Idaho National Laboratory

INL ALARA Committee

ATR Complex 2009 Dose Estimate and Quarterly Report

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ATR Complex 2009 Estimate

Cy-2009 Estimate established at 15.945 person-rem

Monthly/Quarterly Breakdown:

Month/Year	Month	Running Year	Quarter	Running Year
Jan-09	654	654		
Feb-09	1798	2451	**1st**	**1st**
Mar-09	536	2988	2988	2988
Apr-09	1115	4103		
May-09	1211	5314	**2nd**	**2nd**
Jun-09	1129	6443	3455	6443
Jul-09	5405	11848		
Aug-09	899	12747	**3rd**	**3rd**
Sep-09	610	13357	6914	13357
Oct-09	900	14258		
Nov-09	627	14885	**4th**	**4th**
Dec-09	1060	15945	2588	15945
	15945		**15945**	

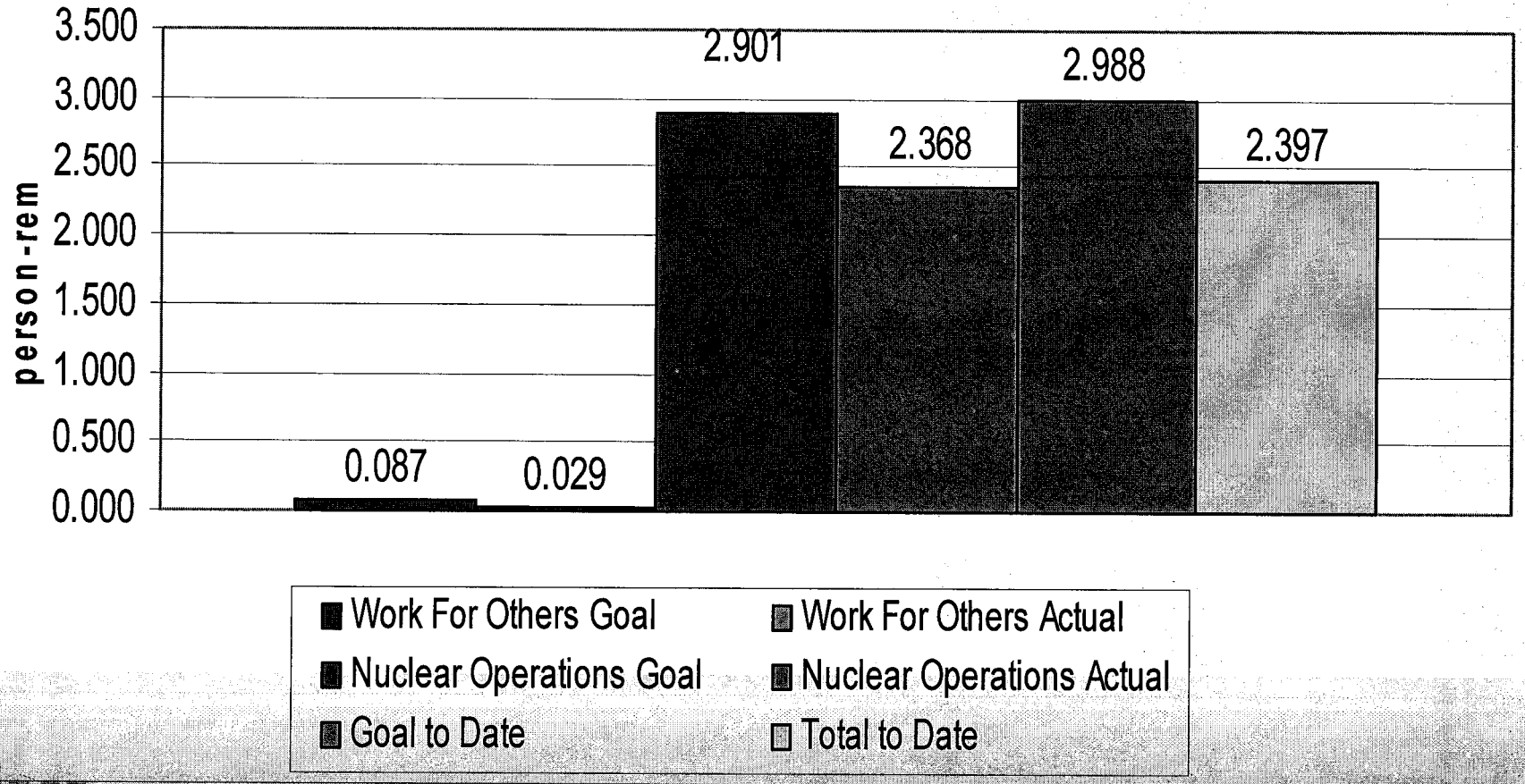
Breakdown of Major Activities

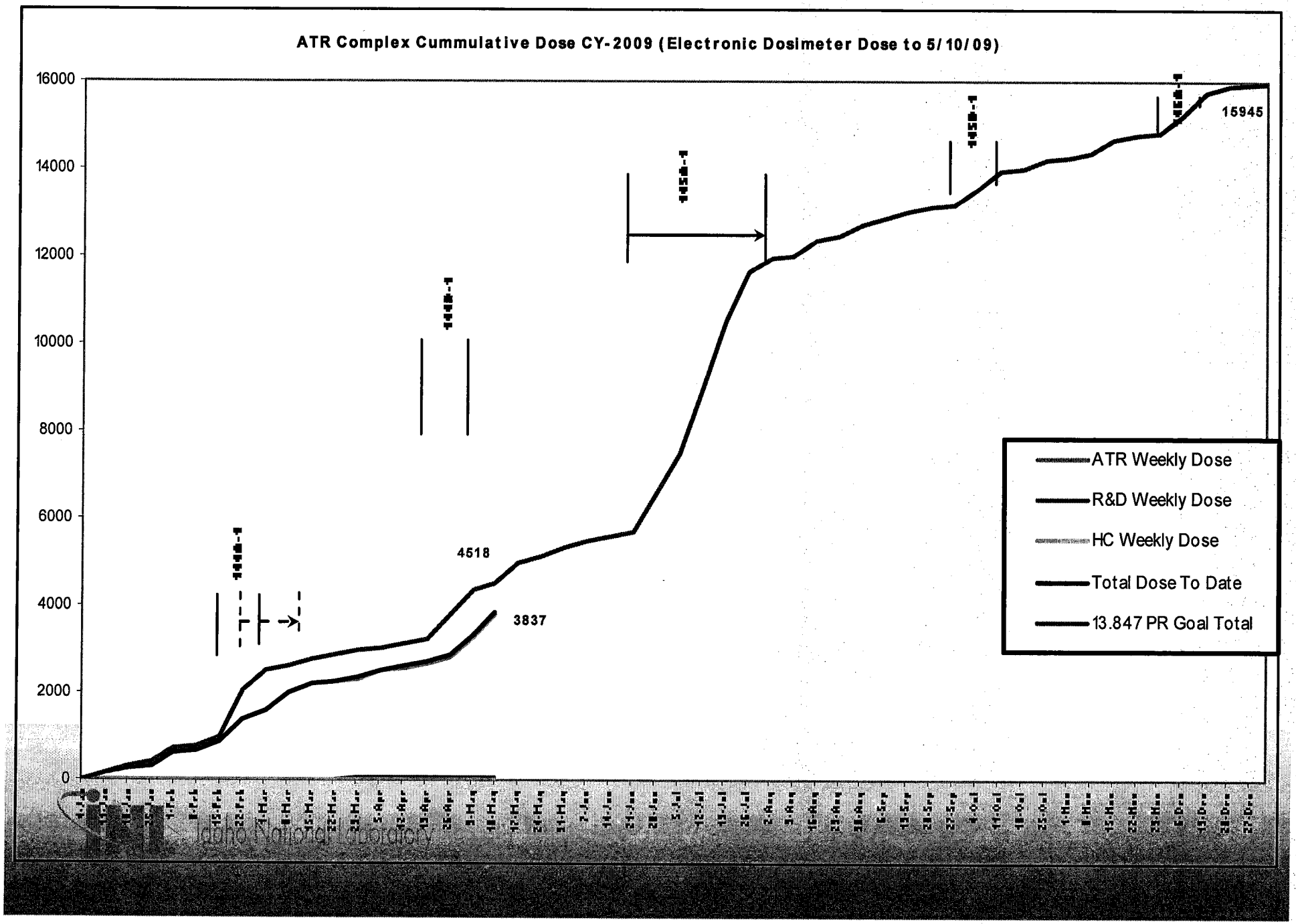
Program	Description	Estimated Dose (mrem)
Work For Others	All Laboratory and Research and Development work at the ATR Complex, including STAR Facility Operations.	**315**
Nuclear Operations		
Hot Cell	Minimum safe operations and preventive maintenance.	**100**
Experiment Programs		**5752**
Experiment Handling	Includes installation, operations, and removal of Loop tests, AGC Experiments, AGR Experiments, TMIST Experiments and the HSIS.	576
2A Loop Reactivation	Ripout, Install and Testing of Loop 2A components.	316
TMIST Handling	Includes sizing and shipment of TMIST Test trains and upgrade and testing of the Dry Transfer Cubicle.	660
Cask Loading and Shipment	Includes INIS-2 Cask shipments to International Isotopes (6), Loop resin cask loading and GE-2000 cask shipments other than for TMIST (1 Cobalt, 3 AFIP/RERTR).	1400
Miscellaneous Maintenance	Includes 1C-W Pump change, RTD/TC Maintenance, Miscellaneous PM/CM, ISI.	660
Loop Heater Maintenance	Includes replacement of at least one bank in each loop for 2B, 1D, and 2D.	900
Loop Valve Maintenance	Includes minor valve and reach-rod maintenance and replacement of the 1D-N FCV-11 Valve.	1240

