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May 1998

Idaho National Engineering Laboratory

Idaho National Engineering and Environmental Laboratory Radiological Control Performance Indicator Report

First Quarter - Calendar Year 1998

Date Published
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Idaho National Engineering and Environmental Laboratory
Radiological Control
Lockheed Martin Idaho Technologies Company
Idaho Falls, Idaho 83415

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05-21-98
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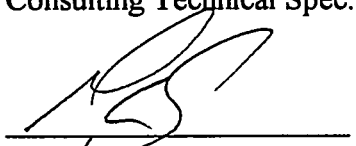
Approved By: 

G. L. Courtney
Manager, Radiological Control

05-21-98
Date

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Radiological Control Performance Indicator Charter

The INEEL Radiological Control Performance Indicator Report is provided quarterly, in accordance with Article 133 of the INEEL Radiological Control Manual. Indicators are used to measure performance of the Radiological Control Program and as a motivation for improvement, not as goals in themselves. These indicators should be used by management as tools to focus priorities, attention, and adherence to As-Low-As-Reasonably-Achievable (ALARA) practices.

The ALARA Committees establish ALARA goals for the INEEL based on forecasts and goals provided by each facility organizational manager or supervisor.

Performance goals are realistic and measurable. Stringent goals are set at least annually to reflect expected workloads and improvement of radiological performance. Goals higher than previous goals may occasionally be set due to changes in work scope or mission.

The INEEL Radiological Control Performance Indicators consist of:

- Collective dose in person-rem.
- Average worker dose, maximum dose to a worker, and maximum neutron dose equivalent to a worker.
- Number of skin and clothing contaminations, including the number of contaminated wounds and facial contaminations.
- Number of radioactive material intakes resulting in a dose assessment of 10 mrem or more.
- Area of Contamination, High Contamination, and Airborne Radioactivity Areas, in square feet.
- Airborne radioactivity events and spills.

These indicators also provide tracking and trending for the previous three years.

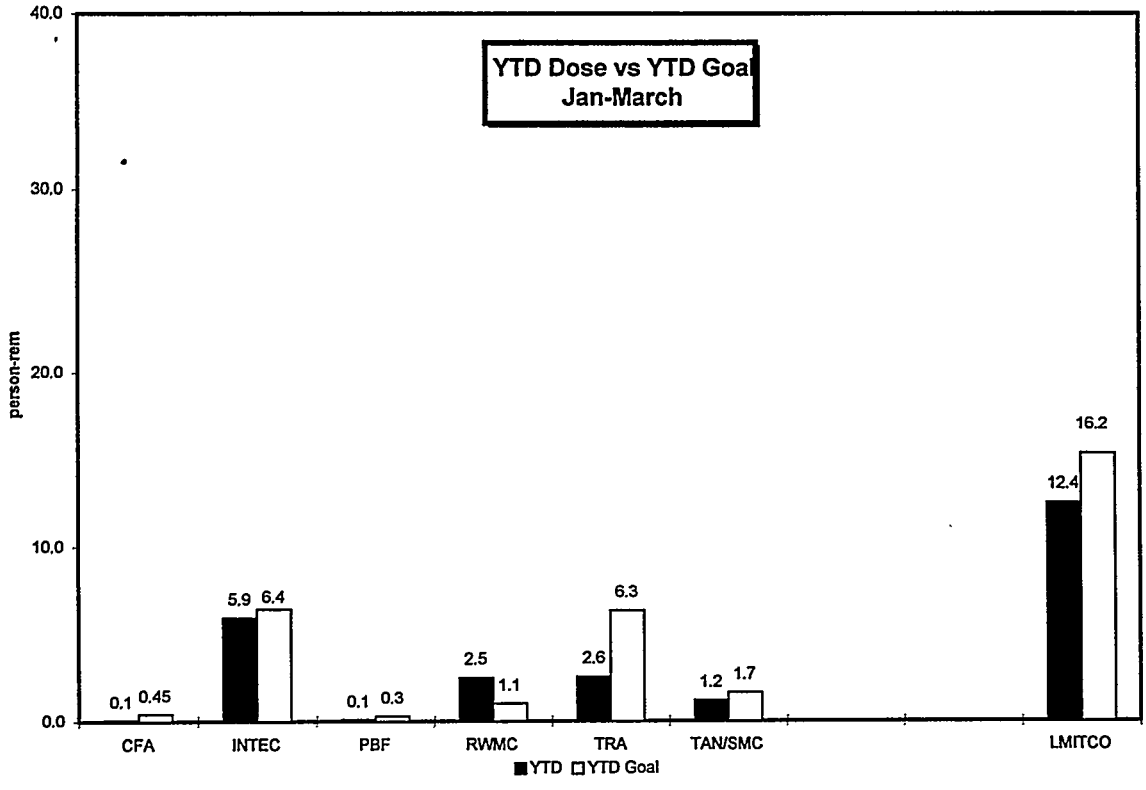
Other Radiological Control indicators suggested in the Radiological Control Manual are tracked and trended in other reports.

- The Environmental Management Operations Support Department reports the volume and radioactivity content of radioactive waste in the INEEL Radioactive Waste Management Annual Report and on the Radioactive Waste Management Information System (RWMIS).
- Releases of liquid and airborne radioactivity discharges are reported by the Environmental Affairs Branch in the INEEL Environmental Monitoring Report and the INEEL National Emission Standard for Hazardous Pollutants (NESHAPs) - Radionuclide Annual Report.

Executive Summary
Radiological Control Performance Indicator Report
First Quarter 1998

This document provides a report and an analysis of the Radiological Control Performance Indicators through the first Quarter of Calendar Year 1998 (CY-98) for Lockheed Martin Idaho Technologies Company (LMITCO). LMITCO is the prime contractor at the Idaho National Engineering and Environmental Laboratory (INEEL). This Performance Indicator Report is provided in accordance with Article 133 of the INEEL Radiological Control Manual.

The INEEL collective occupational radiation deep dose is 12.426 person-rem year to date, compared to a quarterly goal of 16.2 person-rem. In comparison to last year, the site dose goal has been reduced mainly due to work scope reductions at the Idaho Nuclear Technologies and Engineering Center (INTEC), formerly the Idaho Chemical Processing Plant. Due to unforeseen increases in shipments to the Radioactive Waste Management Complex, we anticipate additional dose increases and will reflect these changes in the next quarter report. The chart below shows the facility comparison.



Beginning CY-98, a numeric Radiological Performance Index (RPI) will be used to compare radiological performance. The RPI takes into consideration frequency and severity of undesirable events such as skin contaminations, clothing contaminations, spills, exposures to radiation exceeding limits, and positive internal dose. The RPI uses cost coefficients which approximates the total cost (e.g., investigations, sampling, down-time) per the event.

The RPI is calculated as follows:

$$RPI = 100\left[\frac{(1{,}000{,}000*D)+(500{,}000*ROE)+(200{,}000*AOE)+(25{,}000*SCE)+(25{,}000*UR)+(10{,}000*AEE)+(5{,}000*CCE)+(2000*PB)}{F}\right]$$

Variable	Description	Cost Coefficient
D	Number of deaths due to acute radiation exposure	1,000,000
ROE	Number of regulatory unplanned over exposures (>5 rem TEDE)	500,000
AOE	Number of administrative over exposures (>2 rem TEDE)	200,000
SCE	Number of skin contamination events	25,000
UR	Number of uncontrolled releases of radioactive material or radioactive contamination outside of radiologically controlled areas	25,000
AEE	Number of exposures above expected exposures by >100 mrem (TEDE)	10,000
CCE	Number of clothing contamination events	5,000
PB	Number of positive bioassays	2,000
F	Radiological Work Permit (RWP) hours = Total hours worked on RWPs	RWP hours

In the "F" section of the calculation, Radiological Work Permit (RWP) hours have not been available until CY-98, and are one of the products of the Radiological Control Information Management System (RCIMS) implemented this year. During the first quarter there were 73,419 RWP hours.

To make the RPI meaningful, tables have been prepared to show the facility that contributes to the values used in the formula above. The data is compared on a quarterly basis to the prior year to show measurable performance.

The values for CY-98 and CY-97 are shown in the tables on the next page, as well as a chart to be used to establish a baseline from the performance indicators and RWP hours.

The following table provides the values used in the RPI calculation and the facility contributing to those values. CY-97 values are provided as a comparison.

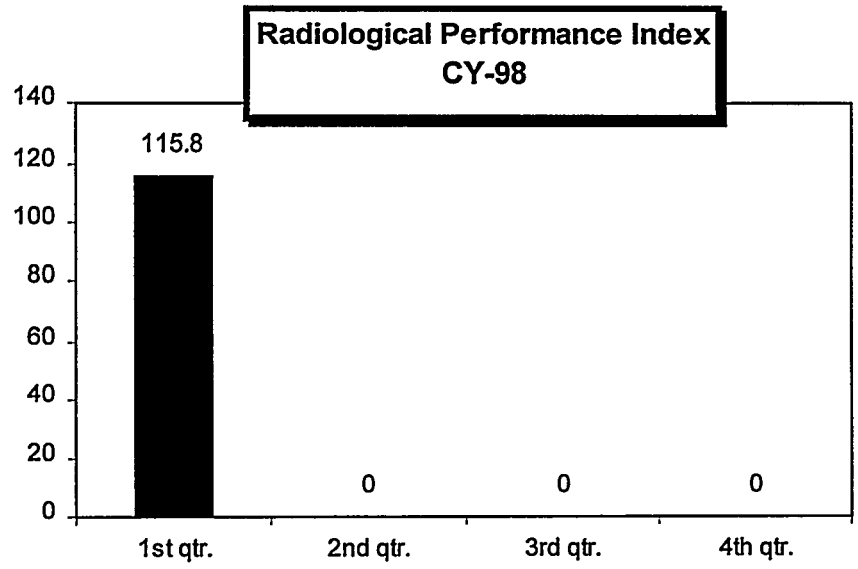
CY-98 First Quarter Contributors

	CFA	ICPP	PBF/WROC	RWMC	TRA	TAN/SMC
D	0	0	0	0	0	0
ROE	0	0	0	0	0	0
AOE	0	0	0	0	0	0
SCE	0	1	1	0	0	0
UR	0	0	0	0	0	1
AEE	0	0	0	0	0	0
CCE	0	2	0	0	0	0
PB	0	0	0	0	0	0

CY-97 First Quarter Contributors

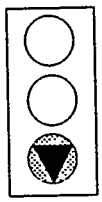
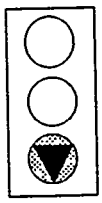
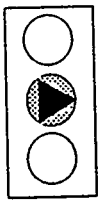
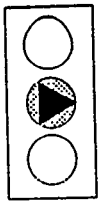
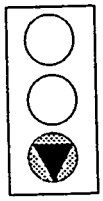
	CFA	ICPP	PBF/WROC	RWMC	TRA	TAN/SMC
D	0	0	0	0	0	0
ROE	0	0	0	0	0	0
AOE	0	0	0	0	0	0
SCE	0	3	1	0	3	1
UR	0	3	0	0	0	0
AEE	0	0	0	0	0	0
CCE	0	8	0	0	4	0
PB	0	0	0	0	0	0

The following chart will be used to compare quarterly data during this year as a baseline is established.



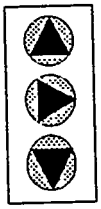
CY-95 was LMITCO's first full year at the INEEL. By using the CY-95 first quarter performance values, and estimating what the RWP hours may have been, we have postulated a RPI number of 621.1 for CY-95.

INEEL Radiological Control Performance Indicator Overview
first Quarter 1998

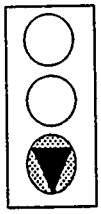
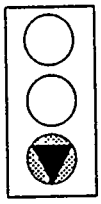
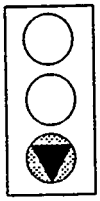
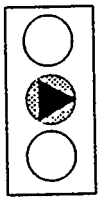
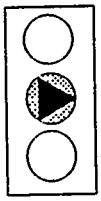
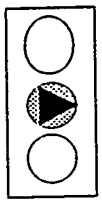
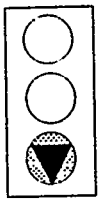
		Actual	Goal or Average
Collective Year-to-Date Penetrating Radiation Dose		12.426 person-rem	95.63 person-rem (Goal)
Year-to-Date Average Worker Dose		0.028 rem	0.116 rem (3 Year Average)
Maximum Year-to-Date Penetrating Dose to a Worker		.218 rem	1.500 rem (Goal)
Maximum Year-to-Date Neutron Dose to a Worker		0.030 rem	0.110 rem (3 Year Average)
Year-to-Date Skin Contaminations		2	23 (3 Year Average)

Legend

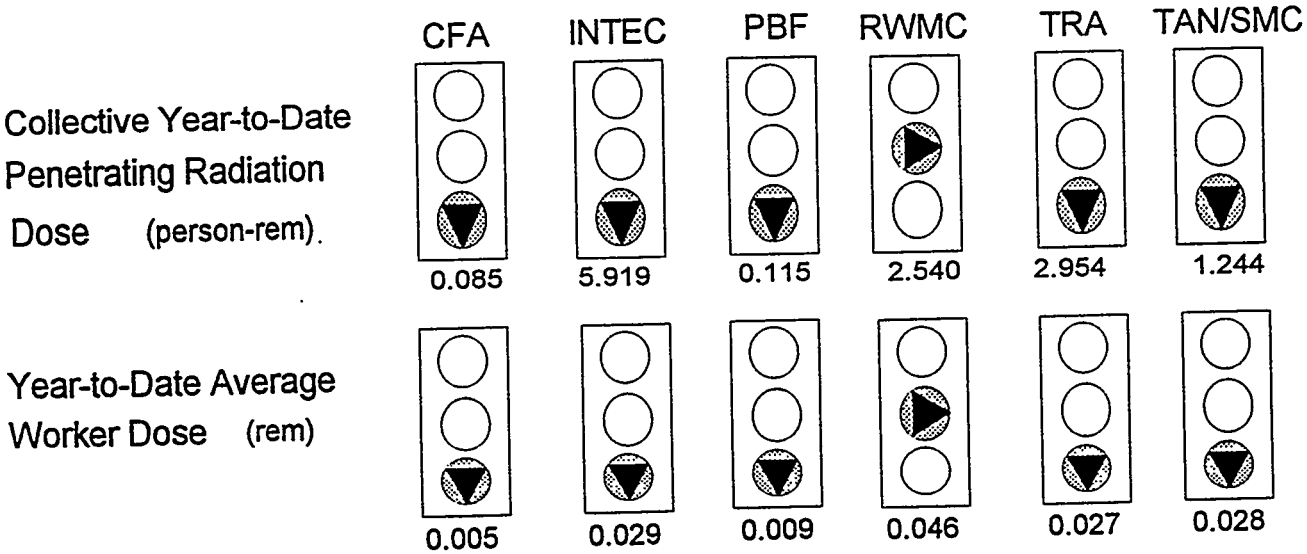
Needs Attention
OK
Good



Compared to three yr. Avg/goal.

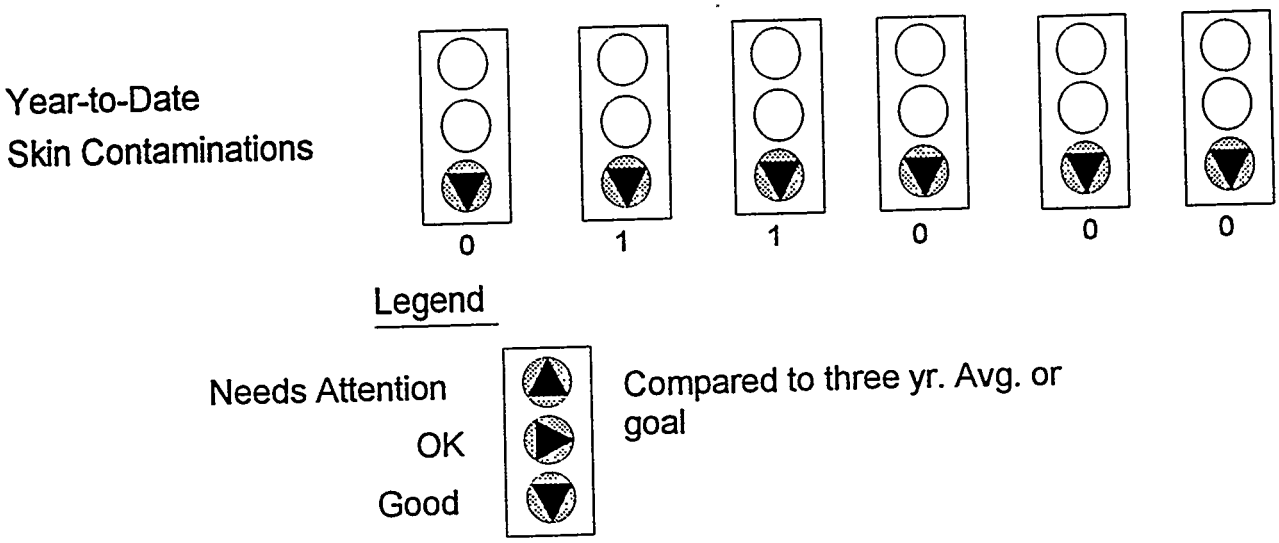
		Actual	Goal or Average
Year-to-Date Clothing Contaminations		2	41 (3 Year Average)
Year-to-Date Airborne Events		0	0 (3 Year Average)
Year-to-Date Radioactive Material Intakes		0	12 (3 Year Average)
Contamination Area		199,450 ft^2	193,218 ft^2 (3 Year Average)
High Contamination Area		297,901 ft^2	297,767 ft^2 (3 Year Average)
Airborne Radioactivity Area		84,442 ft^2	84,837 ft^2 (3 Year Average)
Year-To-Date Spills		1	16 (3 Year Average)

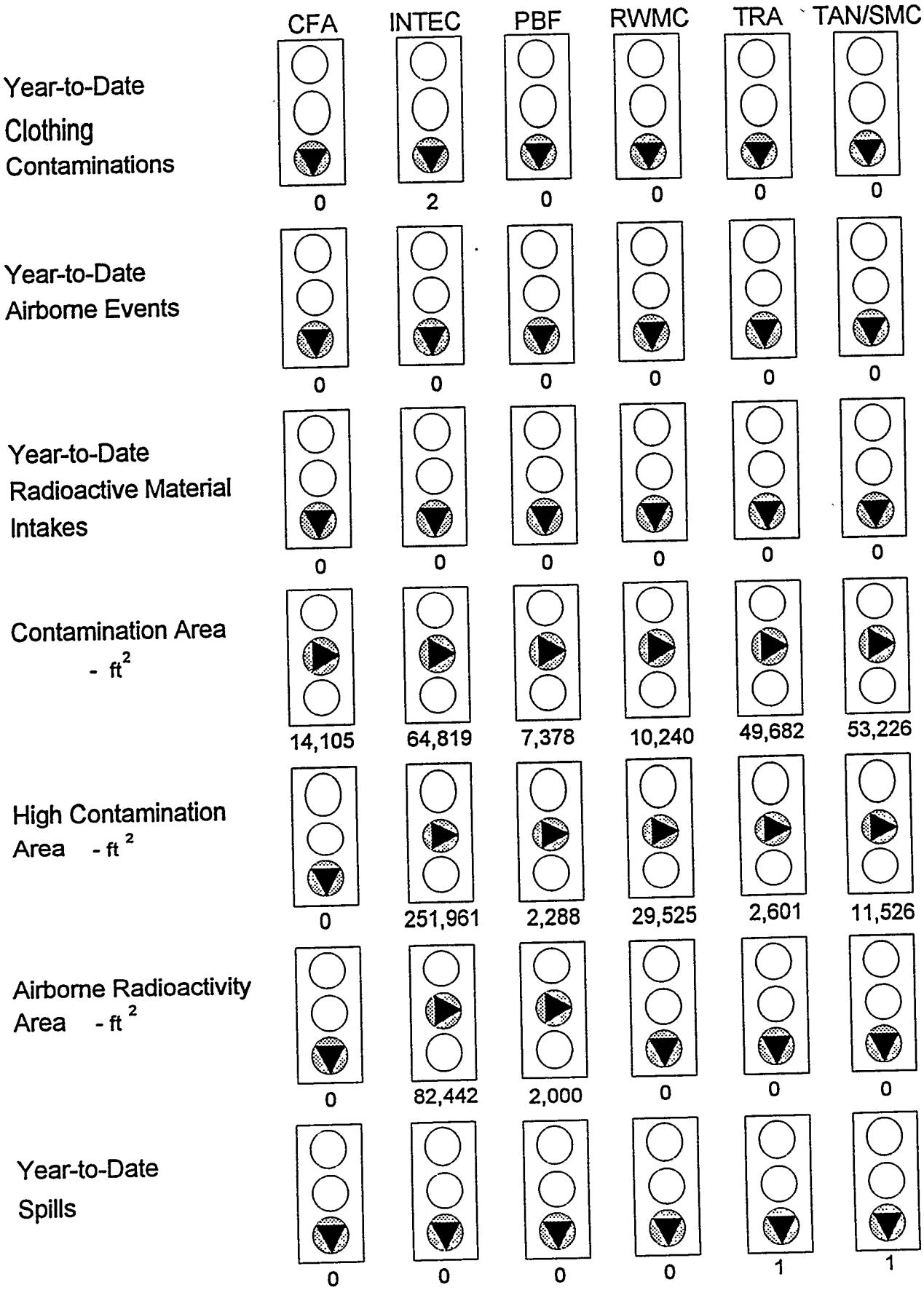
INEEL Facility Radiological Control Performance Indicator Overview
first Quarter 1998



Maximum Year-to-Date penetrating dose to workers is redundant to facility reports and is not repeated in this report.

Maximum Year-to-Date neutron dose is no longer reported for facilities in this report.




CFA
INTEC
PBF
RWMC
TRA
TAN/SMC
Year-to-Date Clothing Contaminations
0
2
0
0
0
0
Year-to-Date Airborne Events
0
0
0
0
0
0
Year-to-Date Radioactive Material Intakes
0
0
0
0
0
0
Contamination Area - ft2
14,105
64,819
7,378
10,240
49,682
53,226
High Contamination Area - ft2
0
251,961
2,288
29,525
2,601
11,526
Airborne Radioactivity Area - ft2
0
82,442
2,000
0
0
0
Year-to-Date Spills
0
0
0
0
1
1

Radiological Control Performance Indicator Report Criteria

The INEEL Radiological Control Performance Indicator Report is comprised of a description of the indicator and the criteria used for measurement.

Collective Radiation Dose -

The INEEL collective total penetrating radiation exposure received and the associated quarterly and annual ALARA goals.

Average Worker Radiation Dose -

The average penetrating radiation dose based on collective dose and the total number of personnel receiving measured radiation exposure.

Maximum Radiation Dose to a Worker -

The highest penetrating radiation dose received by a worker at the INEEL.

Maximum Neutron Dose to a Worker -

This indicator reports the highest neutron radiation dose equivalent received by a worker.

Number of Skin Contaminations -

The total number of radioactive skin contaminations and the number of those contaminations resulting in an Occurrence Report, the number of facial contaminations, and the number of contaminated wounds.

Number of Clothing Contaminations -

The total number of radioactive clothing contaminations and the number of those contaminations resulting in an Occurrence Report.

Airborne Events -

The number of occupied facility areas not posted as Airborne Radioactivity Areas that exceed 10% Derived Air Concentrations (DAC).

Total Year-to-Date Intakes -

The number of positive bioassays that indicate an intake of radioactive material resulting in a dose assessment of 10 mrem or more from an INEEL occupational exposure. The total number of positive bioassays that resulted in an Occurrence Report are also tracked and trended.

Contamination Area -

The total area in square feet that falls within the description of a Contamination Area as defined in Table 2-3 of the INEEL Radiological Control Manual.

High Contamination Area -

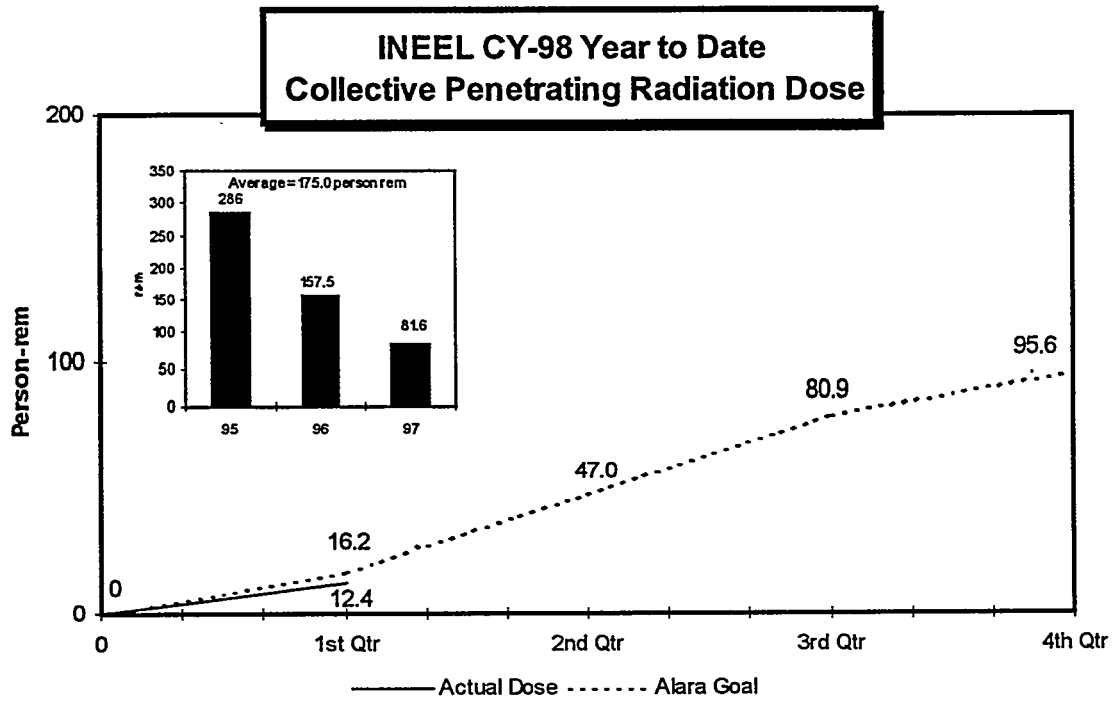
The total area in square feet that falls within the description of a High Contamination Area as defined in Table 2-3 of the INEEL Radiological Control Manual.

Airborne Radioactivity Area -

The total area in square feet that falls within the description of an Airborne Radioactivity Area as defined in Table 2-3 of the INEEL Radiological Control Manual.

Radioactive Spills -

The total number of radioactive spills at the INEEL. A spill is considered an inadvertent loss or release of radioactive contamination outside a Radiologically Controlled Area.



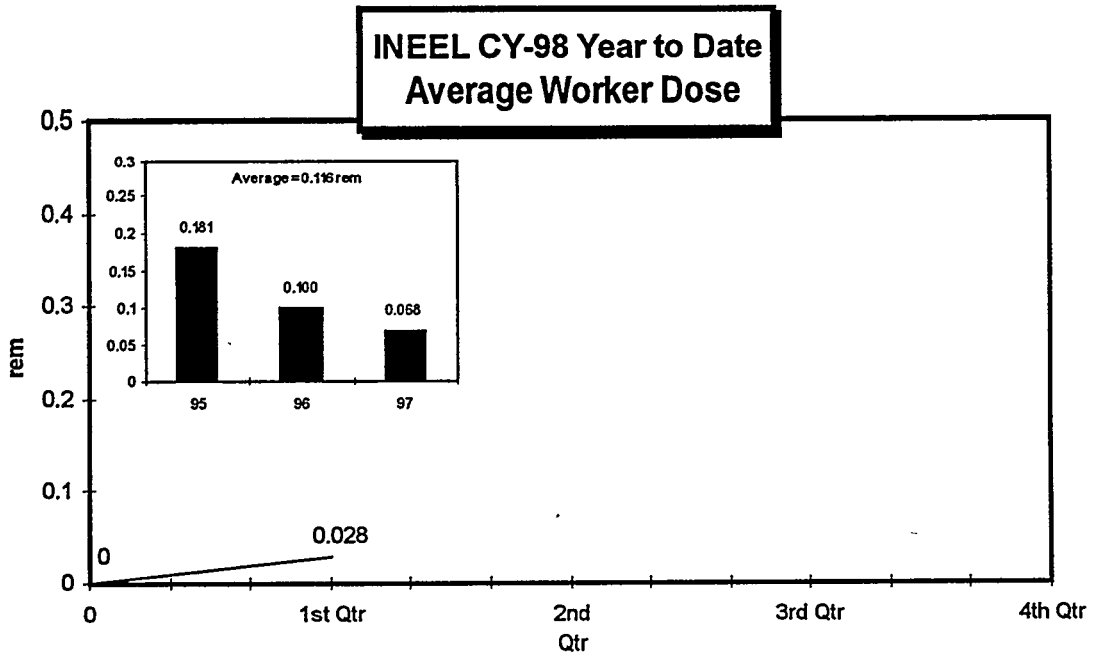
DOE and LMITCO policy is to maintain occupational radiation exposure as low as reasonably achievable (ALARA). The above chart provides a comparison of the INEEL goal and the total year to date collective penetrating radiation dose.

