

DRAFT (9/13/04)

UNDER SECRETARY SAFETY MEETING
ENERGY, SCIENCE AND ENVIRONMENT

OCTOBER 5, 2004
2 PM TO 4 PM
ROOM XXXX FORRESTAL

Acting Under Secretary Garman Remarks

10 minutes	EH: Corporate Cross Cutting Issues, Trends	John Shaw
20 minutes	Type A Investigation Results Hanford	Ted Wyka
20 minutes	Type A Investigation Results Savannah River	Ray Hardwick
10 minutes	ESE Corporate Response to the Fatalities	All
10 minutes	EM Safety Issues, Trends or Management Concerns	Paul Golan
10 minutes	SC Issues, Trends, Management Concerns	Ray Orbach
10 minutes	NE Issues, Trends, Management Concerns	Bill Magwood
10 minutes	FE Issues, Trends, Management Concerns	Mark Maddox
10 minutes	RW Issues, Trends, Management Concerns	Margaret Chu
10 minutes	EE Issues, Trends, Management Concerns	Doug Faulkner
10 minutes	Legacy Waste Issues, Management Concerns	Mike Owen

Closing Remarks – Next Steps

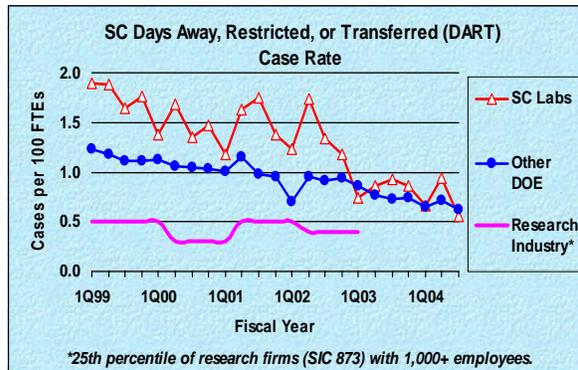
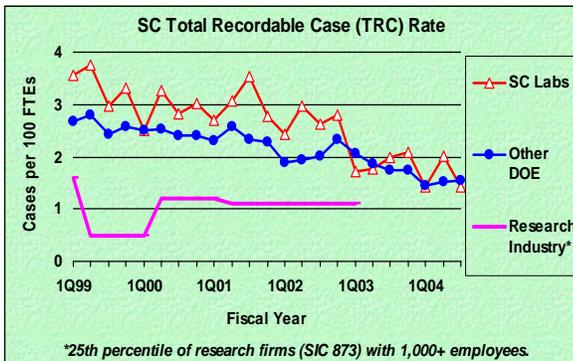
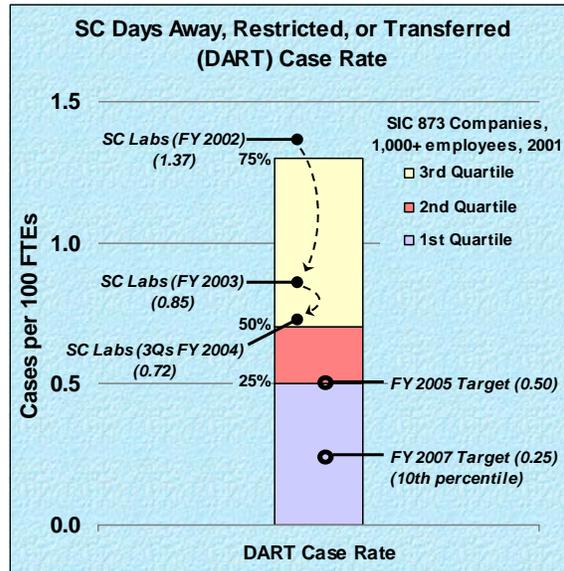
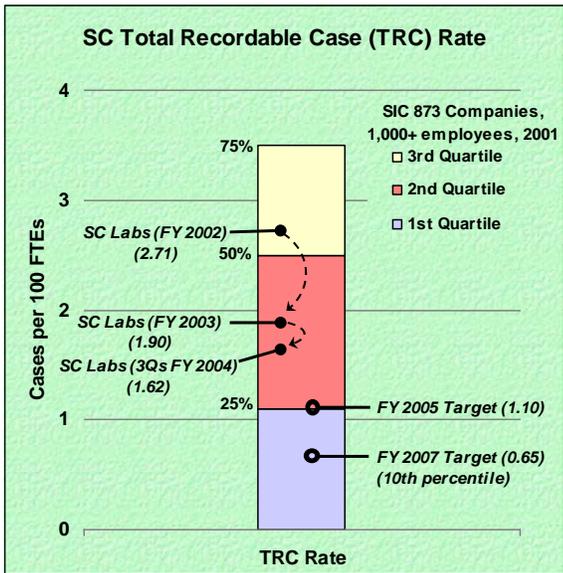
Office of Science Corporate Complex Quarterly Safety Report Summary September 2004

1. Status on PSO ES&H Goals and Site Measures:

- SC has set performance measures for injury rate reduction to Best in Class based on Bureau of Labor Statistics data on Standard Industrial Classification (SIC) Code #873 for Research and Development (R&D) Institutions. To be Best in Class, SC expects all labs to perform within the top 10th percentile of R&D institutions.
- FY 2005 Interim Goals: Laboratories achieve 25 Percentile: DART = 0.5, TRC = 1.1
- FY 2007 Goals: Laboratories achieve 10 Percentile: DART = 0.25, TRC = 0.65

2. Significant Positive or Negative Trends:

- Injury rate reduction trend (TRC and LWC): Our injury rate reductions are going down, but not sharply enough to meet our FY 2005 goals. The rates through FY 2004 have dropped about 15 percent, but are about 10 percent above the progress point for FY 2004. To reach the FY 2005 interim goals, the SC Laboratories need to reduce about 30 percent from their current FY 2004 rates.
- Laboratory Specific Injury Rate Reduction Performance
 - Labs that have significantly improved their performance and making excellent progress towards achieving their goals in FY 2005: FNAL and LBNL.
 - Labs that demonstrate improvement and are on track to achieve their goals in FY2005: Ames, ANL, ORNL, PPPL, and PNNL.
 - Labs that are not demonstrating improvement in performance: BNL, SLAC, and TJNAF.



3. Major Issues (safety or operational with safety implications):

- High Flux Isotope Reactor (HFIR) at ORNL:
 - DOE found potential inadequacy safety analysis (PISA).
 - These concerns had originally been determined not to be PISAs by the ORNL Research Reactor Division. ORNL Research Reactor Division has accepted these issues as PISAs and is in the process of resolving them using the unreviewed safety question process with the ORNL Site office and NE.
 - This did impact the restart of the HFIR.

4. Initiatives to Improve Performance (e.g., management, contracts, best practices)

- SC restructured itself using the OneSC philosophy which fully integrates Headquarters and Site Office management; that is, we act as one. The organization is now focused on performance based management and setting goals that are Best in Class. Safety is an integral part of our safety management structure; with safety fully integrated into our research and operations. SC accepts full responsibility for implementation of ES&H policies at the laboratories. SC Program Associate Directors (ADs) are involved in safety and operational elements of their work. ADs can and have impacted funding to scientists with poor safety records and have held meetings with lab scientists to discuss safe work habits. Site Managers, who are involved in site safety on a day-to-day basis, are now more involved in the programmatic work at the site; and this ensures greater integration of safety.
- The SC approach to safety is performance based. Benchmarks have been set for TRC and DART, as noted above. In addition, management focus is given to events and occurrences that have potential for high impact consequences (e.g., near misses). In particular, high impact safety issues related to electrical safety, hoisting and rigging, and laser safety have been discussed corporately within SC as common issues for the complex.
- Communication is a critical element and discussion at all levels is expected. **On-Site Laboratory Reviews** include an ES&H review of injury rates and interim goals, radiation exposure, environmental spills and enforcement actions, and hazardous waste generation. At every **Laboratory Directors' Meetings**, SC reviews injury rate reduction progress and the management actions each SC Laboratory is taking. **Direct and early communication by Site Office Managers and Lab Directors** to SC-1 regarding accidents and occurrences is required and results in discussion of causes, actions to be taken, and accountability. At **Weekly Senior Staff Meetings** every Site Office reports on occurrences and injuries to help share lessons learned. Consequences to individuals and management are firm and discussed with SC-1 and actions have included disciplinary actions, firing of employees and/or subcontractors, and research program funds have been impacted.
- As a result of the recent OSHA Audits SC Laboratories have been directed to implement corrective actions for the OSHA audit findings that generated 15,000+ violations. Progress toward completion is tracked quarterly.
- SC has issued formal lessons learned related to Vehicle Safety, Hoisting and Rigging and Electrical Safety. These lessons-learned memos require plans, actions and follow-up.
- SC is examining the Laboratory Appraisal Process and initiating contract reform measures. SC is developing a consistent set of performance measures that will apply to all SC Laboratories.
- SC is initiating SC ES&H Televideo Workshops starting in October and planning a spring SC Safety Summit Workshop to discuss SC ES&H corporate issues, share lessons learned, and enhance communication among SC Laboratories.

Garman Agenda Items/Issues

1. Corporate Cross Cutting Safety Issues and Trends as presented by Frank Russo, EH (Office of Science Corporate Activities Related to Issues and Trends)

- **Improve Operating Experience to prevent accidents**

The Office of Science is exploring ways to identify trends and develop a lessons learned network within the SC complex to share operating experiences to prevent accidents.

- **Major Operational Weaknesses are Dropped Loads and Electrical Safety**

- **Electrical Safety**

The Office of Science issued in May 2004, a request to the field to take a critical look at their operations and apply lessons learned to improve performance and their physical condition by correcting the electrical safety hazards identified by OSHA. Expectations have been set that the laboratories electrical safety performance will improve significantly by May 2005. Site specific electrical safety plans have been submitted by all SC laboratories. We have reviewed these plans, and found that most laboratories missed the opportunity to look outside their organizations for lessons learned. We will be conducting follow-up communications with the individual laboratories to address specific questions related to the electrical safety plans.

- **Hoisting and Rigging**

The Office of Science has experienced an increase in hoisting and rigging incidents in the first half of 2004. On July 19, 2004, SC Headquarters sent a Hoisting and Rigging lessons learned to the SC complex asking the laboratories and site offices to review their contracts for adequate hoisting and rigging requirements, review lessons learned documents, apply them to their operations, and report their findings to SC headquarters (SC-3) by September 20, 2004.

- **Subcontractor Safety**

No specific corporate actions at this time.

Emerging Issues

- **Shipping Quality Assurance**

Since April 2004, there have been 19 events related to shipments of waste and materials (Shipping QA). A subset of these events relate to shipping containers and include issues related to leaking containers, external contamination of containers, improper characterization, and lack of markings or incorrect markings on packages. Eight of the nineteen events occurred at SC Sites with ANL, BNL, and SLAC specifically having issues related to shipping containers. EH and EM, who has the lead for the Department for issues related to shipping and packaging, may propose a Department wide effort to focus on these issues.

- **Laser Safety**

The Office of Science has experienced three serious laser injuries in last 18 months:

- Laser eye injuries:

- 3/03 at LBNL on the U. California Berkeley campus
- 9/03 at BNL
- 9/04 at ANL

In response to these events, SC is planning a Televideo meeting for the SC complex on laser safety in November 2004 to review serious SC laser accidents, root causes, where in the experiment cycle to expect laser incidents, and recommended corrective actions.

2. Type A Investigations: Hanford and Savannah River

Note: SC's last fatality occurred at BNL in 1998 as a result of a backhoe running over an employee. Employee was out of sight of driver.

- **7/16/04, Hanford (EM)**
 - An off-site contractor (All Mobile Transport) suffered a fatality while in the process of preparing a recently purchased trailer for movement from the 200 East Area.
 - The exact cause of the fatality is unknown. Workers were not insight of each other.
 - A DOE Type A accident investigation was conducted and was submitted to Fluor Hanford on 8/27/04. Fluor Hanford and DOE-RL are reviewing the report to determine the appropriate actions. The estimated date for the submittal of the final occurrence report is 10/15/04.

- **7/26/04, Savannah River Site (EM, Subcontractor)**
 - A subcontractor equipment vendor employee sustained an injury to the upper right leg while in the process loading a trackhoe onto a lowboy trailer for removal from the Savannah River Site. Employee was out of sight of driver.
 - The injured employee remained conscious and coherent while awaiting emergency transport.
 - He was transported to a local hospital trauma center via ambulance for medical treatment and later died.
 - A WSRC Team investigation into this event is ongoing and DOE is in the process of initiating a Type A accident investigation.

- **Office of Science Actions in Response to Fatalities**
 - SC participated in the EM calls and provided the materials to the Site Office Managers on the lessons learned.
 - Site Office Managers shared this material in discussions with their labs and ES&H staff, as appropriate.
 - Of particular concern and interest was effort toward improving safety communication and oversight of subcontractors and sub-sub tiers and paying closer attention to the vendors and distributors that tend to come on site to make deliveries and pick things up.

Other Fatalities within the DOE Complex 2004

- 6/10/04, LANL, NA - National Nuclear Security Administration, Apparent heart attack fatality at DOE Leased Facility during Lunchtime Basketball Game.
- 6/18/04, FE – Fossil Energy, A fatal Accident Occurred to an Elevator Technician During Elevator Repairs. Building is not DOE or GSA controlled building, and the elevator technician was a subcontractor to the building owner.
- 6/7/04, Western Area Power Administration (WAPA), Construction Contractor Electrical Accident at Double-Circuit Structure 38/1, Watertown-Granite Falls 230-KV Transmission Line, South Dakota.

Message from Assistant Secretary Shaw

After five years without a fatality, the Department recently suffered the loss of four workers, one in the second quarter (WAPA) and three in the third quarter (RL, SRS, and BPA). Ray Hardwick and Ted Wyka will present the results of their investigations into these tragic events today. We continue to see daily occurrences we must learn from in order to prevent serious injuries and fatalities in the future. My analysts tell me since April 1 through today, there were 51 occurrences where only luck prevented a fatality or very serious injury from occurring. Accordingly, I believe that we need to strengthen the Department's Operating Experience Program to ensure managers and workers at all levels learn from these Type A accidents and other daily adverse occurrences to prevent future harm to workers. The DNFSB 2004-1 Implementation Plan will have an action to accomplish this.

I believe this forum is very important to: 1) exchange safety and health information among our most senior managers, and 2) to be proactive and be a "learning organization" [ref: Columbia and Davis Besse accidents]. David Garman has "raised the bar" for these meetings and should better hone our discussion and collective actions to address the most significant trends and related policy matters. Follow-up to these meetings is very important and EH is available to help you any way possible. I want you and your staff to feel free to contact me and other managers in EH for assistance.

Frank Russo from my Office of Corporate Performance Assessment will discuss significant cross-cutting safety issues facing us today.

Deputy Assistant Secretary Frank Russo

The cross-cutting issues are:

- Near miss events and major operational weaknesses
- Electrical Safety
- Subcontractor Safety
- Shipping QA and Laser Safety

NEAR MISSES

Russo:

As Mr. Shaw pointed out, near misses are deserving of senior management attention. There were a total of 95 ESE near misses from April 1 through August 31. (74 EM near misses) (21 Other ESE Near Misses - 14 SC, 3 FE, & 4 NE Near Misses)(Compare to 22 NNSA Near Misses)

Major operational weaknesses are:

Dropped Loads (20% of Near Misses) (Hoisting, rigging, cranes, fork lifts...)

