17. In addition to preventing overflows,[(7)] the reason for gauging or "sticking" a tank after delivery is to verify that quantities loaded into the tank truck at the

terminal were actually delivered. While there is some indication in the record that quantities delivered are metered,[8] Mr. Lemke did not so testify and he deflected assertions that Bradley's records implausibly show numerous deliveries in even numbers by relying on the size of tank truck compartments (Tr. 414-16). He (Lemke) testified that gallons metered into the truck as shown on the bill of lading were used for monthly reconciliation purposes (Tr. 405). He maintained that meters measuring product into a tank truck were very accurate, that this measure was more accurate [than stick readings] and [because Bradley pumped fuel while deliveries were accomplished] in accordance with national EPA guidance.[9]

18. Mr. Lemke denied ever changing a delivery amount from that shown on station reports without verifying that a mistake had been made (Tr. 399, 400). He also denied ever changing quantities sold without verifying that there was an error in the station report (Tr. 400-01). He pointed out that each shift [at a station] had to write down the opening [pump] totalizer readings from the previous shift's closing readings, that there could be a mistake in rewriting these numbers, that there could be a mistake in totaling sales from two or more pumps [from the same tank] and that there could be a transposition of figures in the columns for calculating the daily over or short. He testified that because the integrity of the monthly inventory control depended upon having accurate opening and closing stick readings and accurate [records of] deliveries and sales, he never changed opening or closing stick readings unless he was able to verify that an error had been made (Tr. 401-02).

19. Asked what he would do if records showed Bradley was out of tolerance for a month, i.e., an over/short of one percent plus 130 gallons or more, Mr. Lemke replied that the first thing he would do is "go to" the previous month to determine whether there were two months in a row with a variance beyond one percent plus 130 (Tr. 421). He averred that during the period July through October 1993 there were never two consecutive months when [inventory reconciliation] showed a shortage in excess of one percent [of throughput] plus 130 gallons (Tr. 421). The regulation (40 CFR Part 280, Subpart E) requires, inter alia, notification of the implementing agency when a release detection method required under §§ 280.41 and 280.42 indicates that a release may have occurred unless in the case of inventory control, a second month of data does not confirm the initial result (§ 280.50(c)(2)).

20. As he did with respect to the "daily call-in sheets", Mr. Lemke regarded amounts in excess of 100 gallons in the over/short column on station reports and monthly inventory records as matters requiring particular attention (Tr. 427). He testified that he would try to determine why the amount was over 100 gallons and try to correct it if possible. He maintained that changing a stick [reading] in the middle of the month [or at any point other than the opening or closing] would not affect the integrity of the [monthly] inventory control analysis (Tr. 424, 428-29, 430-34).

21. Referring specifically to the Monthly Inventory Record for the no lead tank at Bradley's East Warren station for the month of October 1993 (C's Exh 12), Mr. Lemke testified that he had verified that a delivery of 5,001 gallons on October 6 shown on the station report should have been 4,601 and that this had been corrected on the computer report (Tr. 439, 463). A comparison of prior stick readings of this tank casts substantial doubt on the accuracy of this testimony or the accuracy of the verification.[10] The Monthly Inventory Record for this tank for October 1993 also shows a short of 546 gallons on October 27. Mr. Lemke's initial conclusion would be that this [or similar large shorts] must have resulted from an improper data entry (Tr. 428).

22. Responding to an inquiry from the ALJ as to whether changes in stick readings in the middle of the month would make it easier to mask a possible leak, Mr. Lemke averred that he generally tried to smooth the over/shorts on a daily basis by changing stick readings when he could not verify a mistake in delivery or sales. He maintained that these mid-month adjustments [in stick readings] made it "...better to determine if there was a leak by taking the spikes out,.... to better determine what kind of a trend there was in these overs and shorts as to whether there was a leak or some other problem at that station." (Tr. 465)

23. Paragraph (a) of the regulation setting forth conditions for the use of inventory control as a leak detection method (40 CFR § 280.43) provides in part: "(2) (t)he equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch; ." Mr. Lemke asserted that "Bradley complies with that requirement by providing tank sticks and charts that enable us to determine to the nearest eighth of an inch how much product is in the tank." (Tr. 404). While he acknowledged that some tank charts and sticks in use at Bradley were in one-quarter rather than one-eighth inch increments, he maintained that the equipment was capable of measuring to the nearest one-eighth inch by interpretation [interpolation] (Tr. 404, 451). Ms. Theresa Bahrych, identified infra finding 29, supported Mr. Lemke in this respect, stating that it, the stick, could be in quarter-inch markings, but that it had to be read to the nearest eighth of an inch and written into the inventory record (Tr. 333-34).

24. Ms. Stevenson, identified infra finding 29, testified that whether Bradley used an adequate stick was physical at the station and that she did not know whether Bradley complied [with the requirement of the regulation] in this respect (Tr. 221). EPA guidance "Doing Inventory Control Right" (supra note 9) recognizes that charts for converting stick readings to gallons at one-eighth inch increments may not be available and sets forth the necessary calculation where the stick reading is to eighths of an inch and the chart shows gallon equivalents at one-quarter inch levels (Id. 9). It is not clear whether any of the readings in the tanks at issue here were made with sticks having a one-eighth inch scale. Monthly Inventory Records (C's Exhs 11 through 14) and Station Reports in the record (C's Exhs 21 and 22) do not show any stick readings in eighths of an inch (Tr. 450-51).

25. Among other conditions for using inventory control as a method of leak detection (40 CFR § 280.43(a)) is ¶ (6) which provides" "(t)he measurement of any water level in the bottom of the tank is made to the nearest one-eighth inch at least once a month." Mr. Lemke testified that Bradley's station managers were asked to stick tanks for water every Monday or approximately four times a month (Tr. 408). Gauging for water is accomplished by coating the end of a gauge stick with a paste which changes color in the presence of water (Bulk Liquid Stock Control At Retail Outlets, C's Exh 18, Appendix D). A form for this purpose which provides that each tank must be stuck for water on [each] Monday throughout the month, the results recorded, the form signed and returned to the office with the master report on the first of each month is in evidence (R's Exh H). Mr. Lemke testified that this form was in use during the period July to October 1993 (Tr. 409).