The CY-97 ALARA goal is 95.63 person-rem. The year to date total is 12.426 person-rem. The step increase in the goal is based on projected work scope at the INTEC.

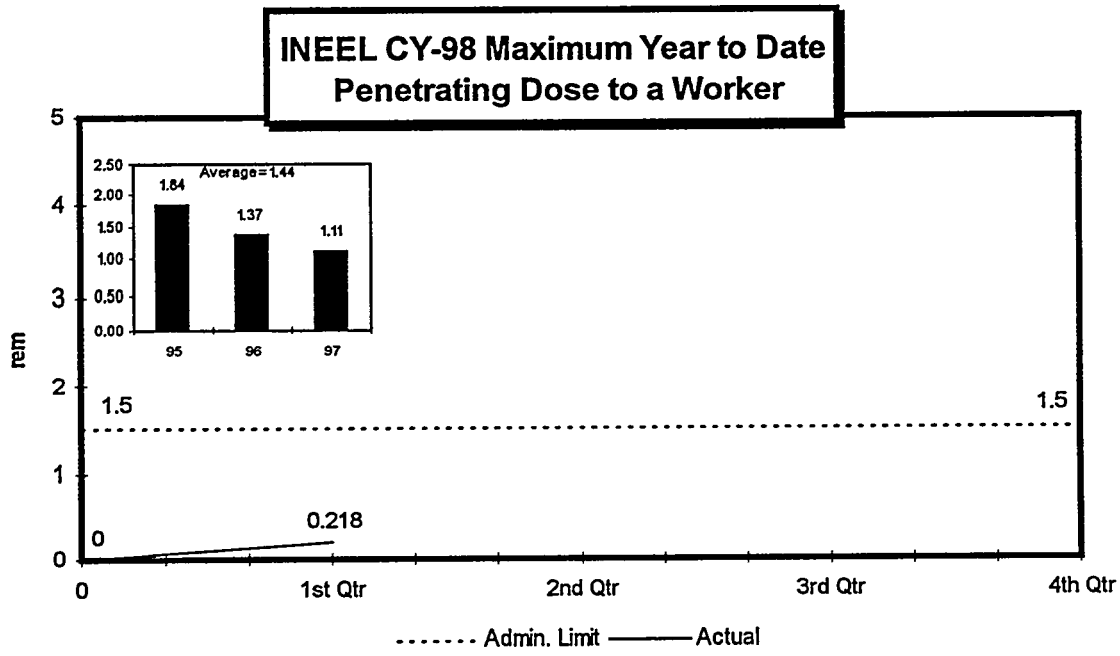
The collective exposure is well below the goal primarily due to limited work during this quarter. Work scope is planned to increase during the next three quarters.

The INEEL Performance Indicators are designed to reflect a challenging, yet positive control of occupational radiological work.

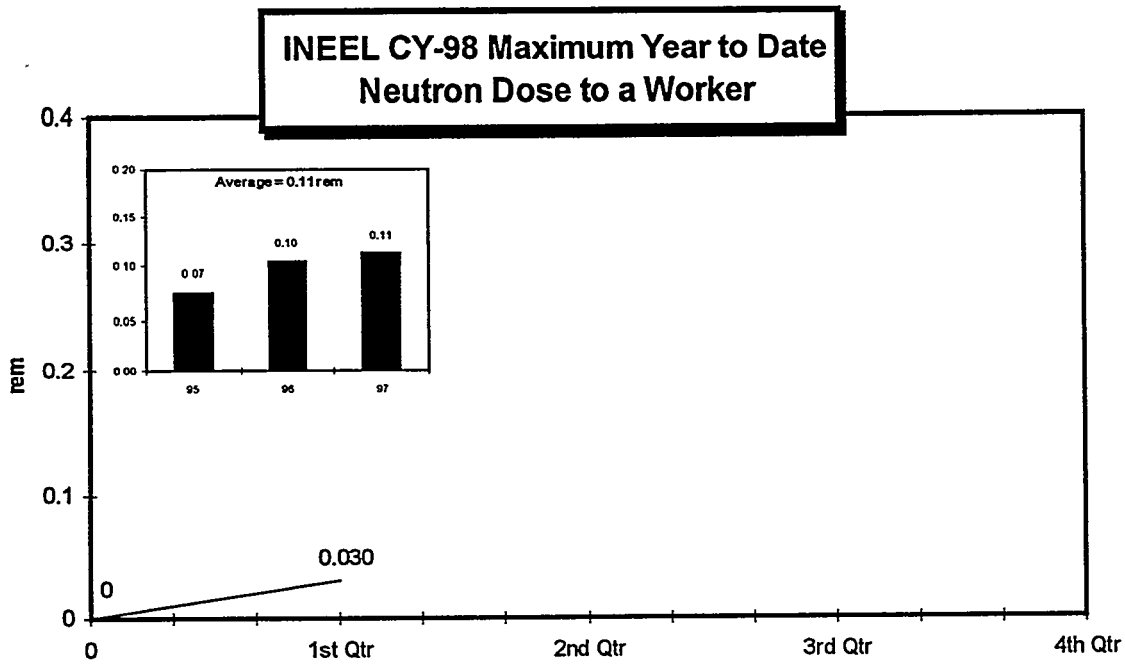
This chart and the charts on the following pages provide an indication of how well LMITCO is performing as a company. Following the company charts are charts showing the six specific facility areas and their performance in selected indicators.



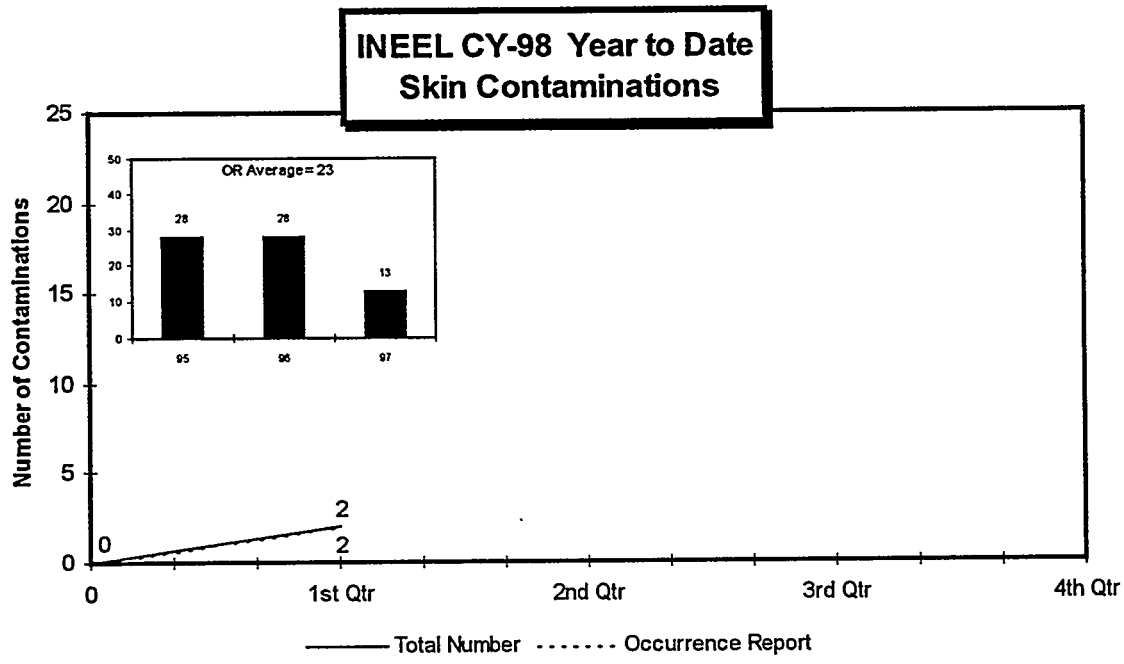
The Average Occupational radiation dose for INEEL workers through the end of the first quarter was 0.028 rem based on 443 workers who received dose greater than 10 mrem.



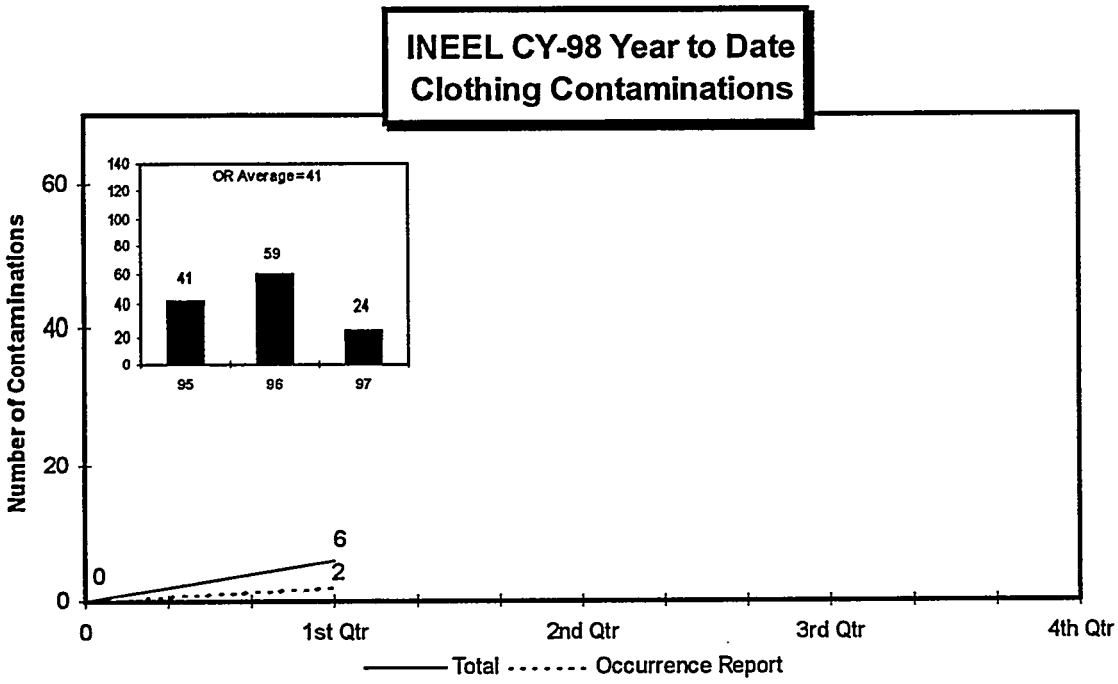
The Maximum penetrating radiation dose to a worker through the end of the first quarter was .218 rem. The dose resulted from activities associated with ATR outage activities.



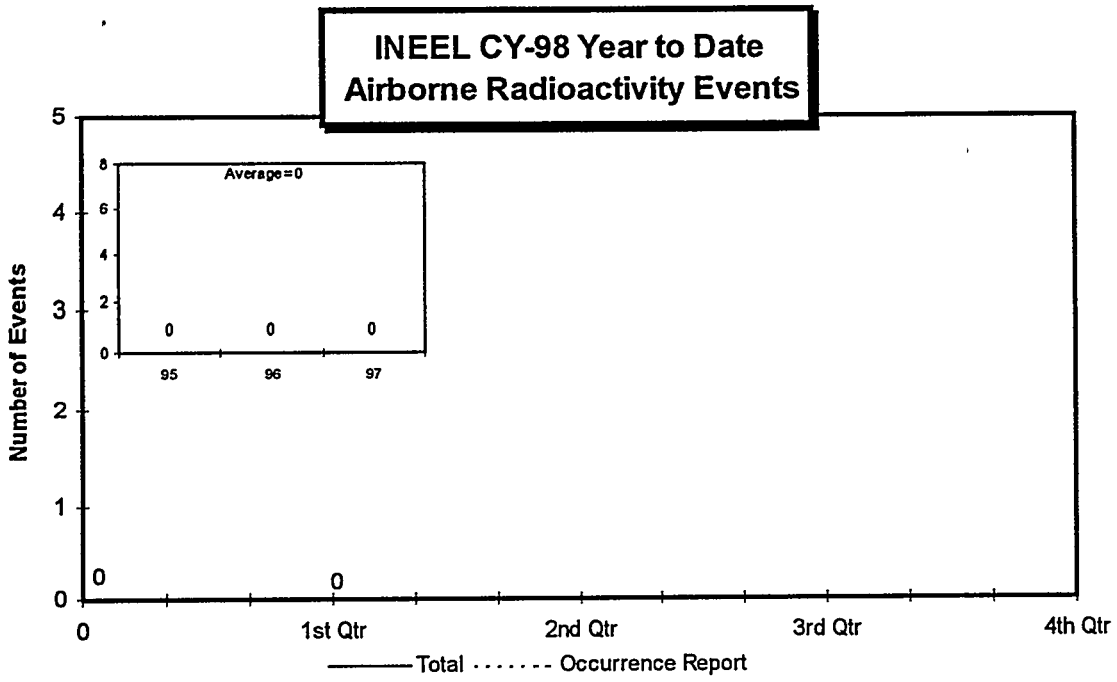
Neutron dose is included in the total penetrating radiation dose. It is shown here as a separate indicator to identify the maximum neutron dose to a worker. Through the end of the first quarter the maximum neutron dose is 0.030 rem. A worker associated with neutron sources for research work received this dose.



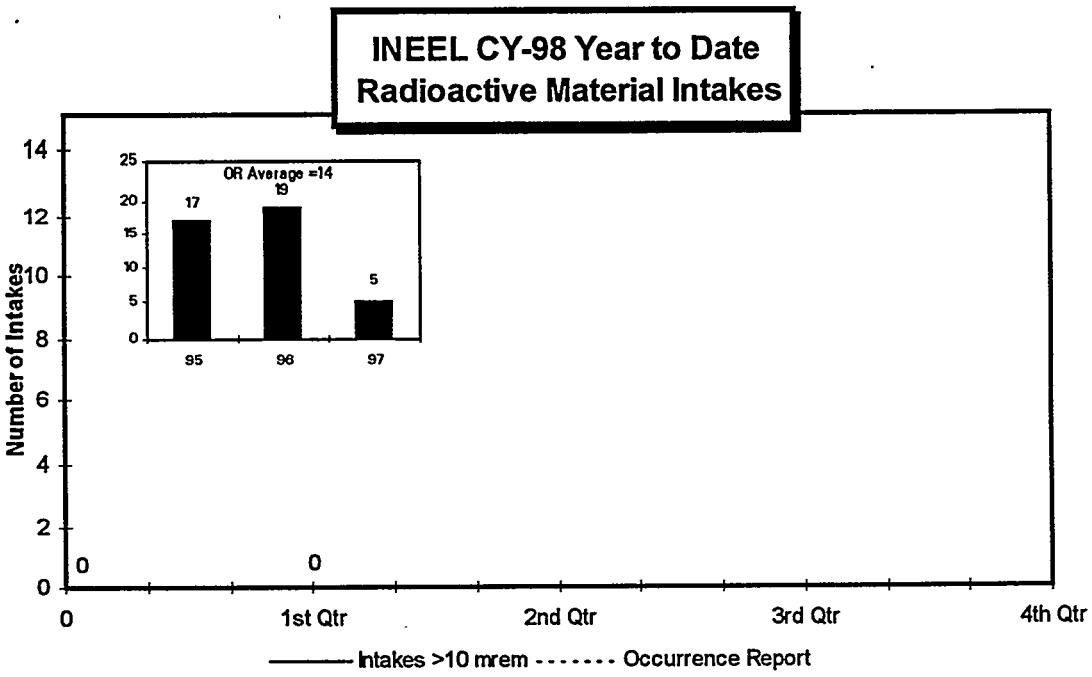
There were two skin contaminations at the INEEL during the first quarter. Both were ORs. One at the PBF, and one at the INTEC. There were no facial contaminations or contaminated wounds.



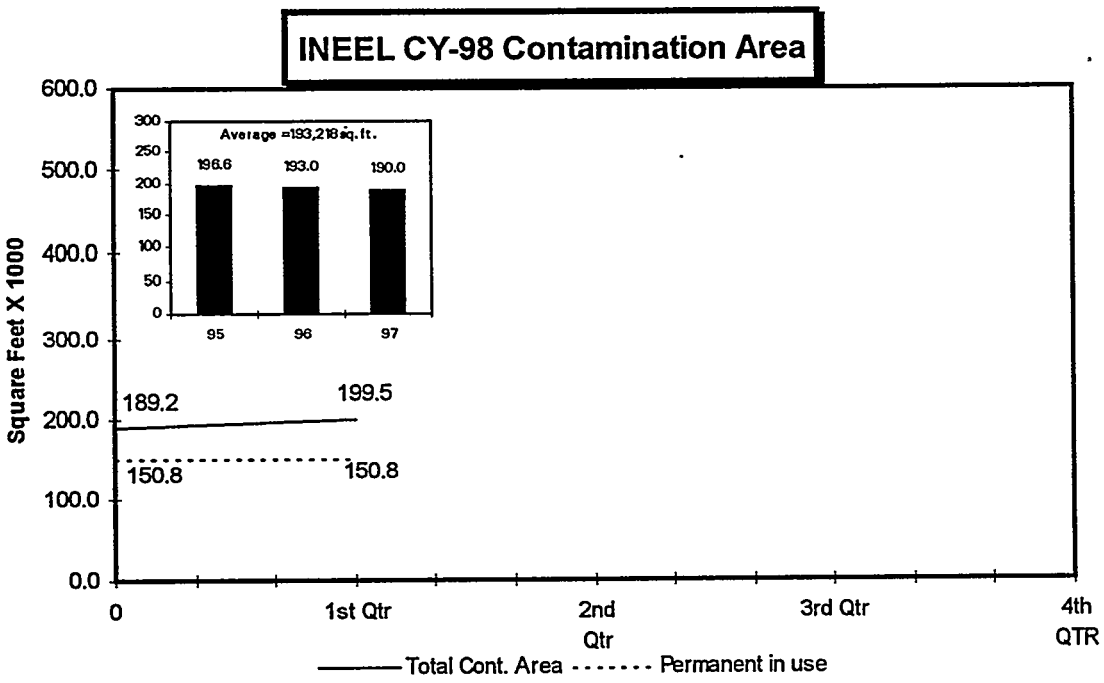
There were six clothing contaminations at the INEEL during the first quarter. Two were ORs. Details are contained in the facility report sections.



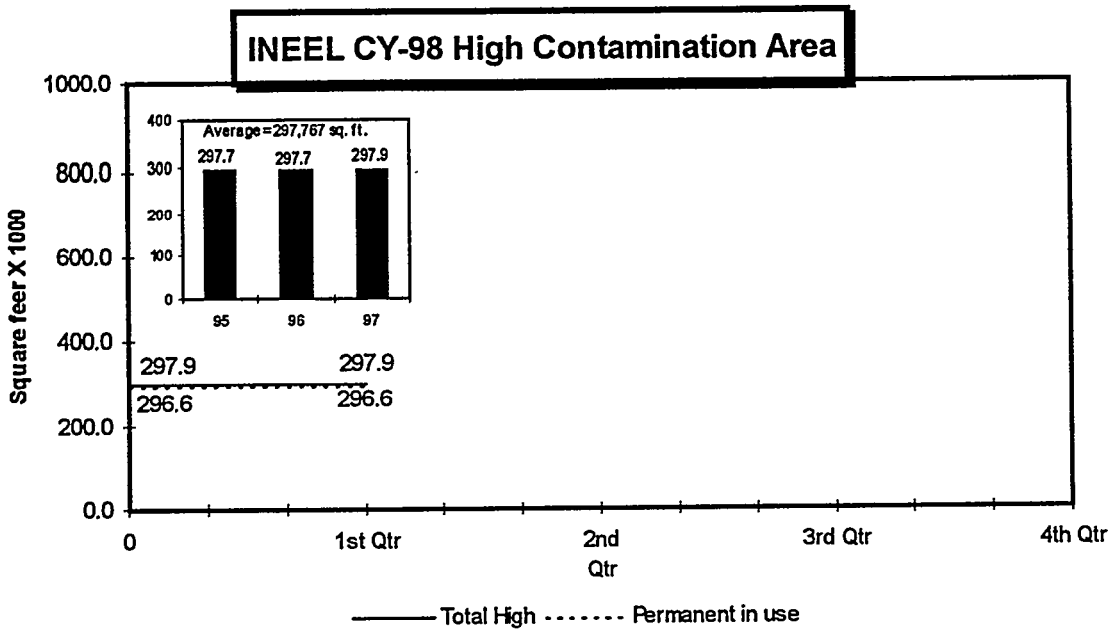
There have been no airborne radioactivity events during the first quarter.



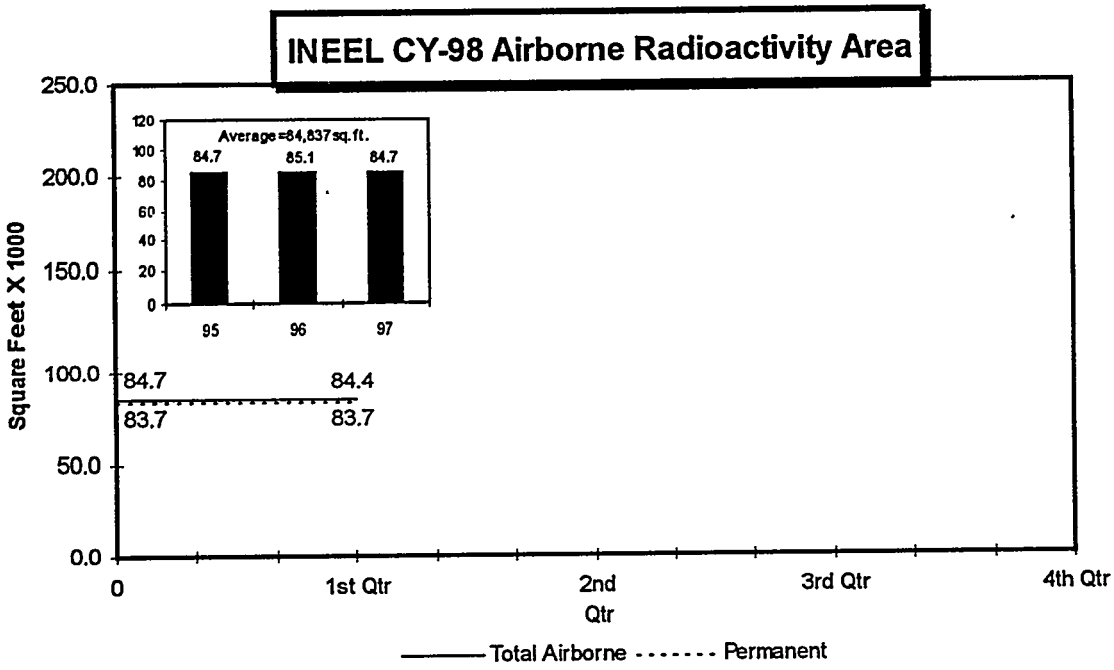
Radioactive material intakes depict the number of positive bioassays that result in a dose assessment of 10 mrem or greater. So far year to date there have been no internal doses.



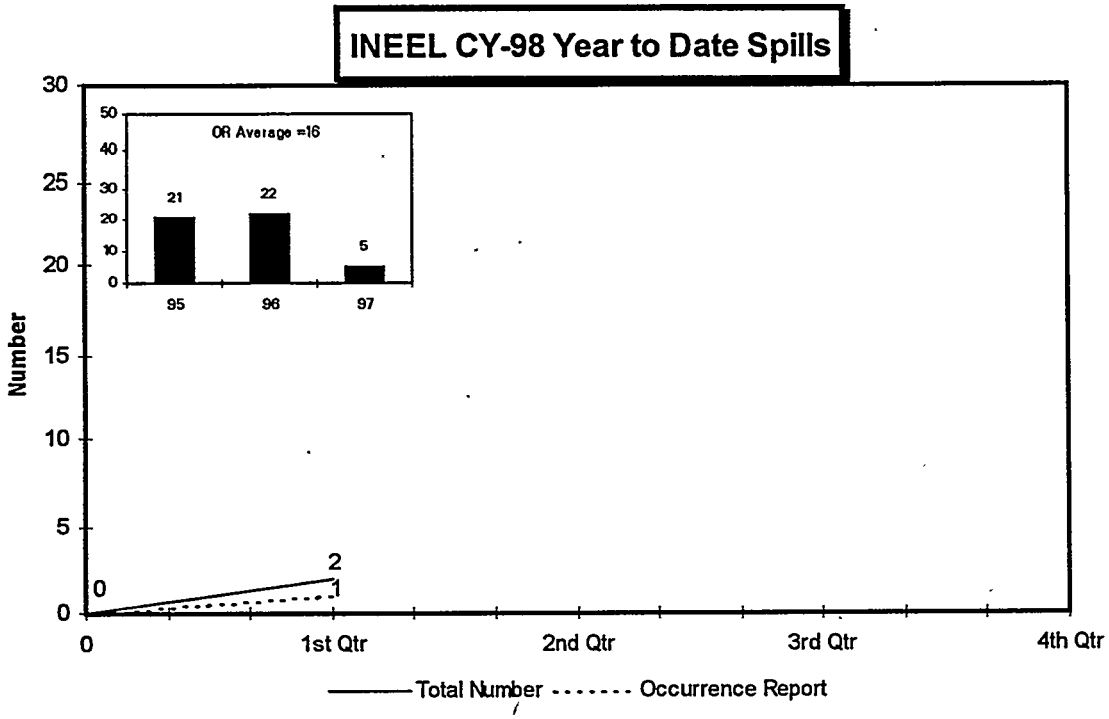
The total area designated as Contamination Area at the end of the first quarter was 199,450 square feet. The increase is from containers at the RWMC. These are being decontaminated. 150,800 square feet is designated as permanent and in use.



Total High Contamination Area at the end of the first quarter was 297,901 square feet. 296,641 square feet is designated as permanent or in use, such as the sizing facility at WERF.



The total Airborne Radioactivity Area at the INEEL at the end of the first quarter was 84,442 square feet. 83,662 square feet is designated as permanent and in use. The reduction is from work clean-up at the INTEC (formerly the ICPP).



There were two spills considered to be loss of control of radioactive material during the first quarter. One from TAN was an OR.

The three-year average noted on this chart represents only those spills that were reportable as ORs in prior report years.