- A one-ton hoist fell 12 feet and landed within 5 feet of two employees. (2Q OR)
- A two-ton hoist fell off a monorail, falling within 6 feet of an area normally occupied by workers. (1Q RL)

---Heavy Equipment and rollovers are also a concern to EM---

Electrical Safety (50% of Near Misses) - Inadequate LO/TO, inadequate work packages, lack of verification and validation or walkdowns are primary causes of electrical safety problems.

- An electrician penetrated an energized 480-volt panel from the rear while drilling through drywall; the drill bit penetrated one of the phase conductors, and the motor control center breaker tripped. (2Q SLAC)
- A contractor laborer working a demolition and renovation project in a WWII-era building pierced a rigid metal conduit containing a live 480-volt electrical circuit while cutting concrete with a jackhammer. Pre-job planning did not identify the circuit and the lead engineer did not walk down the as-built drawings to confirm. (2Q BNL)
- Dump truck bed contacted a high voltage line, and the current was so strong that it blew out 3 of 18 tires. (3Q SNL)
- A man lift holding 2 workers cut a 440-volt electrical line and water line as the platform was descending. (3Q RP)
- Electrician cut into a clearly-marked 480-volt electrical conduit with a reciprocating saw. (3Q RFETS)
- A backhoe operator hit an underground 480-volt line after the area had been scanned with ground-penetrating radar that failed to identify the line. (3Q PNNL)

The Department's Electrical Safety Campaign is intended to address electrical issues. We may need a similar effort to address dropped loads.

Status of Electrical Safety

- Secretarial Officers directed their field sites to develop plans and actions to improve performance.
- An Advisory Committee will review these plans collectively to identify and share best practices.
- S2 Memo on Accountability
- EH's preliminary review of the plans indicates that some sites have done a good job evaluating their electrical safety programs and have identified definitive corrective actions and practices. Other sites have merely submitted a plan for a plan.

SUBCONTRACTOR SAFETY (and Subs of Subs)

Russo:

Subcontractors perform a considerable amount of D&D and other hazardous work, yet they are involved in only 17% of all reportable occurrences, including near misses. However, because of the nature of their work, they comprise about 40% of the most serious events. Events show subcontractors performing work using improper PPE and failing to follow procedures and work plans.

However, subcontractor safety is also a prime contractor issue. Adverse occurrences demonstrate the need for better control and oversight of subcontractor work by our prime contractors. This includes improving pre-job planning; identifying and communicating hazards; and ensuring that S&H requirements are flowed down to their subcontractors and their lower-tier subcontractors.

Subcontractor Failures

- A stainless steel mixing tank, loaded onto a dump truck, leaked strontium-contaminated water onto public roads during transit to a landfill. The subcontractor failed to adequately prepare the container (2Q OR)
- Subcontractor was heating surplus sodium shields when liquid sodium leaked out and began reacting with water vapor in the air; attempts to control the reaction were unsuccessful and site personnel were sheltered in place. The subcontractor had failed to analyze all hazards associated with the work. (2Q OR)
- Subcontractor electrician cut clearly flagged energized conduit (3Q RFETS)

Prime Contractor - Inadequate Identification and Communication of Hazards

- "Approved for Construction" drawing on which the construction bid was based did not show a buried communication cable, which a subcontractor hit with a backhoe. (2Q RL)
- Backhoe operator hit a 480-volt line not identified by the prime contractor. (3Q PNNL)

SHIPPING QUALITY ASSURANCE

Russo:

In 1Q 2004, shipping QA problems were evident at RFETS (3 out of 5 occurrences), and a broader shipping QA problem emerged ESE wide in 2Q 2004. (10 events)
Shipping QA, both sending and receiving, is important because it can disrupt mission related work and erode public confidence. We need to pay attention to shipping now to learn our lessons in order to prevent serious mission and safety consequences in the future.

- 2Q - ORNL A stainless steel mixing tank, loaded onto a dump truck, leaked contaminated water onto public roads during transit from the new Hydrofracture Facility to the Environmental Management Waste Management Facility
 - 2Q - SRS 20-ton cask was shipped from SRS to Japan with removable contamination
 - 2Q - BNL A failed gasket on a canister lid allowed radiologically-contaminated water to leak when a SeaLand container was moved by a forklift.
 - 3Q - BNL Radiologically-contaminated brine was found leaking from a truck enroute from BNL to Envirocare in Utah. The driver had stopped in Wyoming, noticed the leak, and contacted authorities. Surveys were taken, the leak was patched, and the shipment was overpacked and sent to Envirocare on a different truck.
 - 3Q - PGD Three transports with SeaLand containers leaked non-contaminated absorbent. Drivers who found the material stopped and made appropriate notifications. Although the material was not contaminated, the news of leaking containers was reported in the press.
 - 3Q - PGD Three containers of flume sludge shipped to a disposal facility were found to have unacceptable levels of free liquid (less than 1 quart per drum) in them and were rejected.
 - 3Q - WIPP 109 drums of TRU waste shipped from INEL were not included in the population available for random sampling, as required. (Frank - relate this to YM)
- Look back:
- 1Q RFETS Site received an NOV from Utah for loose manway cover bolts discovered on two trailers sent to Envirocare.
 - 1Q RFETS Site received an NOV for removable alpha on drums arriving at NTS; the event resulted in suspension of shipping.

RADIOLOGICAL

Russo:

Radiological contaminations and up-takes are more of a problem for NNSA (e.g. TA-55 at LANL) than ESE. We did not see any special events that warranted concern in 2Q. Considering the hazardous work conducted at Hanford, RFETS, and SRS the lack of significant incidents indicates good performance in the radiological protection area.

The worst occurrences were the following:

- 1Q Four uptakes: BNL when three workers opened a drum that contained de-valved tritium bottles and were exposed; ANLE when three researchers had positive nasal contamination - but negative bioassays - incurred while one was preparing a sample; SRS when a worker cut and removed tritiated piping; INEL when a waste drum was discovered and breached.
- 1Q Unexpected exposure at RL: construction workers working in a load-out pit when the suction end of a negative air hose dropped into the water; workers cut off the wet end.
- 2Q 1 uptake, 1 recalculation: BNL where an operator worked without a filter installed in his PAPR; and a re-calculation of a 1993 uptake at Rocky Flats
- 2Q Legacy: Although hair and skin contaminations dropped slightly from 1Q, events involving legacy materials jumped from 17 to 26.
- 3Q 3 uptakes so far: recent event at ORNL when an RCT may have received an uptake; RL when a fissile material handler received an uptake while overbagging hard heavy items in glovebox; SRS when a lab tech spilled an FB-line oxide sample.
- 3Q Exposures at Oak Ridge "Hot Garden": skin and clothing contamination, uptake, contamination of road north of the building
- 3Q FEMP: Cesium source leaked, contaminating an analyst's hands. He didn't believe the Ludlum alarm on exit and left; although his hands still showed contamination the next morning on his return to work, surveys found no contamination of his home.

Under Secretary ESE Quarterly Safety Meeting

October 5, 2004

Frank Russo, Deputy Assistant Secretary
Office of Corporate Performance Assessment
Office of Environment, Safety and Health

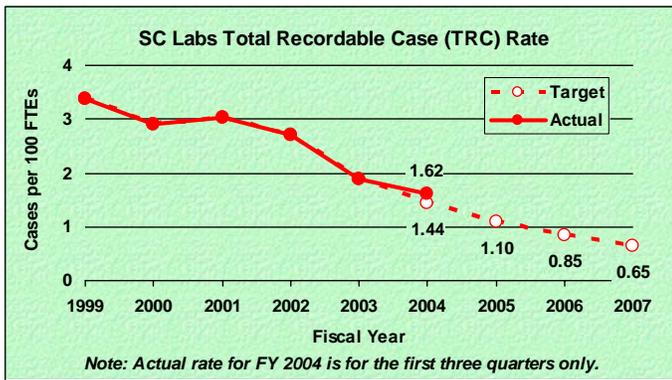
Cross-Cutting Safety Issues

- Need to Improve Use of Operating Experience to Prevent Accidents
- Major Operational Weaknesses are Dropped Loads and Electrical Safety
- Subcontractor Safety
 - Improper PPE, Failure to Follow Procedures and Work Plans
 - Prime Contractors Need to Improve Work Control, Identify and Communicate Hazards, and Ensure Flow Down of Requirements (including the subcontractors to their subcontractors)
- Shipping Quality Assurance and Laser Use are Emerging Issues

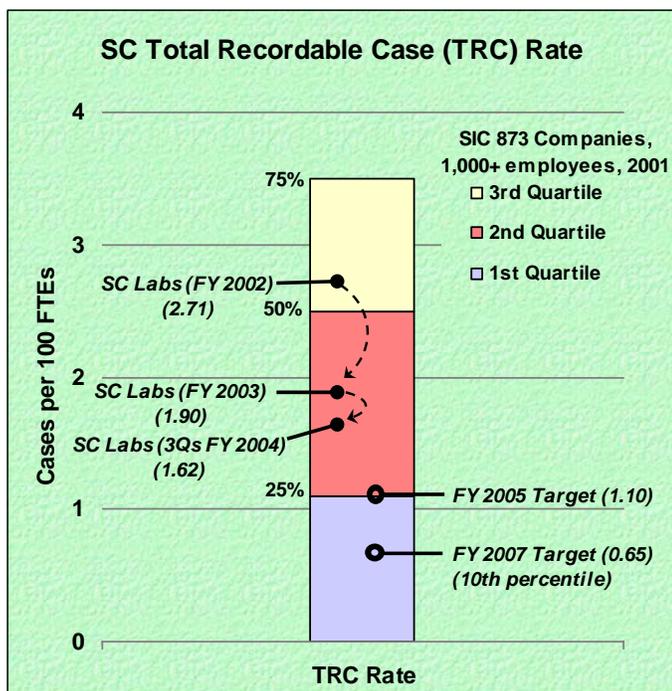
Office of Science Injury Rate Reduction Performance through June 2004

Total Recordable Case (TRC) Rate

- After three quarters, the SC labs are 13 percent above their target for FY 2004.
- The SC TRC rate of decrease was 30 percent in FY 2003 and is 15 percent so far in FY 2004.

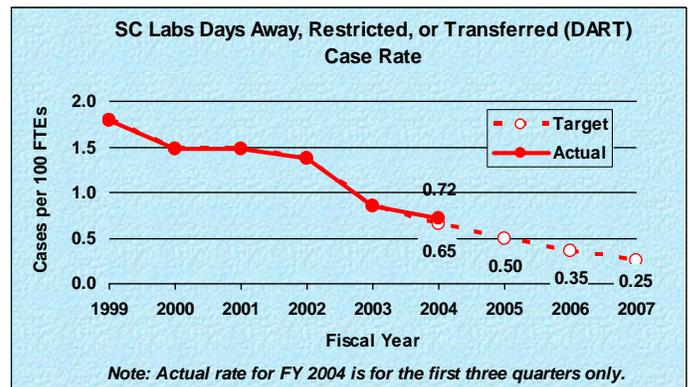


- The SC labs progressed from the 3rd quartile to the 2nd quartile but will need to cut their rate by 32 percent in order to achieve the FY 2005 target.

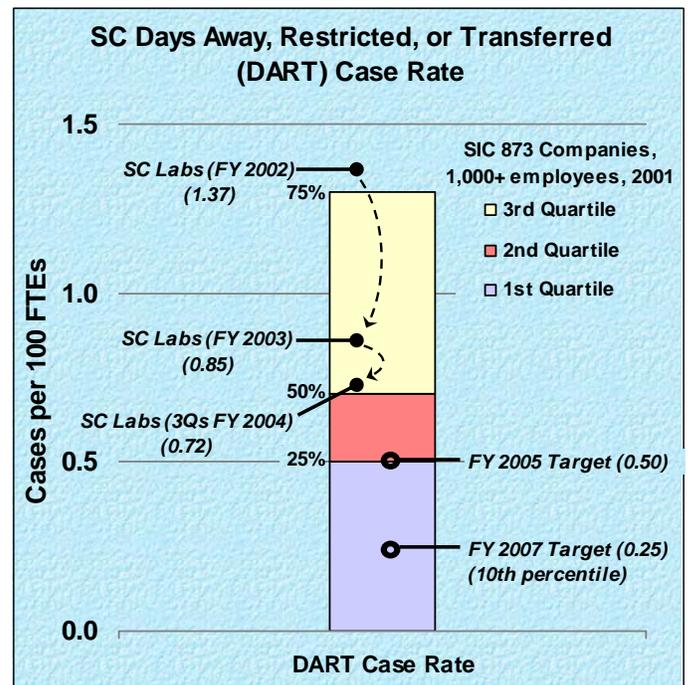


Days Away, Restricted, or Transferred (DART) Case Rate

- After three quarters, the SC labs are 11 percent above their target for FY 2004.
- Their rate of decrease has slowed from 38 percent in FY 2003 to 15 percent so far in FY 2004.



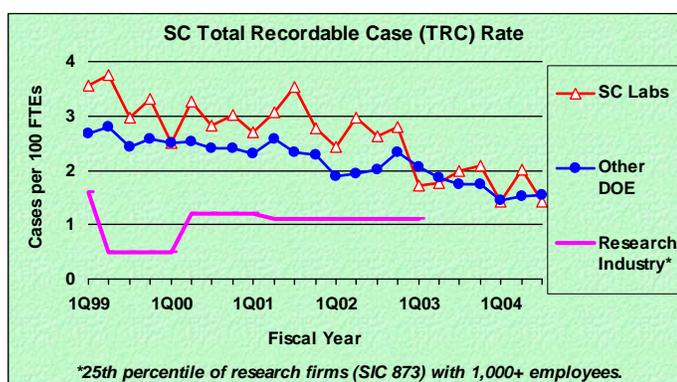
- The SC labs progressed from the 4th quartile to the 3rd quartile but still need to cut their rate by 31 percent in order to achieve the FY 2005 target.



Office of Science Injury Rate Reduction Performance through June 2004, continued

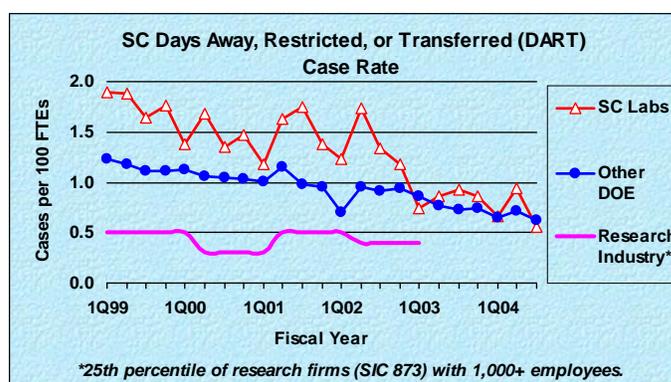
Total Recordable Case (TRC) Rate

- The rate for the quarter ending in June 2004 dropped 29 percent from the previous quarter to 1.42 cases per 100 FTEs, a five-year low.
- After a sharp drop in the quarter ending December 2003, the rate has been fluctuating between 1.4 and 2.1 for the past seven quarters.