Breakdown of Major Activities

Program	Description	Estimated Dose (mrem)
Plant Maintenance/Modifications		**2805**
M-85 Heat Exchanger	All activities associated with weld repair on shell leaks.	1000
Door-51	Covers work associated with replacement of the inflatable seal.	120
N-16 Tube Replacement	Replaces 8 N-16 Tubes	485
Center Flux Trap Baffle	Replacement of the CFTB	1200
ATR Operations		**4390**
Routine Operations	Includes all non-outage operations, chemistry, RCT support, canal activities, ATRC and NMIS work, and utility area support.	3265
Resin Cask Loading/Liner Handling	Loads plant depleted resin beds into a shipping cask until sample data has been analyzed, then offloads the liner to a staging area pending shipment.	1125
ATR Outage Operations	Includes all routine outage operations, chemistry, RCT support, canal and reactor top activities, minor PM/CM and work area inspections.	**2583**
ATR Complex Total		**15945**

ATR Complex CY-09 1st Qtr Dose Distribution & Tracking




ATR Complex Cummulative Dose CY-2009 (Electronic Dosimeter Dose to 5/10/09)
16000
14000
12000
10000
8000
6000
4000
2000
0
4518
3837
15945
ATR Weekly Dose
R&D Weekly Dose
HC Weekly Dose
Total Dose To Date
13.847 PR Goal Total

Highest Exposed Individual – 276 mrem, 269 mrem TLD (BEA Operator Supporting ATR)

Highest Neutron Dose – 27 mrem

No individuals expected to need extensions above the ACL

No current plans for adjustments to the estimate.

2009 Performance Indicators:

- *1 Non-reportable Clothing Contamination*
- *4 Non-reportable particle events (1 Hot Cell, 3 ATR)*
- *1 Spill in posted CA – ATR Regulating Rod Seal*

ALARA Successes

Craft ingenuity and support allowed repair of regulating rod seal with no personnel contamination, when higher than expected water leakage was initially encountered. Use of containment/splash shield incorporated to control leakage.

Removal of drain line and insertion of grout eliminated radiation beam-paths at the DTC service area and adjoining cubicle walls. Shield integrity source test and survey identified the abnormal condition prior to use of the facility.

Removal of paint and uneven floor surfaces at the floor area surrounding the DTC transfer ports allowed better cask-to-floor mating, resulting in significant reduction of potential beam paths during experiment transfers. Reduction in radiation levels verified by source test at the transition.

Replacement with rebuilt unit and preparing next unit in low dose area vs. repair in place used to minimize dose during N-16-Tube replacements.