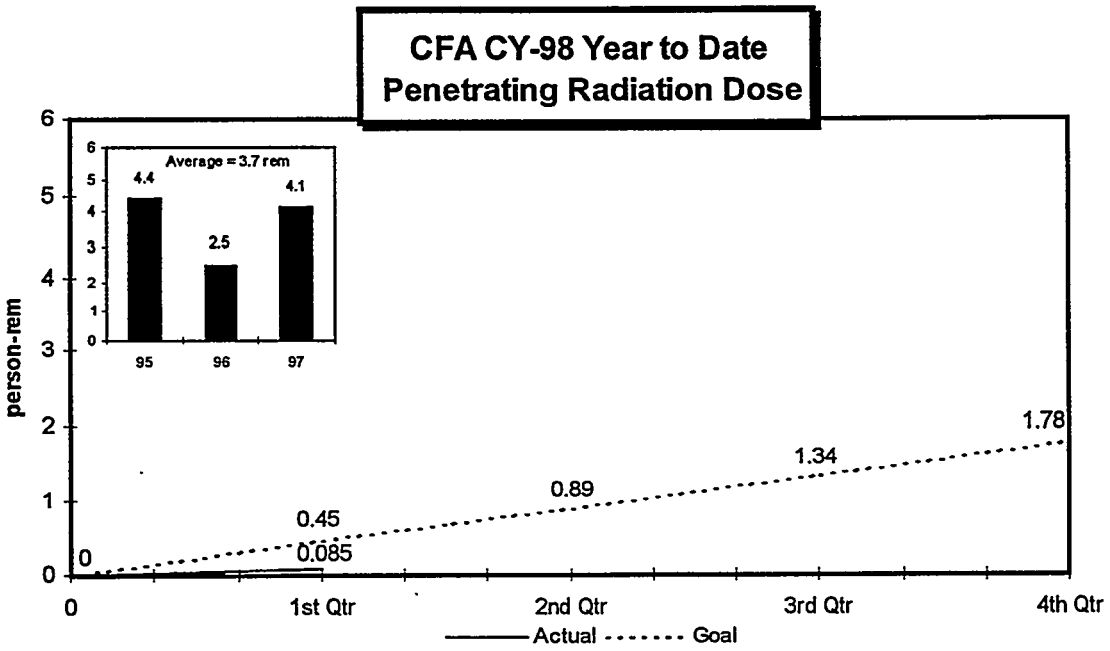
Central Facilities Area

The CFA Facility report also includes
other outlying area information

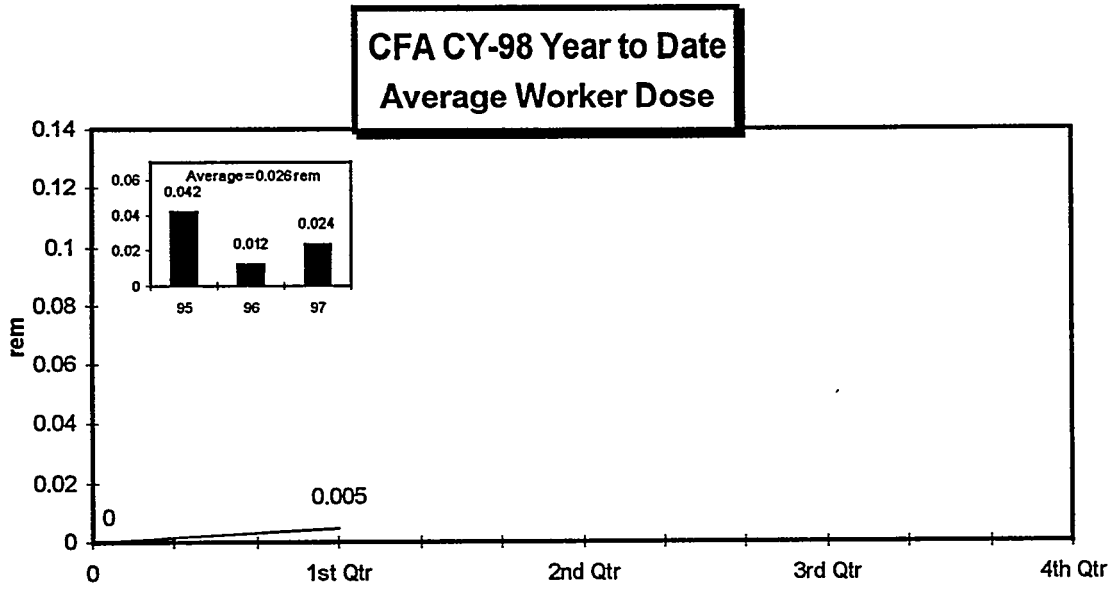
Summary

1. The major activity contributing to radiological exposure so far this year has been Decontamination and Decommissioning, Environmental Restoration, sampling, and facility maintenance.

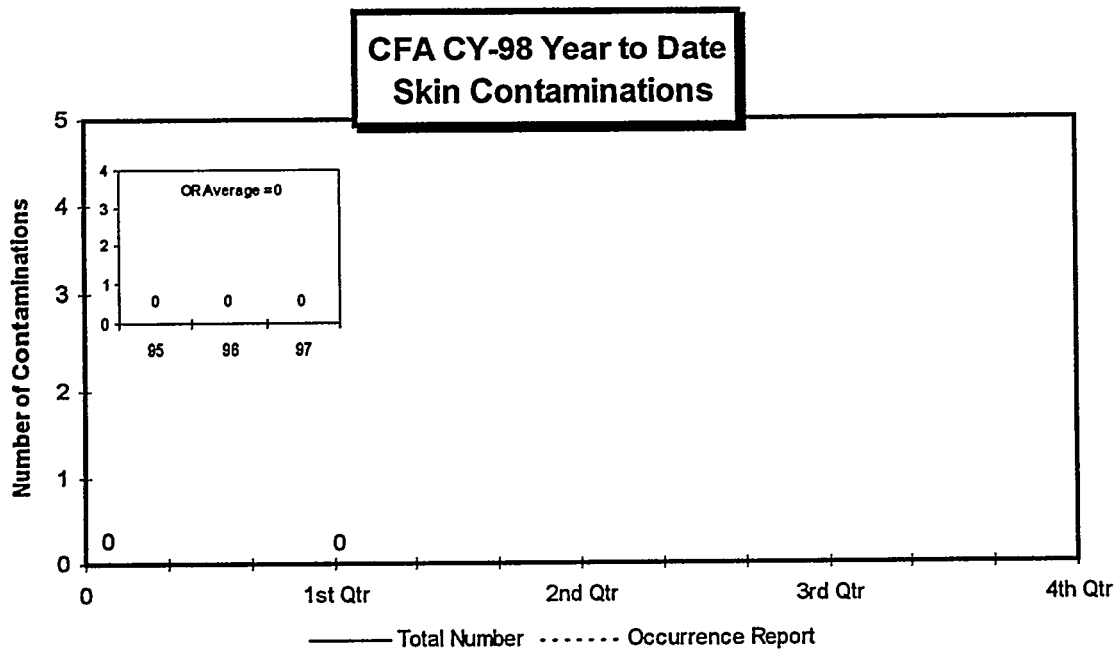
2. Work scope at the CFA is basically similar to that of last year. Radiological work is expected to increase as the weather allows for more outside work.



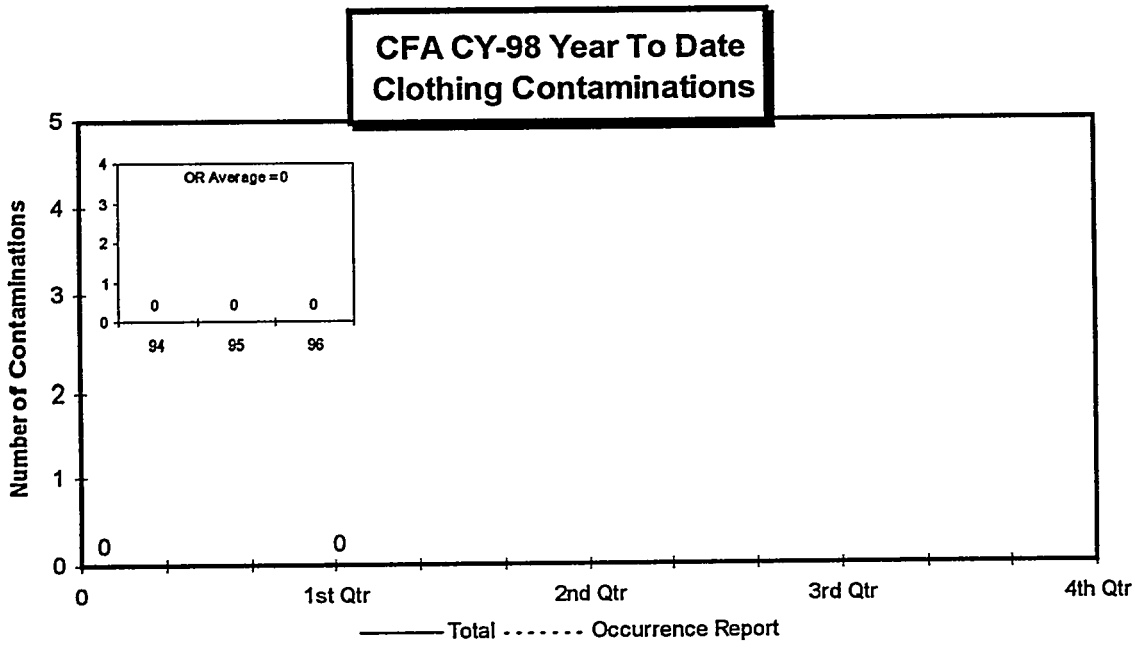
The collective penetrating occupational radiation exposure at CFA through the end of the first quarter is 0.085 person-rem. The major contributor has been Decontamination and Decommissioning (D&D) at ARA



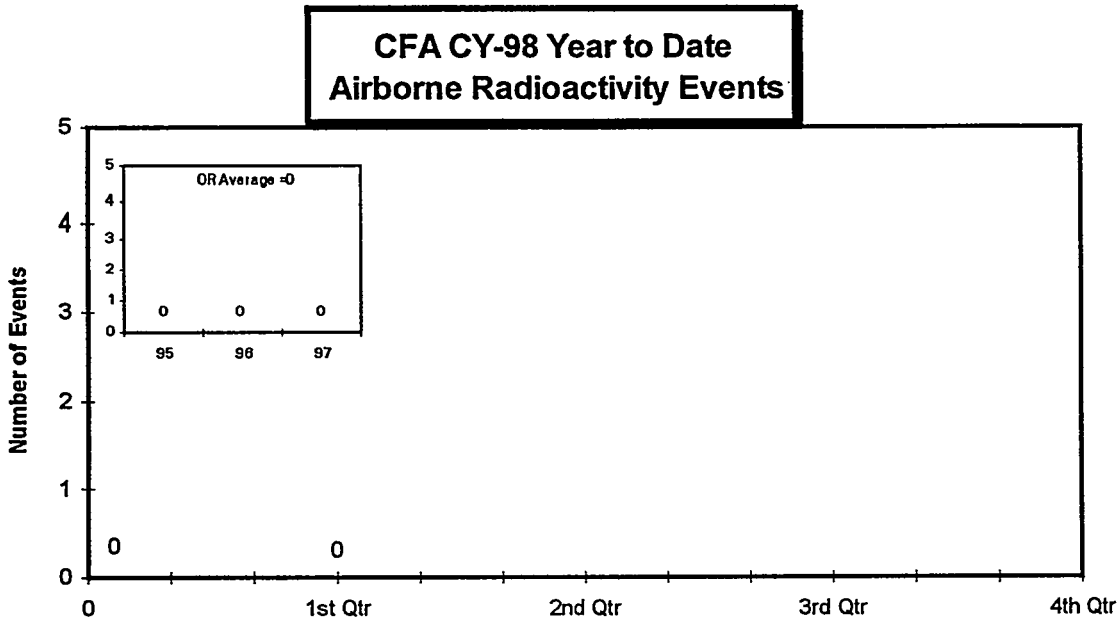
The CFA average worker dose through the end of the first quarter was 0.005 rem evaluating dose from 16 workers with dose greater than 10 mrem.



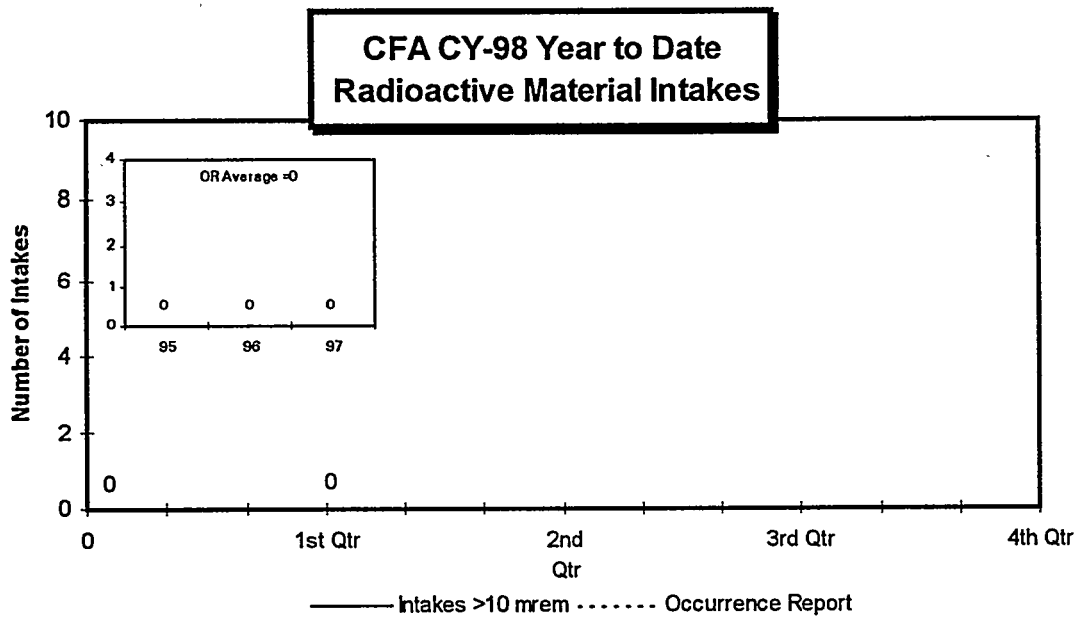
There were no skin contaminations at CFA areas through the end of the first quarter



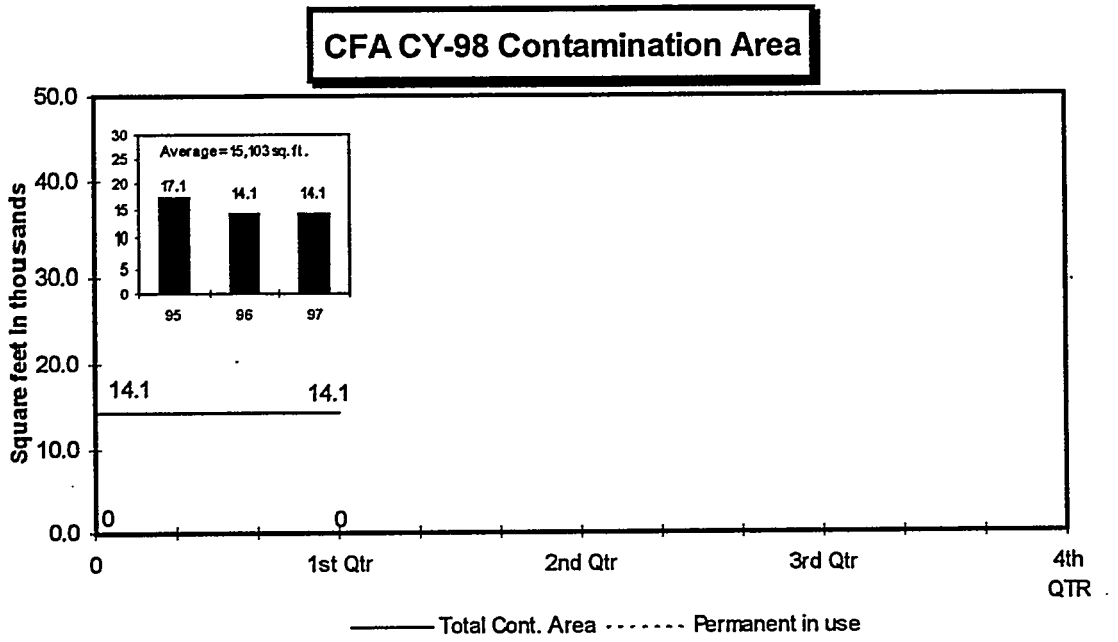
There were no clothing contaminations at CFA areas through the end of the first quarter.



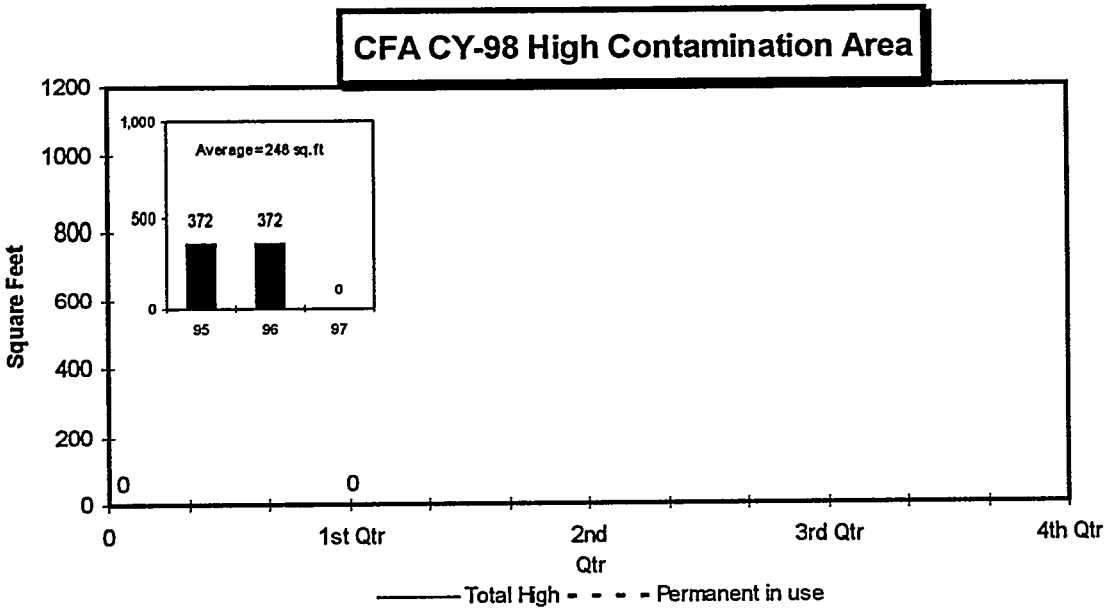
There has been no airborne radioactivity detected that was greater than 10 % DAC at CFA areas through the end of the first quarter.



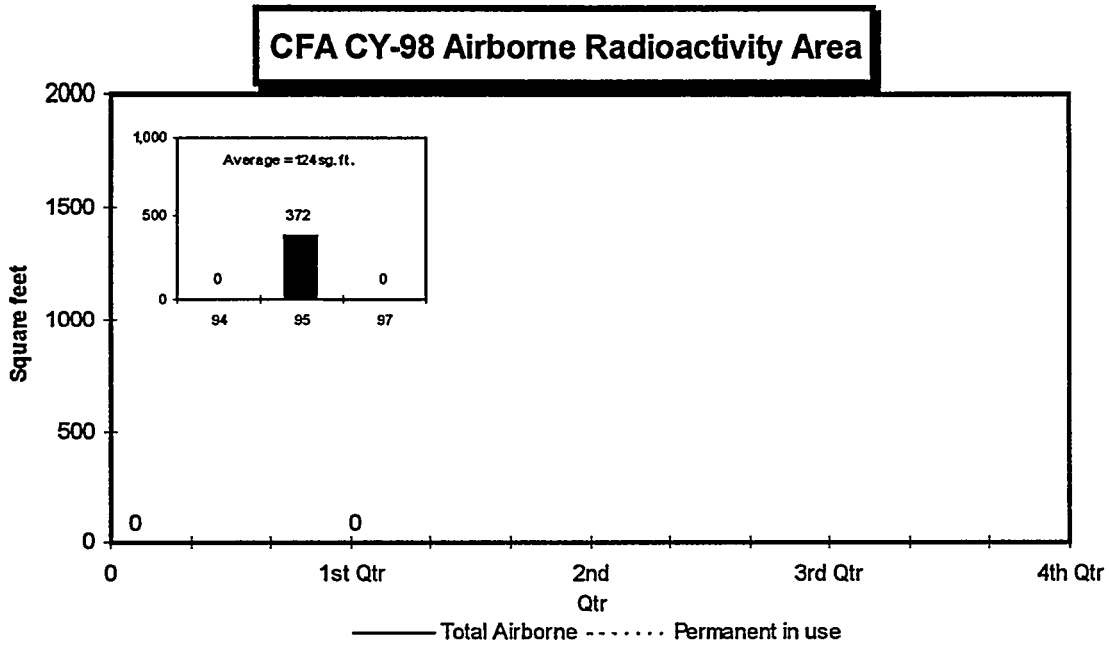
There were no positive bioassays indicating a radioactive material intake that resulted in a dose assessment of 10 mrem or greater at CFA through the end of the first quarter.



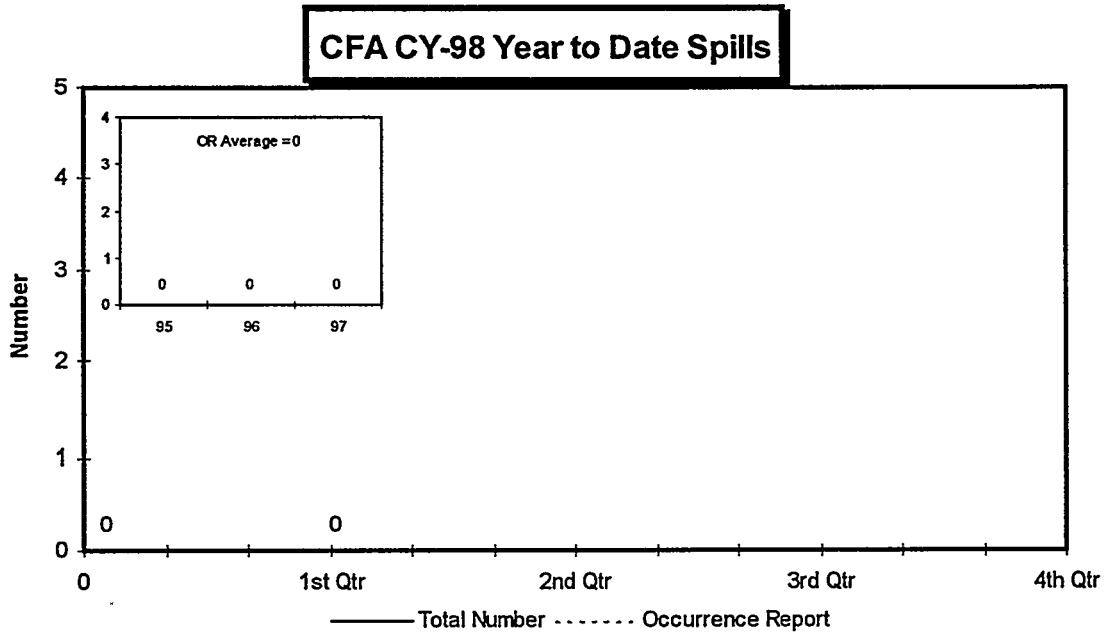
The total Contamination Area at CFA at the end of the first quarter was 14,105 square feet. None of this area was designated as permanent and in use.



There are no High Contamination Areas in the area controlled by CFA personnel through the end of the first quarter.



Currently, there are no Airborne Radioactivity Areas in CFA facility areas.



CFA had no radioactive spills or loss of control of radioactive material during the first quarter.

Idaho Nuclear Technology And Engineering Center

Formerly

Idaho Chemical Processing Plant

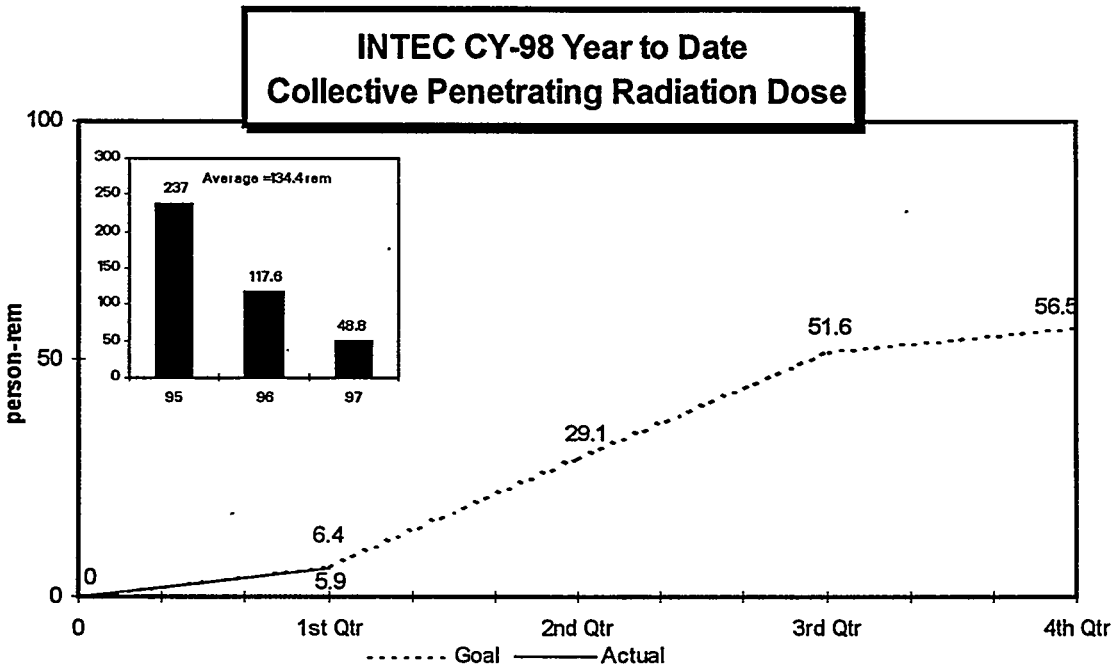
INTEC SUMMARY

1. Major contributors to first quarter occupational radiation exposure were activities related to the CPP-640 ROVER completion, ROVER fuel movement and storage at CPP 603, NWCF operations, and WCF RCRA closure.

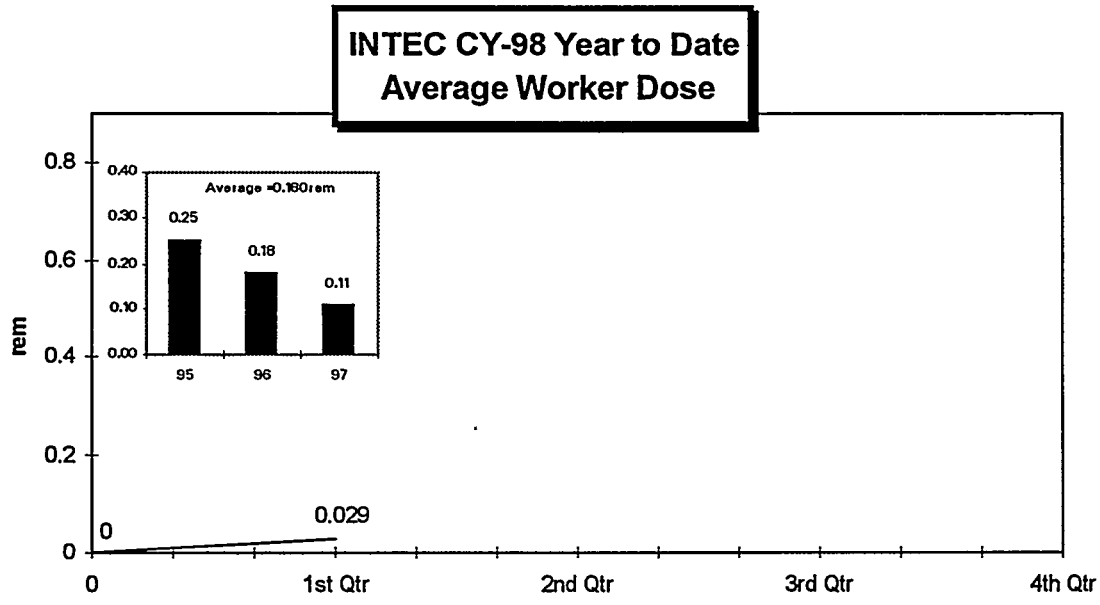
2. Details of two clothing contaminations that occurred during the first quarter are contained in OR ID-LITC-WASTEMNGT-1997-0027 and ID-LITC-WASTEMNGT-1997-0030.

3. There was one reportable skin contamination during the first quarter. OR ID-LITC-PHASEOUT-1998-0001 contains the detail.