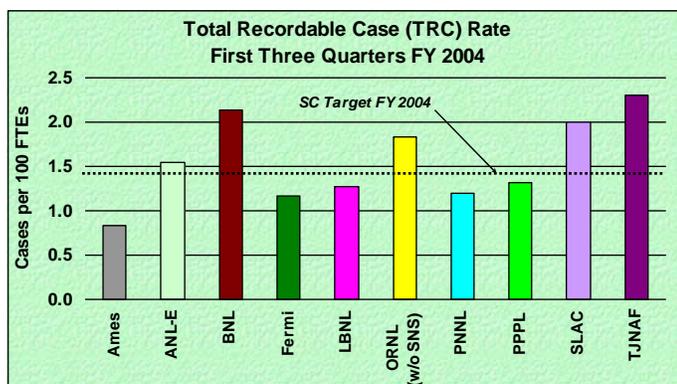


Days Away, Restricted, or Transferred (DART) Case Rate

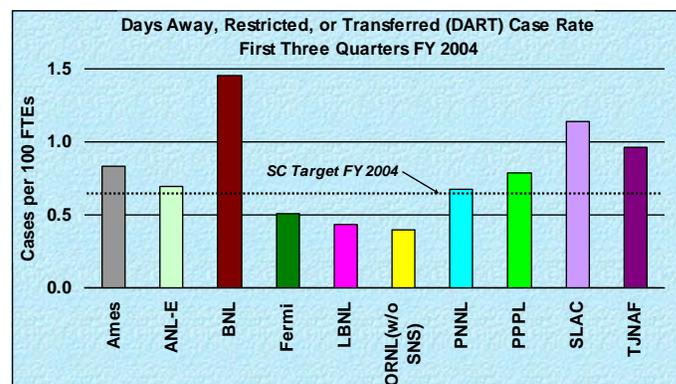
- The rate for the quarter ending in June 2004 dropped 41 percent from the previous quarter to 0.56 cases per 100 FTEs, a five-year low.
- After a sharp drop in the quarter ending December 2003, the rate has been fluctuating between 0.6 and 1.0 for the past seven quarters.



- BNL and ORNL account for one-third of the cases at the SC labs for the first three quarters of FY 2004.



- BNL accounts for 23 percent of the DART cases at the SC labs for the first three quarters of FY 2004.



Laboratory Specific Injury Rate Reduction Performance

- Labs currently achieving more stringent FY2005 rates: FNAL, LBNL, ORNL
- Labs that are on track to achieve injury reduction goals in FY2005: Ames, ANL, PPPL, PNNL
- Labs that are not on track to achieve their FY2005 injury rate goals: BNL, SLAC, TJNAF

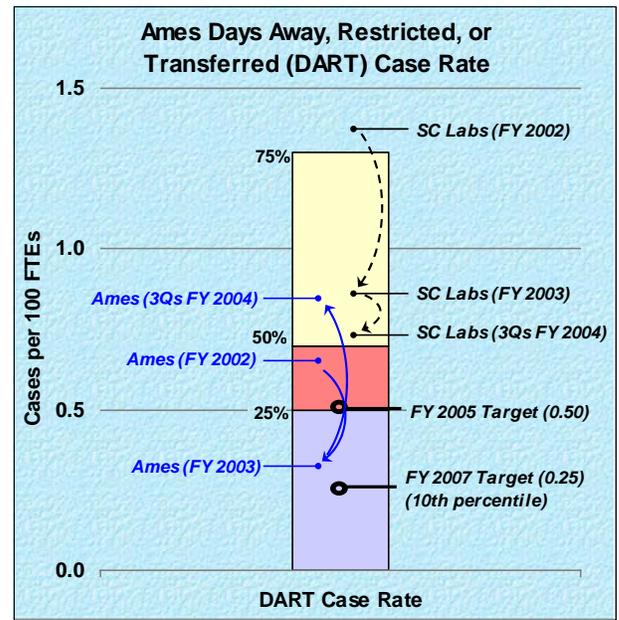
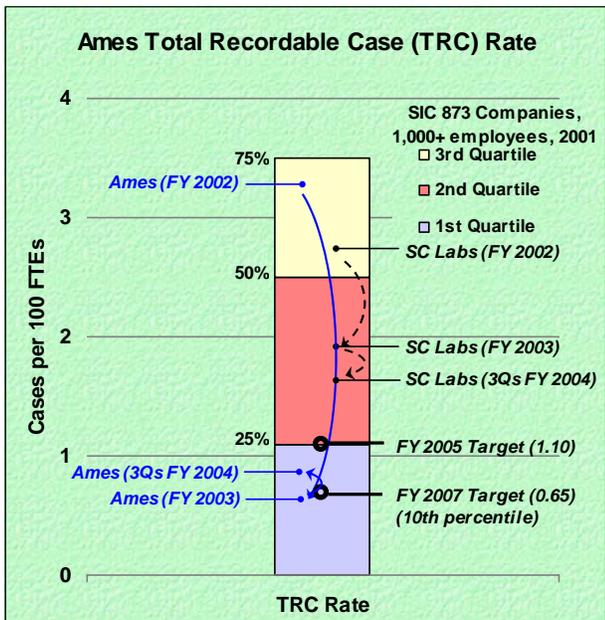
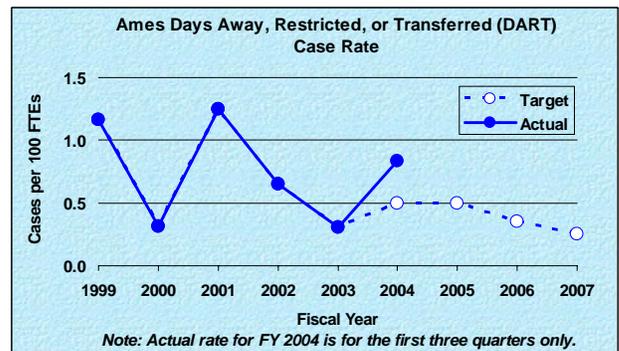
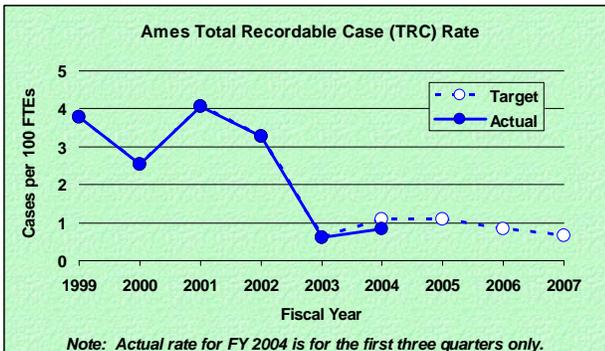
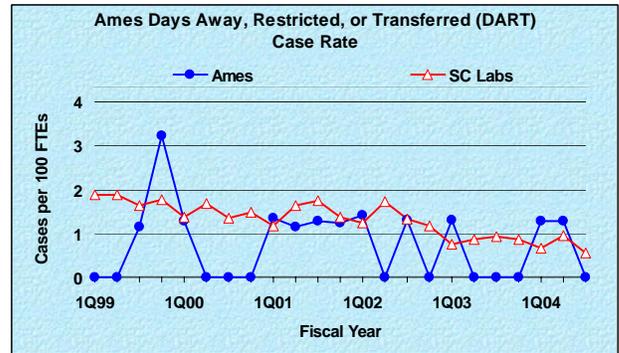
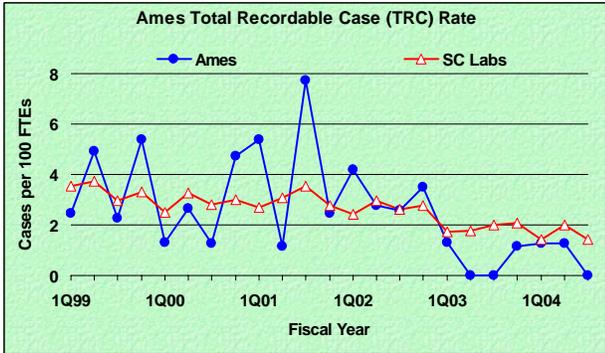
Ames Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- Two recordable cases in the first three quarters of FY 2004 results in a rate that is 25 percent below their target for the year.
- Ames can experience no more than three cases and still meet their target for the year.

Days Away, Restricted, or Transferred (DART) Case Rate

- With two DART cases thus far in FY 2004, Ames cannot meet its target for the year.
- To achieve the FY 2005 goal, Ames can experience no more than one DART case per year.



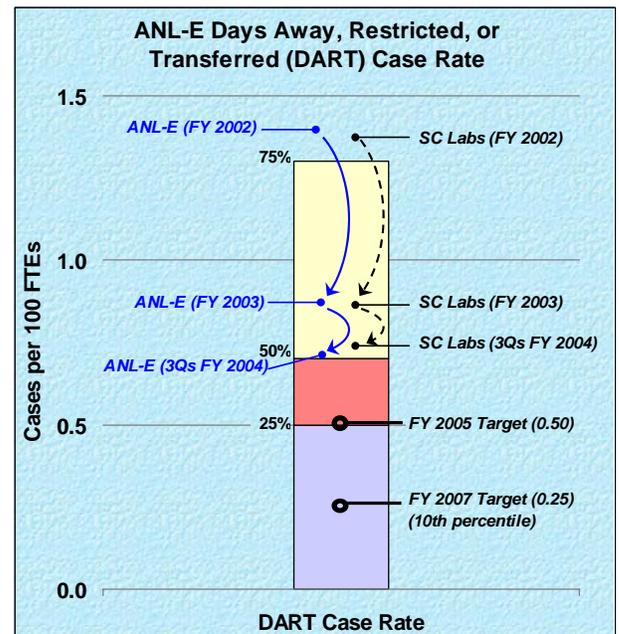
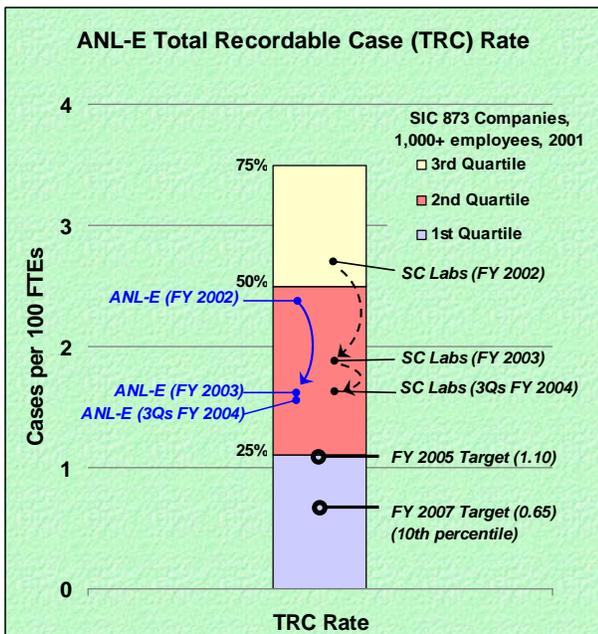
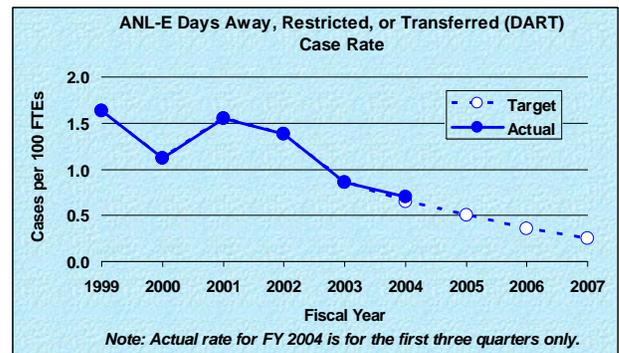
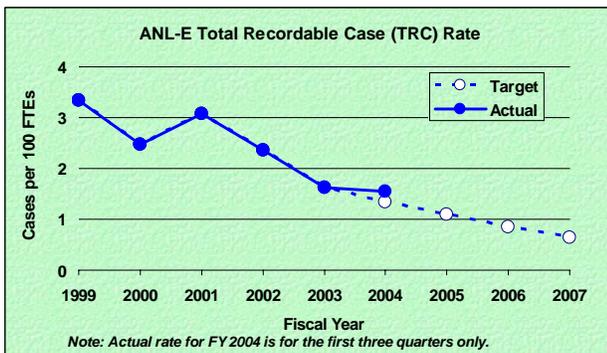
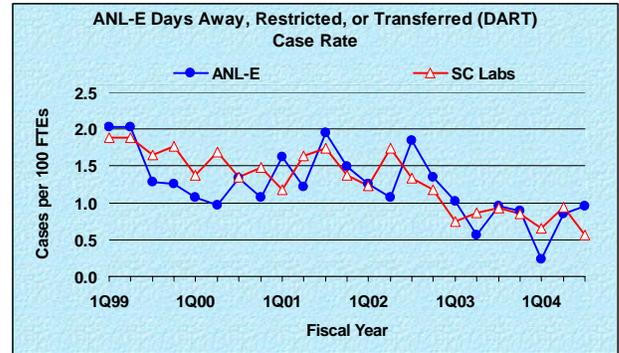
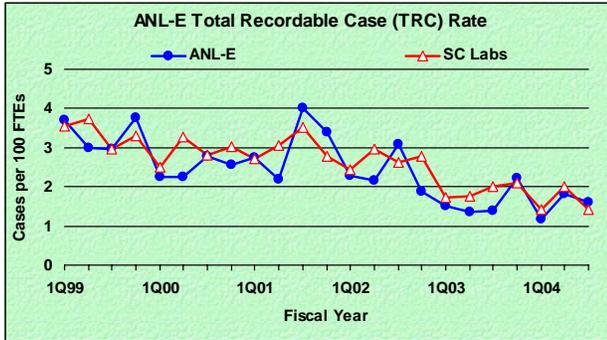
Argonne National Laboratory - East Performance through June 2004

Total Recordable Case (TRC) Rate

- ANL-E's recordable cases in the first three quarters of FY 2004 results in a rate that is 15 percent above their target for the year.
- ANL-E's rate for the first three quarters of FY 2004 is only five percent below their rate in FY 2003.

Days Away, Restricted, or Transferred (DART) Case Rate

- ANL-E's DART cases for the first three quarters of FY 2004 results in a rate that is eight percent above their target for the year.
- ANL-E's rate for the quarter ending in June 2004 is over 70 percent higher than the SC rate for the quarter.