26. However, no records of "water stick" measurements for the stations at issue are in evidence. According to Ms. Stevenson, identified finding 29 infra, she asked Mr. Lemke for water stick records and his response was "(l)ook on the delivery slips." (Tr. 208-09, 232, 236) She testified that they never saw any water stick readings, but acknowledged that the matter was not pursued and that the inspectors were not specifically looking for evidence that the tanks were checked for water (Tr. 209, 235, 237-38). There is no mention whatsoever of water readings or the lack thereof in the Checklist for Inventory Control Documents (C's Exh 10; Tr. 280) or in the Inspection Report (C's Exh 7).

27. Mr. Lemke testified that he was not aware that EPA was asking for "water stick" records until Monday afternoon (September 30) of the week of the hearing. Describing efforts to locate the records, he stated that they had looked everywhere [where Bradley stored records] but that "(w)e still have not located those records." (Tr. 410) He indicated that records not required to be kept were shredded and that the records may have been destroyed.[(11)] According to Mr. Lemke, he did not normally review "water stick" records in connection with inventory control because, to him, "any water in our tank is unacceptable." (Tr. 412-13)

28. Approximately the last week in September 1993, Mr. Lowe left Bradley Petroleum for a better paying job (Tr. 51). During the first week in October 1993, he called Ms. Debra Ehlert who at the time was chief of the underground storage tank program section at EPA Region 8 (Tr. 123, 129-30). He informed Ms. Ehlert that while

employed by Bradley he had been asked to change numbers on inventory sheets. Mr. Lowe explained that he made the call because "I just knew it wasn't right and I was worried what would happen if it was left to continue this way and there was a leak" (Tr. 49). Thereafter, EPA sent Bradley a letter under Section 9005 of RCRA requesting information, including field and computer records. Due to the volume of records, Bradley invited EPA to inspect the records at Bradley's main office (Tr. 130-131, 202).

29. On November 29 and 30, 1993, Suzanne Stevenson, enforcement coordinator for the UST program, and Theresa Bahrych, an EPA environmental engineer, accompanied by Scott Simons and Ralph Acierno, authorized inspectors from the State of Colorado Oil Inspection Office, conducted a file review (inspection) at Bradley's main office located at 105 South Cherokee Street in Denver, Colorado (Tr. 199, 201-02, 203, 330; C's Exhs 7, 8, and 10). Mr. Lemke informed Ms. Stevenson that Bradley used inventory reconciliation [control] to comply with § 280.41 and that data from the original daily station reports was inputted to a computer to accomplish reconciliation (Tr. 205, 207-08). Because of the volume of data, the review was confined to the stations identified above (finding 2), which were randomly selected, and the period limited to the months of July 1993 through October 1993 (Tr. 204). Days reviewed were limited to the 1st, 14th and 15th and the last day of each month (Tr. 205, 207, 211).

30. When asked what records Mr. Lemke produced as inventory reconciliation, Ms Stevenson replied "Computer sheets".[(12)] Consistent with this testimony, the Inspection Report (C's Exh 7) states in part: "(t)he inspectors were to compare the daily stick readings, overage and shortage numbers, and delivery amounts that were filled out by individual station operators with the computer printout that was generated by the main office." (Id. 1) She also asked to see field data, i.e., daily station sheets or reports and delivery receipts (Tr. 205-206; C's Exhs 21, 22). Although only two delivery receipts are in the record (R's Exhs C and D), Ms. Stevenson stated that Mr. Lemke produced a box of delivery receipts in response to her request.[(13)] She explained that the primary focus of the inspection was to ascertain what kind of data Bradley used for inventory reconciliation and that in comparing station reports with the computer sheets (printouts) there were an incredible number of changes (Tr. 207-08).

31. Ms. Stevenson opined that "sticking" tanks before and after delivery as required by the regulation was very important to inventory control. She testified that they did not find any evidence in the daily station reports and computer reports that any of the 32 tanks involved in this action had been "stuck" before and after deliveries were made on the 1st, 14th, 15th, and 30th [or 31st of the month] (Tr. 209). She answered in the negative the question of whether they found any evidence that Bradley reconciled product deliveries by sticking [tanks] before and after delivery for purposes of inventory reconciliation (Tr. 220). She understood that the regulation required that before and after delivery tank volumes be used in inventory reconciliation and her testimony does not establish a violation by Bradley in this regard.

32. Although Ms. Stevenson subsequently testified that "we" did not observe any inch stick readings on the "delivery sheets" we looked at (Tr. 234, 239, 245), this testimony is inconsistent with her affirmative answer to a question posited on the existence of such readings on delivery receipts or slips which asked whether she informed Mr. Lemke that stick readings rather than invoice amounts should be used in inventory reconciliation (Tr. 282-83). Moreover, the inspectors were comparing daily station reports, which show the closing stick inventory, but not the stick inventory before and after each delivery, with computer printouts (findings 30 and 37). In any event, the evidence supports the conclusion that Bradley did stick its tanks before and after deliveries were made and, to the extent Ms. Stevenson's testimony is to the contrary, it is not accepted.

33. In conducting the file review at Bradley's offices, the inspectors used a prepared form "Checklist for Inventory Control Documents."[(14)] The checklist contains a grid, which includes the months July through October extending horizontally and six requirements or purported requirements of the regulation for

the use of inventory control arranged vertically. These purported requirements are: 1)Inventory sheet for month; 2) Daily stick readings; 3)Values are within 1% + 130 gal range; 4) Monthly Reconciliation; 5) Delivery reconciliation (copy of delivery sheet); and 6) Delivery (not inv[oice]) figures used in inventory sheets. Ms. Stevenson acknowledged that [all] items on the grid were not based on requirements [of the regulation] (Tr. 241-42, 243).

34. With one or two exceptions, the grids indicate that an inventory sheet for the month was located, that daily stick readings were taken, that values were within the 1% + 130-gallon tolerance, and that monthly reconciliation was performed. Almost without exception entries for No. 5, delivery reconciliation (copy of delivery sheet), state "not used" and entries for No. 6, delivery (not inv[oice]) figures used in inventory sheets, state "no" (Tr. 240; C's Exh 10). Ms. Stevenson's testimony that they did not observe stick readings before and after deliveries on delivery tickets they looked at is recited above (supra finding 31). She explained that there was an agreement among the group (inspectors) that "not used" was written on the grid only where delivery sheets did not show stick readings before and after delivery (Tr. 245). It is concluded, however, that this testimony is erroneous and that item 5 on the grid does not mean that stick readings before and after delivery did not appear on the delivery receipts, but only that such readings did not appear on daily station reports reviewed by the inspectors and were not used in monthly inventory reconciliation. Ms. Stevenson discussed this matter with Mr. Lemke, taking the position that [before and after delivery] stick readings should [must] be used in monthly inventory reconciliation.