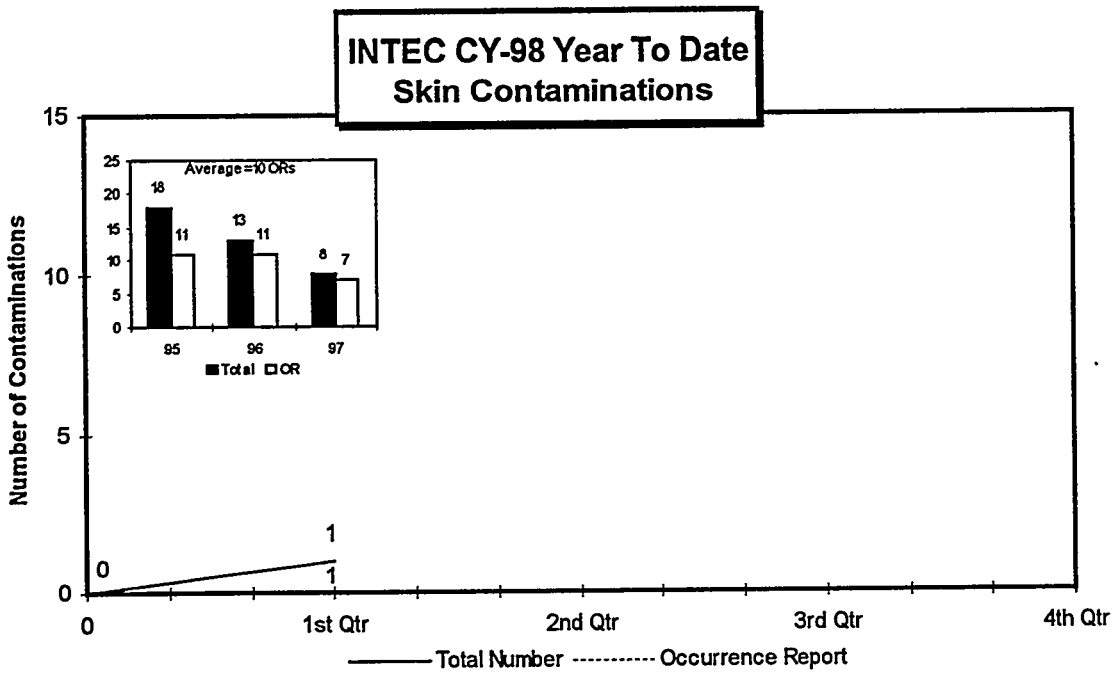
4. There were no reportable spills during the first quarter.



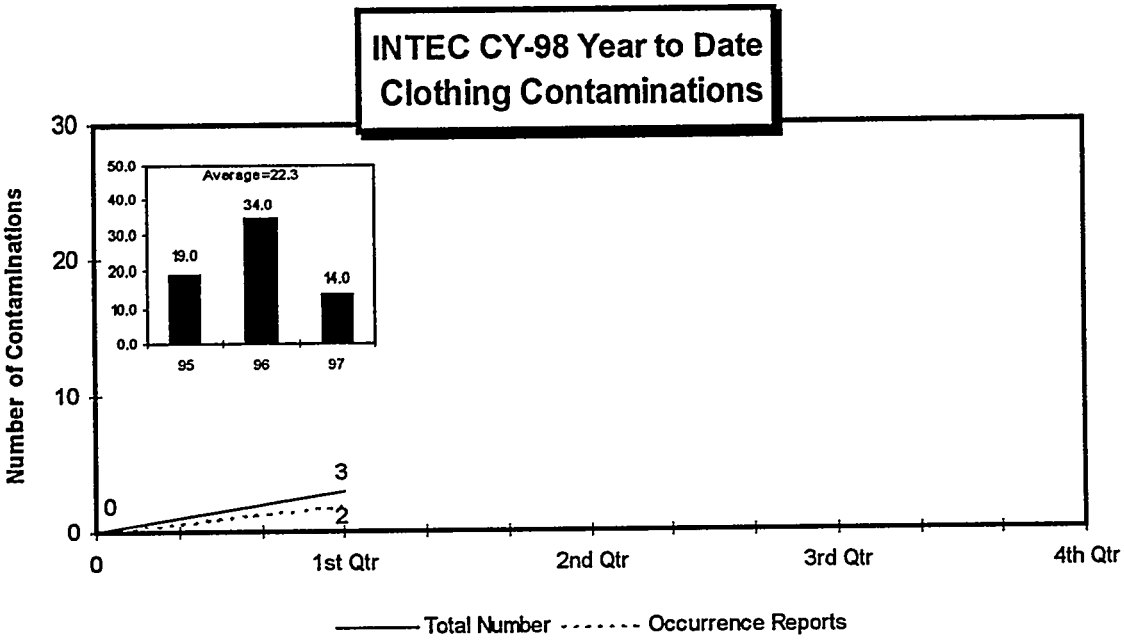
The INTEC collective penetrating occupational radiation exposure through the end of the first quarter was 5.919 person-rem. Work scope change at the INTEC is much less this year than in years past. It is expected to increase for the next two quarters Application of ALARA protective measures in planning helps account for the lower goal.



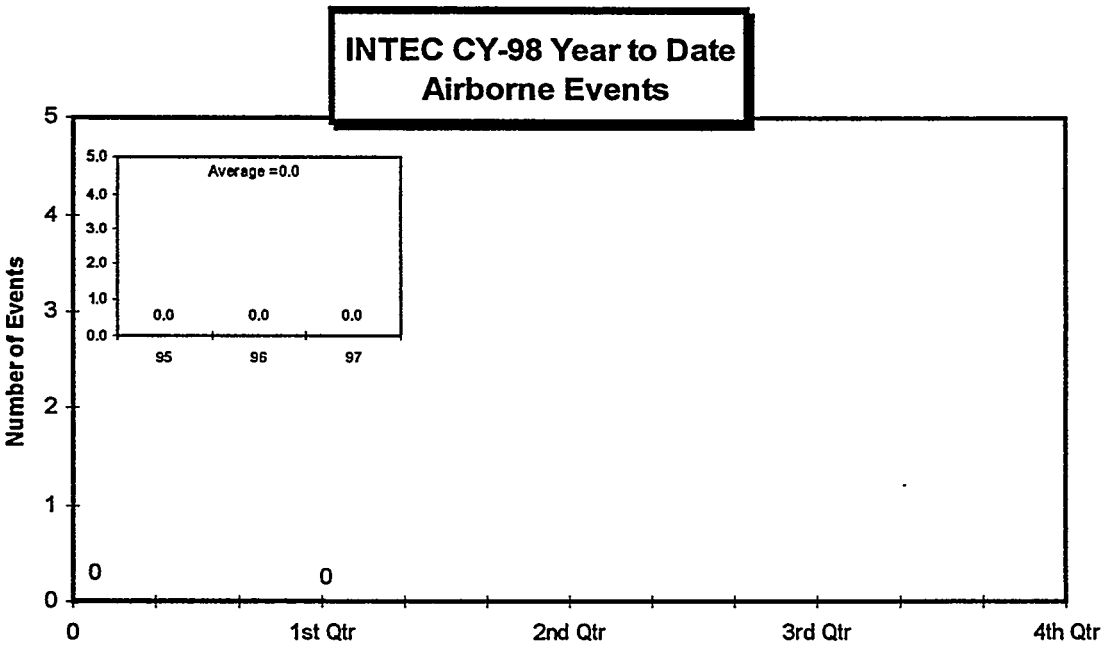
The average worker dose for the INTEC through the end of the first quarter was 0.0.029 rem resulting from 207 workers receiving dose greater than 10 mrem. Work scope will increase during the second and third quarters.



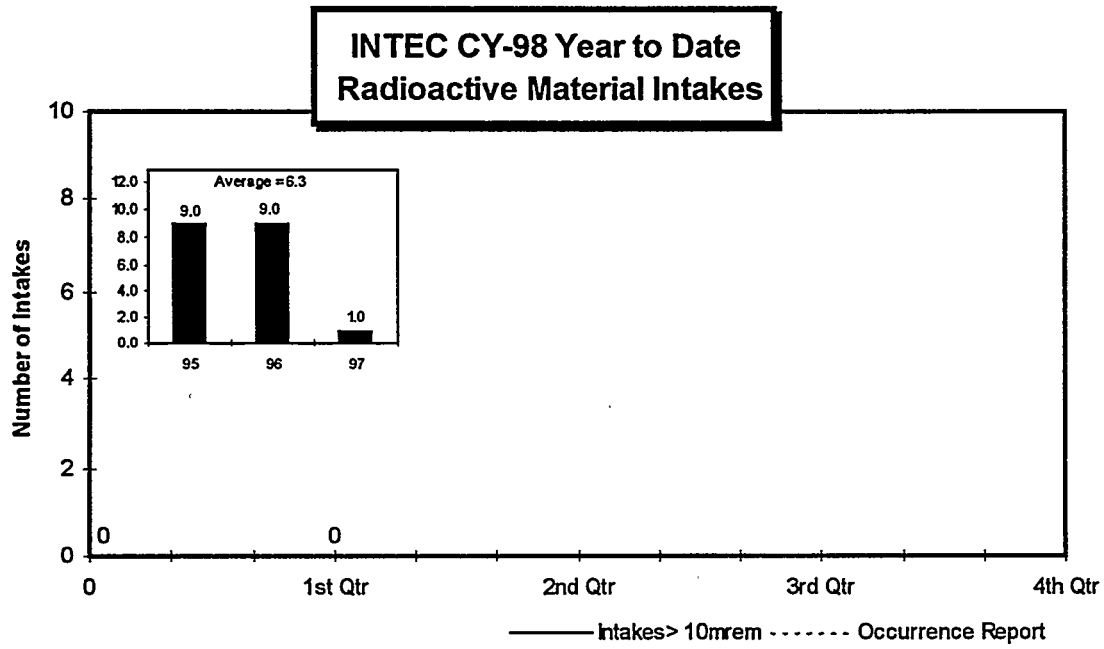
The INTEC had one-reportable skin contaminations during the first quarter. There were no facial contaminations or contaminated wounds. Details are on OR# ID-LITC-PHASEOUT-1998-0001.



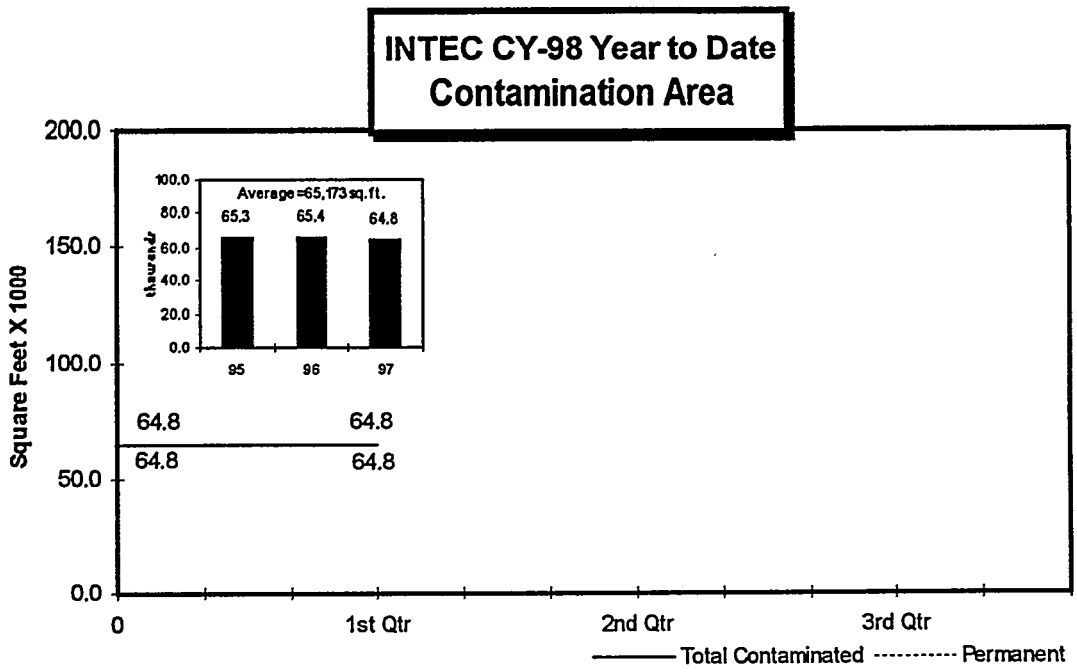
Three clothing contaminations occurred during the first quarter at the INTEC. Two were reportable. Details are contained on OR ID-LITC-WASTEMNGT-1998-0001 and ID-LITC-PHASEOUT-1998-0002



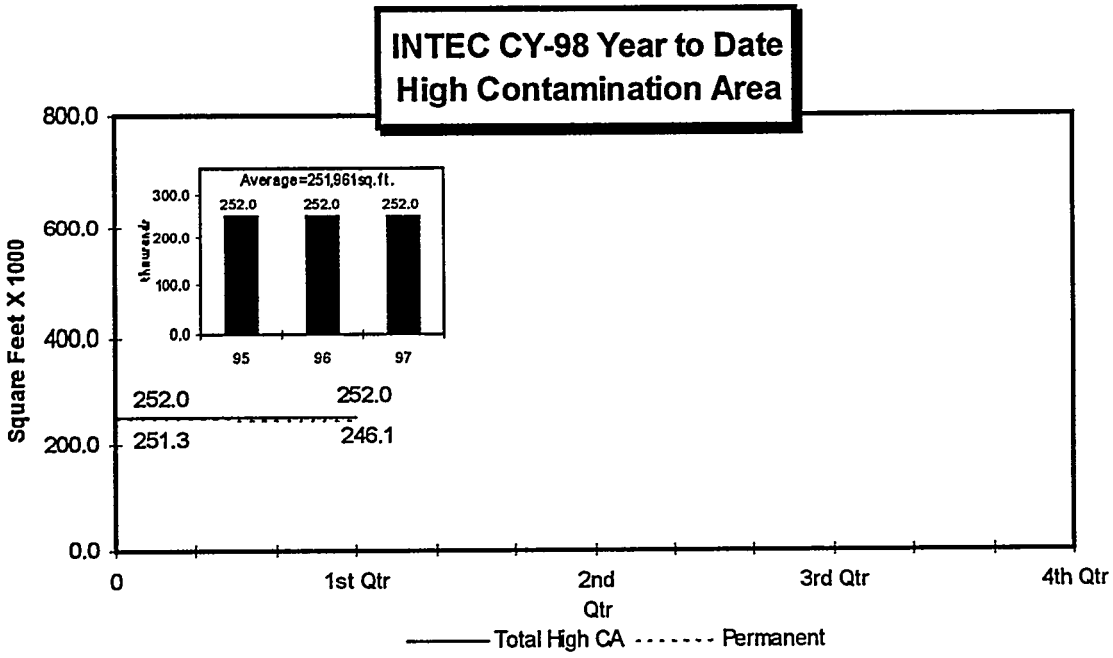
No airborne activity greater than 10 % DAC in unposted areas was detected in INTEC areas during the first quarter.



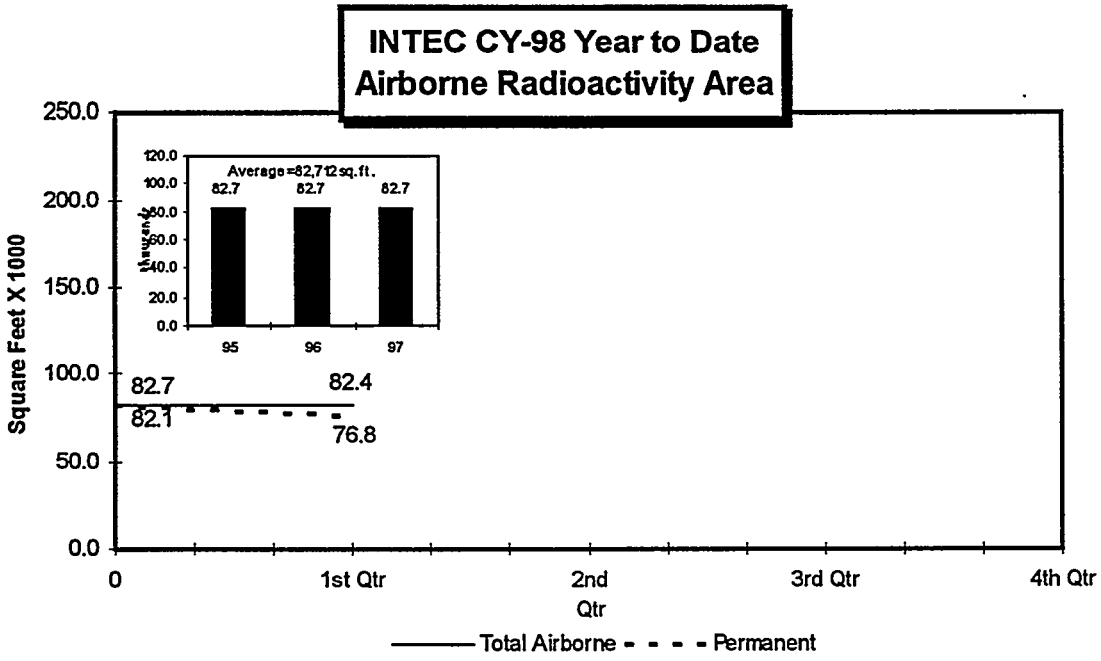
There have been no dose assessments greater than 10 mrem CEDE for the first quarter.



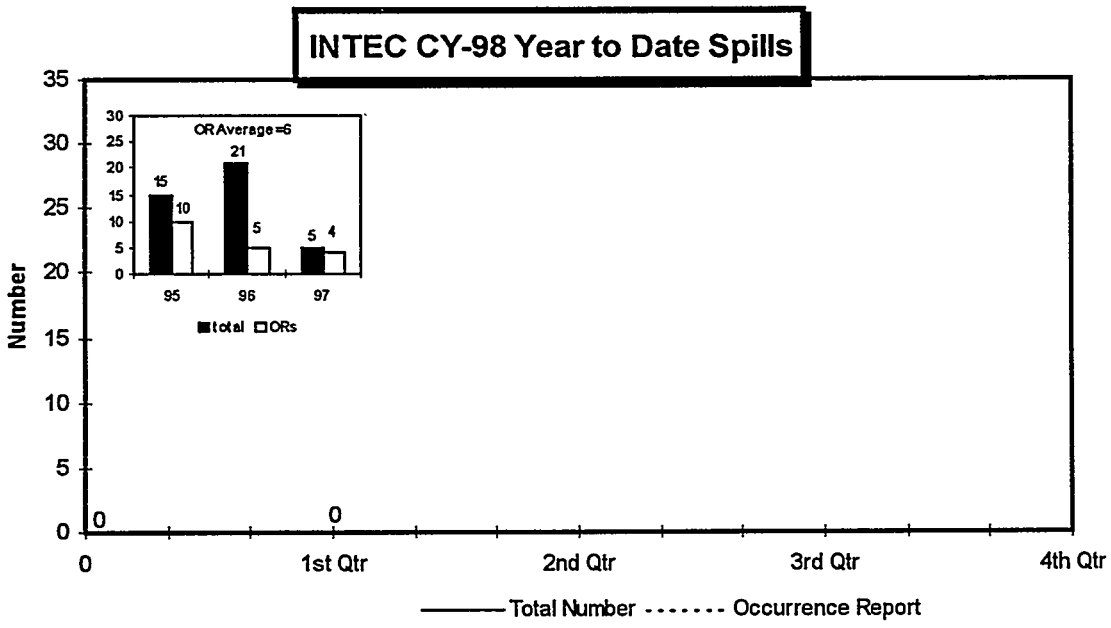
Total Contamination Area at the INTEC at the end of the first quarter remains at 64,819 square feet



The total High Contamination Area at the INTEC was reduced by 270 square feet to 251,961 because of grouting activities at the WCF. 246,071 square feet are designated as permanent and in-use.



Total Airborne Radioactivity Area at the INTEC at the end of the first quarter was reduced to 82,442 square feet due to grouting at the WCF. 76,822 square feet is designated as permanent and in-use.



There were no spills or loss of control of radioactive material during the first quarter.

Power Burst Facility

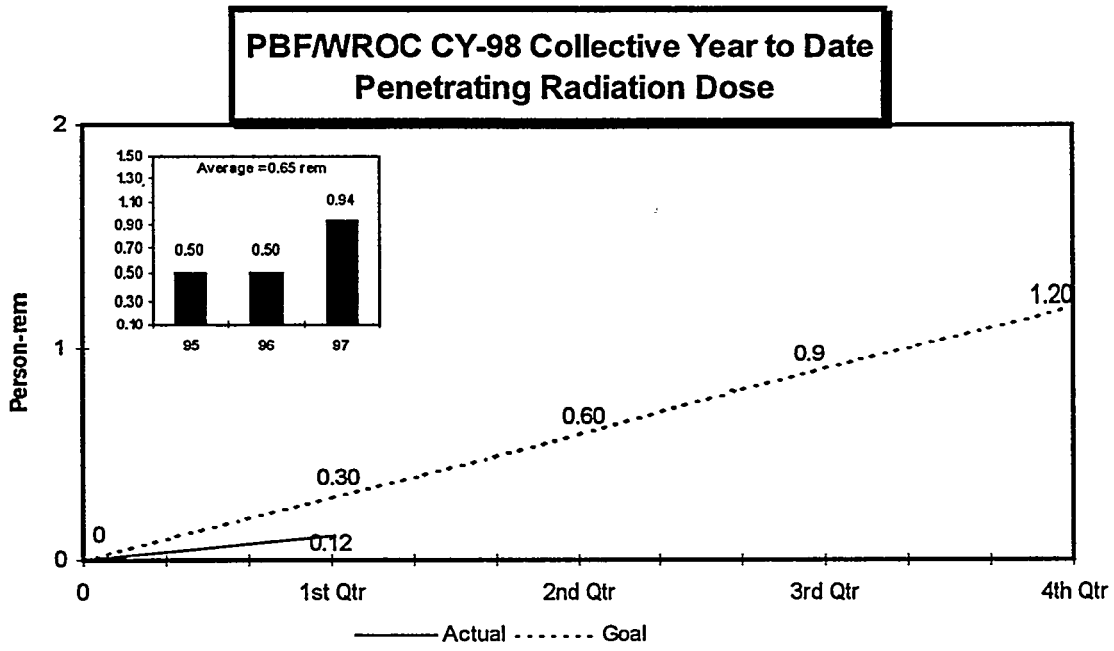
Waste Reduction Operations Complex

Waste Experimental Reduction Facility

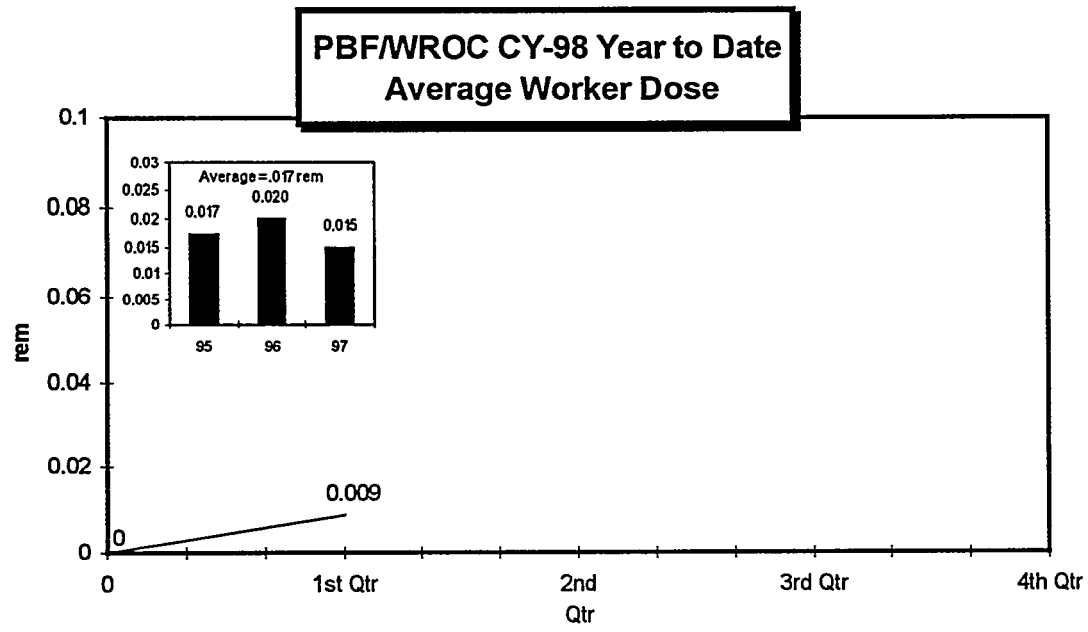
(PBF/WROC)

Summary

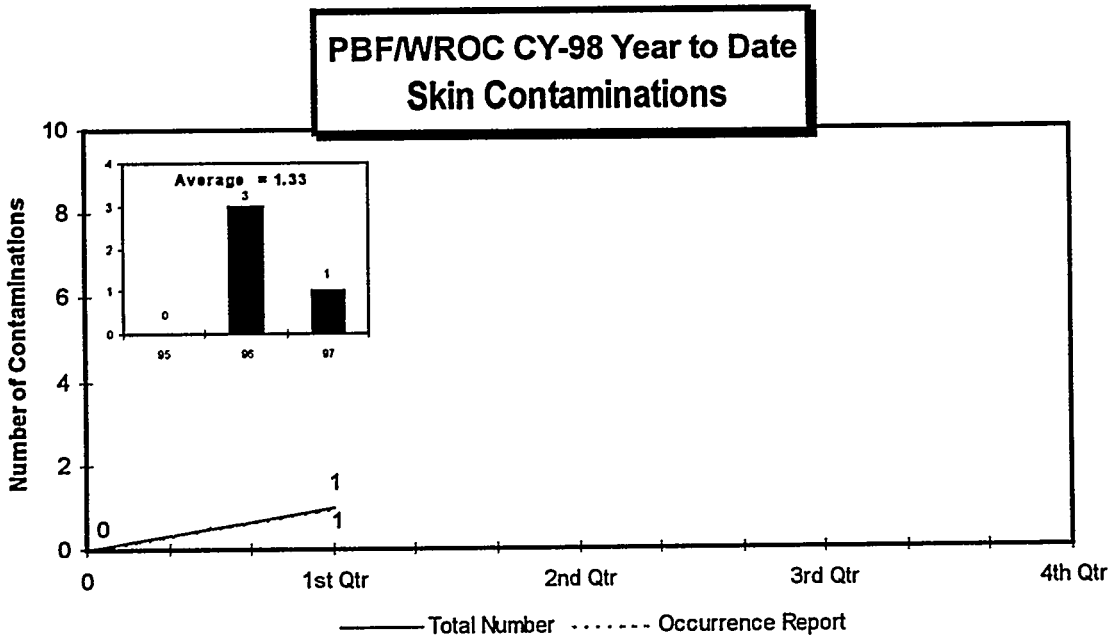
1. Major contributors to the first quarter occupational radiation exposure in the PBF/WROC reporting area were working with mixed waste, sizing and compaction of low level waste, incineration, routines, and instrument calibrations.