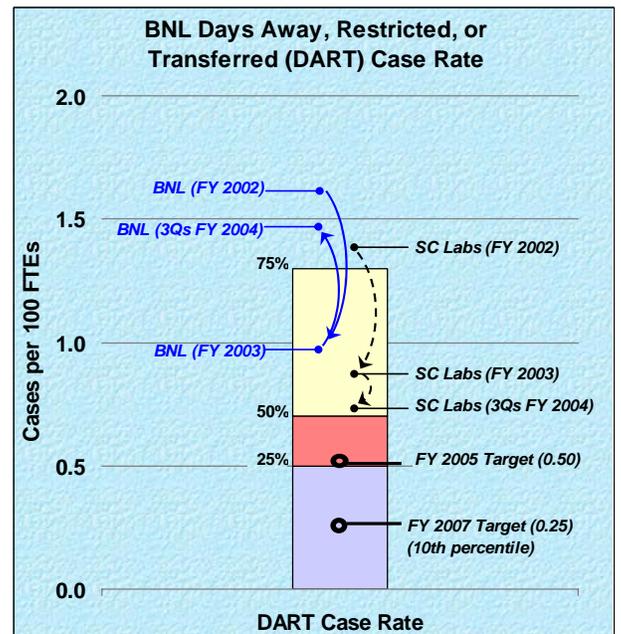
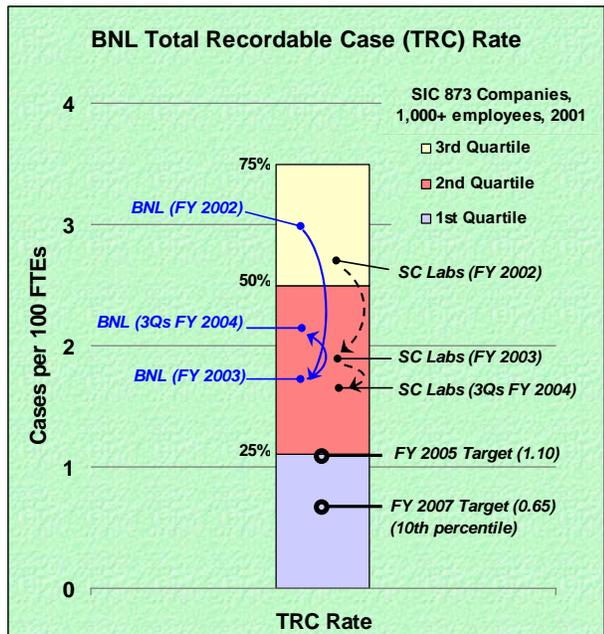
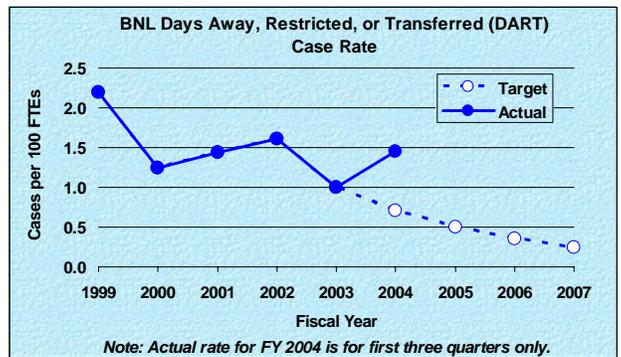
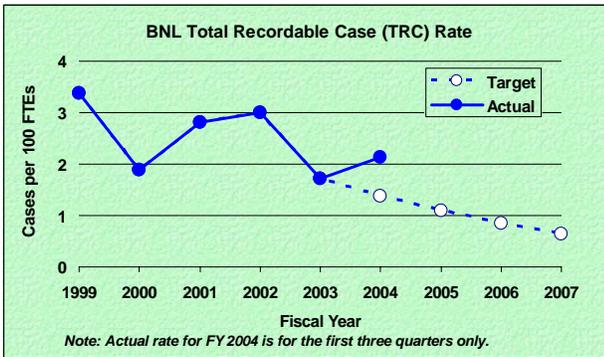
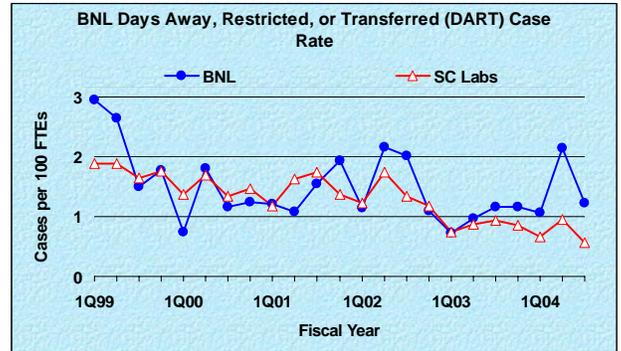
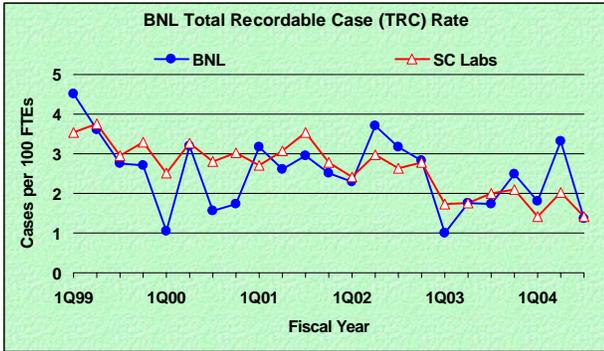
Brookhaven National Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- Even with a sharp drop in recordable cases in the quarter ending June 2004, BNL's rate for the first three quarters of the year is 54 percent above their target for FY 2004.

Days Away, Restricted, or Transferred (DART) Case Rate

- BNL's rate for the first three quarters of FY 2004 is more than twice their target for the year.
- BNL's DART case rate has been above the SC average for the past six quarters.



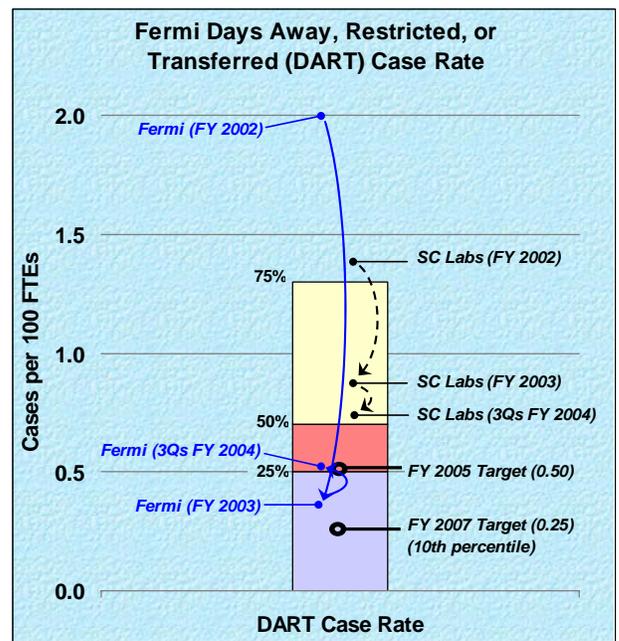
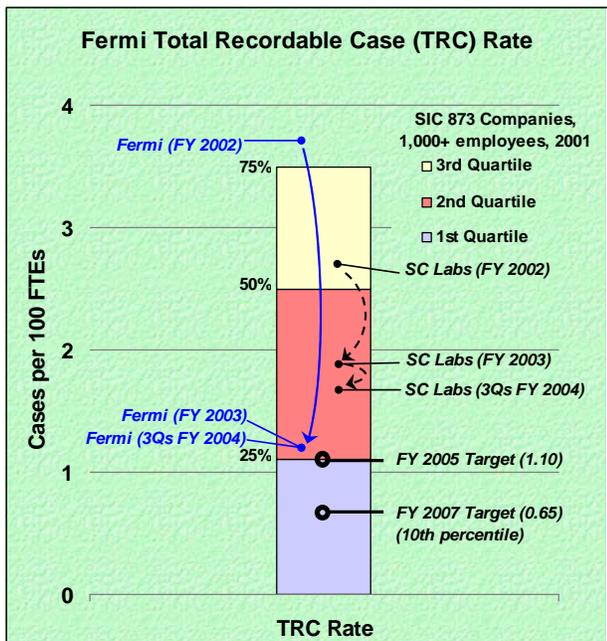
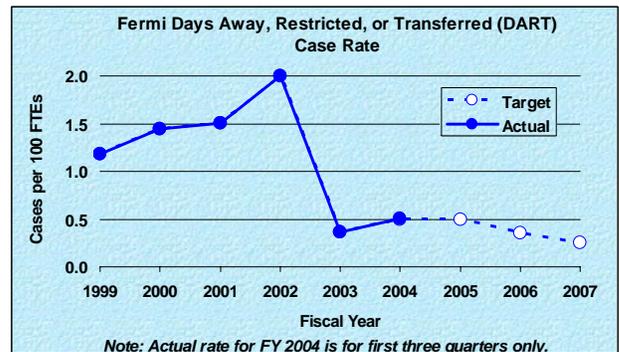
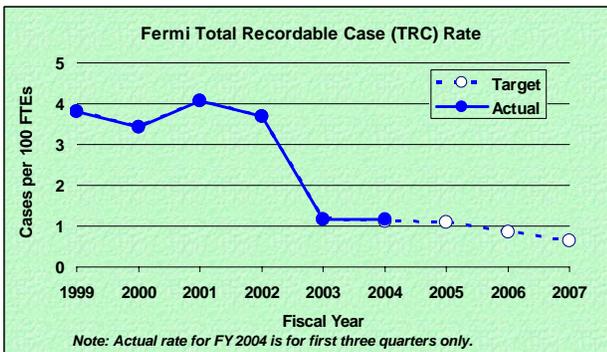
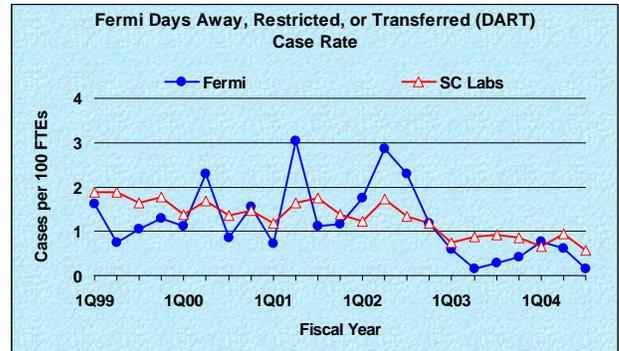
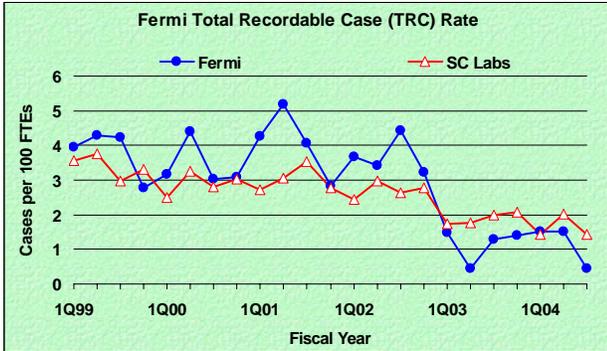
Fermi National Accelerator Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- While not reducing their rate from FY 2003, Fermi is within two percent of their goal for FY 2004.
- Fermi tied a five-year low with only three recordable cases in the quarter ending June 2004.

Days Away, Restricted, or Transferred (DART) Case Rate

- Although 39 percent higher than FY 2003, Fermi is meeting their target for FY 2004.
- Fermi tied a five-year low with only one DART case in June 2004.



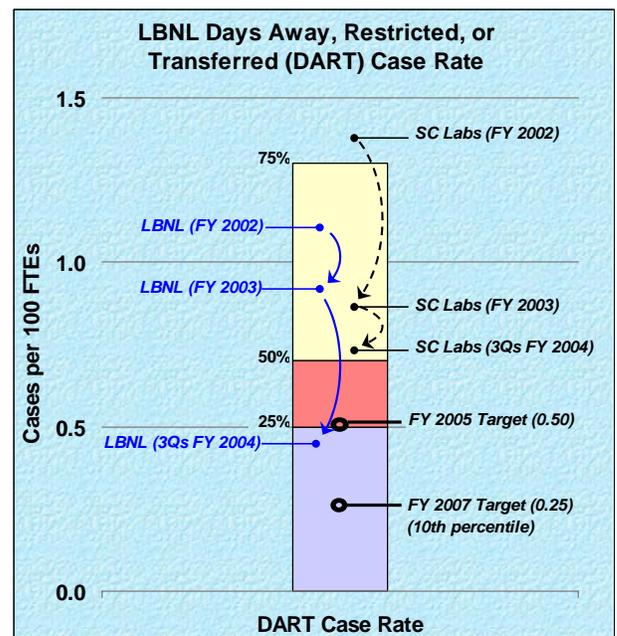
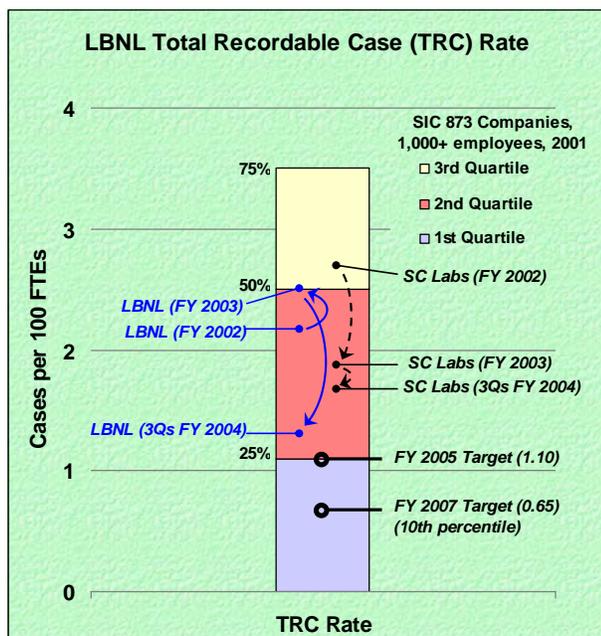
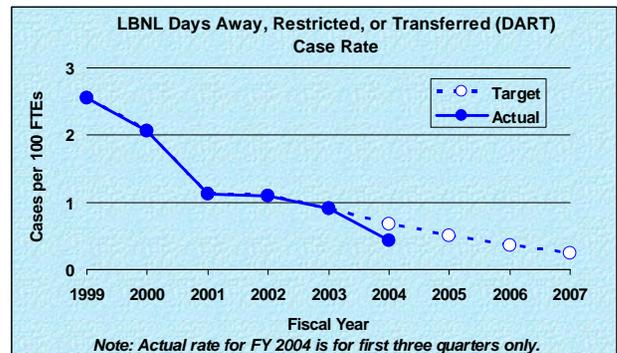
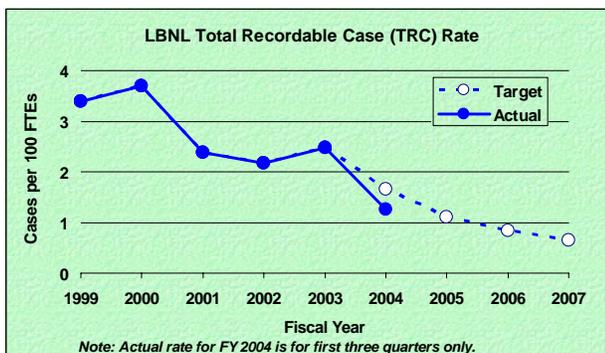
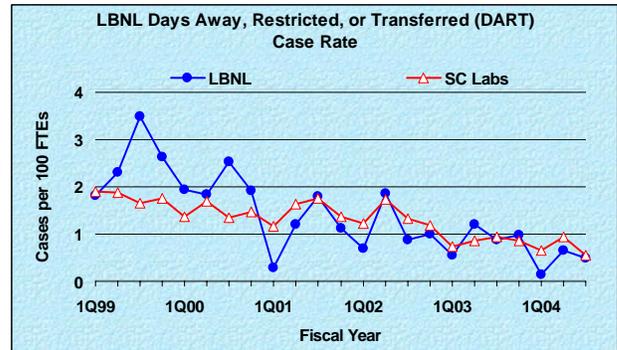
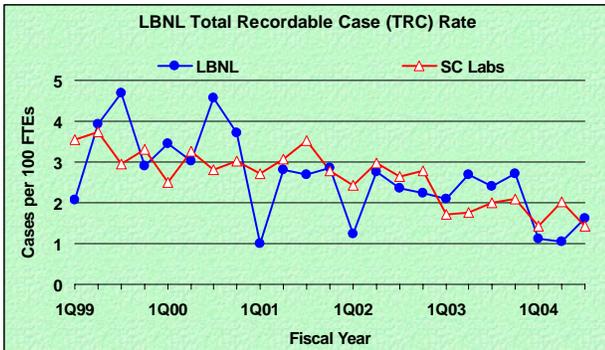
Lawrence Berkeley National Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- LBNL's recordable cases in the first three quarters of FY 2004 results in a rate that is 23 percent below their target for the year.
- Thus far in FY 2004, LBNL's rate is nearly half of what it was in FY 2003.

