Idaho National Laboratory

RTC/STC/CFA

CY-2008 ALARA Summary

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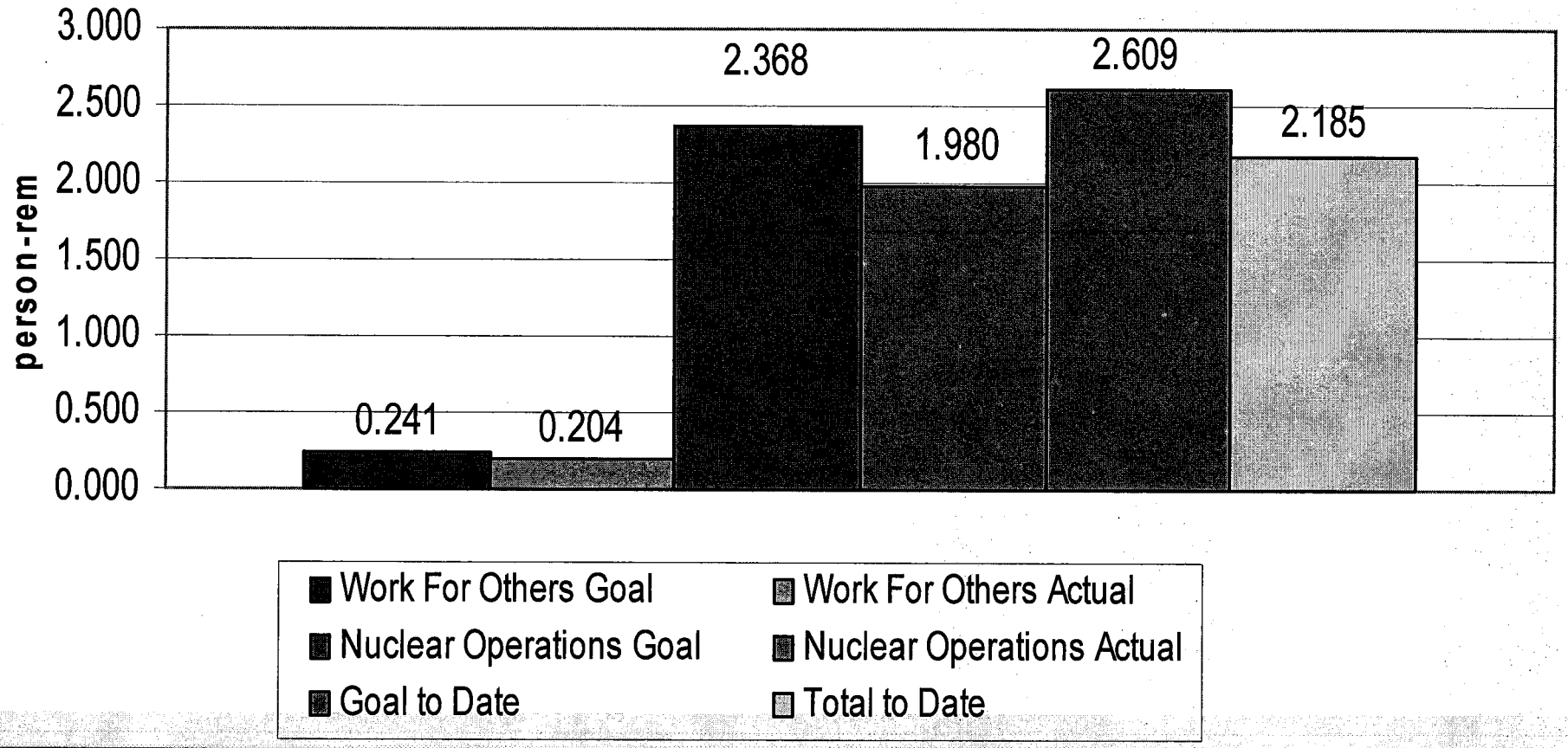
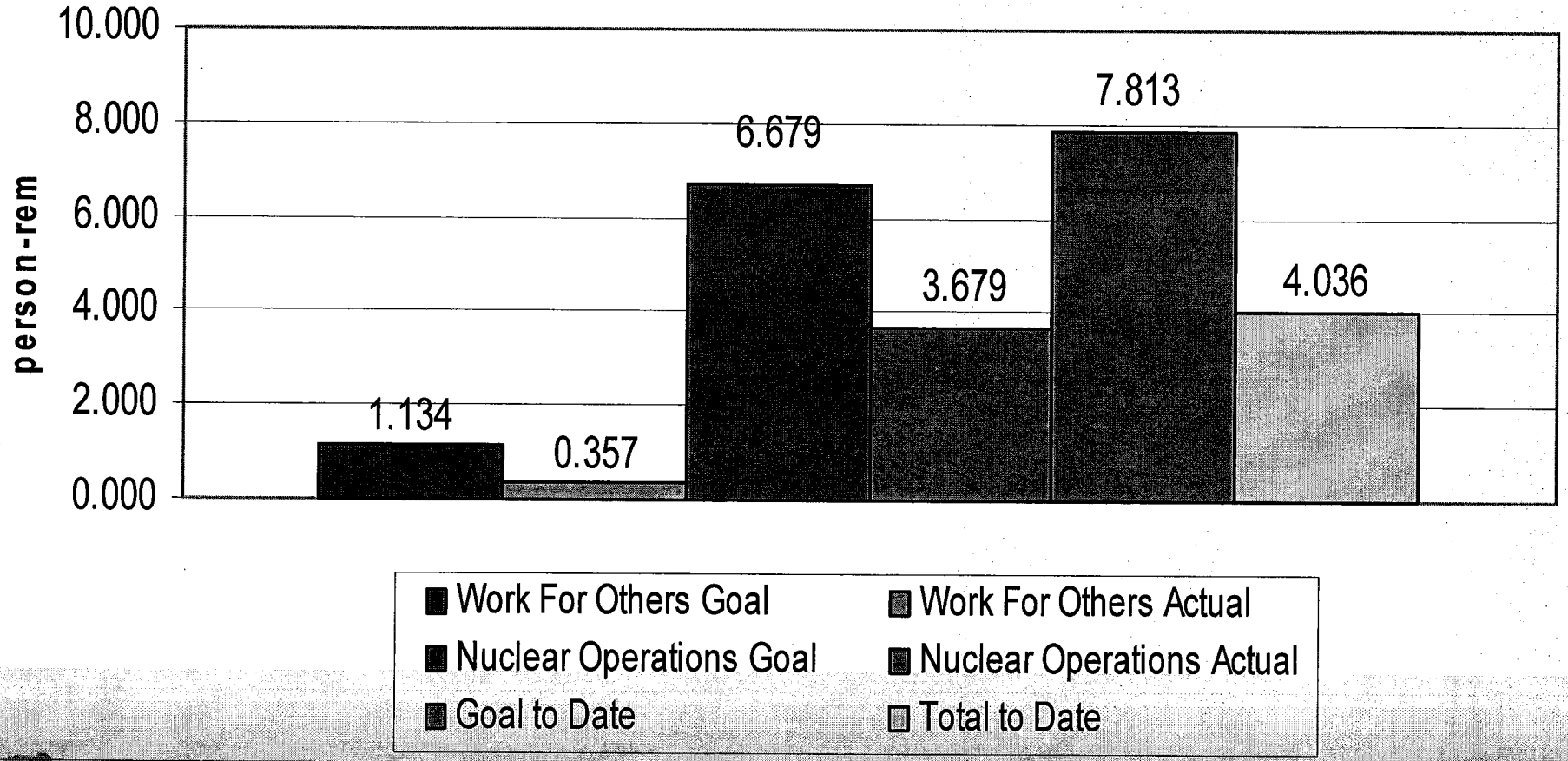
June 10, 2008