35. Opposed to Ms. Stevenson's testimony that there was no evidence that tanks were "stuck" or gauged before and after delivery on the delivery sheets or receipts the inspectors looked at, is Mr. Lemke's testimony that tanks were stuck before and after deliveries were made (finding 16), is the fact that bills of lading (delivery receipts) in the record show stick readings before and after delivery both where the delivery was made in Bradley's truck and where the delivery was by common carrier {supra note 13), and Mr. Lowe's testimony that the occasional delivery receipt he saw while employed at Bradley showed such readings (finding 6). Moreover, owners and operators are required to ensure that spillage and overflows do not occur and present day common carrier practice almost certainly prohibits unloading gasoline or the commencement thereof without assurance that the tank had the capacity to hold the quantity ordered (supra note 7). These same considerations, although perhaps to a lesser extent, apply to deliveries by Bradley's truck.

36. Ms. Theresa Bahrych accompanied Ms. Stevenson in the file review (inspection) conducted at Bradley's offices on November 29 and 30, 1993 (Tr. 330). She testified that she observed "delivery sheets" ("delivery records") similar or identical to the "bills of lading" ("delivery receipts") in the record (R's Exhs C and D) (Tr. 331, 334-35). She was of the belief that they did not receive delivery slips or receipts for all of the days they had selected to examine (Tr. 331). A note on the checklist for Station 04 (Exh 10) in Ms. Bahrych's handwriting is as follows: "Deliveries: Stick readings are written clear but not reconciled. Figures are not used in delivery numbers." Ms. Bahrych agreed that this note meant that stick readings [before and after delivery] were written down, but not reconciled nor were they used in the [monthly] reconciliation process (Tr. 337). Notably, she did not confirm Ms. Stevenson's testimony that the delivery slips or receipts she (Bahrych) looked at lacked stick readings. She agreed, however, with the Region's (Complainant's) position that owners and operators were required to use actual delivery receipts in monthly inventory reconciliation rather than invoices (Tr. 338).

37. Most of the entries made by the inspectors on the Checklist for Inventory Control Documents (C's Exh 10) are simply comparisons between inventory quantities shown on station reports and the computer printouts (Tr. 207, 258). Confirming her prior testimony that there were an "incredible" number of changes between the station reports and the computer [reconciliation] sheets (finding 30), Ms. Stevenson testified that "hundreds and hundreds" of the amounts shown on the computer records differed from those in the original station reports (Tr. 208). She concluded that the number of changes precluded [proper] inventory reconciliation in

that they were not using valid numbers (Tr. 220-21, 256-57, 261, 263, 305-06). The Inspection Report written by Ms. Stevenson (C's Exh 7) states that the following discrepancies were found:

1. Stick readings at the station did not match the stick readings on the computer printout.
2. Gallons of product over and short for each day on the computer sheets did not match the daily sheets.
3. The monthly summation of overage and shortage on daily [sheets] did not match the summation on the computer sheet.
4. Tanks were not measured before and after delivery and reconciled in the inventory report.

38. Ms. Stevenson drafted the complaint initiating this proceeding (Tr. 292). The allegations (counts) in the complaint mirror those in the inspection report quoted in the preceding finding (Tr. 314-19). The complaint does not specifically allege that Bradley did not have equipment capable of measuring the level of product to the nearest one-eighth inch or that Bradley failed to measure its tanks for water at least once each month (Tr. 319).

39. Mr. Bradley Calkins has been president of Bradley Petroleum, Inc. for 20 years and involved in [the retail motor vehicle fuel business] for over 40 years (Tr. 347-48). He testified that leak [or inventory] control was an important facet of his business and that "we" had "leak detection" before the rules at issue here became effective (Tr. 357). He pointed out that he had some familiarity with the rules at issue here by virtue of the fact he had co-chaired a committee which assisted [or was consulted] in the promulgation of the regulations (Tr. 349-50). He agreed that a change in a tank's mid-month stick readings would not affect the monthly reconciliation of [1.0 percent] plus 130 gallons (Tr. 351-52, 353). Asked why such changes were made, Mr. Calkins denied knowledge of each instance where a correction was made, but replied that there are mathematical errors, stick errors, statistical errors with deliveries and deliveries that were split [between different tanks] and not adequately [or correctly] recorded (Tr. 352).

40. Mr. Calkins testified that Mr. Lemke was instructed to deal with these problems, i.e., over/shorts in excess of 100 gallons, on a daily basis.[(15)] He acknowledged that 100 gallons was an arbitrary number, but maintained that it was a [reasonable] indicator of a [potential] problem (Tr. 380). He opined that changing stick readings so as to correct errors and eliminate "spikes" [on the daily reports] made the computer record or inventory more accurate from a management perspective (Tr. 353). An example of incorrectly recorded deliveries is the deliveries to Bradley's East Warren Avenue station on August 16,1993 (infra note 17). Errors of the magnitude indicated would obviously require correction in order to make inventory control or reconciliation feasible. As to inventory control or reconciliation in accordance with § 280.43, Mr. Calkins echoed Mr. Lemke's view that as long as beginning and ending stick readings were accurate [and unchanged] mid-month changes or corrections to such readings had no effect on the validity of monthly inventory reconciliation required by the regulation. This, of course, assumes that deliveries and withdrawals are accurately recorded and used in the reconciliation process.

41. Mr. Calkins testified that he instructed his employees to be cooperative when he learned that EPA wanted to conduct the inspection or investigation leading to the issuance of the complaint (Tr. 353-54). To his knowledge, the EPA inspectors were furnished all of the records which they asked to see. He indicated that he was surprised to learn that EPA had concluded that his inventory control records "weren't up to snuff." (Tr. 355). He asserted that there was no monetary, moral, or ethical advantage in not having proper records or in masking a leak and emphasized that a leak needed to be addressed immediately in order to minimize the environmental and financial damage (Tr. 355-56).