Days Away, Restricted, or Transferred (DART) Case Rate

- LBNL's DART cases thus far in FY 2004 result in a rate that is 35 percent below their target for the year.
- LBNL's rate is 11 percent lower than the SC rate for the quarter ending in June 2004.



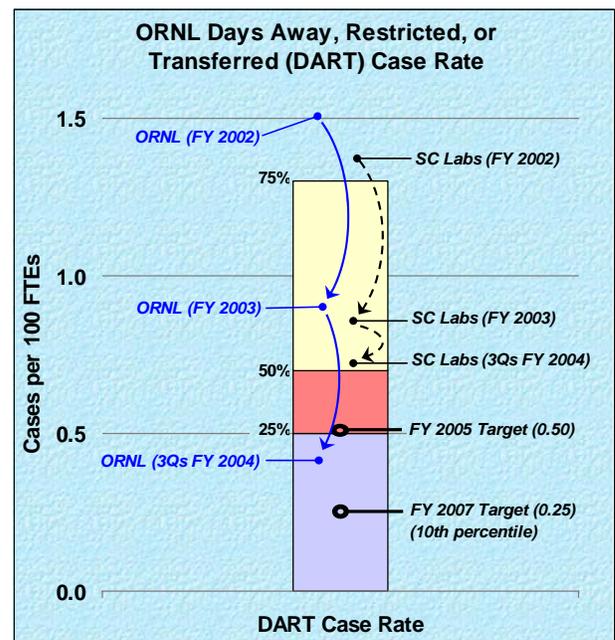
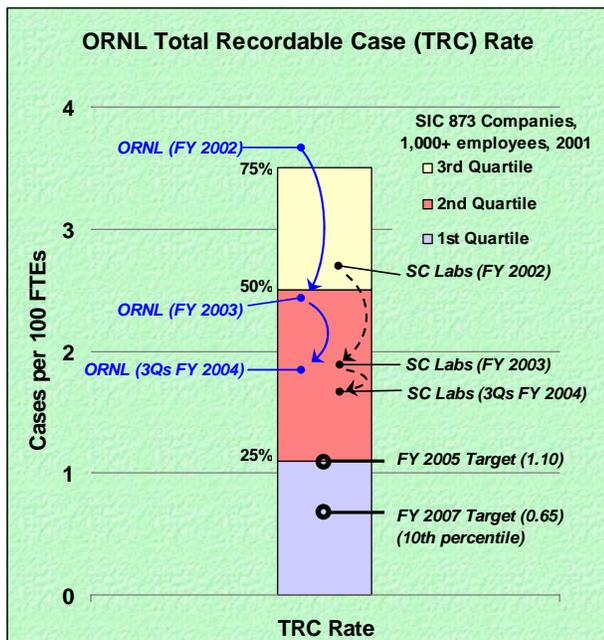
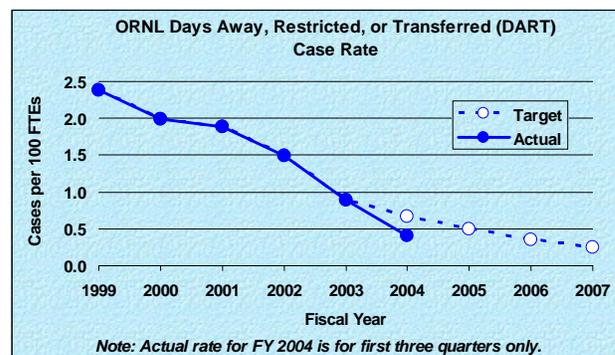
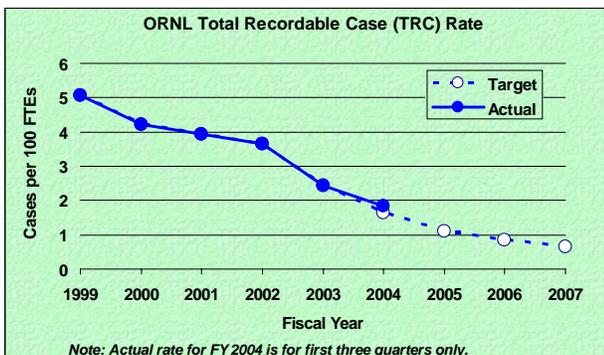
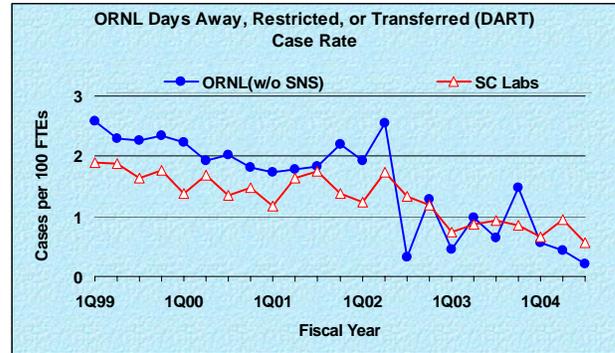
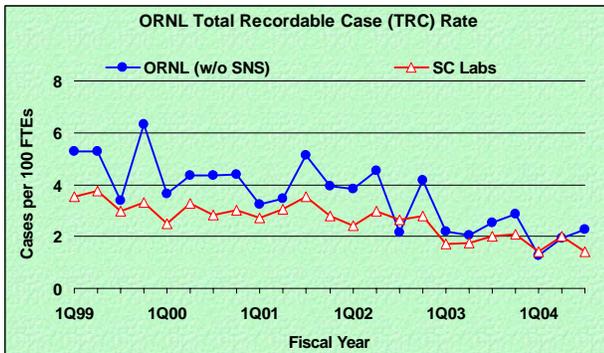
Oak Ridge National Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- ORNL's recordable cases in the first three quarters of FY 2004 results in a rate that is 12 percent above their target for the year.
- ORNL's rate in the quarter ending in June 2004 is 60 percent higher than the rate for all SC labs.

Days Away, Restricted, or Transferred (DART) Case Rate

- ORNL's DART cases thus far in FY 2004 result in a rate that is 40 percent below their target for the year.
- This quarter marks the third quarter that ORNL's DART rate has been below the rate for all SC labs.



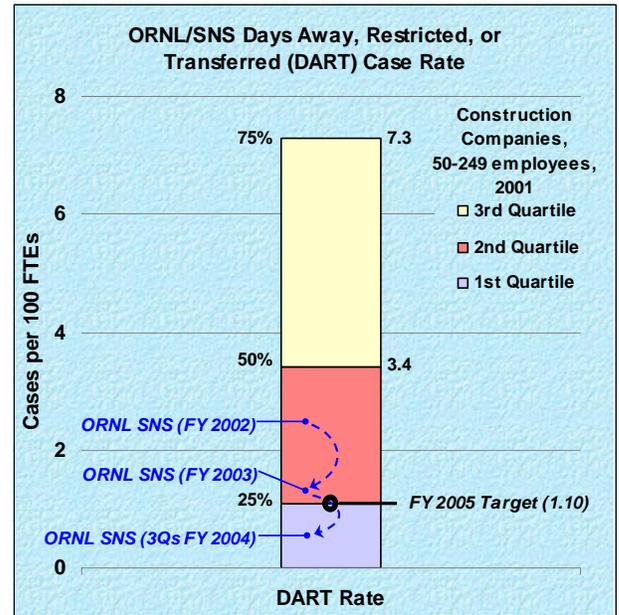
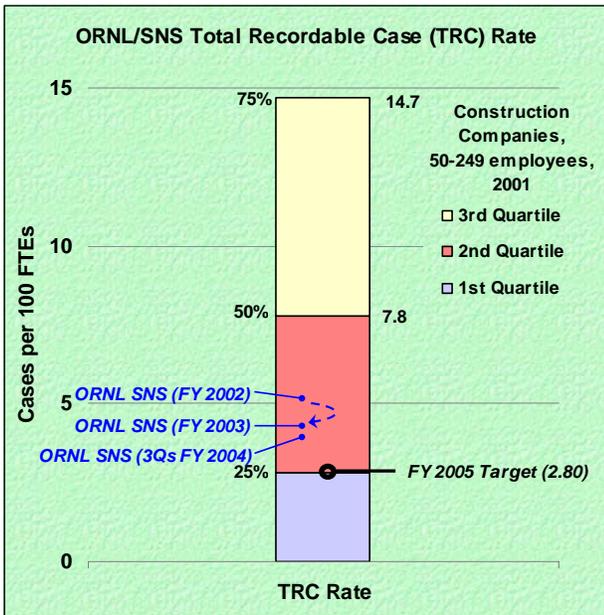
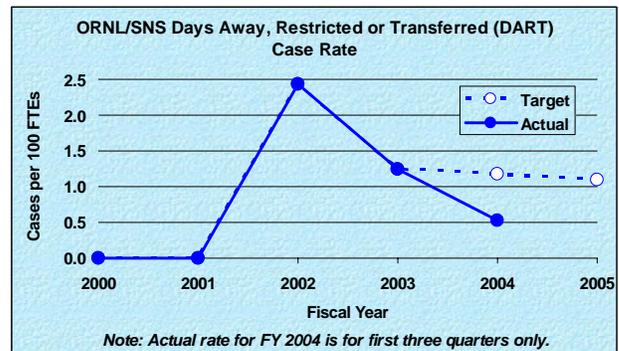
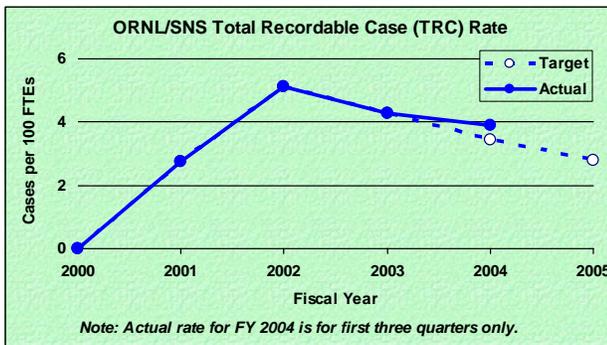
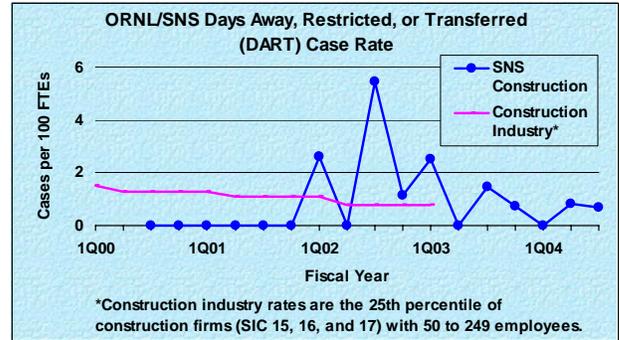
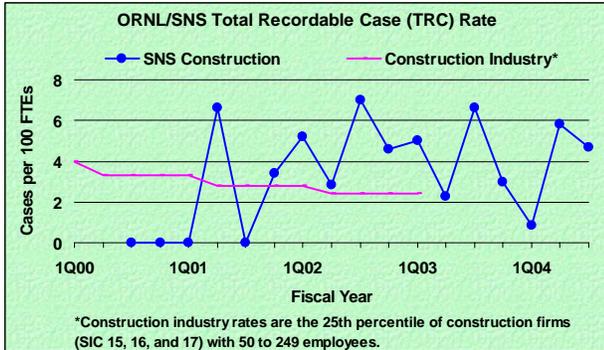
ORNL/Spallation Neutron Source Project Performance through June 2004

Total Recordable Case (TRC) Rate

- SNS's recordable cases in the first three quarters of FY 2004 resulted in a rate that is 13 percent above their target for the year.
- Their rate so far in FY 2004 is eight percent lower than their rate in FY 2003.

Days Away, Restricted, or Transferred (DART) Case Rate

- SNS's DART cases in the first three quarters of FY 2004, resulted in a rate that is less than half their target for the year.
- The SNS project has had only two DART cases so far in FY 2004.