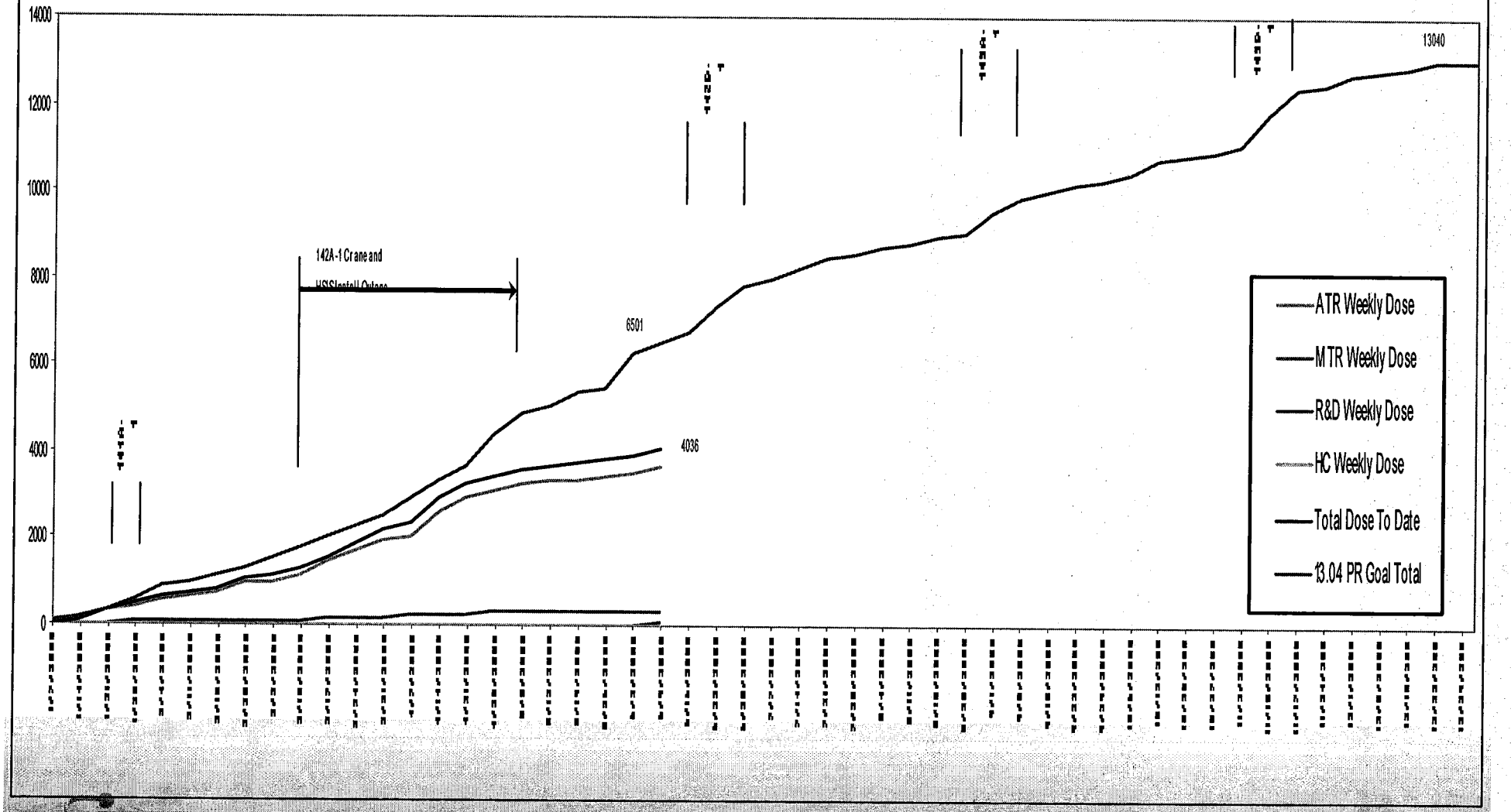
RTC/STC/CFA/CITRC CY-08 1st Qtr Dose Distribution & Tracking