42. Mr. Calkins testified that Bradley was sticking its tanks for water on at least a monthly basis and keeping a record thereof during the July through October 1993 period (Tr. 376). In fact, since 1993 Bradley's practice has been to stick its tanks for water on a weekly basis and keep a record thereof.[(16)] He stated, however, that the first time he was aware that EPA was asking for water records in this case was when he received a call from his counsel, Mr. Robinson, on the Friday before

the hearing (Tr. 374-75). He confirmed that water stick records for the period at issue could not be located.

43. On November 10, 1993, the Colorado Department of Labor and Employment, Office of Oil Inspection, addressed a memorandum to the Colorado Department of Health, UST Program, which stated, inter alia, that on November 1, 1993, "our office" was notified of gasoline vapors in a sump at the University Hills Animal Hospital (C's Exh 3). The memorandum further stated that record and site investigation had identified two active UST sites [as possible sources for the vapors]: a Total Petroleum site at 2210 S. Colorado and a Bradley Petroleum site at 4015 E Warren. Data assembled included tank tightness tests at both UST sites, SIR records at the Total site and inventory records at Bradley. The memorandum noted that no past releases had been reported by either facility and that a review of SIR [records] at Total and inventory and ttt records at Bradley revealed no apparent current operational problems. Although the memorandum stated that laboratory analysis by "our office" has concluded that there is a high probability that the liquid product in the animal hospital sump is premium product from the Bradley station, it concluded that no current leak was suspected at either site and that no further OIS activity was warranted.

44. Upon learning that EPA was taking issue with Bradley's inventory control procedures, Mr. Calkins employed USTMAN Industries, a well-known testing firm, to review Bradley's records and to provide advice as to the adequacy of its inventory reconciliation (Tr. 358-59). Mr. Calkins testified that USTMAN concluded that Bradley's records were good, that the methods used were in compliance [with the regulation] and would provide information sufficient to disclose a leak. USTMAN's initial review was confined to the East Warren station, but was subsequently expanded to include all stations identified in the complaint for the four-month period July through October 1993 (Tr. 358-59; USTMAN Report, R's Exh F). Thereafter, Bradley employed USTMAN to conduct inventory control using the statistical inventory control (SIR) method (Tr. 359-60). According to Mr. Calkins, it was not necessary that Bradley change its existing method of inventory control and recordkeeping in order for USTMAN to apply its SIR method (Tr. 360-61).

45. The USTMAN report states that it reviewed, entered, analyzed, and compared manual and computer data from all tanks at Station 04 (East Warren Avenue) for the mentioned four-month period, that it conducted a similar analysis for 128 tanks at the ten other stations [identified in the complaint] for the July-October 1993 period of which EPA had concerns, and that, in addition, it randomly selected monthly data for that period from 40 tanks at 14 stations. Data were compared to identify the number and kinds of discrepancies and data quality were evaluated per SIR standards and compared to data quality submitted by USTMAN clients. Findings were to the effect that there were a large number of discrepancies between manual and computer entries (some monthly data sheets had over 40 changes), that most (approximately 85% to 90%) of the discrepancies resulted from the computer "rounding" of gallons sold, creating a difference of one gallon per day, that some deliveries were omitted from manual records, and that several deliveries were corrected on computer records.[(17)]

46. USTMAN concluded, inter alia, that nearly all of the computer corrected deliveries were substantiated during the SIR analysis, that a large percent of the sales and stick reading discrepancies were identified and substantiated as either manual or mathematical errors, transposition of numbers in both manual and computer entries and "typo" errors in data entry procedures; that nearly all of the changes made from the manual to computer records were detrimental to Bradley's inventory, i.e., creating 25-30 gallons of unaccounted for losses which tend to make tanks appear to be leaking; that there was no pattern identified for the majority of the errant stick readings and delivery discrepancies; and that generally the inventory procedures and the quality of data were rated as good for SIR analysis purposes. The report noted, however, that typically the quality of data and the gathering procedures, varied from station to station and that data from two of the stations identified in the complaint, Bradley Nos. 05 and 07, were considered to be poor.

47. Mr. Calkins testified that he was not concerned when he was notified of gasoline

fumes in the basement of the Animal Hospital down the street (one-half block) from the East Warren outlet and across the street from a Total station, because he had followed the inventory records and confirmed that tank tightness [tests] were accomplished and he did not see any indications of a leak (Tr. 362, 364). He stated that tank tightness tests [at the East Warren station] had been performed sometime during the period July through September 1993 and that all the tanks had passed.[(18)] Additionally, Mr. Calkins was aware that there had been a major release from the Total store "right next to the animal hospital" and that Total was then engaged in remediating that problem (Tr. 364). Mr. Calkins had the tanks at the East Warren station retested with the result that all three passed (Tr. 366; Certificate of Underground Storage Tank System Testing, dated March 25, 1994, R's Exh G).

48. In connection with a project to upgrade and reline the tanks with a fiberglass material, it was discovered, however, that there were holes in the [premium and unleaded tanks] at the East Warren Avenue station, and that these tanks had been leaking for some time (Tr. 367-68). Thereafter, Bradley employed consultants, to obtain state approval for a corrective action plan and to remediate the site (Tr. 369-70). Mr. Calkins estimated that the cost of such remedial work to the date of the hearing was in excess of $100,000. Although he was familiar with a fund established by the state to assist in remedial work required by leaking tanks, he asserted that remedying such leaks resulted in substantial out-of-pocket expense, because there was a $10,000 deductible and not all costs were reimbursed (Tr. 356-57, 370-71). He described the leaks as very slow and of the kind that could have occurred while Bradley was within the regulatory tolerance of one percent of throughput plus 130 gallons (Tr. 371).

49. Mr. Calkins testified that Bradley's inventory control system had detected leaks at other stations in the past (Tr. 372-73). He stated that "we" at Bradley have a policy of watching [inventory figures] daily and that, because measuring to an eighth or a quarter of an inch is "pretty inaccurate", "spikes" up and down occur (Tr. 372). He explained that if the spikes and mistakes are eliminated and a small loss is observed over a ten-day or two-week period, it is almost certainly due to a small leak that might not be detectable by a tank tightness test or "somebody is stealing" and we investigate that (Tr. 372-73). He averred that Bradley's inventory control system and procedures, which had detected leaks in the past, were identical to the inventory control at issue here (Tr. 373-74).

