

Resident Inspector Demographics

Scope and Objectives

This enclosure is the annual update on demographic data for inspectors assigned to the resident inspector (RI) program, requested by the Commission in its staff requirements memorandum (SRM) for COMGJD-98-001/COMEXM-98-002, "Discussion of Resident Inspector Demographics and the Balance between Expertise and Objectivity," issued April 8, 1998. This analysis seeks to determine whether the actions of the U.S. Nuclear Regulatory Commission (NRC) associated with the RI program have resulted in a stable or increasing RI experience base and to identify any necessary improvements. This enclosure also provides an update on site staffing.

Resident Inspector Demographic Data

The NRC's staff review of the demographics included an analysis of the overall program data for the RI and senior resident inspector (SRI) groups (see Tables 1–7 and Figures 1–10). The staff used median values from November 2006 for statistical comparison with those from November of each year through 2010.

In accordance with Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program," the demographic analysis consists of the following four data sets:

- (1) "NRC time" is the total number of years the individual has accumulated as an NRC employee.
- (2) "Total resident time" is the total number of years the individual has accumulated as an RI or SRI.
- (3) "Current site time" is the total number of years spent as an RI or SRI at the current site.
- (4) "Relevant non-NRC experience" is nuclear power experience acquired outside the NRC. Examples of relevant non-NRC experience include operation, engineering, maintenance, or construction experience with commercial nuclear power plants, naval shipyards, U.S. Department of Energy facilities, or the U.S. Navy's nuclear power program.

Analysis of the 2010 Resident Inspector Group

The RI demographic data (see Table 1) indicate that the RI turnover rate had been on a downward trend from 2007 through 2009 (46 percent, 31 percent, and 22 percent). It stabilized at 23 percent in 2010. Of the 71 RI positions, 16 RIs left their sites during 2010; 6 were promoted to SRI positions, 8 were either promoted or laterally reassigned to a regional office or Headquarters, and 2 resigned from the NRC.

As a result of the high turnover in 2007 (46 percent), about half of the RIs were in new assignments, which likely contributed to the reduced turnover in the following 3 years. In addition, the current real estate market has been a negative incentive for turnover and has caused several SRIs and RIs to apply for extensions beyond 7 years. Finally, as discussed later in this enclosure, the staff has implemented a number of initiatives to enhance relocation and retention of employees that may also have contributed to the reduction in turnover. The staff will continue to monitor the affect of these initiatives on resident staff turnover.

Table 1 RI Turnover

	2006	2007	2008	2009	2010
Promoted to SRI	11	13	10	6	6
Promoted/ Reassigned	2	13	8	7	8
Retired	1	3	1	0	0
Resigned	0	4	3	2	2
Total	14	33	22	15	16
Turnover Rate	20%	46%	31%	22%	23%

NRC time (nationally) had steadily increased and then decreased in 2010. Relevant non-NRC experience has steadily decreased, especially in 2009 and 2010 (see Table 2). Table 6 shows a breakdown of data on RI experience by region. This table shows that Region I has significantly lower levels of relevant non-NRC experience than the other regions. The majority of Region I RIs began their careers with the NRC which has resulted in a median value of zero. However, Region I has a greater median NRC time than the other regions.

**Table 2 RIs
(Median Values in Years)**

	2006	2007	2008	2009	2010
NRC Time	4.04	4.25	4.48	5.42	4.53
Total Resident Time	2.39	1.87	1.28	1.79	2.25
Current Site Time	2.23	1.85	1.28	1.79	2.19
Relevant Non-NRC Experience	10.75	10.38	9.00	6.25	5.25

Analysis of the 2010 Senior Resident Inspector Group

Table 3 indicates that the SRI turnover rate for 2007 through 2009 steadily declined (26 percent, 18 percent, and 11 percent) and stabilized in 2010 at 11 percent. The factors that influenced

the reduction in RI turnover discussed previously also influenced the reduction in SRI turnover. In 2010, 7 of 66 SRIs left their SRI position at a specific site. Of these seven, one was promoted, three were reassigned (including SRIs who were laterally reassigned to another site), one retired, and two resigned from the NRC.