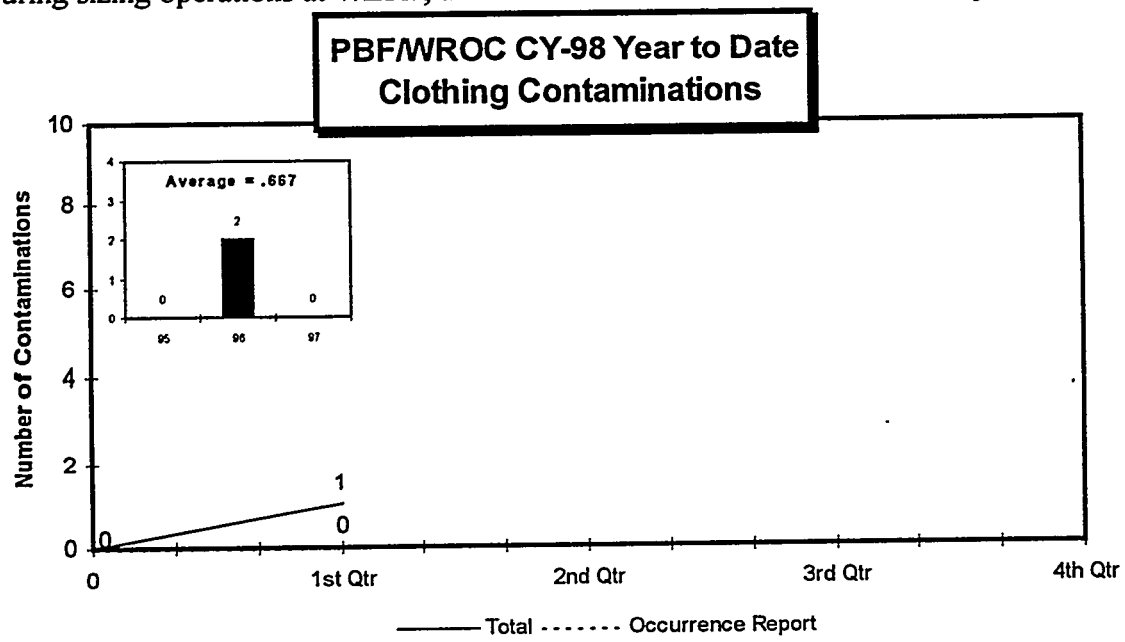
PBF/WROC collective penetrating radiation exposure through the end of the first quarter was 0.115 person rem.



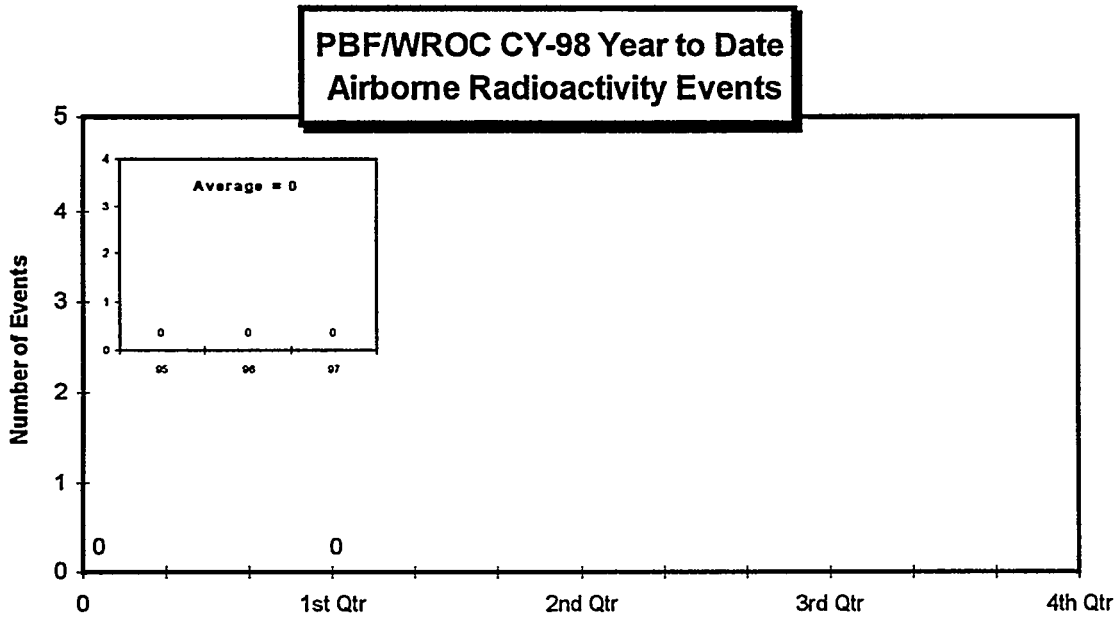
The PBF/WROC average worker dose through the end of the first quarter was 0.009 rem. Average dose is based on a comparison of workers who receive measurable dose.



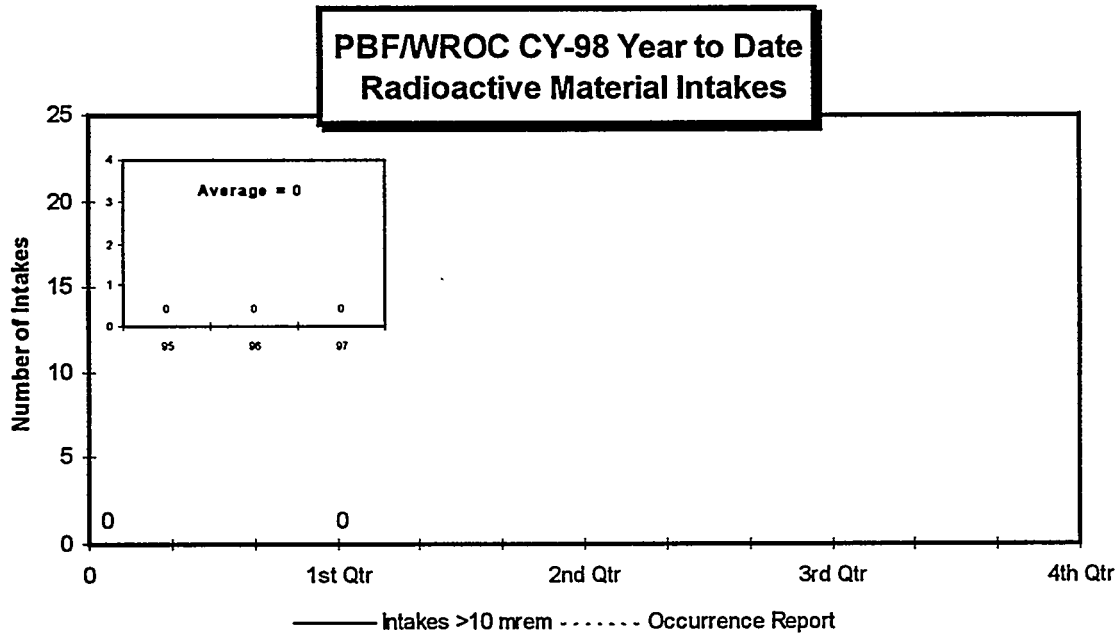
There was one reportable skin contamination at the PBF/WROC area during the first quarter. During sizing operations at WERF, and individual was contaminated to 800 cpm on the left thigh.



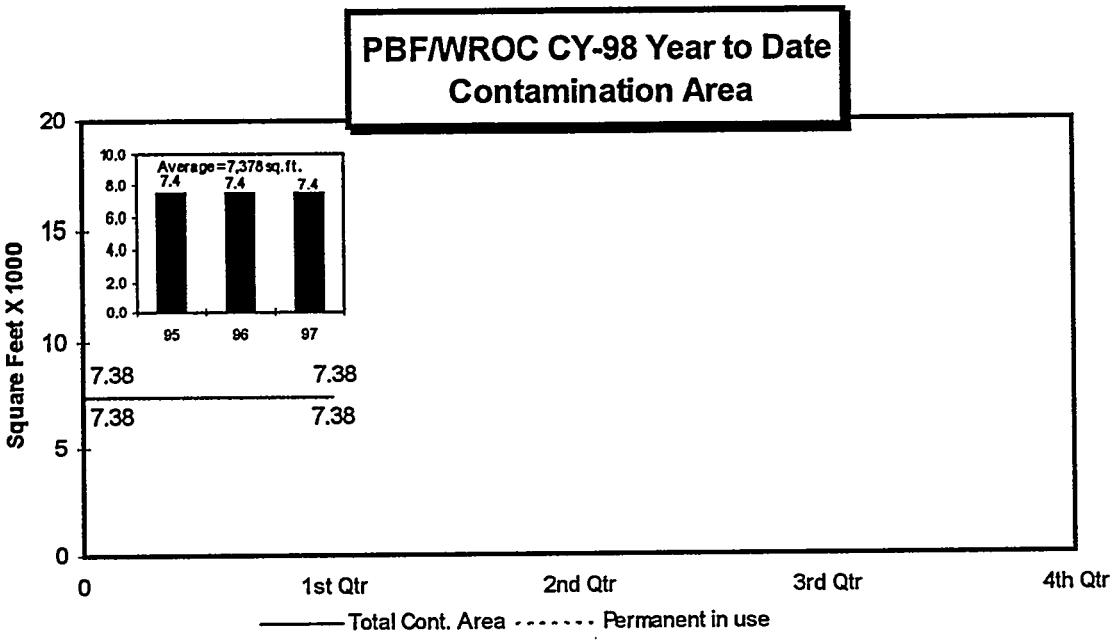
There was one non-reportable clothing contamination at the PBF/WROC area during the first quarter. An employee's shoe was contaminated to 200 cpm while changing light bulbs in the PBF reactor building basement.



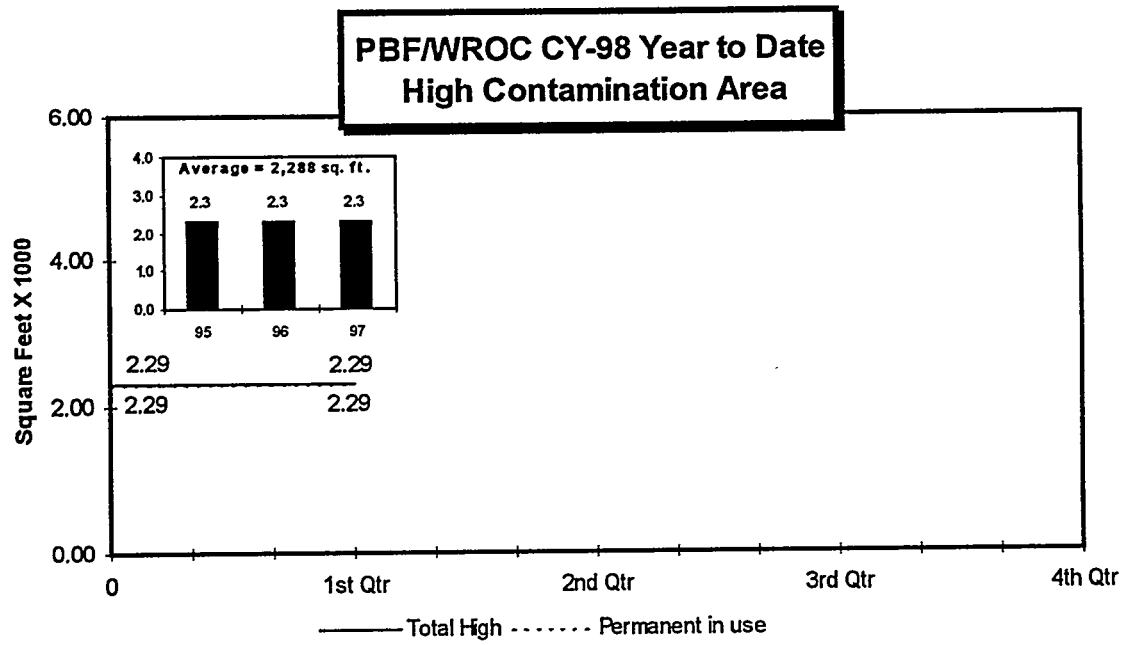
There have been no airborne activity events greater than 10 % DAC detected at the PBF/WROC area through the first quarter.



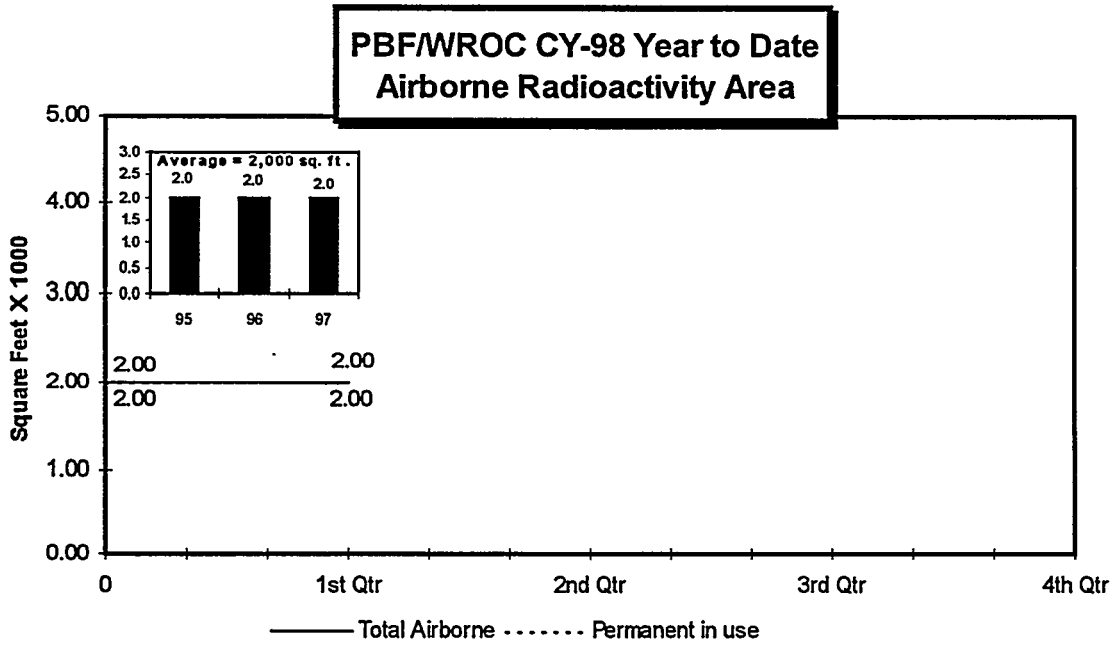
There were no positive bioassays indicating radioactive material intakes that resulted in a dose assessment of 10 mrem or greater in the PBF/WROC area during the first quarter.



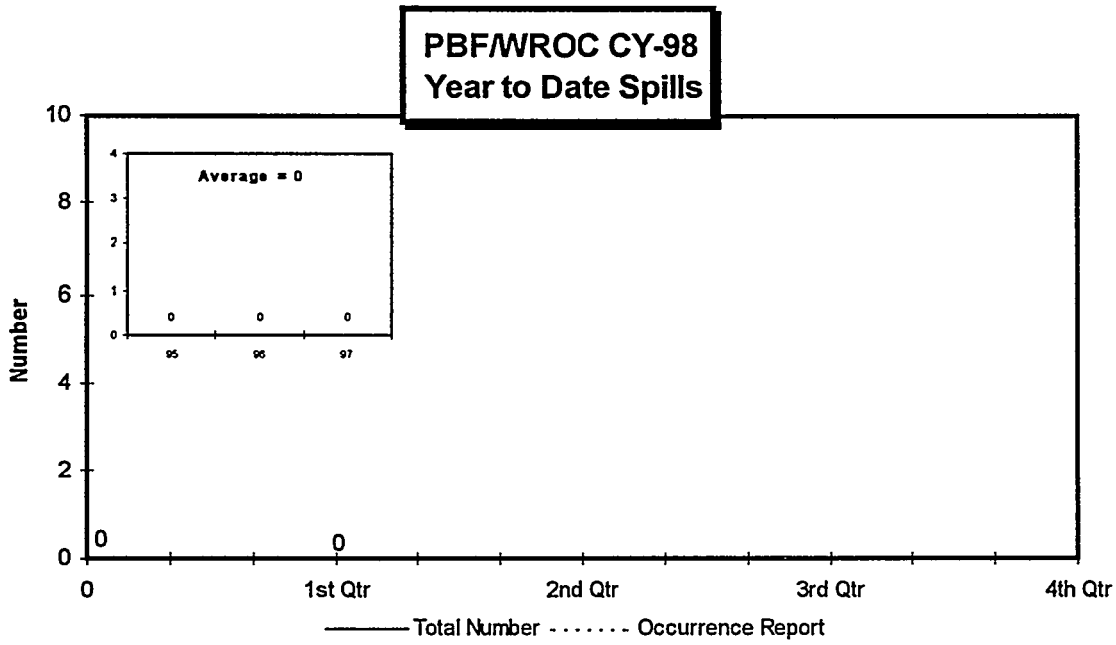
The first quarter Contamination Area for the PBF/WROC area remains at 7,378 square feet. All of this is considered permanent and in-use.



The total High Contamination Area through the end of the first quarter at the PBF/WROC area remains at 2,288 square feet. All of this is considered permanent and in use.



The total Airborne Radioactivity Area at PBF/WROC at the end of the first quarter remained at 2000 square feet. All of this area is designated as permanent and in-use.



There have been no spills at PBF/WROC through the end of the first quarter.

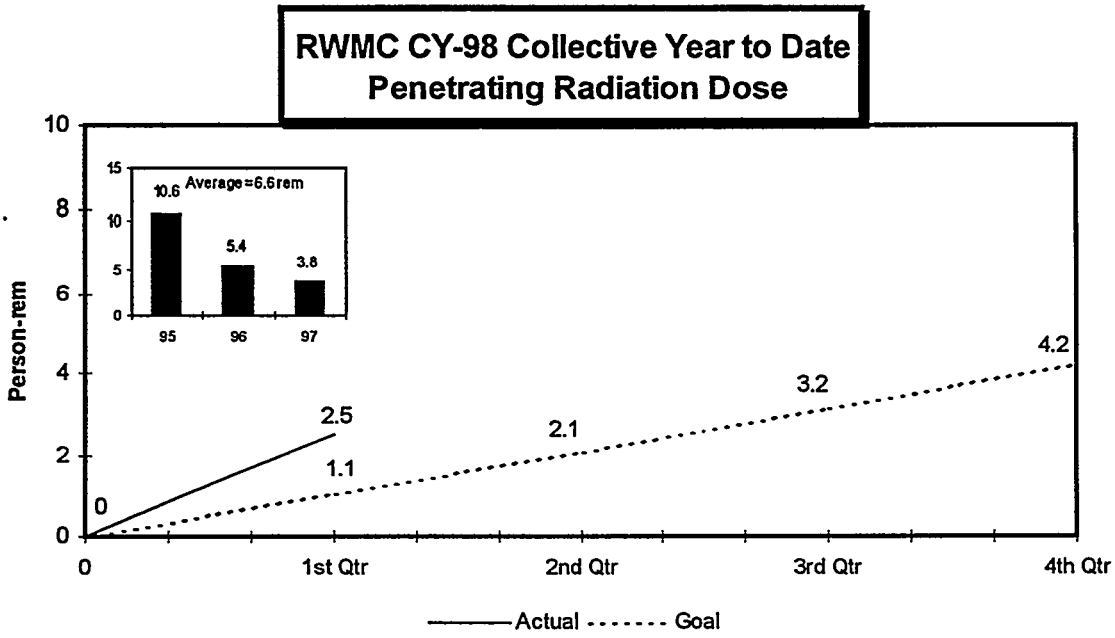
Radioactive Waste Management Complex

Summary

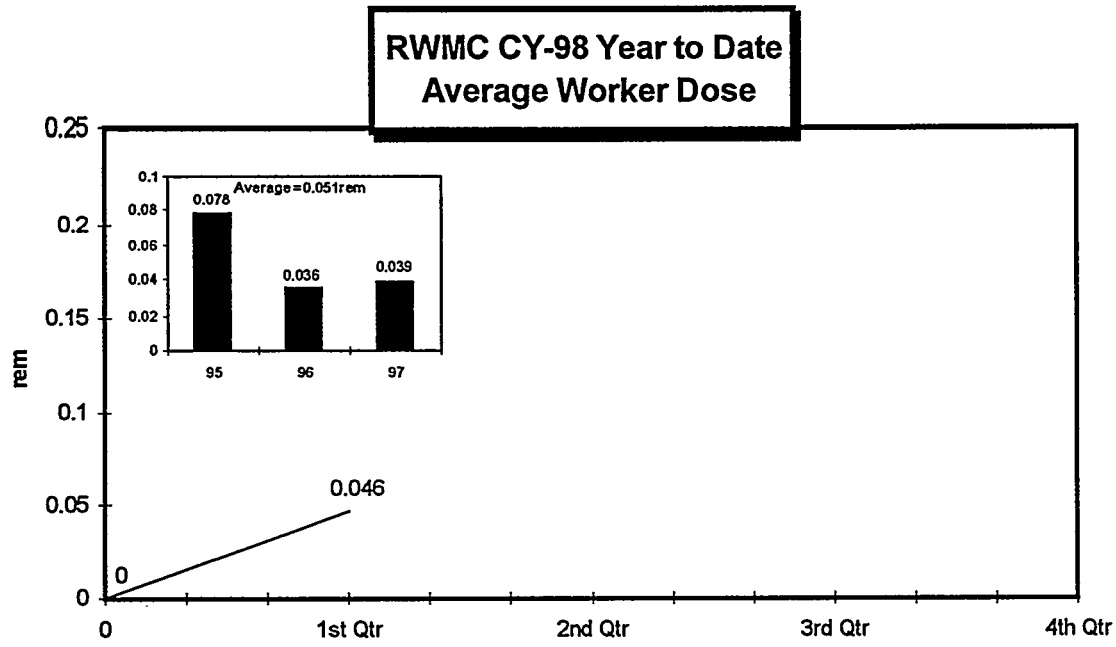
1. Major contributors to the first quarter RWMC occupational radiation exposure have been from waste disposal, drum handling, assay and inspections, and reconfiguration.

2. The HCA area at the RWMC is under a protective tarp covering the waste stack at the TSA-RE. This area will remain a permanent HCA until retrieval operations begin in that area.

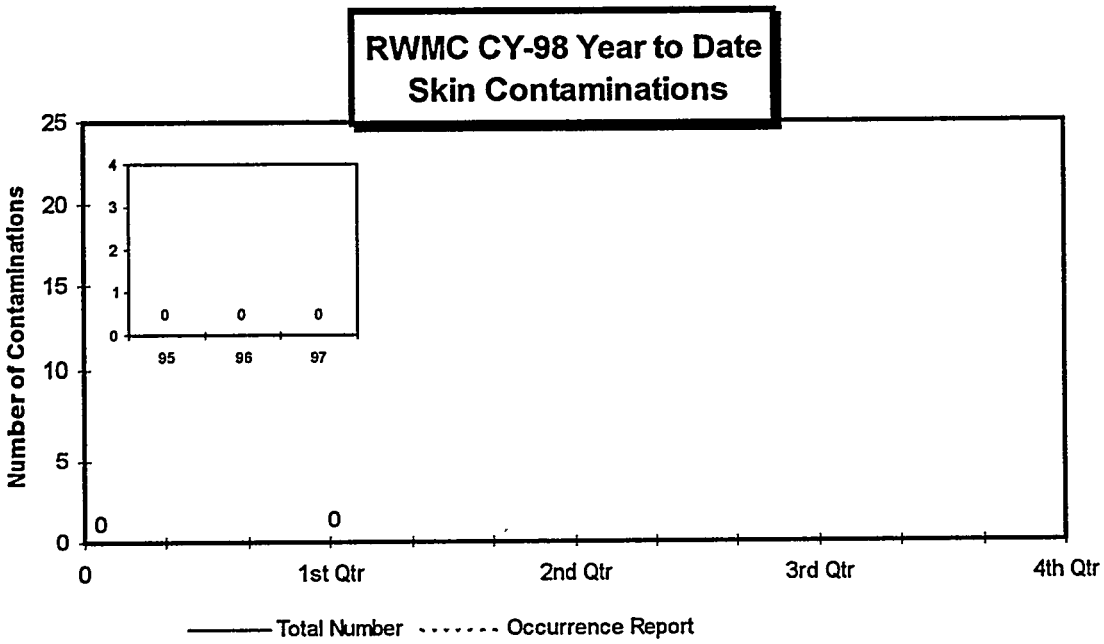
3. Sandia waste boxes in storage modules remain contaminated at the end of the first quarter. These boxes represent the increase in low level contamination shown in the chart on page 39.



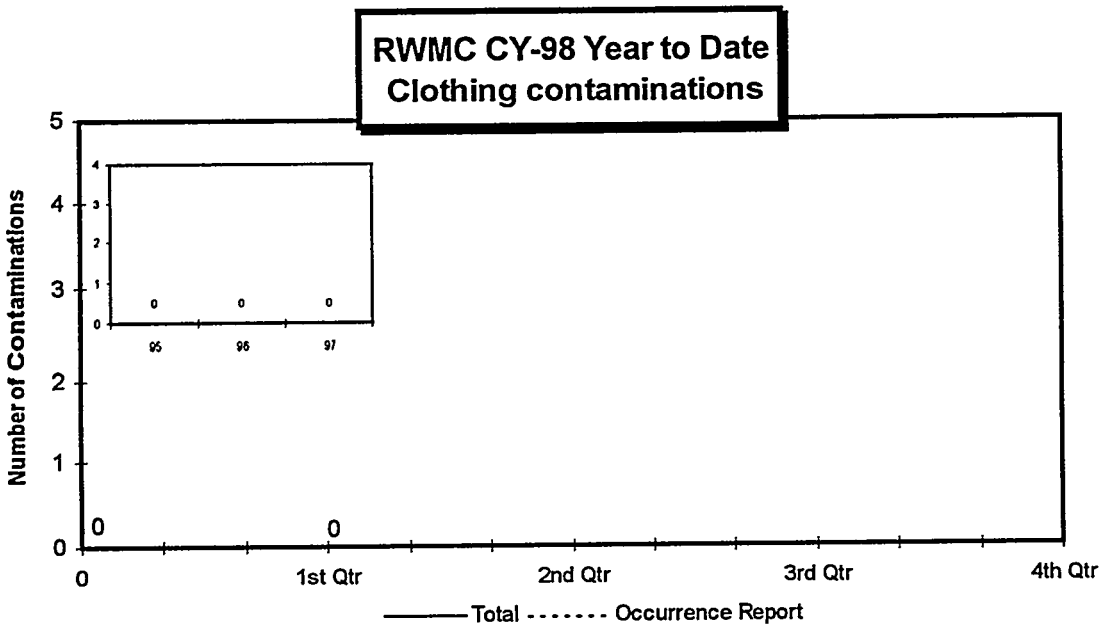
The RWMC collective penetrating radiation exposure through the end of the first quarter was 2.540 person-rem. Dose is up due to increased waste handling operations.



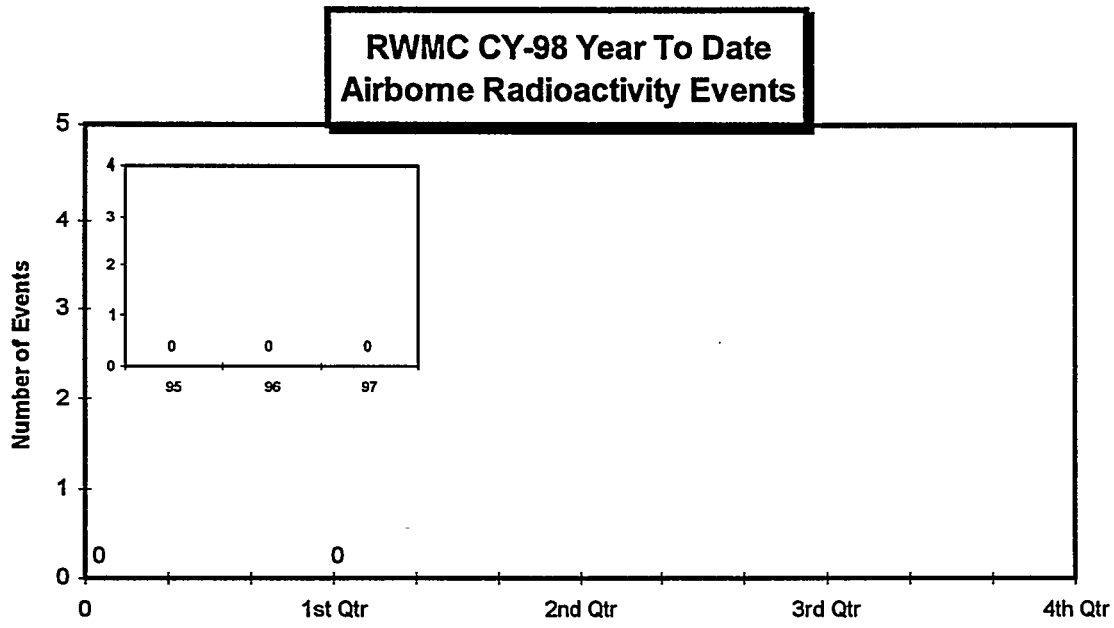
The average worker dose at the RWMC through the end of the first quarter was 0.046 rem from 55 workers who received dose.