50. Mr. Christopher Higgins, a hydrogeologist and owner of Higgins & Associates, qualified as an expert in the remediation of leaks from underground storage tanks (Tr. 498, 500). He testified that his involvement in the projects at issue here commenced while he was working for the University Animal Hospital on East Warren Avenue which had detected vapors in its basement in November 1993 (Tr. 500). His primary responsibility was to abate the vapors which led to the discovery of gasoline in a sump. While employed by Groundwater Technology, Inc., Mr. Higgins was the author of a Corrective Action Plan involving Bradley's East Warren Avenue station, dated October 3, 1994 (C's Exh 17) and he participated in the preparation of an Underground Storage Tank Removal and Closure Report for Bradley Petroleum, dated December 23, 1994 (C's Exh 16; Tr. 503-04). The Corrective Action Plan states, among other things, that on March 25, 1994, the three underground tanks were [tank tightness] tested and that all passed, that on March 28, 1994, Bradley removed all gasoline from these tanks, that on March 29, 1994, the 10,000-gallon tank for unleaded gasoline was determined to be in good condition and was relined, and that on May 17, 1994, holes were discovered in the two tanks of 4,000-gallon capacity for regular and premium unleaded gasoline. These tanks were removed on June 6, 1994.

51. Mr. Higgins described the assessment activities required to determine the extent and source of gasoline [contamination] (Tr. 507). He referred to soil boring activities as a "geoprobe program" whereby groundwater samples are collected and analyzed for gasoline constituents such as benzene, toluene and total petroleum hydrocarbons. Based on site exploration required for the preparation of the corrective action plan, the fact that the leaking tanks had passed tank tightness tests and his understanding of Bradley's inventory records, he opined that the plume [of contamination] in this instance was of the kind that could result from a

slow, long-term release from underground storage tanks (Tr. 508). He described the soils in the area as primarily clay, having a low permeability, meaning that fluids would travel through the soil very slowly (Tr. 509).

52. Mr. Higgins was familiar with EPA's regulatory tolerance in inventory control of one percent of throughput plus 130 gallons and testified that a plume of the size determined here was consistent with a leak of less than 500 gallons a month (Tr. 510). He indicated that a fair conclusion under the circumstances would be that a leak in the neighborhood of 400 to 500 gallons a month would be within the regulatory tolerance and thus not likely to have been detected.(19)

53. Mr. Higgins testified that Bradley's claim for reimbursement of remediation costs had already gone through a preliminary review by the State and that in connection with that claim, Bradley was required to produce inventory control records for a period of six months prior to the date of the suspected release (Tr. 511-12). He pointed out that if the State had considered Bradley's inventory records to be unacceptable, a reduction in the claim for reimbursement would have been made. Inasmuch as no such reduction was taken, he concluded that the State must have considered Bradley's inventory control methods satisfactory (Tr. 512).

54. Dr. Kendall Wilcox, a chemist by training, has been involved in the detection of leaks from underground storage tanks since 1985 (Tr. 468-69). At the time of the hearing, he operated his own company, Ken Wilcox Associates, which is primarily engaged in the testing of leak testing equipment (analyses of data sets) for manufacturers (Tr. 472-73). While employed by a firm known as Midwest Research, which was under contract with EPA, Dr. Wilcox participated in the drafting of the Part 280 UST regulations (Tr. 469-70). Dr. Wilcox was accepted as an expert in the detection of leaks from underground storage tanks (Tr. 476-77). He testified that in view of the records EPA requires, and that Bradley prepares, a leak could not be masked by the simple alteration of stick readings in the middle of the month, because a change on one day would be reflected in an equal, or almost so, opposite change the next day, which would correct itself every time (Tr. 477-78, 493-94). He opined that the method of inventory control allowed by the regulation had a high tolerance or low sensitivity in terms of actually detecting a leak (Tr. 482-83). He pointed out that it was recognized from the beginning that simple inventory reconciliation was not a very good or accurate method of leak detection (Tr. 482-83).

55. In connection with his employment by Bradley as an expert, Dr. Wilcox reviewed monthly inventory records encompassed by the exhibits herein, the corresponding computer sheets and documents prepared by USTMAN to assist Bradley in determining whether to settle or contest the complaint (Tr. 484-85). He testified that in the past five years he or his company had reviewed probably 3,000 to 4,000 inventory records similar to Bradley's. He opined that the Bradley data compared favorably with most of the data "we got" and that, although he had seen better data, he had also seen data that were a lot worse (Tr. 486-87). Because the computer sheets sometimes showed more loss than the raw data, he did not think that Bradley was attempting to mask a leak (Tr. 488).

56. Dr. Wilcox emphasized that monthly inventory reconciliation was based on two points, i.e., stick readings at the beginning and end of the month, plus adding deliveries and [subtracting] sales (Tr. 495). Other than the fact that the regulation required that inputs, withdrawals and [volume remaining in the tank] be recorded daily and were useful in detecting catastrophic leaks, he asserted that" (y)ou don't even need the stuff in between." (Tr. 495) His ultimate conclusion was that Bradley's inventory control system was capable of detecting a leak of one percent of throughput plus 130 gallons and thus was in compliance with 40 CFR § 280.43.

CONCLUSIONS

1. The regulation concerning inventory control (40 CFR § 280.43(a)) requires the recording on a daily basis of inputs (deliveries), withdrawals (sales), and the amount remaining in the tank.(20) Reconciliation, i.e., comparison of the book

inventory (opening stick, plus deliveries, minus withdrawals) with the closing stick inventory is required to be performed only monthly. The record establishes that Bradley complied with this requirement.

2. The regulation (§ 280.43(a)(3)) requires that tank volume be measured, i.e. that the tanks be "stuck", before and after delivery and that the resulting volume be reconciled with delivery receipts. The record establishes that Bradley complied with this requirement.

3. Although the regular tank and the premium unleaded tank at Bradley's East Warren Avenue station were discovered to be leaking, Complainant hasn't shown that either or both of these tanks or any other tanks at stations identified in the complaint were outside the tolerance of one percent of flow-through plus 130 gallons for any month, let alone the two months required by the regulation, and the complaint will be dismissed.