RTC/STC/CFA/CITRC CY-2008 2nd Quarter Dose Distribution and Tracking



RTC/ STC/ CFA/ CITRC Cummulative Dose CY-2008 (Electronic Dosimeter Dose to 6/ 8/ 08)



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2008 Goal

Goal established at 13.040 person-rem.

Work For Others (IRC, RTC Labs, CITRC) 1.935 person rem

RTC Labs **1.18 rem** - Includes Cf-252 Cave Transfer (500 mrem), Lab Operations (150 mrem), RCT Support (150 mrem) as the major contributors

IRC Labs **0.2 rem** - Dose is mostly neutron dose from operation of DD/DT neutron generators, and Cf-252 source handling.

CITRC **0.52 rem** - Accelerator Operations and TSG RDD training (separate from MFC)

CFA **0.035 rem**

Nuclear Operations **11.105 person rem**

Hot Cell Facility Operations and Maintenance **0.24 rem**

Experiment Programs **5.375 rem** - includes HSIS rabbit installation (1.88 rem), Loop radiation monitor replacement (0.6 rem), Valve maintenance (0.9 rem), cask shipments (0.78 rem), Loop reactivation (0.3 rem).

ATR Modifications **0.28 rem**

ATR Operations **2.725 rem**

ATR Outages **2.485 rem**

2008 Performance

Completed an extended outage to Replace the ATR 40-ton Crane Trolley, Install HSIS Rabbit system, Install TMIST, Overhaul the Diesel Generators, and Inspect and Replace Seals on the M-6 PCP. Outage dose was 115 mrem below the projected dose of 2.265 person-rem

Radiological Events:

- *1 non-reportable particle event*
- *2 non-reportable shoe contaminations*
- *2 non-reportable spills – M-6 Primary Pump Seal Leak, Rod Access Valve Leak*

2008 Performance

Highest Exposed Individual – 122 mrem ED, 131 mrem TLD (BEA Engineer Supporting ATR)

No individuals expected to need extensions above the ACL

Anticipate a reduction in goal for RTC Nuclear Operations of approximately 0.6 person-rem due to less than calculated average dose for routine operations

Anticipate a reduction of goal for Work for Others of approximately 0.34 person rem due to less than calculated average dose for routine operations, less than anticipated dose for PINS and fewer TSG training sessions at CITRC than anticipated.

The remainder of the variance in estimated dose verses actual is due to work scheduled for early in the year that has not yet been completed.

ALARA Successes

Working on third week of HSIS Rabbit hardware installation with ATR west canal water level approximately 8.5 to 9 feet below normal with no related radiological issues.

- *Dose rates at in-canal work platform much less than anticipated (≤ 10 mR/hr).*
  - *Moved source material to east end of canal or repositioned away from work location.*
- *Core drill and canal liner penetration successful.*
- *Liner patch removed was released to machine shop.*
- *Canal cover, spray system and ventilation working as designed to control contamination.*
- *Successful decontamination and maintenance of in-canal work area allowed reduction in PPE to address heat stress concerns.*

ALARA Successes

- *Successful response to an abnormal situation (leaking bulkhead seal) including recovery of canal water levels and control of contamination at the seal leak where air/water spray threatened to cause spread of contamination.*
  - *Back-up pumps readily available*
  - *Prescribed periodic monitoring frequencies aided in early detection of the problem*
  - *Quick analysis and control of the situation by shift personnel*