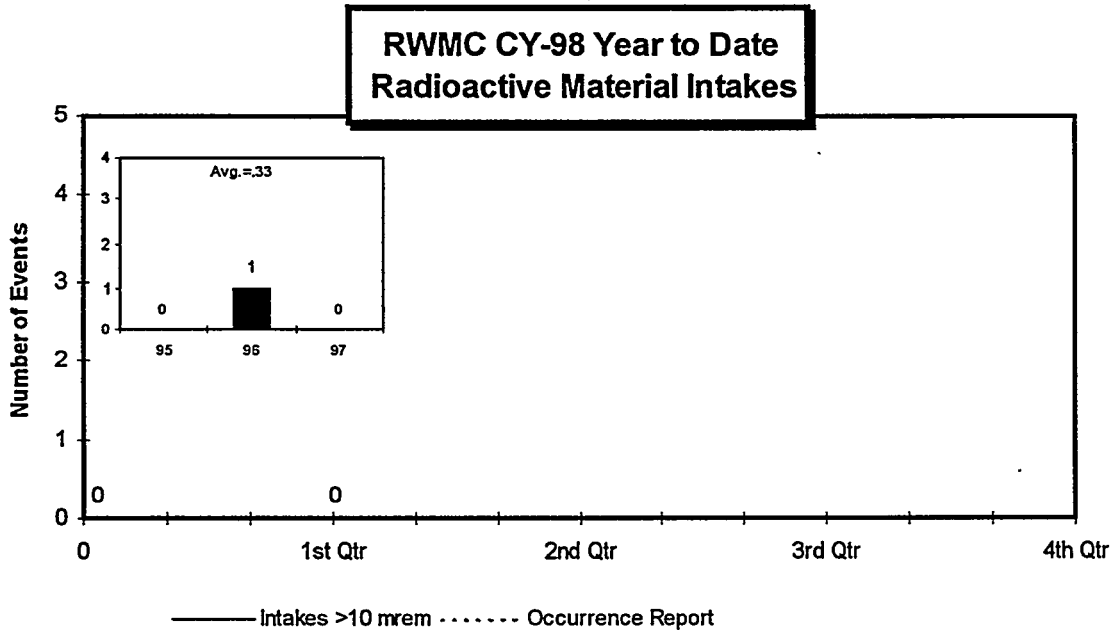
RWMC year to date skin contaminations remain at zero through the end of the first quarter.



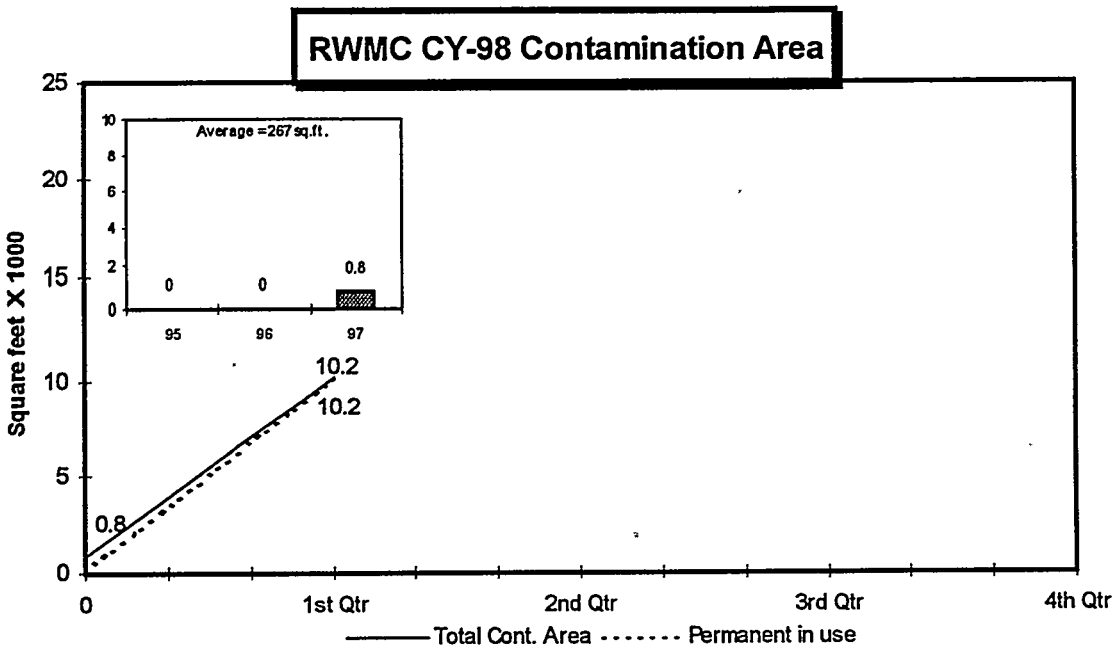
There were no clothing contaminations at the RWMC through the end of the CY-98 first quarter.



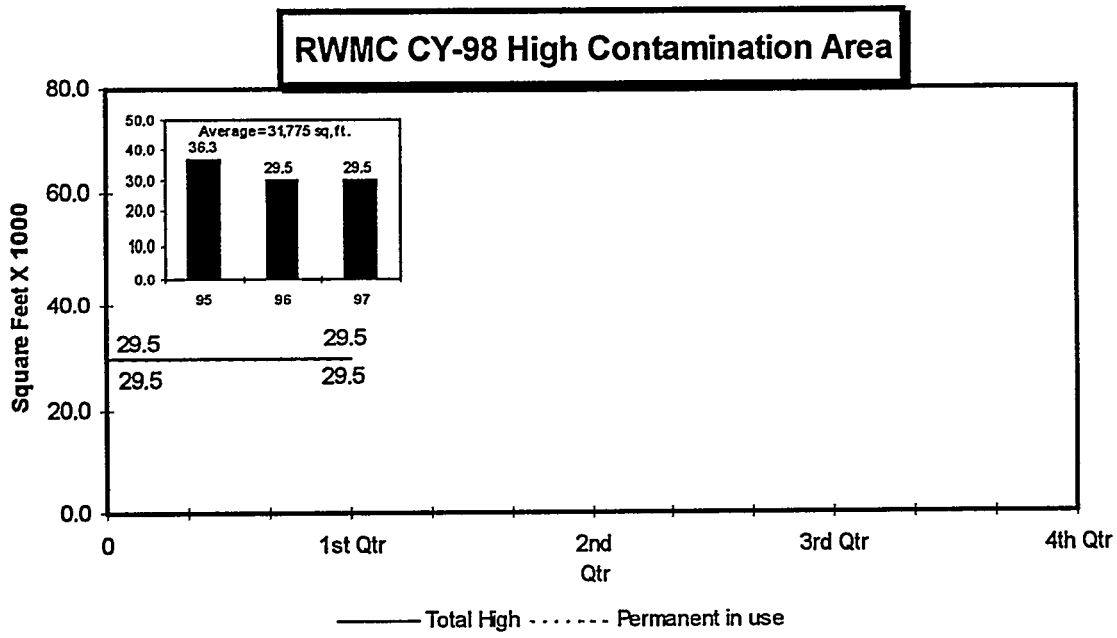
No airborne activity greater than 10 % DAC was detected at RWMC in areas not posted as Airborne Radioactivity Areas through the first quarter.



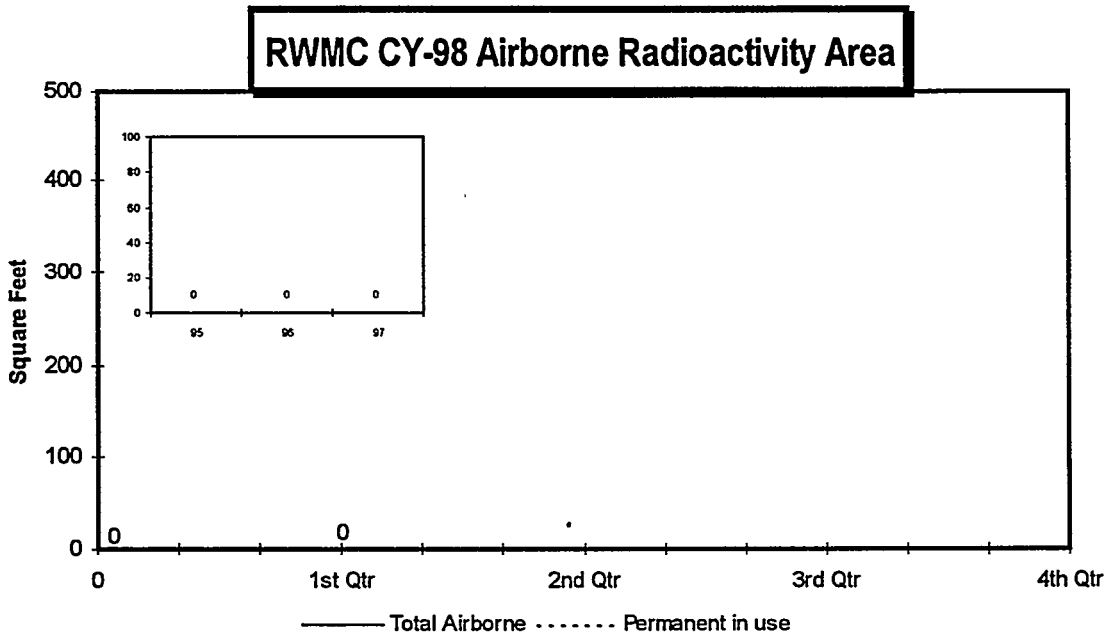
In the last quarter of 1996, final analysis of one positive bioassay indicated an uptake of 43 mrem CEDE as shown on the chart. There have been no positive bioassays year to date indicating an intake of radioactive material that resulted in a dose assessment of 10 mrem or greater.



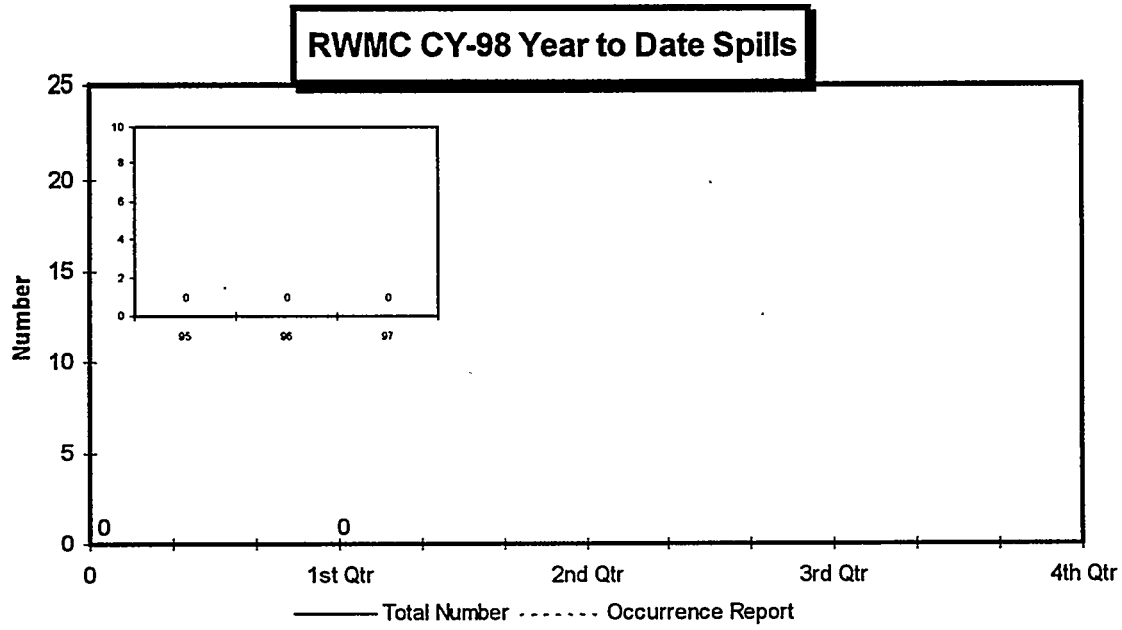
The total Contamination Area at the RWMC through the end of the first quarter increased to 10,240 square feet due to contaminated Sandia waste boxes in storage containers at the RWMC.



The total High Contamination Area at the RWMC through the end of the first quarter was 29,525 square feet. All of this area is designated as permanent and in-use.



The total Airborne Radioactivity Area at the RWMC at the end of the first quarter remains at zero square feet.



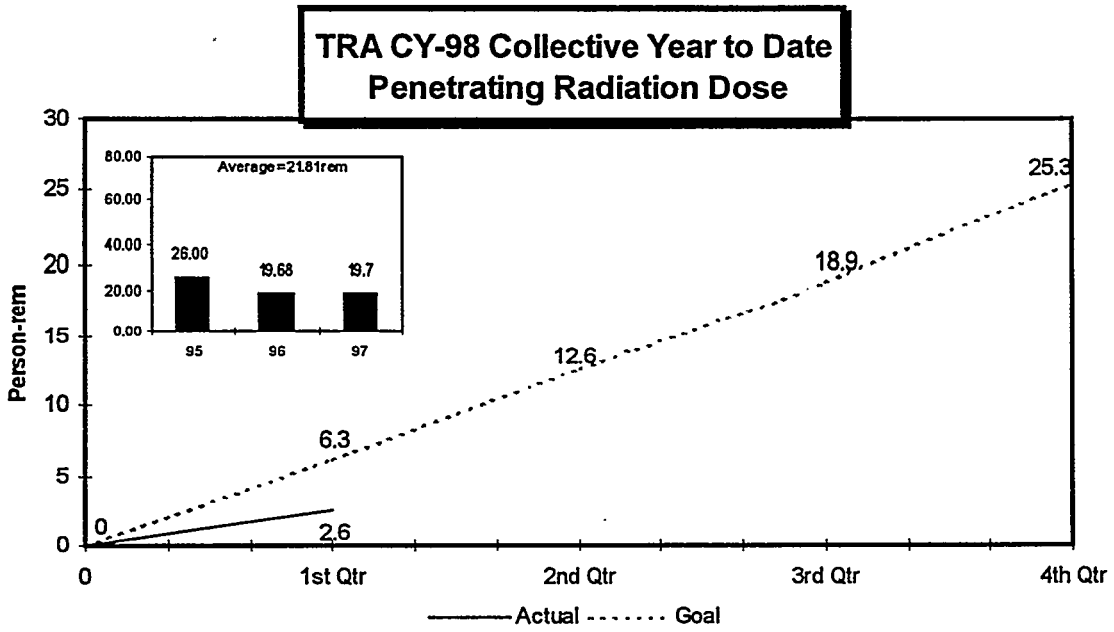
There were no spills or loss of control of radioactive material during the first quarter at the RWMC.

Test Reactor Area

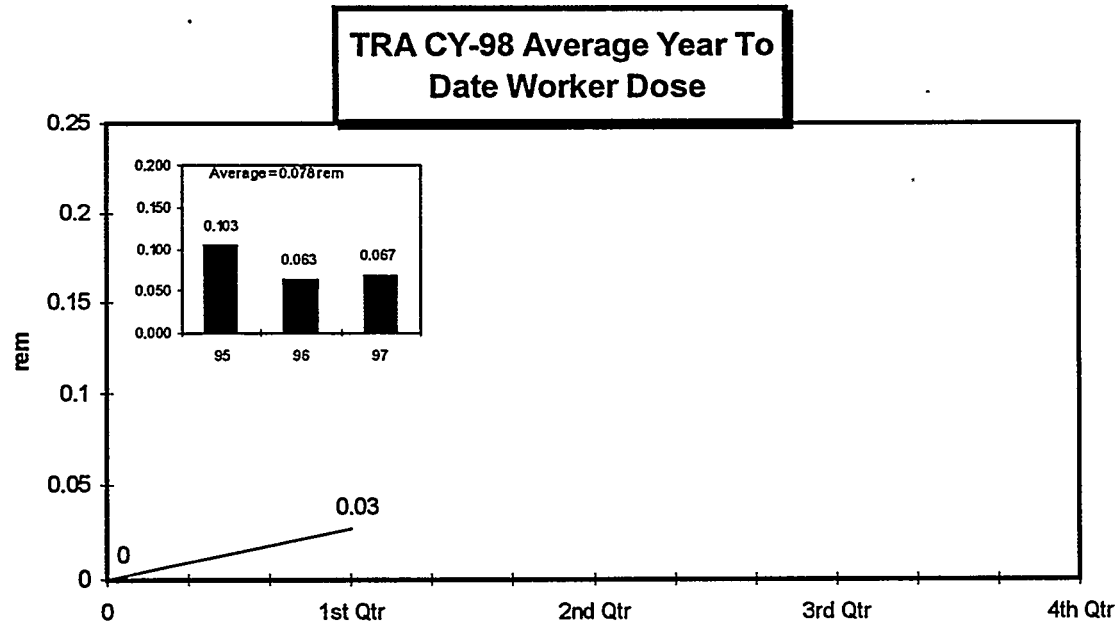
Summary

1. Outages at the Advance Test Reactor within the Test Reactor Area are responsible for the major portions of dose during the first quarter. Total Penetrating dose for the report is 2.954 person-rem year to date.

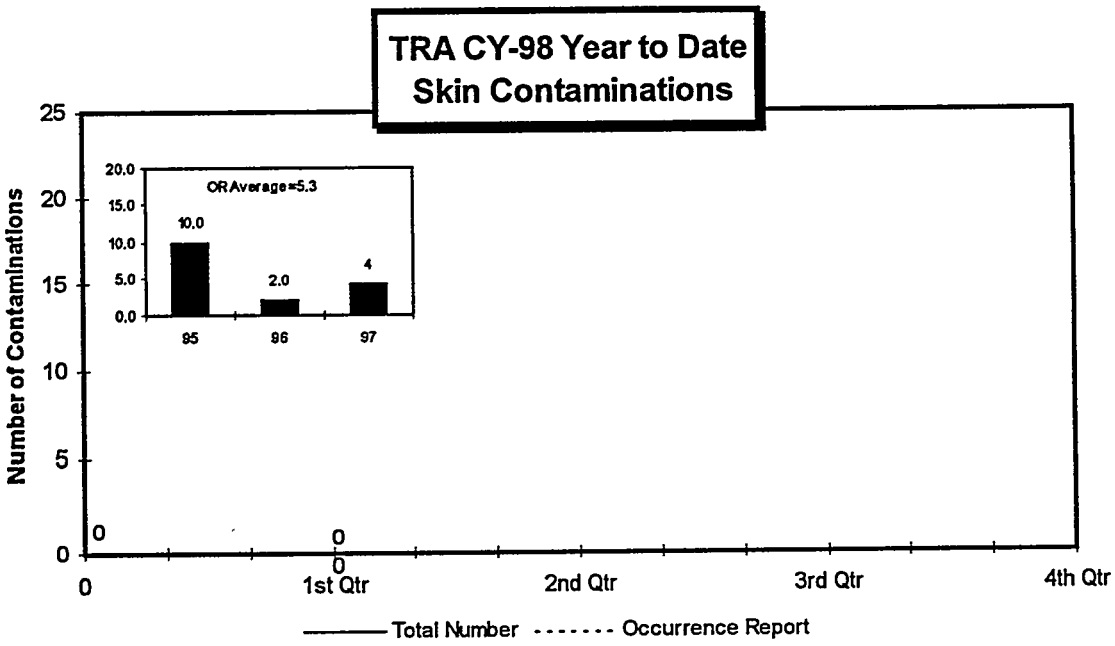
2. Two contamination events occurred at TRA. They were not reportable events. The first was a shoe contamination from building 605, the second involved pants and shoes from an individual testing the air connection to the tank for back flush of the Hot Waste System.



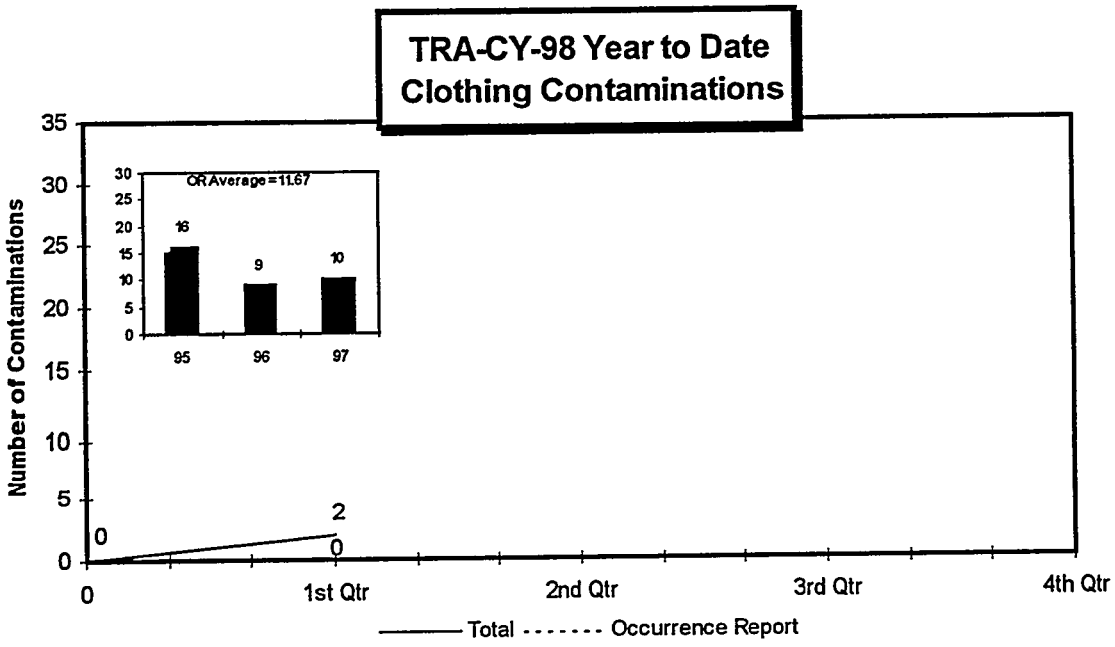
TRA collective penetrating radiation dose through the end of the first quarter was 2.594 person-rem.



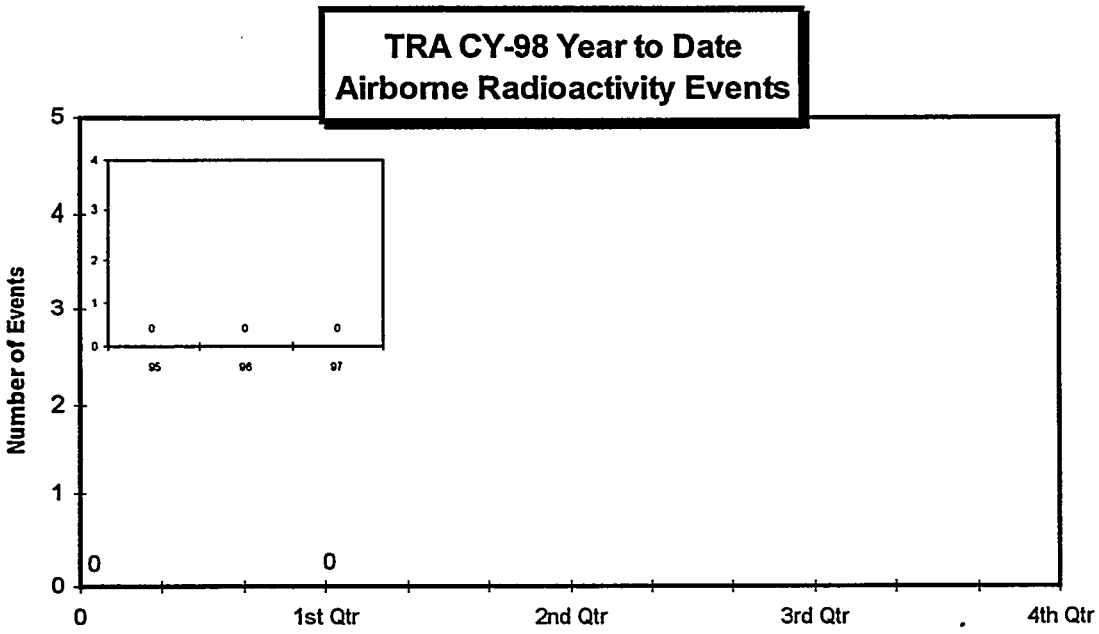
The average worker dose at the TRA through the end of the first quarter was 0.027 rem based on 108 workers with dose greater than 10 mrem.



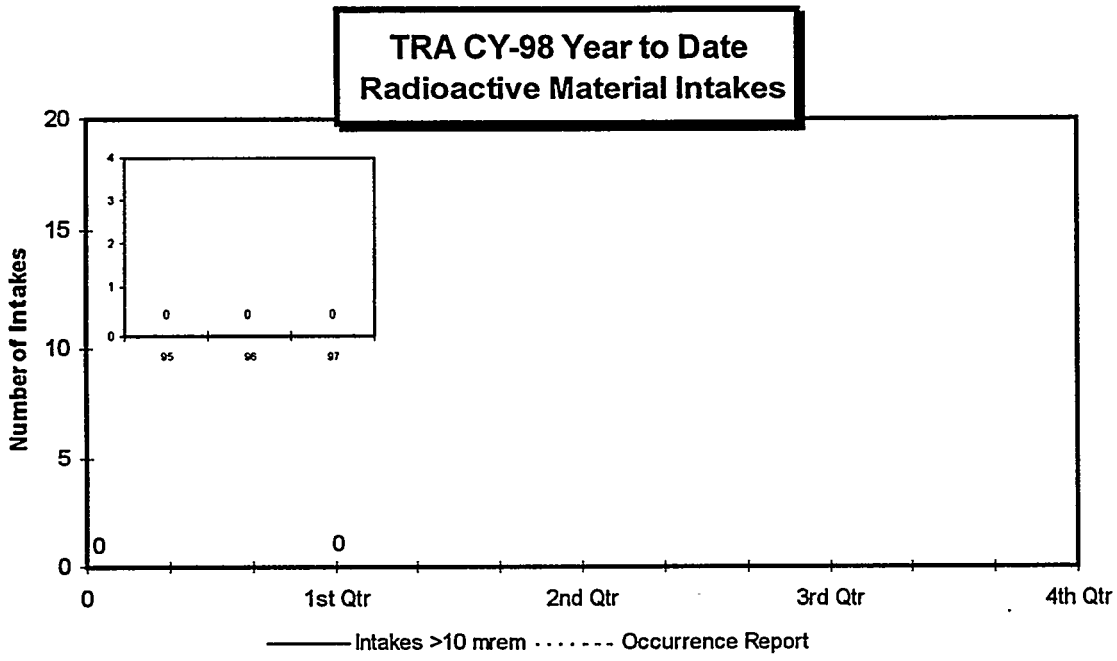
There were no skin contaminations at the TRA during the first quarter. There were no contaminated wounds or facial contaminations.



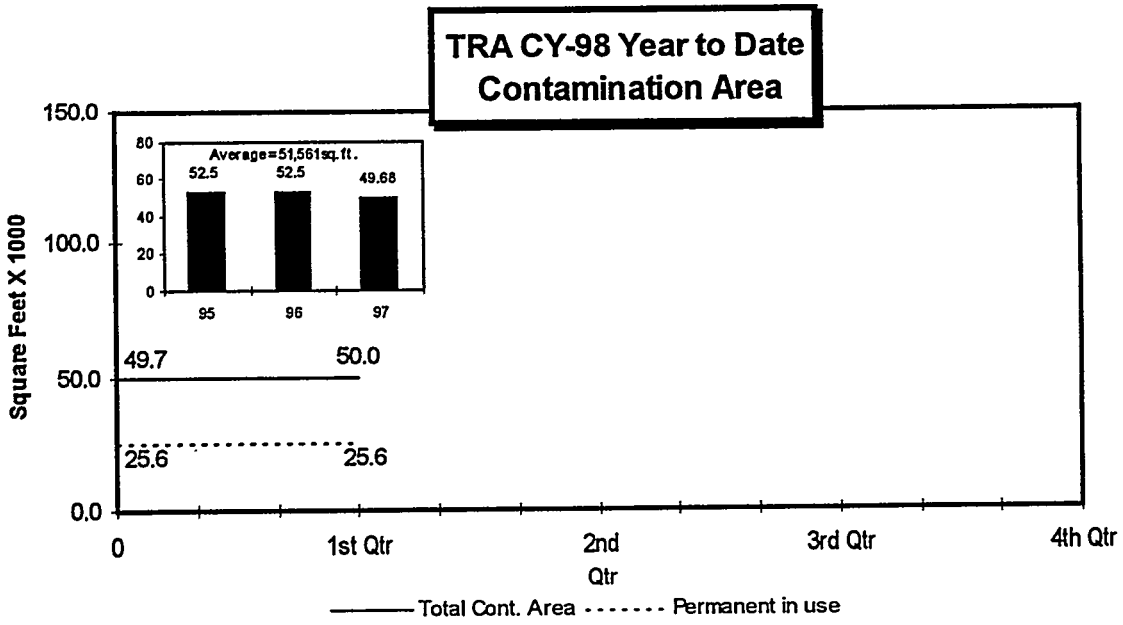
There were two clothing contaminations at the TRA during the first quarter. They did not meet recordable criteria.