DISCUSSION

As noted at the outset of this decision, the complaint at ¶ 11 alleges in broad terms that Respondent failed to provide a release detection method in accordance with the requirements of 40 CFR § 280.40(c), § 280.41(a) and § 280.43(a)(1-6). Section 280.40(c) sets forth in a table the year and date (December 22), depending on the year of tank installation, when owners and operators of UST systems must comply with the release detection requirements of Subpart D. Section 280.41(a)(3) provides that UST systems that do not meet the performance requirements of §§ 280.20 or 280.21 may use monthly inventory controls conducted in accordance with § 280.43(a) or (b), and annual tank tightness testing conducted in accordance with § 280.43(c) until December 22, 1998.

Although ¶ 12 of the complaint, under the heading of "Counts 1-35", incorporates the allegations of paragraphs 1 through 11, the violations specifically alleged are contained in paragraphs 15 through 18. Paragraph 15 of the complaint alleges that, during the inspection, the inspector observed stick readings (derived by visually observing product in a tank) on Respondent's main office computer printout failed to reconcile with daily stick readings taken at the individual stations; paragraph 16 alleges that the inspector observed that Respondent's main daily book inventory (calculated from product available for sale less product sold) failed to reconcile with daily book inventories calculated at each of the 11 facilities described in the complaint; paragraph 17 alleges that the inspector observed that Respondent's monthly summation of book inventories failed to reconcile with its daily sheets of book inventories; and paragraph 18 alleges that the inspector observed that tanks were not measured before and after delivery and reconciled in the inventory report.

The complaint is thus based on the apparent contention that the regulation requires daily, rather than monthly, inventory reconciliation. In its opening brief, Complainant describes four "core" issues, the first being whether making acknowledged, intentional, and arbitrary changes in monthly inventory figures constitutes an acceptable manner of conducting inventory control (Brief at 4). Mr. Calkins' testimony is cited as support for this assertion. Mr. Calkins, however, was referring to changes in daily rather than monthly stick readings and the record supports the conclusion that no changes to monthly stick readings, i.e., beginning and closing inventory figures, were made unless an error was verified.

The second core issue as described by Complainant is whether Respondent took volume measurements of its UST's before and after deliveries of petroleum products and reconciled those measurements with product delivery receipts. On this issue, Complainant has correctly recited the language of § 280.43(a)(3). The record establishes, however, that Bradley complied with this requirement (findings 16 and 30).

The third listed core issue and, according to Complainant, related to the second, is whether Respondent properly used delivery receipts in lieu of physical before and after [delivery] measurements for monthly inventory reconciliation purposes. The regulation requires only that before and after delivery measurements be reconciled with delivery receipts and there is no requirement that such

measurements be used in monthly inventory reconciliation. EPA guidance (supra note 9) indicates that invoice amounts should be used in inventory reconciliation where, as here, fuel is pumped while deliveries are being effected.

The fourth and final issue described by Complainant in its opening brief is whether Respondent took measurements of water levels in its tanks to the nearest one-eighth inch at least once a month during the four-month period at issue here. Respondent objected to testimony at the hearing on this issue for the reason that the matter of water stick records was not raised until the Friday before the hearing (Tr. 14-17). Although testimony relating to water records was allowed, a ruling on whether such evidence would be considered was deferred (Tr. 16). Complainant asserts that Bradley was on notice, via the complaint, that it had violated § 280.43(a), which includes measuring water levels in its tanks and maintaining records thereof (Brief at 4, note 7). The specific allegations of the complaint, however, do not include any such failures (finding 38).

Complainant has apparently recognized the validity of Bradley's objection at least in part, because it has stated that it will move to dismiss the complaint, if water measurements are the only issue upon which it prevails (Brief at 4, note 7). Bradley's evidence is that it did measure its tanks for water, that Complainant did not specifically ask for water measurement records until the week before the hearing and, that, although Bradley searched for such records, the records could not be located (findings 27 and 42). Moreover, Bradley points out that the regulation only requires such records to be maintained for one year (supra note 11). Under these circumstances, it is concluded that whether Bradley measured water levels in its tanks is not at issue and that even if it were, Complainant has failed to sustain its burden of proving that Bradley violated the regulation in this regard.

In its reply brief, Complainant alleges that Respondent violated inventory control requirements for the following reasons:

(1) Respondent collected daily information (regulated substance withdrawals, inputs and the amount remaining in the tank) and arbitrarily altered it; and

(2) Intentional alteration of daily data rendered derived monthly data corrupted and erroneous; and

(3) Regulated substance inputs were not reconciled with delivery by measurement of the tank inventory volume before and after delivery; and

(4) Respondent failed to use equipment capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch.

Although § 280.43(a)(1) requires that inventory volume measurements for regulated substance inputs, withdrawals, and the amount remaining in the tank be recorded each operating day, it does not require and cannot be interpreted as requiring daily inventory reconciliation. The preamble to the final regulation (53 Fed. Reg. 37082 et seq., September 23, 1988) indicates that weekly and monthly performance standards (plus tank tightness tests) as prerequisites to the use of inventory control as a means of leak detection were eliminated from the rule because such standards resulted in an unacceptably high rate of "false alarms." (Id. 37157). Instead, the monthly standard or tolerance ("leak check") of one percent of flow-through plus 130 gallons was adopted. The provision of § 280.50(c)(2) that a second month's data confirm this standard had been exceeded before reporting was required was adopted to eliminate unnecessary reporting and to alleviate the burden on the implementing agency (53 Fed. Reg. 37170).

Regardless of the amount of fuel delivered or the amount remaining in the tank, "flow through" for the month is determined simply by gallons pumped or sold. This is gleaned from "totalizer" readings on the pumps at the stations. The "leak check" figure is to be compared with the difference between the "book inventory", i.e., opening stick plus deliveries minus withdrawals, and the closing stick or actual inventory. There is no requirement that inventory reconciliation be performed daily or that daily "over/shorts" be summed in monthly inventory reconciliation.

Dr. Wilcox's suggestion that the only purpose of recording on a daily basis product input, withdrawals and the measured volume remaining in the tank is to detect catastrophic leaks (finding 56) is, therefore, accepted as reasonable.