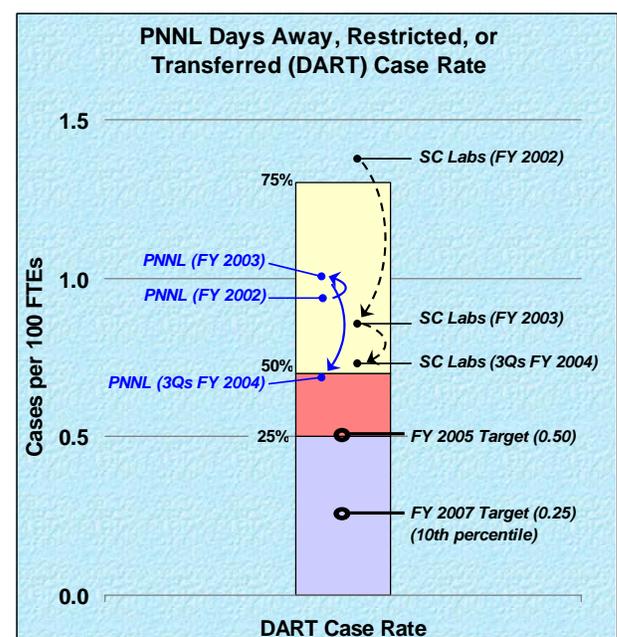
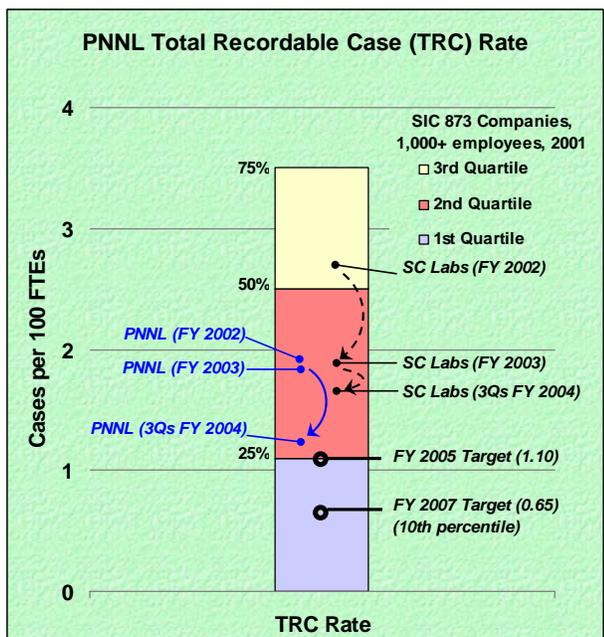
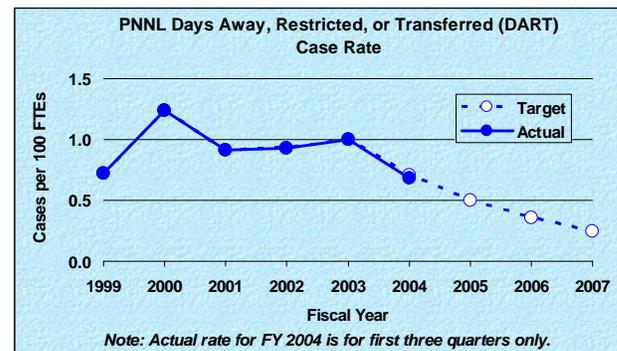
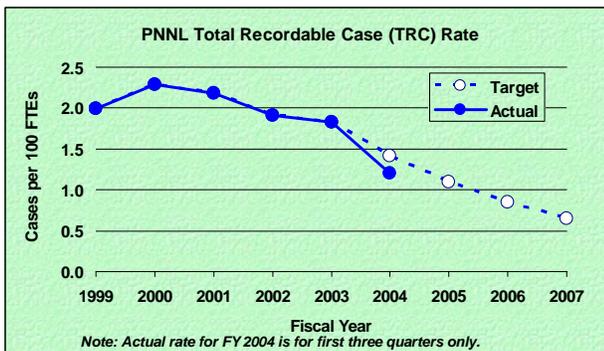
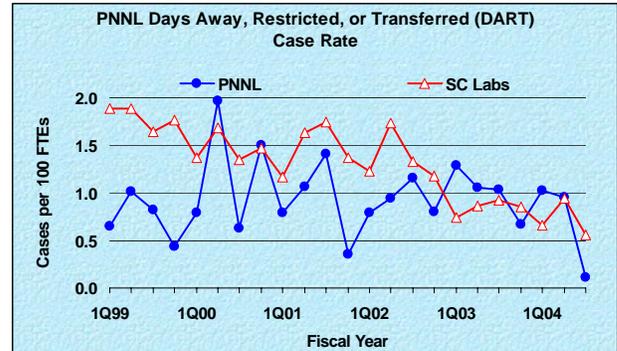
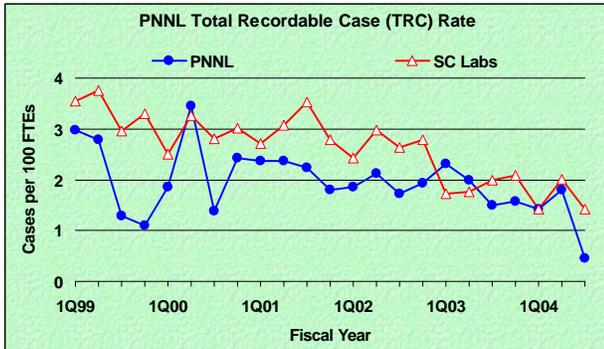
Pacific Northwest National Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- PNNL's recordable cases in the first three quarters of FY 2004 results in a rate that is 15 percent below their target for the year.
- PNNL's rate of 0.45 cases per 100 FTEs for the quarter ending in June 2004 was their lowest rate in over five years.

Days Away, Restricted, or Transferred (DART) Case Rate

- PNNL's DART cases thus far in FY 2004 results in a rate that is four percent below their target for the year.
- PNNL's DART rate of 0.11 cases per 100 FTEs in the quarter ending in June 2004 was their lowest rate in over five years.



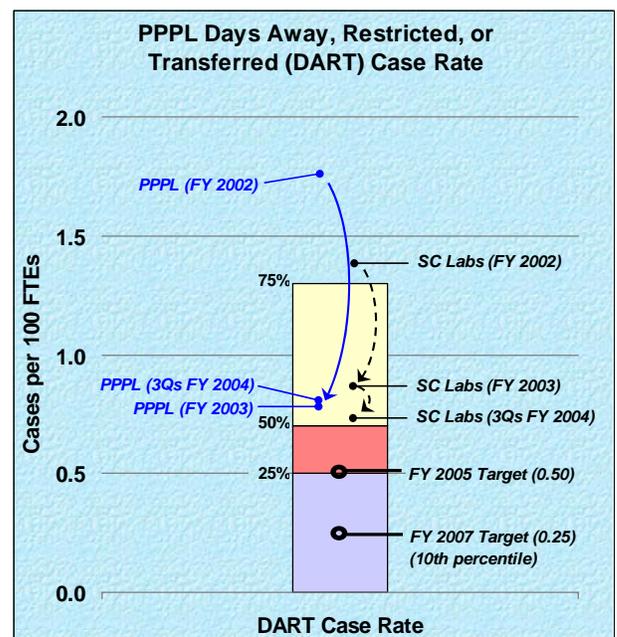
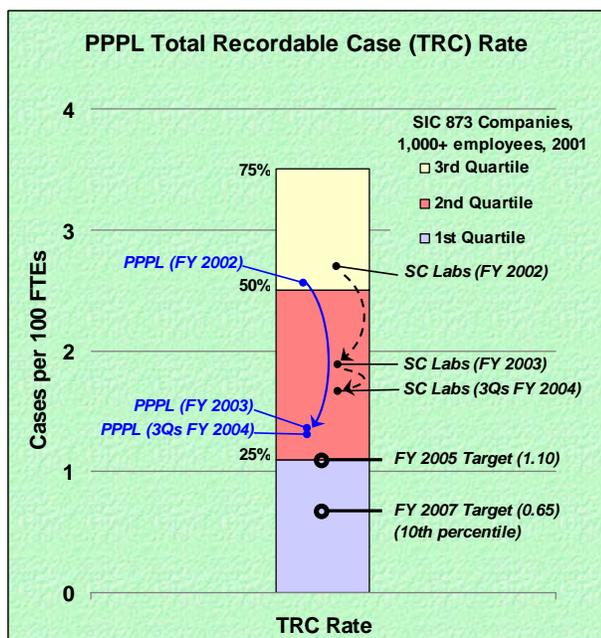
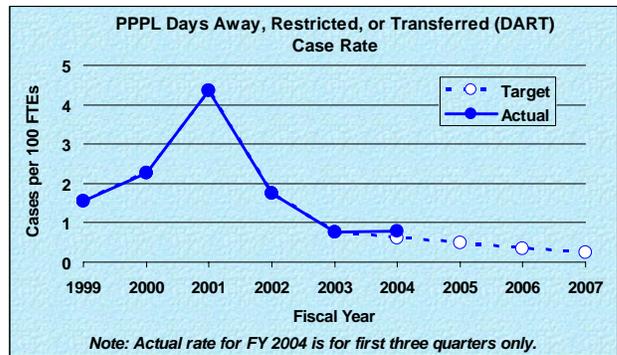
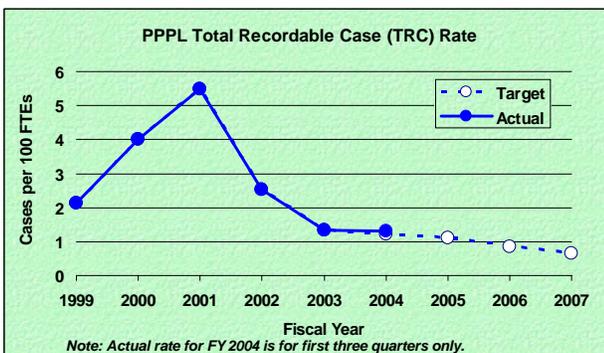
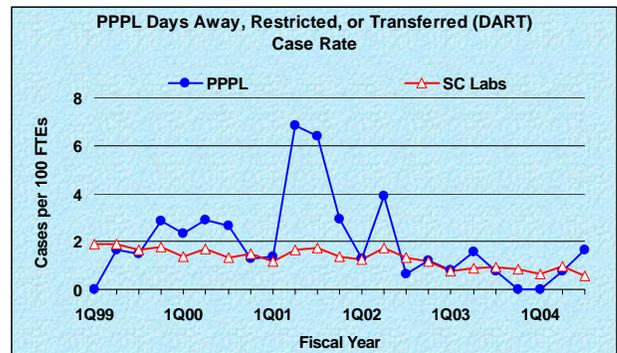
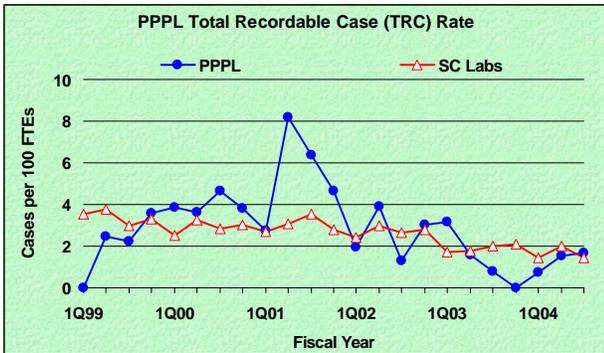
Princeton Plasma Physics Laboratory Performance through June 2004

Total Recordable Case (TRC) Rate

- Five recordable cases in the first three quarters of FY 2004 results in a rate that is eight percent above their target for the year.
- PPPL's rate is 17 percent above the SC lab rate for the quarter ending in June 2004.

Days Away, Restricted, or Transferred (DART) Case Rate

- PPPL's three DART cases thus far in FY 2004 results in a rate that is 27 percent higher than their target for the year.
- PPPL's DART rate for the quarter ending in June 2004 is about three times higher than the SC lab rate for the quarter.



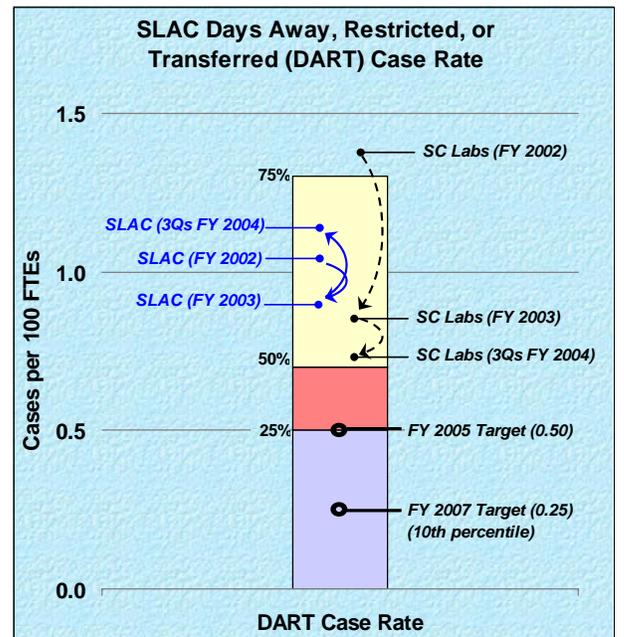
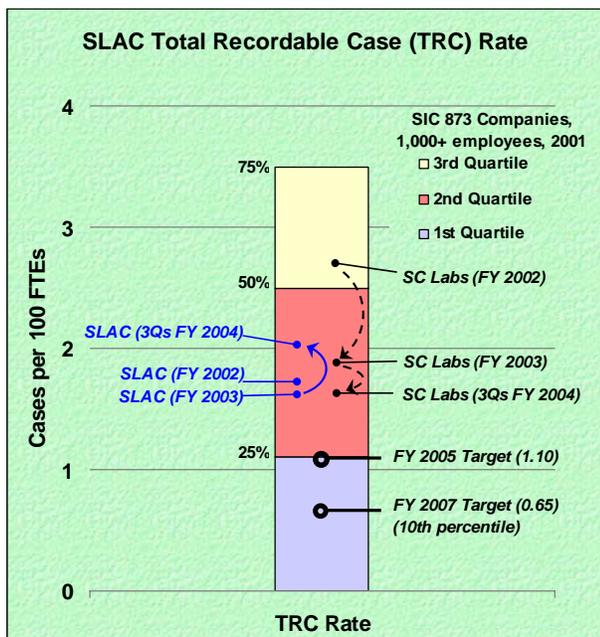
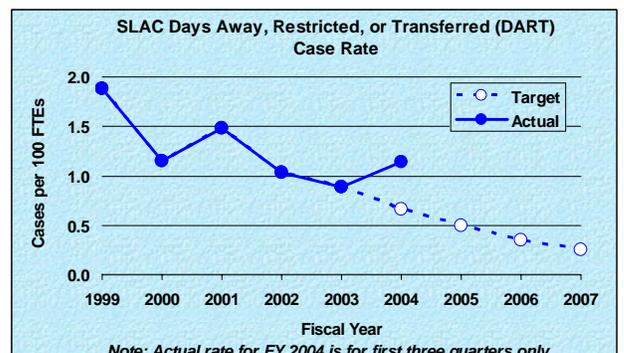
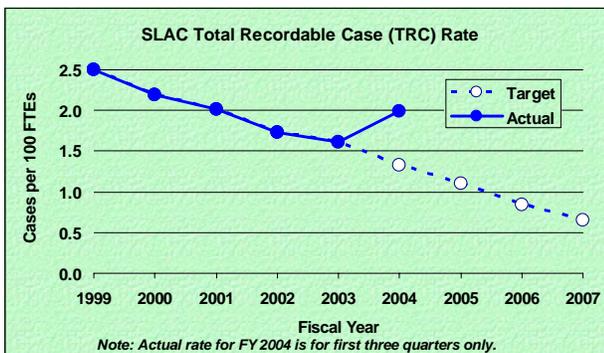
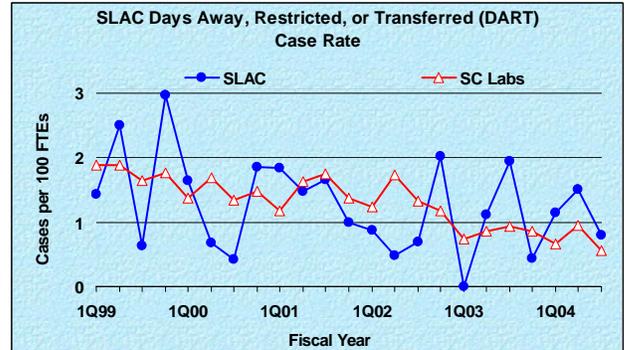
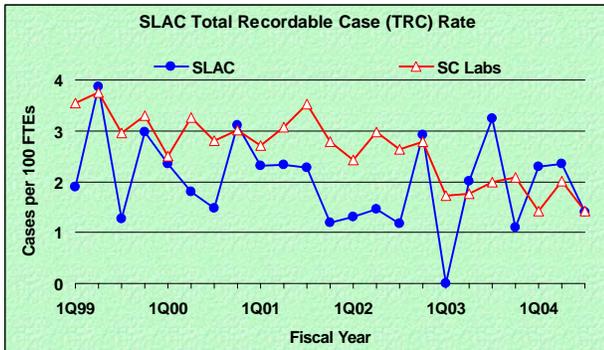
Stanford Linear Accelerator Center Performance through June 2004

Total Recordable Case (TRC) Rate

- SLAC's recordable cases in the first three quarters of FY 2004 results in a rate that is 50 percent above their target for the year.
- SLAC's rate for the first three quarters of FY 2004 is 24 percent higher than their rate in FY 2003.