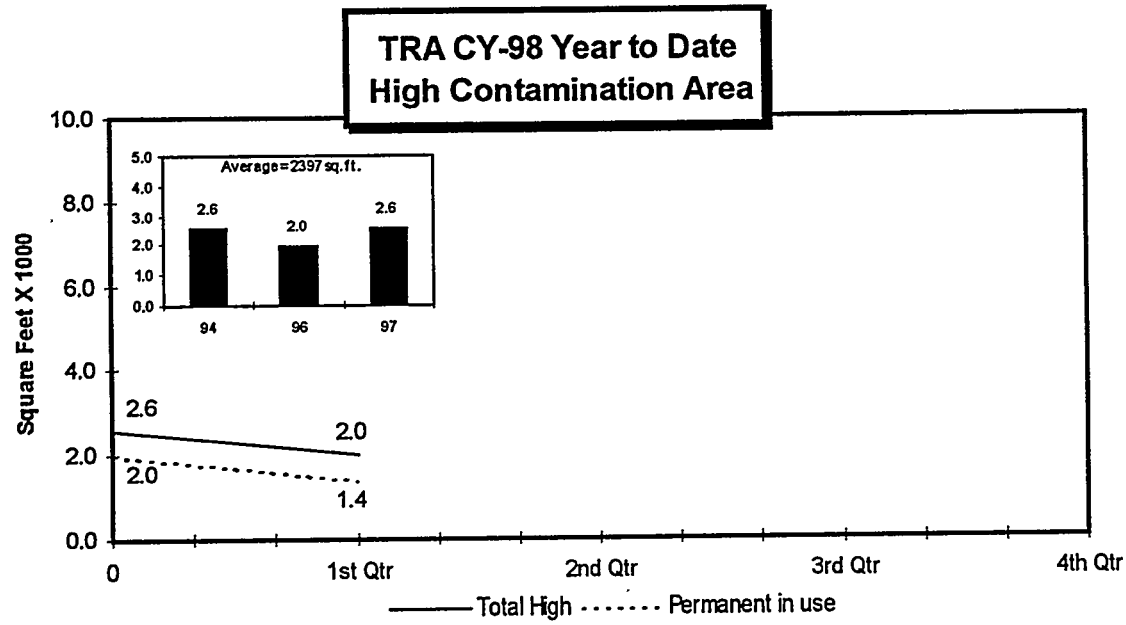
No airborne activity greater than 10 % DAC was detected at the TRA in areas not already posted as Airborne Radioactivity Areas during the first quarter.



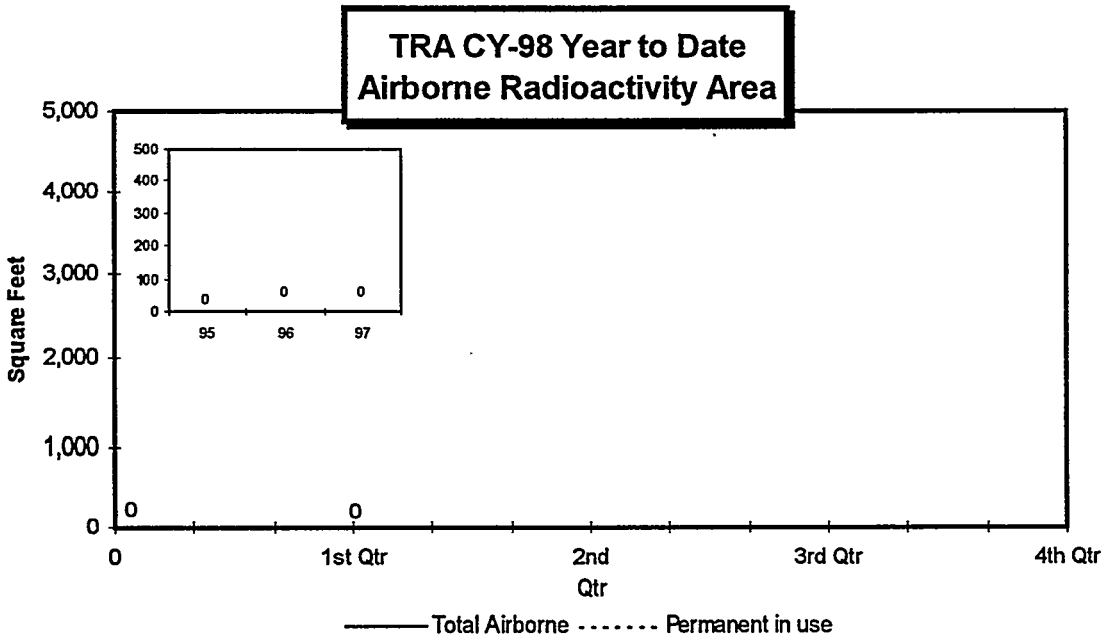
There were no positive bioassays indicating an intake of radioactive material that resulted in a dose assessment of 10 mrem or greater at the TRA during the first quarter.



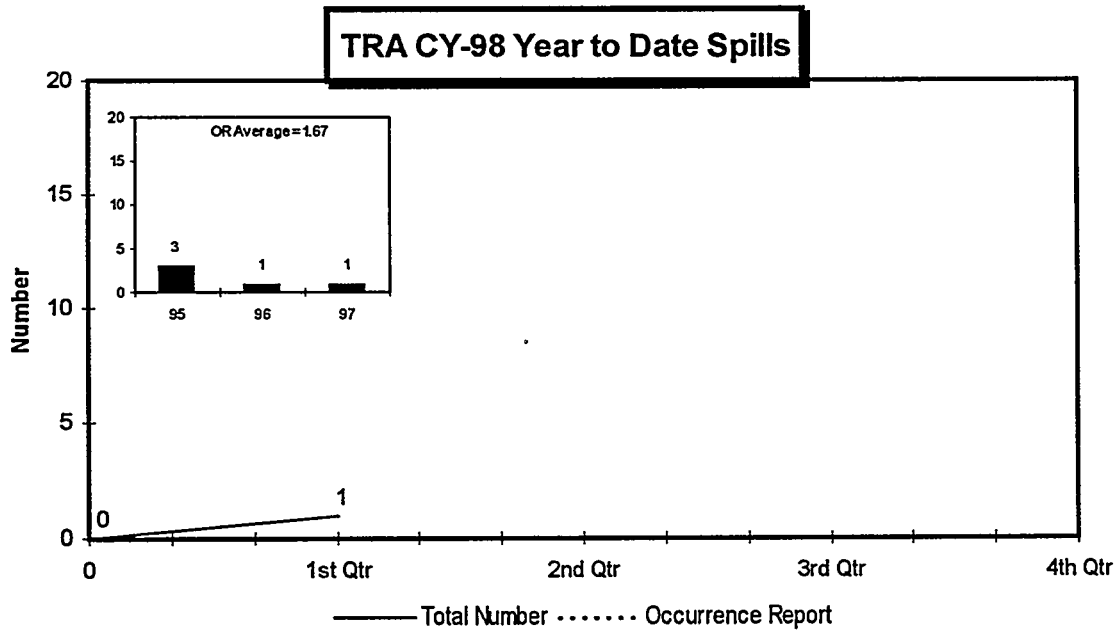
Total indoor Contamination Area for the TRA is 49,978 square feet square feet. 25,619 square feet is designated as permanent and in-use.



Total High Contamination Area for the TRA at the end of the first quarter has reduced to 2,025 square feet. 1,400 square feet of this area is designated as permanent and in-use. The chart shows rounded values.



Total Airborne Radioactivity Area at the TRA at the end of the first quarter remains at zero square feet.



There was one non-reportable spill or loss of control of radioactive material at the TRA during the first quarter. This was associated with the Hot Waste system.

MAC-ISOTOPES

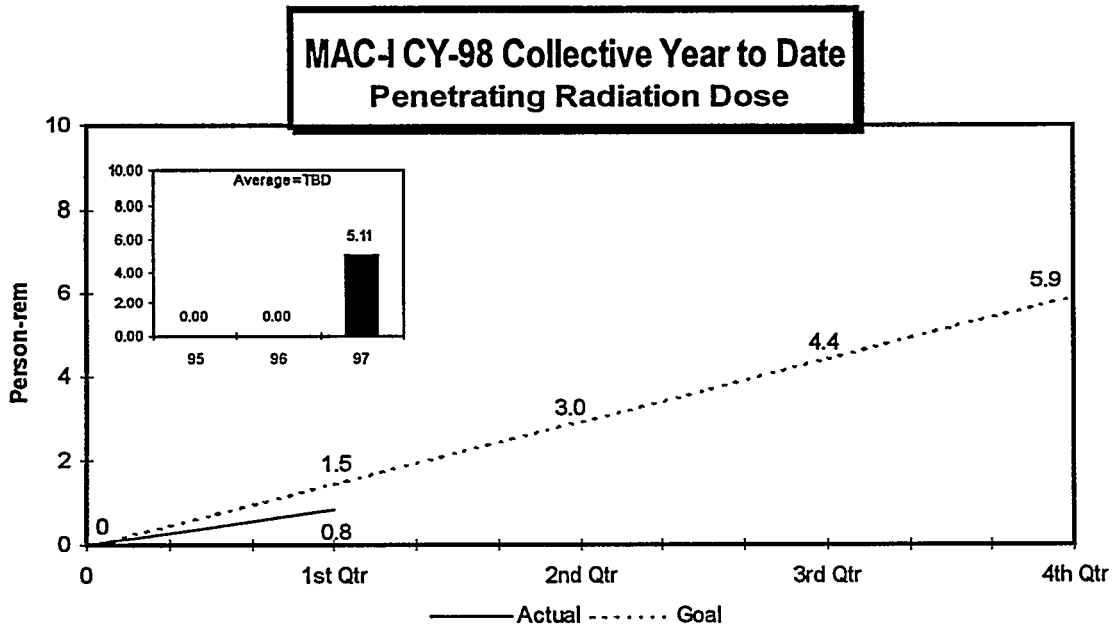
TRA HOT CELL

Summary

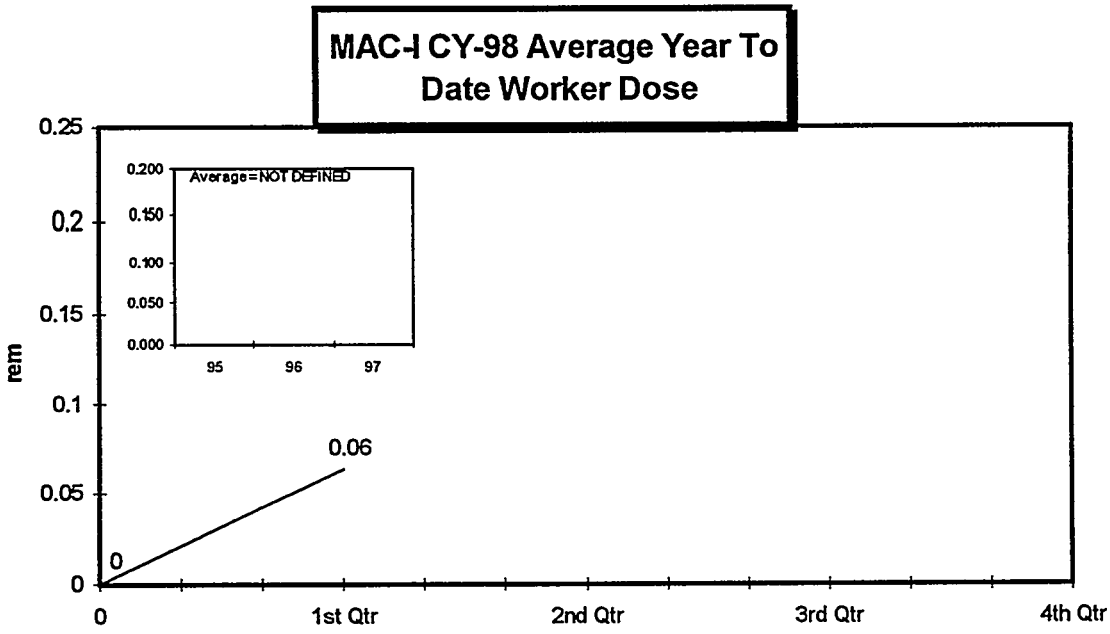
The TRA Hot Cell (MAC-I) is a privatized contractor and is being tracked here since LMITCO provides much of the associated labor support.

Activities include isotope separation work and associated source activities. The data on the following pages is not added to LMITCO totals.

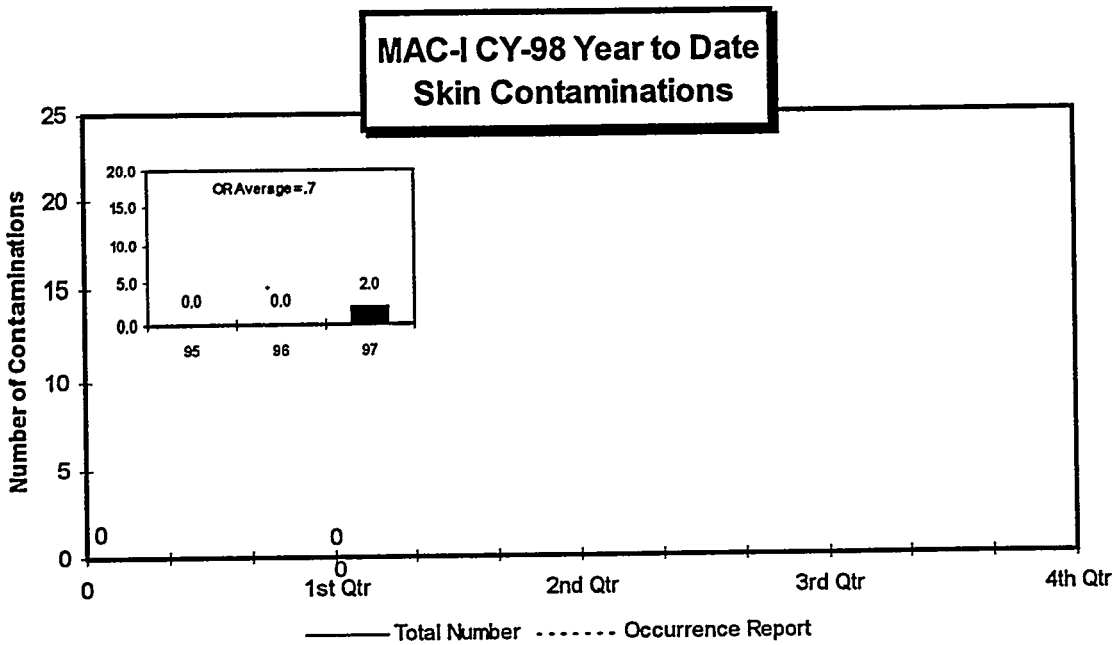
International Isotopes Inc., of Denton, Texas acquired MAC-I on April 27, 1998. MAC-I will be known as International Isotopes Idaho Inc. (IIII) in future reports.



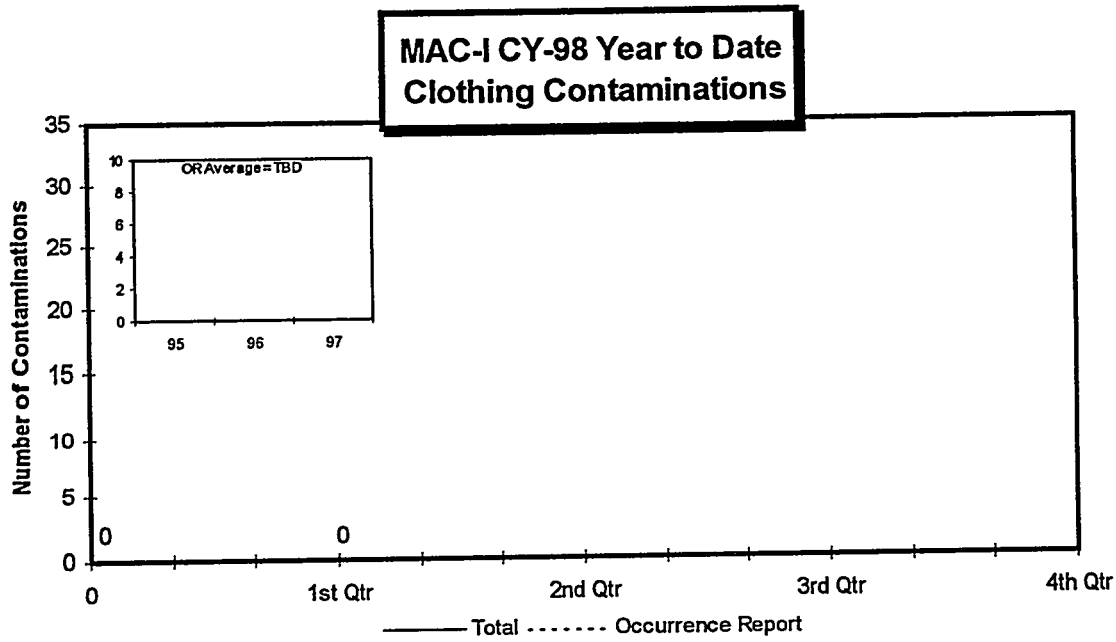
Year to date dose is 0.834 person-rem



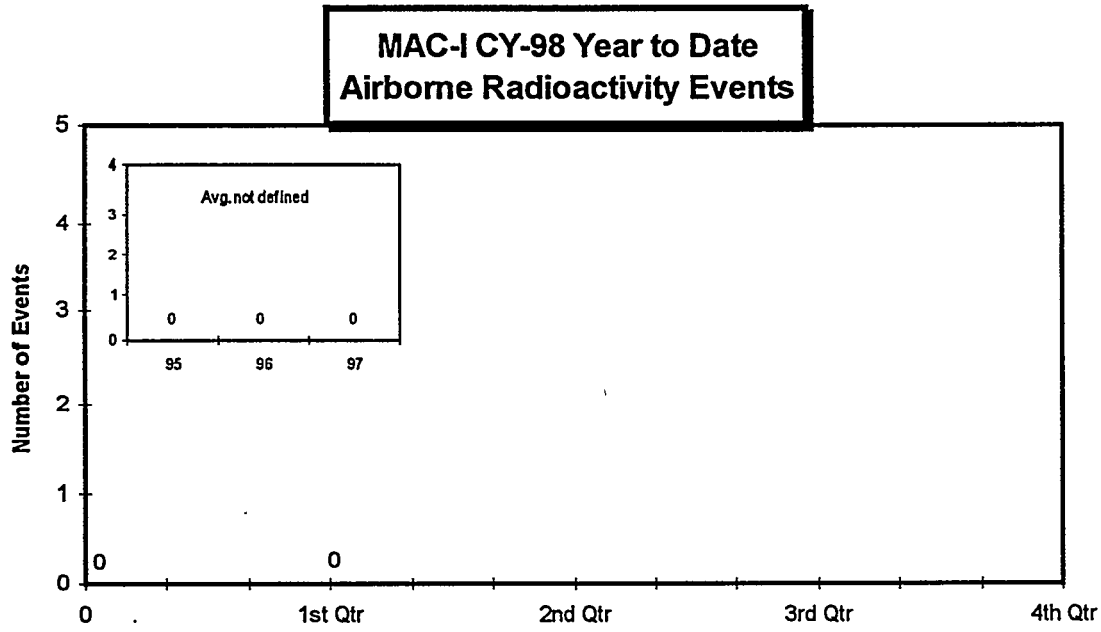
Average year to date is 0.06 rem



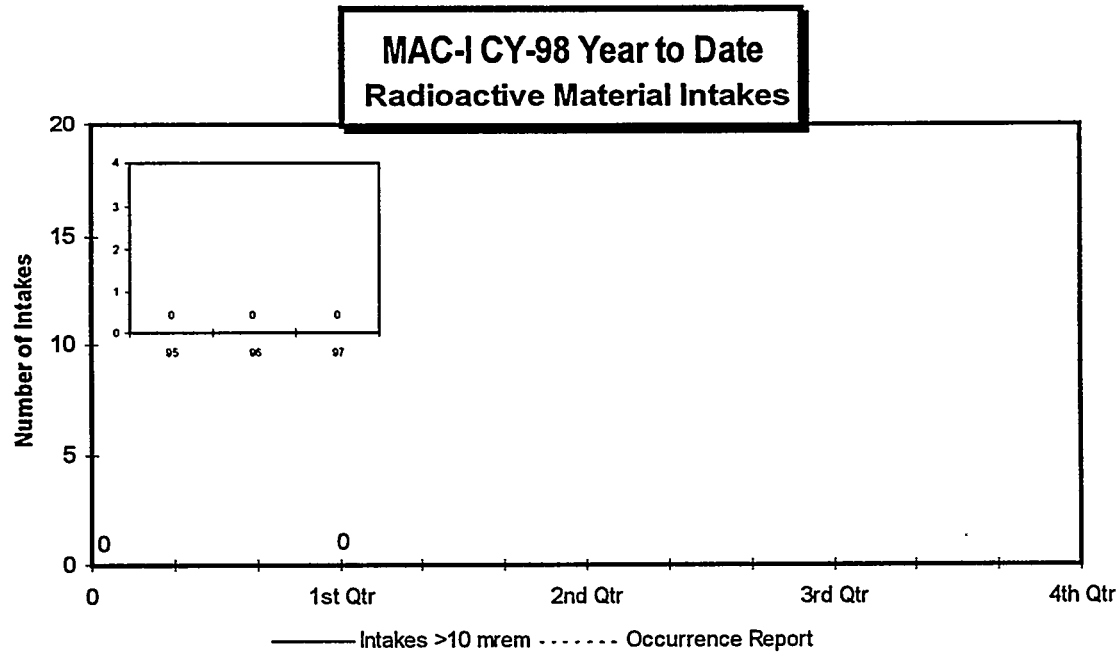
There have been no skin contamination events at the Hot Cell facility year to date. The average is based on an event at the beginning of CY-97



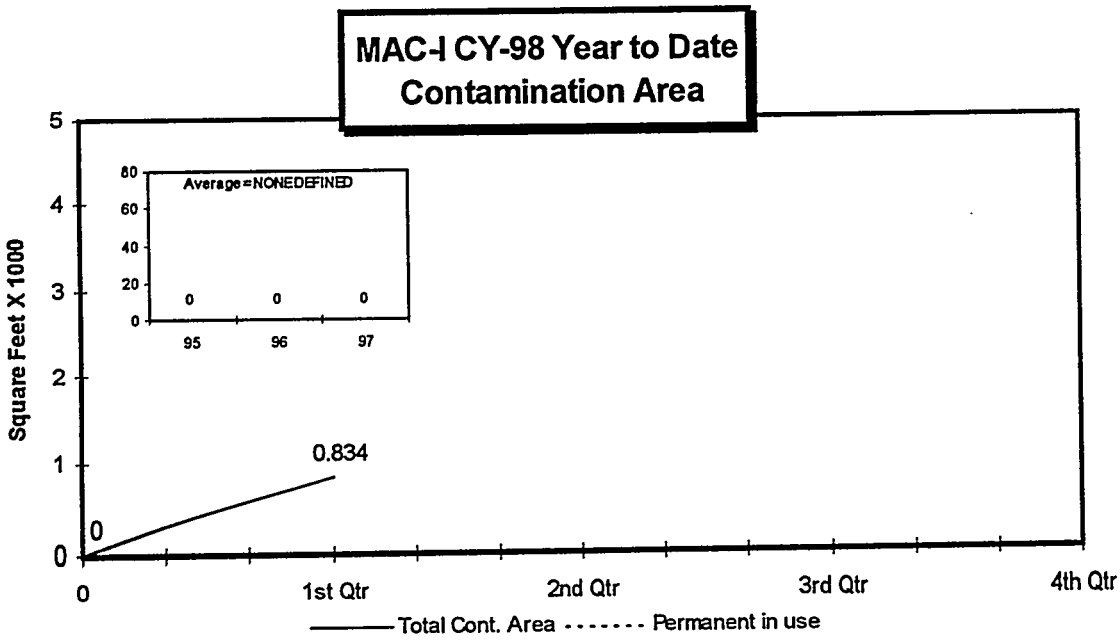
MAC-I has had no reportable clothing contamination events year to date.



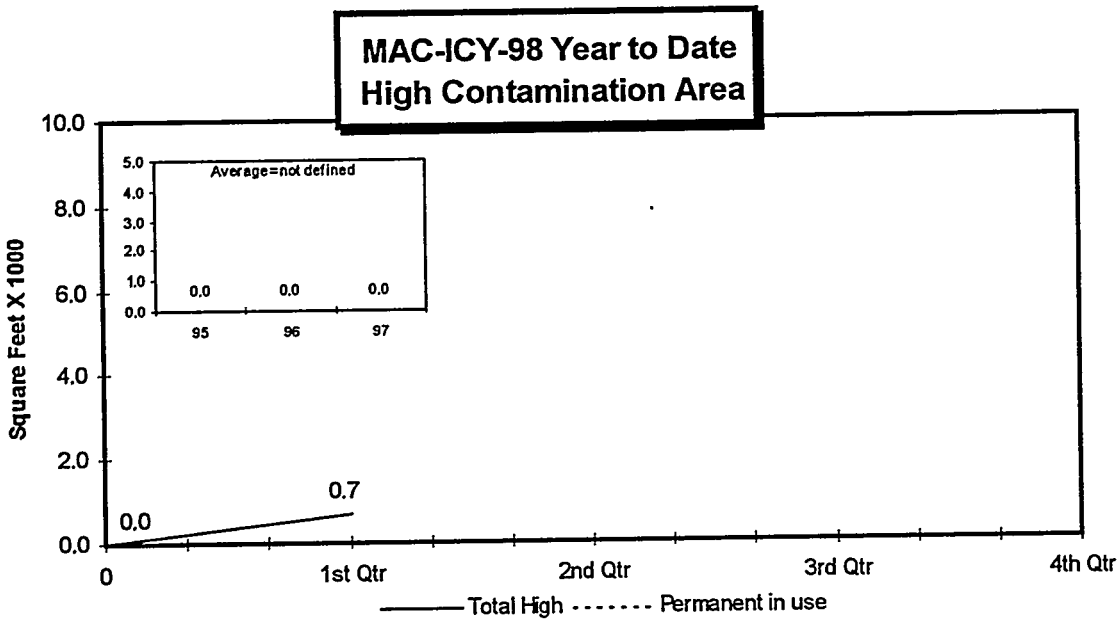
There have been no events greater than 10% DAC year to date.