Section 280.43(a) does require that inventory control (or another test of equivalent performance) be conducted monthly to detect a release of 1.0 percent of flow-through plus 130 gallons in accordance with (a)(1-6). This logically, but not expressly, requires a comparison of book inventory, i.e., opening stick inventory plus deliveries minus withdrawals, with the closing stick inventory, that is the quantity on hand as determined by measurement of tank volume. If the difference between the "book" inventory and the "stick" inventory is greater than the "leak-check" test result (one percent of flow-through plus 130 gallons) for two months in a row, there may be a leak and the owner or operator is required to notify the implementing agency (40 CFR § 280.50). Although Complainant acknowledges that the regulation does not explicitly require the calculation of daily over/short values, it argues that compliance with the sudden loss provision of § 280.50(b) requires that [monthly] inventory reconciliation be based on stick readings of all the days in the month (Reply Brief, pages unnumbered). Complainant asserts that "only by daily observations can one observe a sudden loss" (Id.) As suggested by Dr. Wilcox, that, however, is the purpose of requiring that inputs, withdrawals, and the amount remaining in the tank be recorded each operating day.

Complainant has contented itself with the assertion that the numerous changes in stick readings made Respondent's inventory reconciliation unreliable and has made no contention that the difference between the book and the stick inventory for any of the stations identified in the complaint exceeded the leak check result for any of the months at issue. In the absence of evidence that inventory control as practiced by Bradley was incapable of detecting a release equal to the specified tolerance, Complainant has not met its burden of establishing the violation alleged.

Next, Complainant contends that Respondent failed to properly track, record and reconcile deliveries (Reply Brief). The record shows, however, that Bradley did measure or "stick" its tanks before and after deliveries were made and that the resulting quantities were reconciled with delivery receipts (finding 16). The regulation simply does not require that reconciled figures be used in monthly inventory reconciliation.

Lastly, notwithstanding that the complaint does not specifically allege that Respondent lacked equipment capable of measuring product level to the nearest one-eighth inch, and that Complainant made no such contention it its opening brief or in its proposed findings of fact, Complainant alleges that the fourth violation is that Respondent did not record measurements [of its tanks] in one-eighth increments (Reply Brief). Complainant acknowledges that the regulation (§ 280.43(a)(2)) only requires that the equipment "be capable" of measuring product level to the nearest one-eighth inch over the full range of the tank's height, but inquires rhetorically "what is the point of setting out the tolerance of the measuring specification[,] if EPA did not intend that just such measurements would be recorded in one-eighth inch increments." (Reply Brief, penultimate page.)

No issue is or can be taken with the thought that the regulation requires that product levels in the tanks be measured to the nearest one-eighth inch and the results recorded. To say that the equipment "be capable" of measuring product level to the nearest one-eighth inch is not the same as requiring that the stick or gauge have one-eighth inch gradations and that tank conversion charts specify gallon equivalents in one-eighth inch increments. In this regard, the preamble to the regulation indicates that the Agency concluded that "dipsticks" marked in one-inch gradations can be successfully read to the nearest one-eighth inch to improve accuracy, or that conversion tables can be modified (53 Fed. Reg. 37158). A fortiori, should equipment marked in one-quarter inch gradations be capable of being read to the nearest one-eighth of an inch. Assuming that this was an issue tried with the express or implied consent of the parties, Complainant simply has not established that Bradley failed to comply with the regulation in this respect.

Complainant has not established that inventory control as practiced by Bradley was

incapable of detecting a release equal to or one percent of flow-through plus 130 gallons in accordance with 40 CFR § 280.43(a) and the complaint will be dismissed.[(21)]

ORDER

The complaint is dismissed.[(22)]

Dated this 23rd day of April 1998.

Original signed by undersigned

_____

Spencer T. Nissen
Administrative Law Judge

1. Although in view of the conclusion reached herein it is unnecessary to discuss penalty issues, it should be noted that OSWER Directive 9610.12, dated November 14, 1990, U.S. EPA Penalty Guidance for Violations of UST Regulations, provides at Appendix A, Subpart D, that penalties for failure to provide a release detection method that meets the performance requirements of § 280.43 or § 280.44 are assessed on a per facility rather than on a per tank basis. Confusion as to whether the proposed penalty should be on a per facility rather than on a per tank basis is illustrated by the fact that the complaint under "Proposed Civil Penalty" states that the penalty claimed is $18,976. This equals $1,725 for each of the 11 facilities.

2. This is a typographical error and is intended to refer to Bradley's Station No. 12 at 1103 South Townsend, Montrose, Colorado (Stipulation of Facts, Appendix 1, C's Exh 23).

3. Tr.17. Stick readings are converted into gallons by reading a conversion chart provided by the tank manufacturer. Although the regulation (40 CFR § 280.43(a)(2)) requires that equipment used be capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch, conversion charts with which Mr. Lowe was familiar showed equivalent gallons in one-quarter inch increments (Tr. 23).

4. 40 CFR § 280.43(a)(3). Mr. Lowe indicated that quantities based on stick readings were written on sales tickets (Tr. 70). Bills of lading (delivery tickets or receipts) in the record, however, show stick readings in inches rather than the conversion to gallons (R's Exhs C and D).

5. Mr. Lowe indicated that at stations which closed, i.e., those not open 24 hours a day, stick readings were taken at the close and before business commenced the next day (Tr. 65).

6. Tr. 22. This is the raw data as received from the station. The 669 gallon-figure was computed by "summing" the daily over/shorts for the month. The regulation, however, requires only that regulated substance inputs, withdrawals and the amount remaining in the tank be recorded each operating day and that inventory reconciliation be performed on a monthly basis (40 CFR § 280.43(a) and (a)(1). Monthly inventory reconciliation is performed by Bradley from data entered into a computer. Computer printouts in the record (C's Exhs 11 through 14) are not Bradley's reconciliation records, but were assertedly prepared by Bradley at Complainant's request in an effort to resolve this matter (Tr. 20, 185).

7. The regulation (40 CFR § 280.30(a)) requires owners and operators to assure that releases due to spilling and overfilling do not occur and a common carrier driver

would almost certainly be disregarding his employer's instructions if he were to unload or commence unloading without the tank being gauged or "stuck" in his presence so as to be certain it had the capacity to take the quantity ordered.

8. The inspection report (C's Exh 7) quotes Mr. Lemke as stating that gallons distributed are determined by a meter on the truck. Mr. Lowe also indicated that tank trucks contained meters which showed the quantity delivered (Tr. 24).