Table 3 SRI Turnover

	2006	2007	2008	2009	2010
Promoted	7	7	5	4	1
Reassigned	7	7	4	2	3
Retired	1	1	1	0	1
Resigned	1	2	2	1	2
Total	16	17	12	7	7
Turnover Rate	24%	26%	18%	11%	11%

Table 4 shows national trends for experience criteria from 2006 through 2010 and indicates little variation nationally. Table 7 indicates wide variance from the national average for Region I regarding NRC time and relevant non-NRC experience. As noted for RIs above, Region I SRIs have less relevant non-NRC experience but more NRC time than other regions. For RIs and SRIs combined, Region I NRC time and relevant non-NRC experience are close to the national median (27.42 vs. 29.46 years).

**Table 4 SRIs
(Median Values in Years)**

	2006	2007	2008	2009	2010
NRC Time	9.28	10.11	10.86	10.86	9.68
Total Resident Time	7.77	7.93	6.78	7.71	8.19
Current Site Time	3.21	2.52	2.28	2.44	3.17
Relevant Non-NRC Experience	9.08	10.04	9.38	9.51	10.00

Resident Inspector Attraction and Retention

Staff turnover within the NRC, whether caused by promotion, reassignment, retirement, or resignation, is an ongoing process from which the RI program is not insulated. To ensure that the RI program can continue to fulfill its mission, the Commission directed the staff in SRM M070531, "Briefing on the Results of the Agency Action Review Meeting (AARM)," dated June 14, 2007, to evaluate recruitment, training, and development to confirm that there are adequate human resources to meet changing needs. Additionally, because of the importance of maintaining an experienced and stable onsite inspection presence, the NRC initiated several actions to help alleviate the burden associated with the transient nature of the RI program.

SECY-09-0050, "Actions to Enhance Relocation and Retention for Employees," dated March 30, 2009, informed the Commission of staff actions to enhance the relocation and retention of employees. The staff identified existing authorities and flexibilities that could be further developed and appropriately used to enhance the agency's relocation and retention processes. Some of the enhancements initially considered in connection with the RI program may apply to other agency positions for which the agency might need to enhance its efforts to relocate or retain employees in the future.

In its SRM dated June 26, 2009, the Commission reaffirmed the 7-year rotation policy for SRIs and RIs and approved the staff's proposals to use existing authorities to enhance the agency's relocation and retention processes to address the turnover in SRI and RI positions. The SRM asked the staff to report to the Commission within 2 years on the effectiveness of these changes.

On December 1, 2009, the Executive Director for Operations (EDO) and the Chief Financial Officer issued the Relocation and Retention Initiative Action Plan, which implements additional agency retention and relocation improvements made by the 2008 Working Group and the Resident Inspector Attraction and Relocation Focus Group.

The staff has made advances and, in many cases, completed additional recommendations intended to stress the importance of greater communication about and use of program and management flexibilities. A memorandum from the Deputy Executive Director for Reactor and Preparedness Programs, Office of the EDO, dated March 14, 2010, documents the status of the Action Plan items. In accordance with the SRM dated June 26, 2009, the staff will report on the effectiveness of the relocation and retention enhancements for SRIs and RIs in a separate paper to the Commission in calendar year (CY) 2011.

Site Staffing

The staff developed a site staffing metric of 90 percent program-wide, in response to a recommendation by the Davis-Besse Lessons Learned Task Force, to satisfy minimum staffing levels. The purpose of the metric is to evaluate the agency's ability to provide continuity of regulatory oversight through the timely assignment of permanent RI staff. IMC 0307 provides details regarding the site staffing metric and criterion.

Despite the rates of turnover in the RI and SRI positions, the regions succeeded in meeting their site staffing metric of 90 percent. The average site staffing for all regions was 98.53 percent in CY 2010. Only three sites fell below the 90-percent site staffing requirement, the lowest number since 2006. All three sites were staffed at or above 80.5 percent and were supplemented by region-based inspectors to assist in completing the baseline inspection program. However, these inspectors were not counted toward the metric because they were in place for less than 6 weeks. Meeting this metric was challenging, and attempting to do so had a significant impact on inspectors and management, but the recent relocation and retention enhancements may improve future site staffing metric results. Table 5 tracks the number of sites since 2006 that did not meet the 90-percent site staffing goal.

Table 5 Number of Sites Under 90-Percent Site Staffing

	2006	2007	2008	2009	2010
Number of Sites	1	9	5	5	3

**Table 6 RIs by Region (2010)
(Median Values)**

2010	NRC Time (years)	Total Resident Time (years)	Current Site Time (years)	Relevant Non- NRC Experience (years)
Region I	5.89	1.14	1.14	0.00 ¹
Region II	4.24	2.17	1.21	5.00
Region III	4.58	2.63	2.63	7.42
Region IV	5.85	2.67	2.67	6.00
All Regions	4.53	2.25	2.19	5.25

¹ The median relevant experience is zero because more than half of the RIs have no prior relevant non-NRC experience.