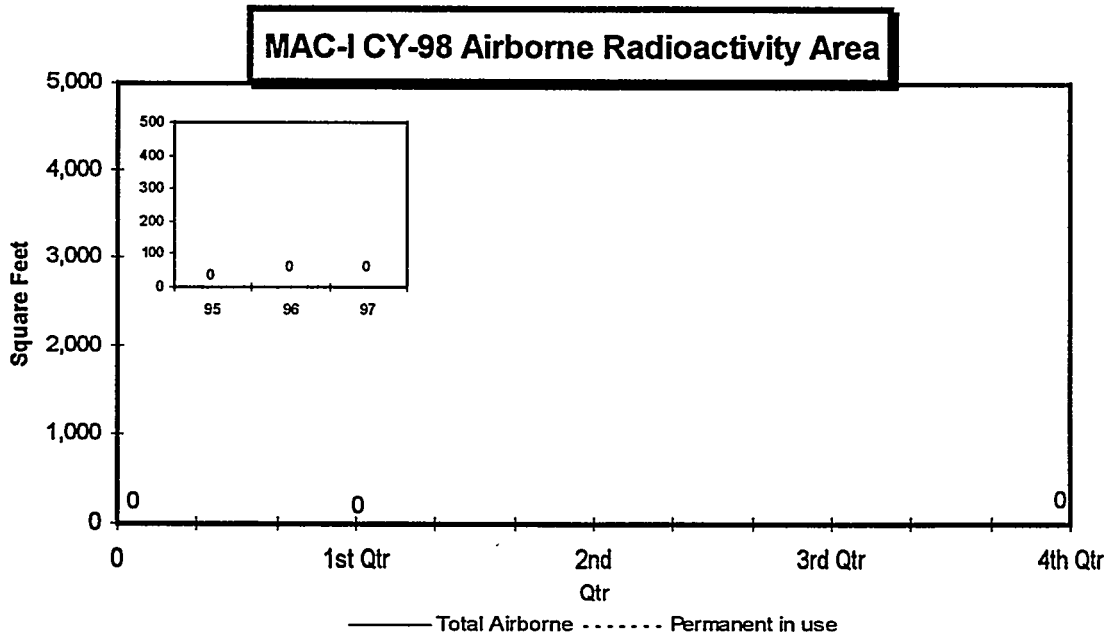
There have been no internal doses confirmed from MAC-I operations year to date.



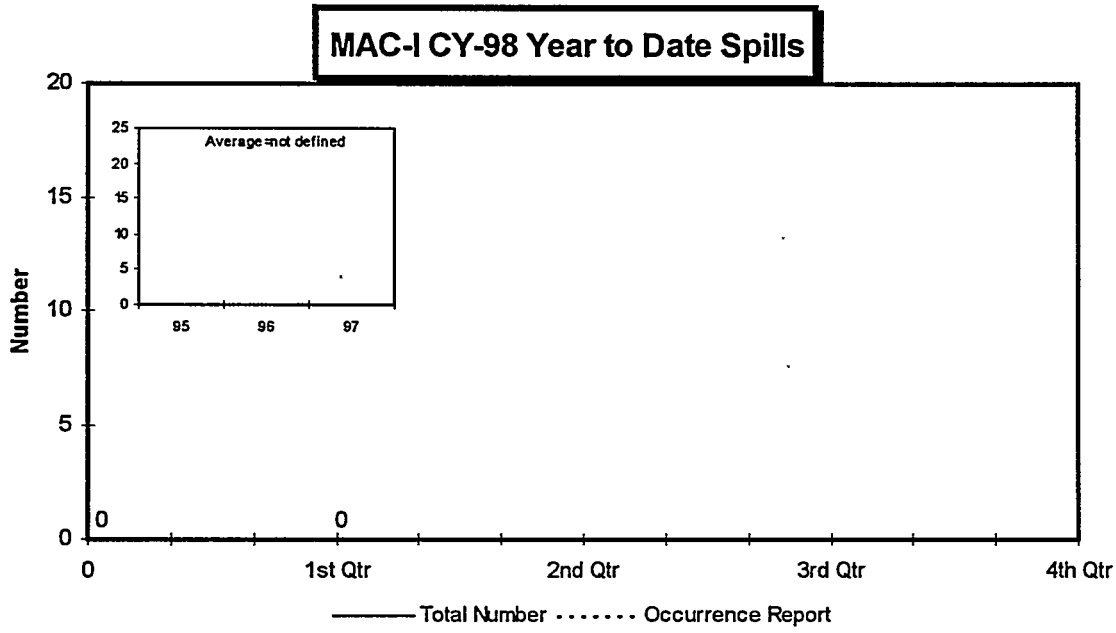
Contamination areas total 834 square feet at the Hot Cell at TRA



Trending data is just being established for MAC-I. Year to date High Contamination is 680 square feet.



There has been no Airborne events year to date at the MAC-I.



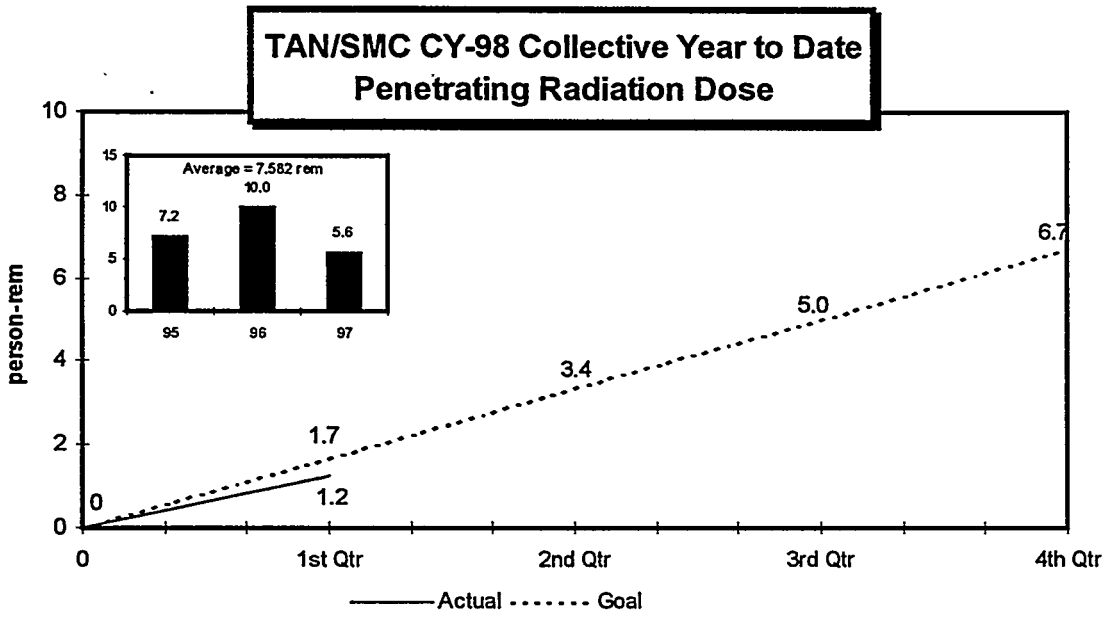
No Spills have occurred at MAC-I year to date.

Test Area North
&
Specific Manufacturing Capability

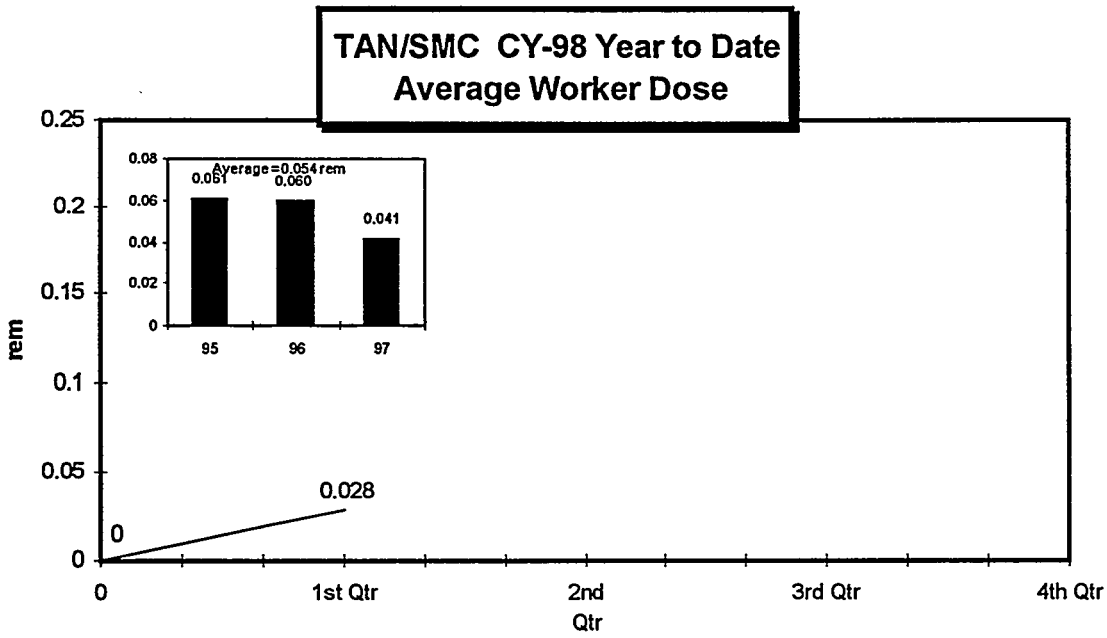
Summary

1. TAN hot shop work, handling repackaging, and shipment of hot waste, cask disassembly, ER remediation activities, and pool cleaning and vacuuming account for dose at TAN Ops. For SMC, routine armor manufacturing and routine activities account for the dose contribution.

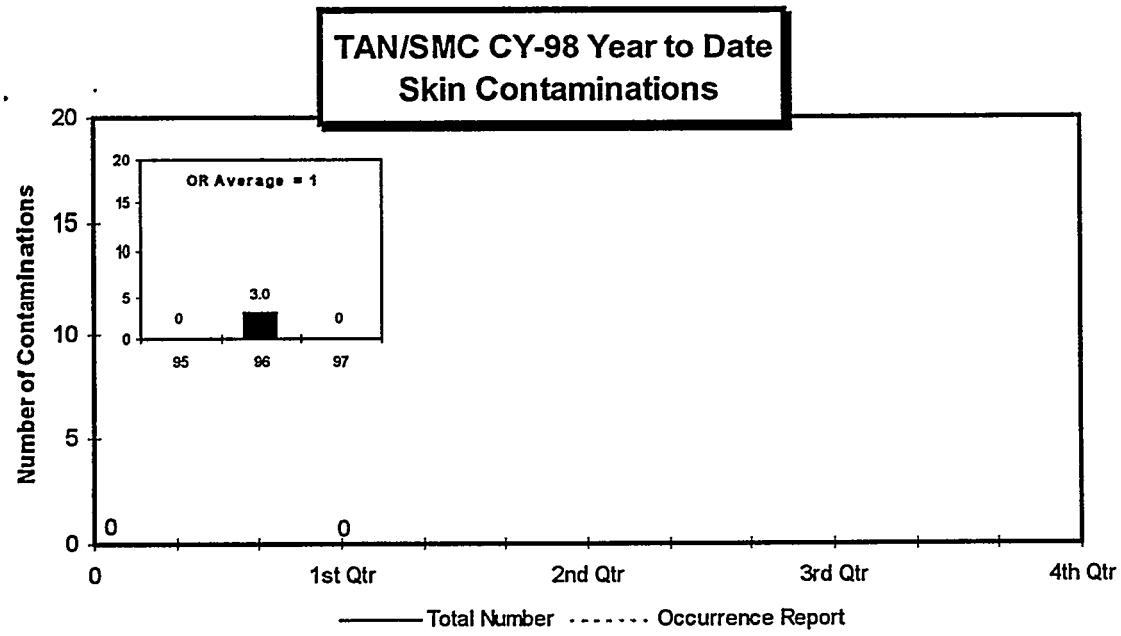
2. One event at TAN 666 created contamination spread resulting in an OR (ID-LITC-TANO-1998-001). One of the tanks had a back-flow problem causing liquid to come up through floor drains.



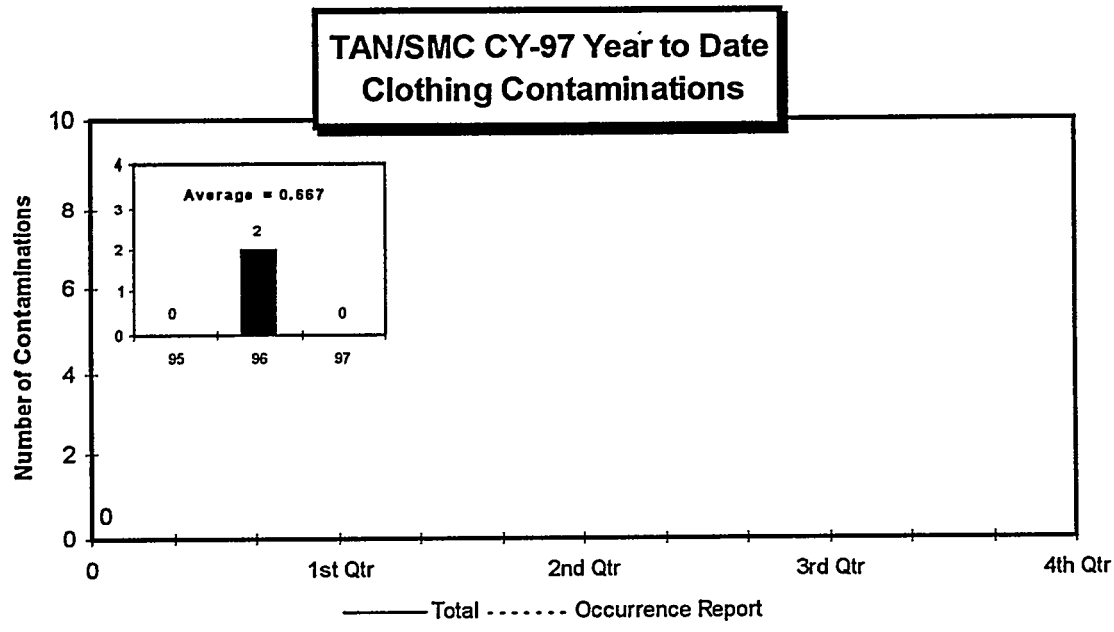
TAN and SMC collective penetrating radiation dose through the end of the first quarter was 1.244 person-rem. Work scope is consistent with that of past years.



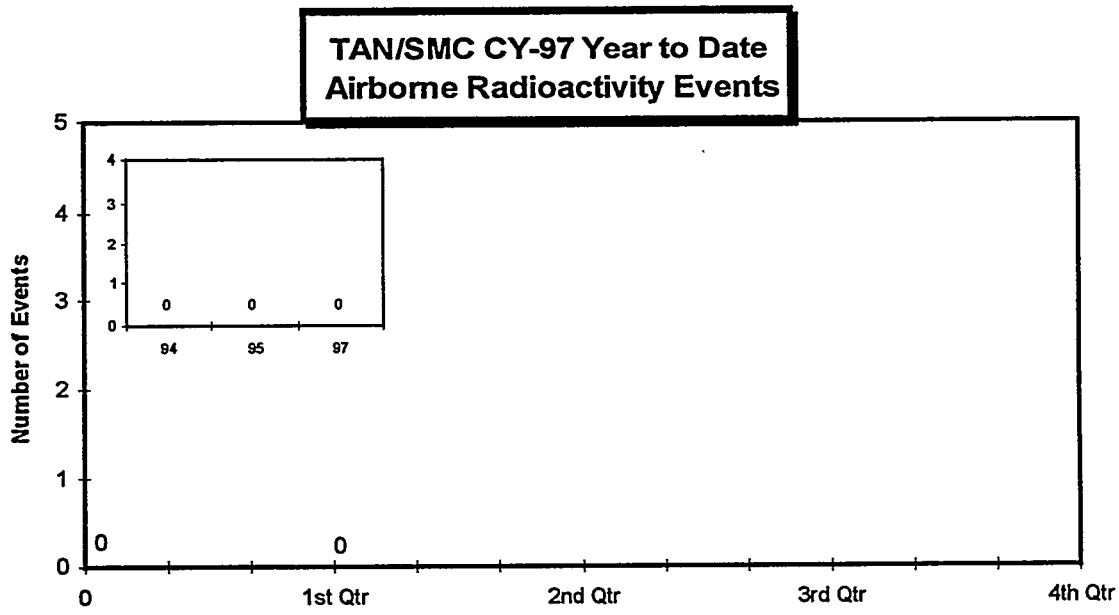
The average worker dose at the TAN/SMC through the end of the first quarter was 0.028 rem based on 44 workers who received dose greater than 10 mrem.



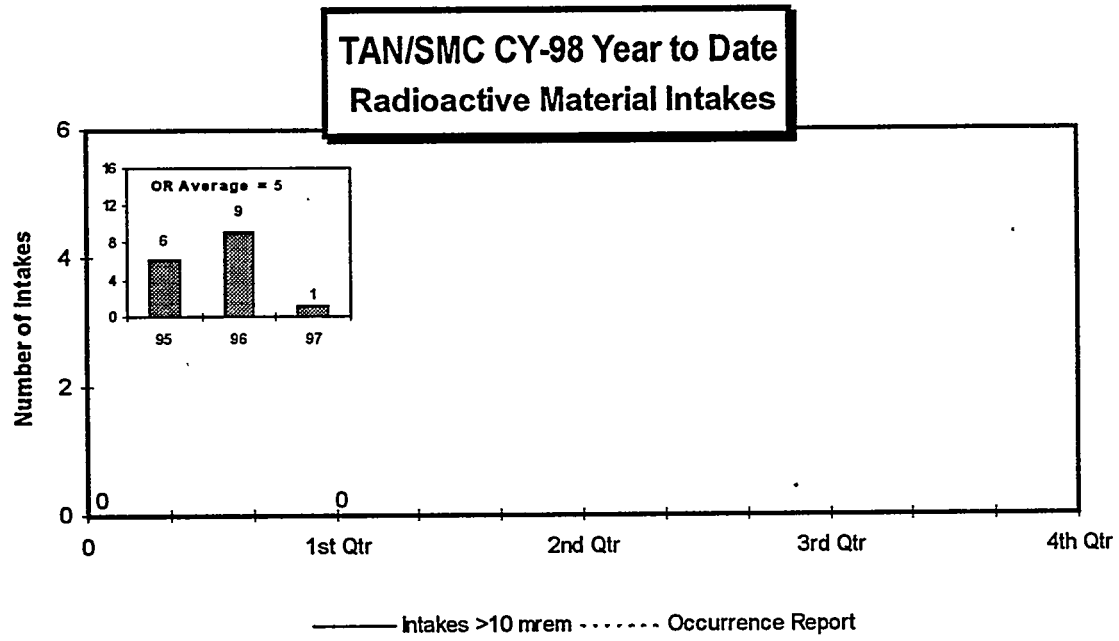
There were no skin contaminations at TAN/SMC during the first quarter. There were no facial or wound contaminations during the quarter.



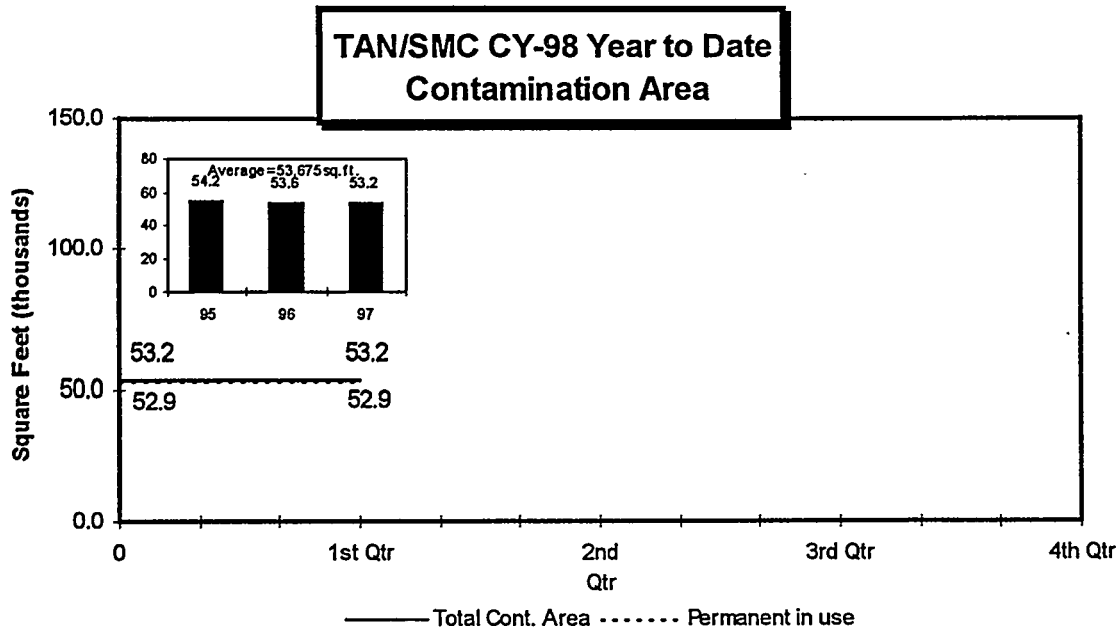
There was no contamination on company clothing that occurred at TAN/SMC during the first quarter.



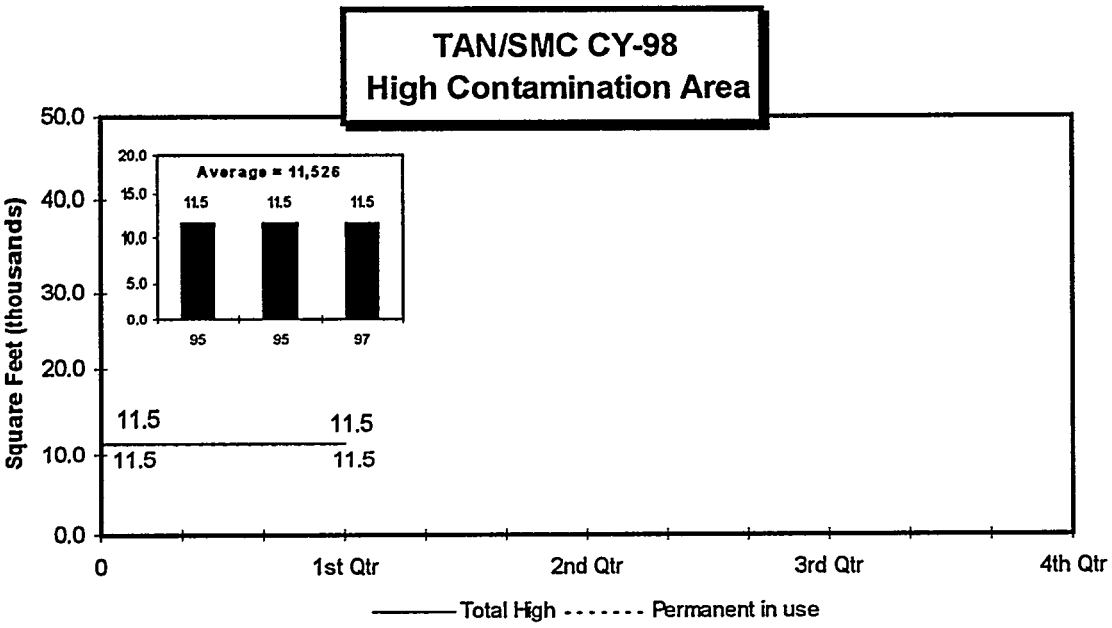
No airborne activity event greater than 10 % DAC was detected at TAN/SMC in areas not posted as Airborne Radioactivity Areas during the first quarter.



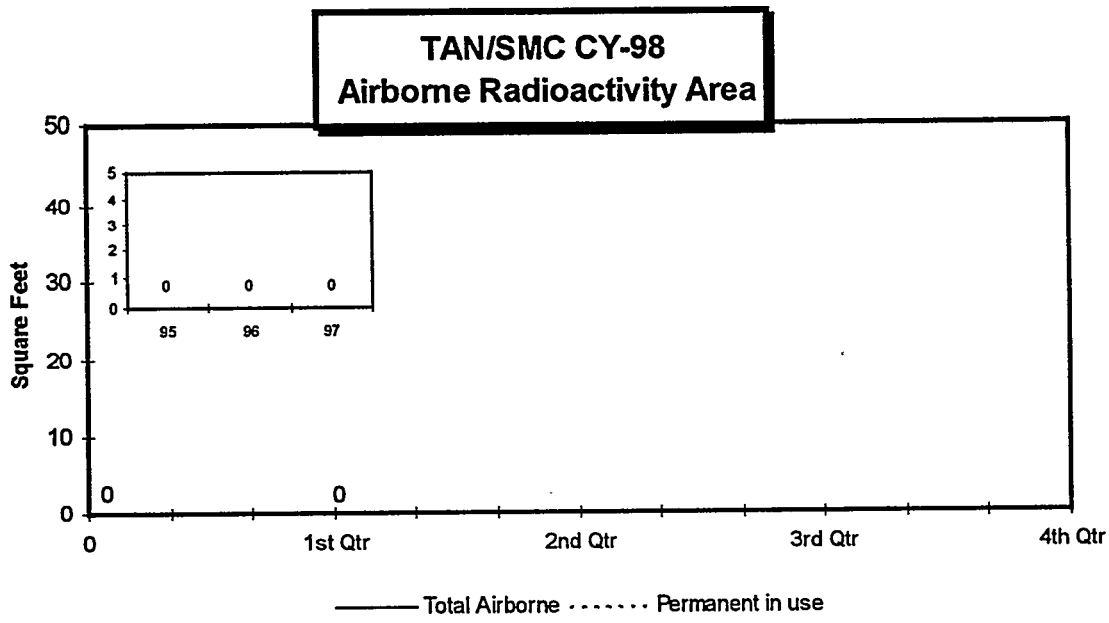
No internal uptakes occurred at TAN/SMC during the first quarter. There are still 22 analyses unresolved at this time.



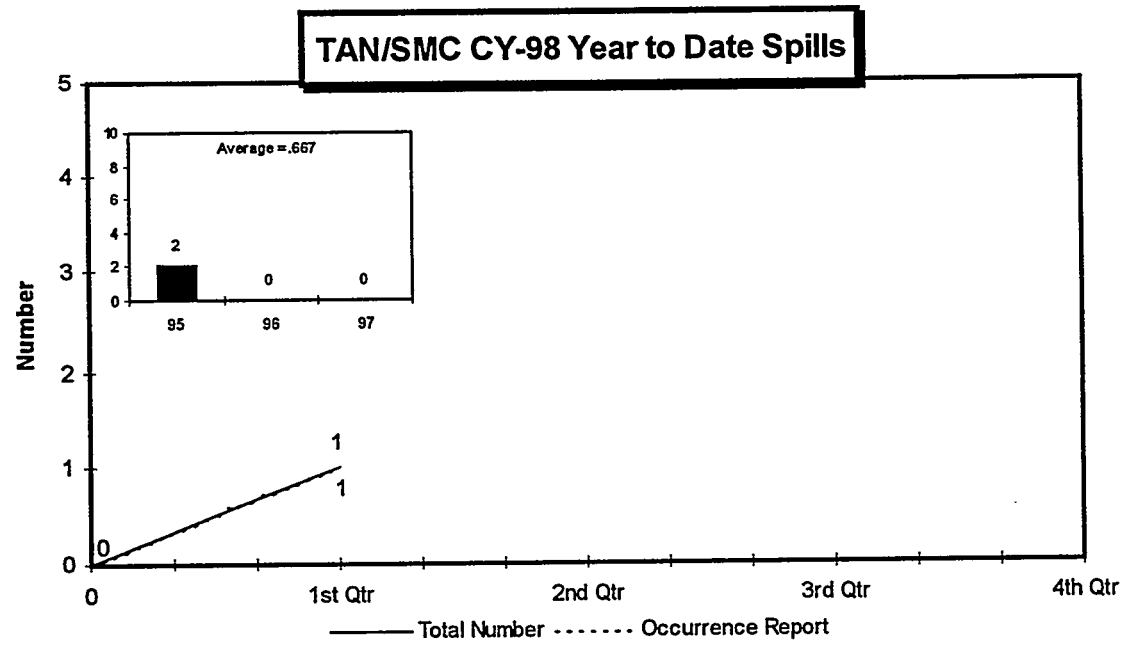
The total Contamination Area at TAN/SMC at the end of the first quarter was 53,226 square feet. 52,926 square feet was designated as permanent and in-use. A 400 square foot area was decontaminated at the SMC during the second quarter.



The total High Contamination Area at TAN/SMC at the end of the first quarter remains constant at 11,526 square feet. All of this area is designated as permanent and in-use.



Total Airborne Radioactivity Area at TAN/SMC remains at zero through the end of the first quarter.



One spill occurred at TAN 666 as a result of back-flow from the number three holding tank up through floor sumps. Decontamination of the area is in progress.