Days Away, Restricted, or Transferred (DART) Case Rate

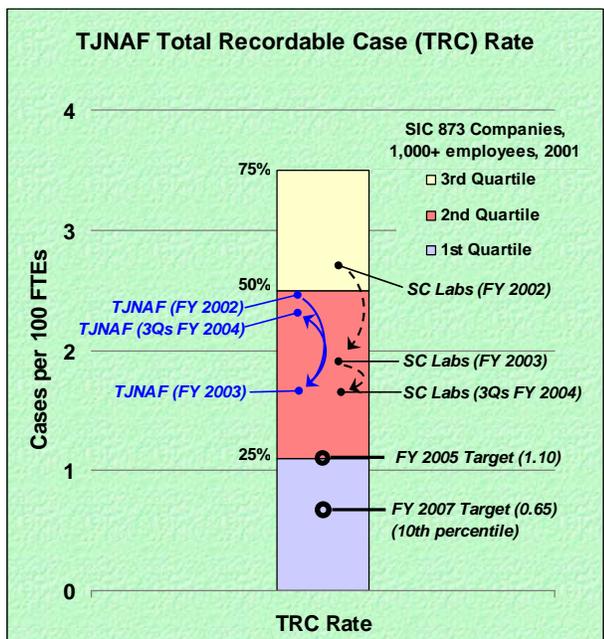
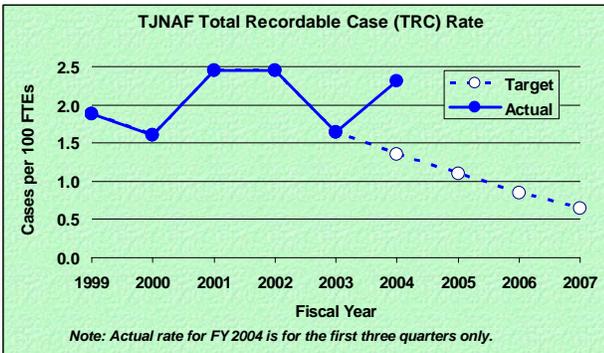
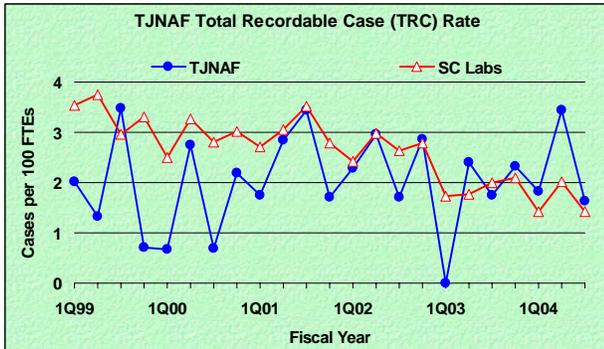
- SLAC's DART cases thus far in FY 2004 result in a rate that is 70 percent higher than their target for the year.
- SLAC's rate for the quarter ending in June 2004 is 43 percent higher than the SC rate for the quarter.



Thomas Jefferson National Accelerator Facility Performance through June 2004

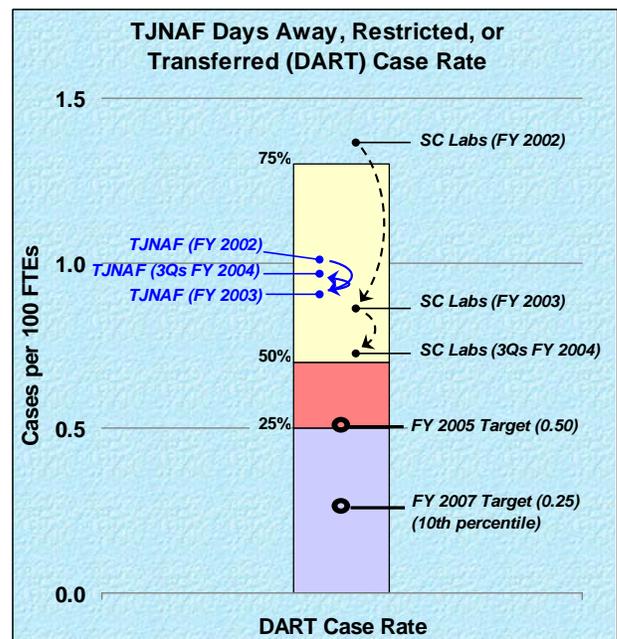
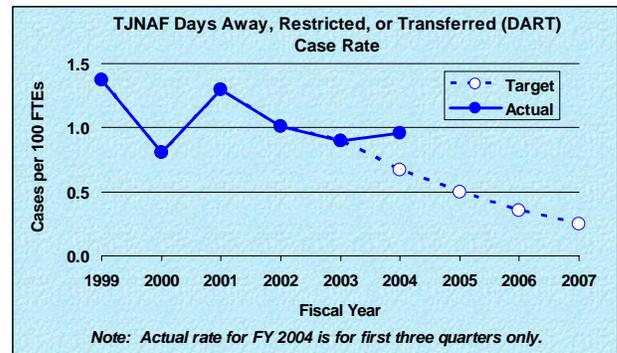
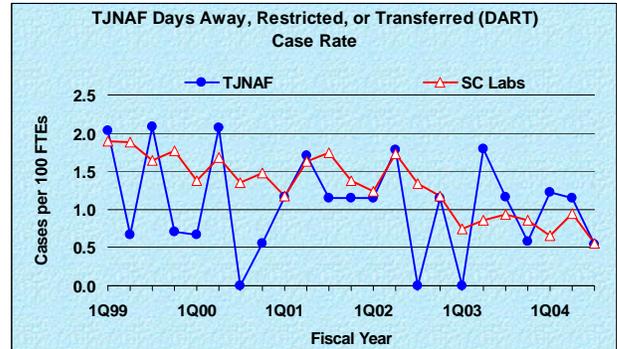
Total Recordable Case (TRC) Rate

- TJNAF's rate for the first three quarters of FY 2004 is over 70 percent above their target for the year.
- TJNAF's rate dropped sharply in the quarter ending in June 2004 but remains 15 percent higher than the rate for all SC labs.



Days Away, Restricted, or Transferred (DART) Case Rate

- TJNAF's DART cases thus far in FY 2004 result in a rate that is 43 percent higher than their target for the year.
- TJNAF's DART rate has been fluctuating around 1.0 cases per 100 FTEs for nearly six years.



Office of Science Overview
Occurrences/Near Misses

From January 1 through September 21, 2004, 173 occurrences at Office of Science Laboratories have been reported. Of the 173 occurrences, 123 are SC, with 25 EM and 24 NE (HFIR or REDC). These occurrences include near misses, significant injuries, and other events related to radiological, environmental, occupational safety/industrial hygiene, electrical, materials handling, transportation, hoisting and rigging, equipment, degradation, safeguards and security, etc. Subsets of these events were reported to Under Secretary Garman based on their severity, nature of occurrence and reoccurring events. Attachment A provides listing of the events reported to the Under Secretary between April and August 2004. Attachment B provides a listing of the Office of Science occurrences, January 1 through September 21, 2004.

SC reported 22 near miss occurrences between January 1 and August 31, 2004 as described below. Note: near miss events were reviewed for the Under Secretary based on this time frame.

NEAR MISSES

In 2004 SC sites reported a total of 22 near misses; eight the first quarter, eight the second quarter and six the third quarter. The highest number of near miss occurrences reported at SC labs during all three quarters was electrical (thirteen).

ELECTRICAL OCCURRENCES

SC has reported thirteen electrical occurrences; this excludes the recent event at PNNL. The number of events has remained steady over this year averaging approximately two events per month. There does not appear to be any trends; however, cutting into energized electrical circuits or lines appears to be a reoccurring problem among the SC laboratories.

These occurrences are listed bellow:

January- March:

- ANL-E, Welder receives an electrical shock.
- FNAL, Technician cuts into an energized 480-volt.
- LBNL, Electrician worked on energized electrical circuit, violating the site's lockout/tagout procedures.
- PNNL, Workers cut into an energized 110-volt electrical line.
- PPPL, Worker cut into the wrong conduit and contacted several energized 120-VAC electrical cables.

April-June:

- ANL-E, Worker cuts an energized 110-volt wire.
- BNL, Contractor cut into a conduit containing an energized 480-volt electrical circuit.
- ORNL, Contractor causes electrical arc.
- SLAC, Electrician contacted an energized 480-volt electrical panel while drilling through drywall.

July-August:

- BNL, Electrical shock.
- ORNL, Mild electrical shock.
- ORNL, Worker contacts an energized 277-volt line with a hammer.
- PNNL, Backhoe operator broke an underground PVC conduit containing a non-energized 480-volt electrical line.

HEAVY EQUIPMENT OCCURRENCES

SC reported one occurrence in the heavy equipment category July-August 4004.

- ANL-E, Tractor roll-over onto side during mowing operation with no injury.

EQUIPMENT /PERSONNEL FAILURE OCCURRENCES

SC reported two equipment/personnel failure occurrences January-March and two April-June 2004.

January-March:

- PNNL, Over-pressurization of glass carboy.
- SLAC, Excavated trench with inadequate shoring.

April-June:

- PNNL, Hazardous waste spill at the Radiochemical Processing Laboratory.
- PNNL, Researchers cut two pressurized aluminum rod assemblies.

DROPPED/UNCONTROLLED LOAD OR DEBRIS OCCURRENCES

SC reported one occurrence April-June and one July-August on the dropped/uncontrolled load or debris category.

April-June:

- SLAC, Worker struck and injured by falling object.

July-August:

- ANL-E, Cubicle wall section falls with not personnel injuries.

VEHICULAR OCCURRENCES

SC reported one vehicular occurrence January-March and one April-June 2004.

January-March:

- BNL, Field service sampling vehicle accident due to ice.

April-June:

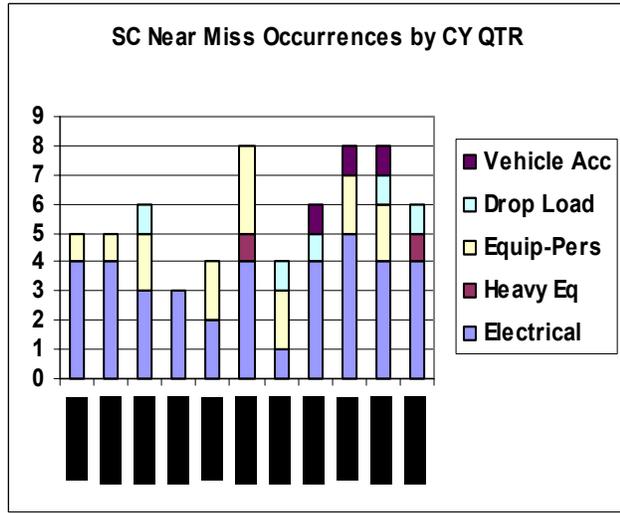
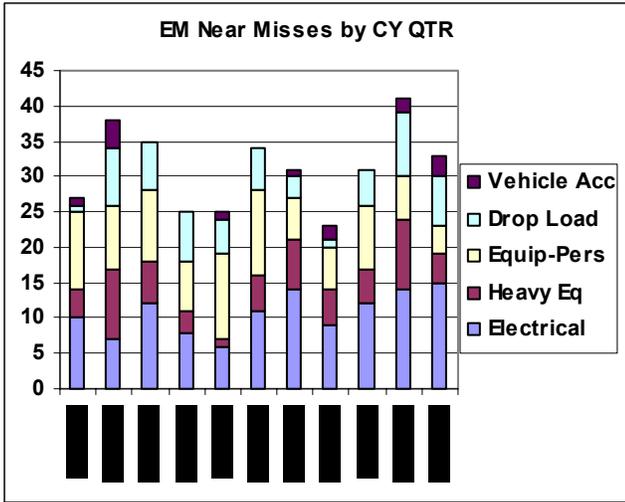
- LBNL, Fire truck accident at the entrance gate of the lab, striking two vehicles

Program Secretarial Offices

Near Miss Graphic Summary (Thorough 8/31/04)

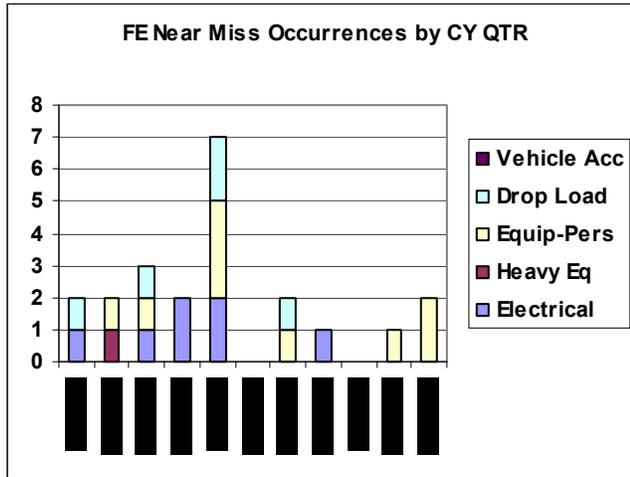
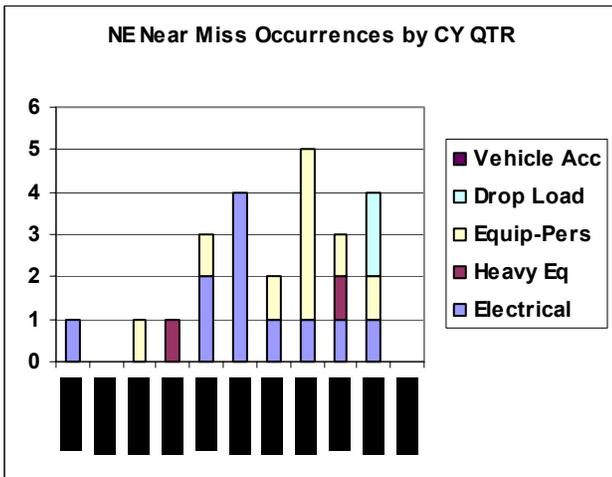
Environmental Management

Science



Nuclear Energy

Fossil Energy



Attachment A
SC OCCURRENCE CONTAINED IN THE WEEKLY REPORTS
TO THE UNDER SECRETARY
April-June, 2004

LOCKOUT/TAGOUT VIOLATIONS: none

RADIOLOGICAL

Radiological Contaminations/Uptakes: None

Radiological Over Exposures: None

Other Radiological Concerns: None

INJURIES REQUIRING OFF-SITE MEDICAL TREATMENT: 6 SC - Total 15 occurrences

ORGANIZATION	SITE	OCCURRENCES
SC	ORNL	<ul style="list-style-type: none"> A worker, having recently moved to a new location, fell in her office (possibly over an unpacked box) and fractured her elbow. ORO--ORNL-X10CENTRAL-2004-0007 A worker slipped on a wet floor being cleaned of mud and debris suffering a fractured patella and a ruptured tendon in the right knee. ORO--ORNL-X10SNS-2004-0002
	PNNL	<ul style="list-style-type: none"> A worker tripped on a stair and hit a facing wall causing a hairline fracture to her arm. RL--PNNL-PNNLBOPER-2004-0007 A worker slipped on an icy surface in the Environmental Molecular Sciences Laboratory fracturing a carpal bone in his left wrist. RL--PNNL-PNNLBOPER-2004-0008 Two workers were sprayed with caustic waste from a tubing line used for the transfer of hazardous/radioactive waste. Both of the workers were transported to a local hospital and released without treatment. One worker, however, received first degree chemical burns on his face and arms. RL--PNNL-PNNLNUCL-2004-0004
	SLAC	<ul style="list-style-type: none"> A worker suffered lacerations around the right eye when communications cables dropped and struck the worker while working on a ladder and removing communication cables and splice enclosures from a utility tunnel. OAK-SU-SLAC-2004-0003