9. Tr. 406-07. Because of the inherent imprecision in stick readings (findings 8 and 49), there can be little doubt that as an abstract matter meters at the terminal are more accurate than tank stick readings. Accord, Wilcox, Tr. 479. Guidance referred to apparently is EPA 5110-B-93-004 (November 1993) "Doing Inventory Control Right For Underground Storage Tanks", which provides that, in calculating daily changes in inventory, if you were not pumping fuel during the time the delivery was taking place, then use the "Gallons Delivered (Stick) number." However, if you had to pump fuel while the delivery was taking place, then use the "Gross Gallons Delivered (Receipt)" number as your delivery amount (Id. 10). The evidence is that Bradley pumped gasoline while deliveries were effected. Guidance issued by EPA Region 8, "UST Inventory Control And Manual Tank Gauging Procedures and Forms" (April 1993) states flatly that "Relying on the accuracy of invoice readings from the delivery company is not adequate." (Id. 4). Official notice is taken of the mentioned EPA and Region 8 guidance.

10. For example, the October 25 end stick inventory for the no lead tank at this station was 63 inches which equalled 7068 gallons (Mr. Lemke changed this figure to 6768 on the computer fuel inventory log). Another stick reading of this tank which shows that 63 inches converts to 7,068 gallons is contained in the Monthly Inventory record for July 18, 1993 (Tr. 217-18; C's Exh 11). The end stick inventory of this tank for September 17, 1993, also reflects that a stick reading of 63 inches converts to 7,068 gallons (C's Exh 13).

11. Tr. 411. Records of any monitoring, testing or sampling must be maintained for at least one year (40 CFR § 280.45(b)). Records of tank tightness tests must, however, be maintained until the next tank tightness is performed.

12. Tr. 205. Although counsel referred to Exhibits 21 and 22, these are loose leaf notebooks containing copies of station reports. Station Fuel Inventory Logs (computer printouts) are contained in Exhibits 11 through 14.

13. Tr. 233-34, 239. Mr. Lemke testified that he gave Ms. Stevenson delivery receipts for the days she requested (Tr. 423). He further testified that approximately one-third of deliveries were in Bradley's own truck and two-thirds were by common carriers (Tr. 416). Exhibit C is a bill of lading (delivery receipt) and invoice reflecting a delivery of 2001 gallons of unleaded gasoline to Bradley Station No. 5, 7403 W. 38th Ave, Wheatridge, Colorado, in Bradley's truck on October 5, 1993. The bill of lading contains a notation indicating a stick reading of 50 inches prior to delivery and 69 and a-half inches after delivery. This station is identified in the complaint. Exhibit D is a bill of lading, freight bill and invoice reflecting the delivery of 3500 gallons of unleaded gasoline to Bradley Station 5 on October 5, 1993, by Steerer Tank Lines, Inc. The freight bill also reflects a delivery of 5000 gallons of unleaded gasoline to Bradley Station No. 69. Notations reflect stick readings in inches before and after delivery at both locations.

14. C's Exh 10. Exhibit 10 indicates that the address of Bradley Station No. 21 is 1090 Havana Street, Aurora, Colorado. The station identified in the complaint is at 2160 E. Havana, Aurora, Colorado, the address of Bradley Station No. 21 appearing in the Stipulation of Facts (C's Exh 23). It is probable that the former address is an error.

15. Tr. 352-53. The API publication "Bulk Liquid Stock Control At Retail Outlets" (C's Exh 18) recognizes that some inventory losses are unavoidable and provides that variances in product inventory should not exceed 0.5 percent of product throughput over a one-month period (Id. ¶¶ 3.2 and 3.2.2.2).

16. Tr. 377. Ms. Stevenson testified that Bradley had previously been cited for failure to measure its tanks for water or to document such measurements (Tr. 308).

17. This is apparently a reference to August 16, 1993, a day which the report states had major delivery discrepancies [at the East Warren Avenue station]. For example, the Monthly Inventory Record (C's Exh 14) shows the delivery of an unlikely quantity of 170 gallons of regular gasoline on that day when the actual quantity apparently was 1,500 gallons. Additionally, a delivery of 2,000 gallons of unleaded gasoline on that day apparently should have been recorded as 4,901 gallons and the delivery of what appears to be a three digit quantity of premium unleaded gasoline (actual quantity illegible) apparently should have been recorded as 1,500 gallons. See, however, the Master Station Report for that day (R's Exh E) which indicates that the latter delivery or deliveries should have been recorded as 2,100 gallons.

18. Tr. 363-64. Tests referred to by Mr. Calkins are apparently those represented by "Individual Tank/Line Tightness Test Reports" attached to Bradley's answer. Complainant, however, has stated without elaboration that these documents do not comply with the requirement for "tightness test results" (Prehearing Exchange, dated February 14, 1995).

19. Tr. 511. Because, on this record, there is no way of determining how much of the leaked gasoline was regular and how much was premium unleaded, quantities determined by the one percent of throughput plus 130 gallon calculation should be summed for the purpose of Mr. Higgins' testimony. Quantities thus determined exceed 500 gallons except for October for which the total is 489 gallons. It does not appear that any of the "leak check" results for these two tanks during the July through October 1993 period exceed the over/short number after corrections for misrecorded deliveries (supra note 17) have been made. Complainant has made no contention to the contrary.

20. Section 280.43(a) provides:

> Each method of release detection for tanks used to meet the requirements of § 280.41 must be conducted in accordance with the following:
>
> (a) Inventory control. Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:
>
> (1) Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day;
>
> (2) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;
>
> (3) The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;
>
> (4) Deliveries are made through a drop tube that extends to within one foot of the tank bottom;
>
> (5) Product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of product withdrawn; and
>
> (6) The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month.
>
> Note: Practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," may be used, where applicable, as guidance in meeting

the requirements of this paragraph.

21. There is no evidence or allegation that Bradley failed to comply with §§ 280.43(a)(4) "[d]eliveries are made through a drop tube that extends to within one foot of the tank bottom;" and (5) "[p]roduct dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of product withdrawn;."

22. Unless this decision is appealed to the Environmental Appeals Board (EAB) in accordance with Rule 22.30 (40 CFR Part 22) or unless the EAB elects to review the same sua sponte as therein provided, this decision will become the final order of the EAB and of the Agency in accordance with Rule 22.27(c).