VEHICLE ACCIDENTS: 1 SC Total 5 occurrences

ORGANIZATION	SITE	OCCURRENCES
SC	BNL	<ul style="list-style-type: none"> A new employee drove a privately owned motor vehicle into an onsite apartment building. CH-BH-BNL-BNL-2004-0006

ENVIRONMENTAL RELEASES/COMPLIANCE: 5 SC – Total 21

ORGANIZATION	SITE	OCCURRENCES
SC	ANL-E	<ul style="list-style-type: none"> A floor drain in an automobile service station was not connected to a permitted sewer system allowing the discharge of untreated wastewater to the ground.
	BNL	<ul style="list-style-type: none"> Following severe rainstorms, approximately 19 gallons of oil spilled onto the ground for two 15KVA electrical transformers. Some of the oil migrated into the storm drain system. CH-BH-BNL-PE-2004-0003 Antifreeze leaked from a coolant system of a 6-ton forklift onto the ground. CH-BH-BNL-PE-2004-0004
	ORNL	<ul style="list-style-type: none"> A Notice of Violation (NOV) was issued by the Tennessee Department of Environment and Conservation due to violations (excursions for iron and copper) of the NPDES Permit for the ORNL Coal Yard Run Off Treatment Plant. ORO--ORLN-X10UTILITY-2004-0002 The Tennessee Department of Environment and Conservation issued a Notice of Violation (NOV) as a result of finding five rusty and unlabeled drums in a grassy area between two buildings. The violation was for failure to make a hazardous waste determination. ORO--ORNL-X10WEST-2004-0008

SHIPPING QA: 5 SC – 5 EM

ORGANIZATION	SITE	OCCURRENCES
SC	BNL	<ul style="list-style-type: none"> As a result of improper inspection of a welded support channel in a waste container, accumulated water in the channel forced the inspection and subsequent delay of shipment to Envirocare. CH-BH-BNL-BNL-2004-0012
	SLAC	<ul style="list-style-type: none"> A radioactive current monitor and wiggler magnet were shipped as non hazardous to the ANL. The components' radioactivity measured 0.02 and 0.5 mR/h respectively and had been stored in a SLAC physicist's office since approximately 1999. The items were handled by unmonitored personnel who did not know the items were radioactive. OAK--SU-SLAC-2004-0004
	PNNL	<ul style="list-style-type: none"> A piece of research apparatus with removable radioactive contamination was found to have been transported to an offsite location leased by Battelle Memorial Institute. RL--PNNL-PNNLBOPER-2004-0009

	ANL-E	<ul style="list-style-type: none"> The amount of plutonium and actinides in 4 drums of radioactive waste transported to ANL's Waste Management Operations was underreported. CH-AA-ANLE-ANLEET-2004-0001 A Limac Klystrom Focusing Magnet to be shipped to France was labeled with a value for magnetic field strength. The measured fields exceeded limits set by international shipping regulations. CH-AA-ANLE-ANLEAPS-2004-0001
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July-August

VEHICLE ACCIDENTS: None

LOCKOUT/TAGOUT VIOLATIONS: None

ENVIRONMENTAL RELEASES/COMPLIANCE: None

RADIOLOGICAL

Radiological Contaminations/Uptakes: None

Radiological Over Exposures: None

Other Radiological Concerns: 2 SC-28 total events

- 3 occurrences of personal clothing contaminations (occurrence related to 1 Lab worker was mentioned above in the skin category).
- 9 occurrences of loss of control or spread of contamination including tumbleweeds, drops in a sample cooler, 4 specks on the ground
- 14 occurrences of legacy contaminations.
- 2 rad procedure or work package violation

ORGANIZATION	SITE	OCCURRENCES
SC	ORNL	<ul style="list-style-type: none"> Contaminated tool (a file) was discovered, bagged and tagged (legacy). ORO-ORNL-X10EAST-2004-0009 Legacy contamination discovered on small wooden box and two pans during pre-salvage surveys; items were bagged. ORO-ORNL-X10CENTRAL-2004-0014

INJURIES REQUIRING OFFSITE MEDICAL TREATMENT: 2 SC: Total 16 occurrences, including 2 fatalities.

ORGANIZATION	SITE	OCCURRENCES
SC	ORNL	<ul style="list-style-type: none"> Worker tripped over portable generator while unloading plywood from a work van and fell, fracturing his wrist. He drove himself to the hospital where he was treated and released to work. ORO-ORNL-X10CENTRAL-2004-0010 (sub) Construction worker standing on second rung of a ladder thought he was on the first rung, stepped off, lost his balance, and fell, breaking his wrist. ORO-ORNL-X10CENTRAL-2004-0012 (sub)

SHIPPING QA: 3 SC- Total 9 events

ORGANIZATION	SITE	OCCURRENCES
SC	ANLE	<ul style="list-style-type: none">Three stainless steel encased EU oxide pencil sources (SNM) were shipped offsite with other nuclear waste to Hanford's disposal site but were not removed from the Site's special material inventory as required. In addition, the material was not declared in the characterization data for the 55-gallon drum in which they were shipped. CH-AA-ANLE-ANLEPFS-2004-0008
	BNL	<ul style="list-style-type: none">Driver of a truck transporting rad waste from BNL to Envirocare Utah noticed liquid seeping from one of eight containers. Radiological teams responded from Wyoming State Patrol, INEEL, and BNL. The liquid was low level radioactive brine from a geothermal well experiment and posed no hazard to human health or the environment. The container was patched and the shipment resumed. CH-BH-BNL-BNL-2004-0013 (sub)
	ORNL	<ul style="list-style-type: none">A load of friable asbestos was transported to landfill without proper shipping papers, which had been prepared but did not accompany the shipment. ORO-ORNL-X10B0PLANT-2004-001 (sub)

Attachment B
January 1– September 21, 2004 SC Occurrences

- SC reported a total of 123 occurrences from January 1 through September 21, 2004.

2004	Jan-Mar	Apr-Jun	Jul-Sep	Total
SC	44	43	36	123

January – March, 2004 SC Occurrences

- AMES, Researcher Contacts 110 VAC
- ANLE, Radioactive Source Found in “Uncontrolled” Laboratory
- ANLE, Discovery of Fixed Legacy Contamination
- ANLE, Central Shops Welder Reports Electrical Shock
- ANLE, Radioactive Contamination Discovered During Routine Surveys
- ANLE, Further Evaluation of Injury Results in Diagnosis of Fractured Left Ankle
- FNAL, Electrical Mishap at Fermilab SiDet Facility
- BNL, Worker Breaks Ankle While Preparing for Cable Pull
- BNL, Load Falls Off Flatbed Truck During Transport
- BNL, Field Service Sampling Vehicle Accident
- BNL, NYSDEC Notice of Violation
- BNL, Tritium Personnel Contamination During Waste Packaging Evolution
- BNL, Suspect Counterfeit Bolts in Ratchet Assemblies
- BNL, Recurring Material Handling Problems
- BNL, Minor Ethylene Glycol Spill
- PPPL, Employee Injury Resulting in a Fracture
- PPPL, Unexpected Discovery of an Uncontrolled Energy Source
- LBL, Notice of Violation at B85
- LBL, Violation of LOTO Procedures at B74
- LBL, Air Sample Exceeded PEL for Lead at 51B Demolition Project
- SLAC, Excavated Trench with Inadequate Shoring
- ORNL, Fire in Oven
- ORNL, Legacy Contamination Identified During Routine Inspections
- ORNL, Legacy Contamination Identified During Surveys for Disposition of Equipment
- ORNL, Legacy Contamination Identified During Routine Inspections
- ORNL, Construction Worker Suffers Broken Ankle
- ORNL, Ammonia Leak Categorized as Management Concern
- ORNL, Contaminated Printer
- ORNL, Error Found with Hydrogen Sulfide Lecture Bottles
- ORNL, Notice of Violation received from Tennessee Department of Environment and Conservation, Division of Water Pollution Control
- ORNL, Contaminated Roof
- ORNL, Spot of contamination on Workbench Footrest Discovered during radiological Monitoring in Order to Salvage
- ORNL, Legacy Contamination Discovered on Old Wooden Map Cabinet
- ORNL, Suspect/Counterfeit Computer Cable

January – March, 2004 SC Occurrences (Continued)

- ORNL, Legacy Contamination
- ORNL, Legacy Contamination
- TJNAF, Subcontractor Knee Injury While Loading Fire Extinguishers
- WSOR, Motor Vehicle Accident Resulting in a Broken Bone
- PNNL, Electrical Near Miss During Concrete Core Drilling
- PNNL, Overpressurization of Glass Carboy
- PNNL, Broken Ankle
- PNNL, Safety Basis Inadequacy
- PNNL, Safety Basis Inadequacy
- PNNL, Management Concern: Beryllium Air Monitoring Results

April – June, 2004 SC Occurrences

- ANLE, Suspect/Counterfeit Bolts Found in Manlifts
- ANLE, Improper Labeling for shipping of Electro-magnet
- ANLE, Discovery of Quantitative Error on Radioactive Waste Documentation
- ANLE, Unexpected Discovery of an Energized Source While Performing Remediation Activities
- ANLE, Building 300 Floor Drain NPDES Report to the Illinois EPA
- BNL, Motor Vehicle Strikes Apartment Building Causing Fire
- BNL, Exposure of Personnel to Static Magnetic Fields in Excess of ACGIH TLV
- BNL, Management Concern with Macaque Herpes-B Virus Precautions in Animal Facility
- BNL, Suspect/Counterfeit Bolts in Forklifts
- BNL, B-52 Waste Container Support Channel Rain Water Accumulation
- BNL, Electrical Utility (Encased in Concrete Floor) Conduit Strike
- BNL, Mineral Oil Spill from two Out of Service Transformers
- BNL, Minor Ethylene Glycol Spill from Forklift
- LBL, Fire Truck Accident at Grizzly Peak Gate
- SLAC, Unlocked Doors Found in Rad Calibration Facility
- SLAC, Worker Struck by Falling Object
- SLAC, Electrical Panel Penetration
- SLAC, Radioactive Material Not Shipped According to Rules
- ORNL, Suspect/Counterfeit Bolts Discovered in an Overhead Crane at Building 9201-2
- ORNL, Legacy Contamination on Detached Hood Exhaust Filter Boxes
- ORNL, Employee fall Results in Fracture Elbow
- ORNL, Legacy Contamination Discovered During Green Tag Survey
- ORNL, Contaminated Pipe
- ORNL, Discovery of Legacy Contamination
- ORNL, Contamination Found During Survey of Equipment for Surplus
- ORNL, Legacy Contamination Discovered at Building 2026
- ORNL, Unexpected Discovery of Uncontrolled Energy Source
- ORNL, Injury Requiring Hospitalization of More than 48 Hours
- ORNL, Notice of Violation Received from Tennessee Department of Environment and Conservation, Division of Water Pollution Control
- ORNL, Water Spill at Building 1505/Labs 327 & 227
- ORNL, TDEC NOV, Five Hazardous Waste Drums Found Between Buildings 2007 and 2026

April – June, 2004 SC Occurrences (Continued)

- TJNAF, Unauthorized Modification of Safety Interlock System for Accelerator Component RF Testing
- PNNL, Contamination Found Outside 306-W Building
- PNNL, Suspect/Counterfeit Bolts Discovered at the 306 Building
- PNNL, Discovery of Suspect/Counterfeit Bolts During Scheduled Surveillance
- PNNL, Staff Member Trips on Stairs at PSL Resulting in Hairline Fracture to Arm
- PNNL, Staff Member Slips and Injures Wrist
- PNNL, Identification of Contamination Offsite and Failure to Meet Offsite Shipping Requirements
- PNNL, Near Miss Involving Pressurized Tubing
- PNNL, Suspect Bolts Discovered in Three Tie Down Straps
- PNNL, Hazardous Waste Spill at the Radiochemical Processing Laboratory
- PNNL, Suspect/Counterfeit Bolts
- PNNL, Management Concern Related to Electrical Safety Hazard Analysis

July – September 21, 2004 SC Occurrences

- ANLE, Cubicle Wall Section Falls – Near Miss
- ANLE, Inadvertent Reversal of Radiation Stop Operation
- ANLE, Laser Eye Injury
- ANLE, Suspect/Counterfeit Bolts in Locomotive Test Engine
- ANLE, Curtailment of Work Due to Flooding of 317 Storage Vault at ANLE
- ANLE, Discovery of Incomplete Characterization of a 55-Gallon Drum Shipped to Hanford
- ANLE, Tractor Roll-over onto Side During Mowing Operation Results in No-Injury Near Miss
- BNL, Heating Element Inside Cryogenic Cold Box Causes Burn to Hand
- BNL, Transportation of Solidified Liquid Low-Level Waste
- BNL, Argon 4.8 Gas Cylinder Contaminated with a Volatile Substance (Gasoline)
- BNL, Suspect/Counterfeit Shackles and Hooks
- BNL, Inadequate Rail Safety Procedures
- BNL, Worker Experiences Electric Shock
- LBL, Fire at Trailer 29B & 29C
- LBL, Penetration of Non-Energized Conduit at B76
- ORNL, Management Concern with Transportation of Asbestos
- ORNL, Nonconforming Wire in Fire Alarm System
- ORNL, Unauthorized Drum Relocation into Building 4507 Airlock
- ORNL, Construction Worker Suffers Broken Navicular Bone (Wrist)
- ORNL, Mild Electrical Shock, 76 Volts
- ORNL, Construction Worker Suffers Broken Wrist
- ORNL, Small Odoriferous Chemical Spill Leads to Building Evacuations
- ORNL, Legacy Contamination Discovered While Surveying for Salvage
- ORNL, Discovery of Preserved Mouse Specimens Off-site
- ORNL, Aging Infrastructure Failures that Negatively Impact Operations are Increasing in Frequency
- ORNL, Suspect/Counterfeit Bolts
- ORNL, Suspect/Counterfeit Bolts
- ORNL, Contaminated Tool Discovered in Building 7061

July – September 21, 2004 SC Occurrences (Continued)

- ORNL, Legacy Sample Inventory Discrepancy Building 5505
- ORNL, Unexpected Discovery of Uncontrolled Energy Source
- ORNL, Facility Evacuation Due to Smoke
- ORNL, Suspect/Counterfeit Bolts
- ORNL, Legacy Contamination Discovered During Excess Material Cleanout
- ORNL, Suspect/Counterfeit (S/C) Bolts
- PNNL, Non-Energized 480 Volt, 3-Phase Circuit in PVC Conduit was Encountered During Excavation Activities
- PNNL, Shoe Contamination at the Radiochemical Processing Laboratory