**Table 7 SRIs by Region (2010)
(Median Values)**

2010	NRC Time (years)	Total Resident Time (years)	Current Site Time (years)	Relevant Non- NRC Experience (years)
Region I	14.07	7.12	3.26	7.46
Region II	9.28	8.73	3.17	12.58
Region III	10.45	9.30	2.75	10.08
Region IV	8.34	6.27	3.24	10.62
All Regions	9.68	8.19	3.17	10.00

Conclusions

The staff has concluded that sites continue to be staffed with knowledgeable and experienced RIs and SRIs. The demographic data indicate an improving trend in lowering turnover rates for both SRIs and RIs from 2006 through 2009; turnover rates for 2010 are about equal to those in 2009.

In addition, feedback from licensees noted that the inspectors performed high-quality and effective inspections that correctly characterized the licensee's performance (as discussed in Enclosure 2).

Many of the RI program incentives described in SECY-09-0050 have only been implemented recently or are in the process of being implemented. Therefore, the RI demographics are expected to remain stable. However, the NRC will continue to monitor SRI and RI staffing and retention to identify any adverse trends early.

The staff will discuss the effectiveness of the enhancements to the relocation and retention initiatives described in SECY-09-0050 in a separate paper to the Commission in CY 2011, in accordance with the associated SRM dated June 26, 2009.

- (1) **NRC Time:** NRC time for RIs increased in 2010 for Regions I and IV and decreased for Regions II and III and the national median value (Figure 1). NRC time for SRIs increased in Regions II and IV and decreased in Regions I and III and the national median value (Figure 2).

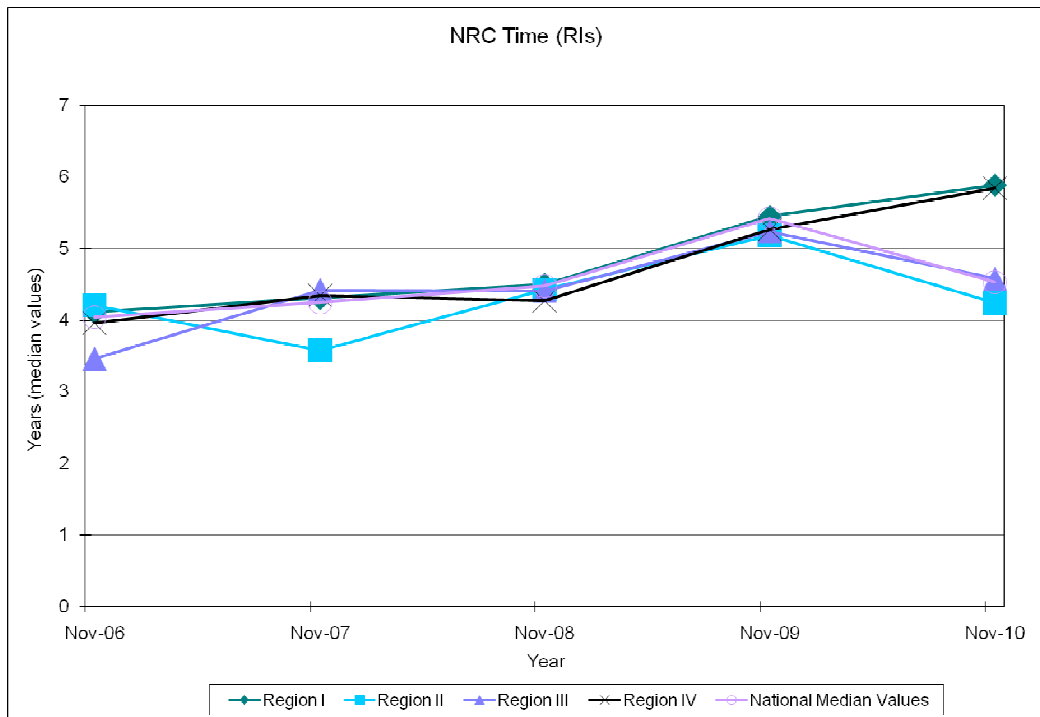


Figure 1 NRC time (RIs)

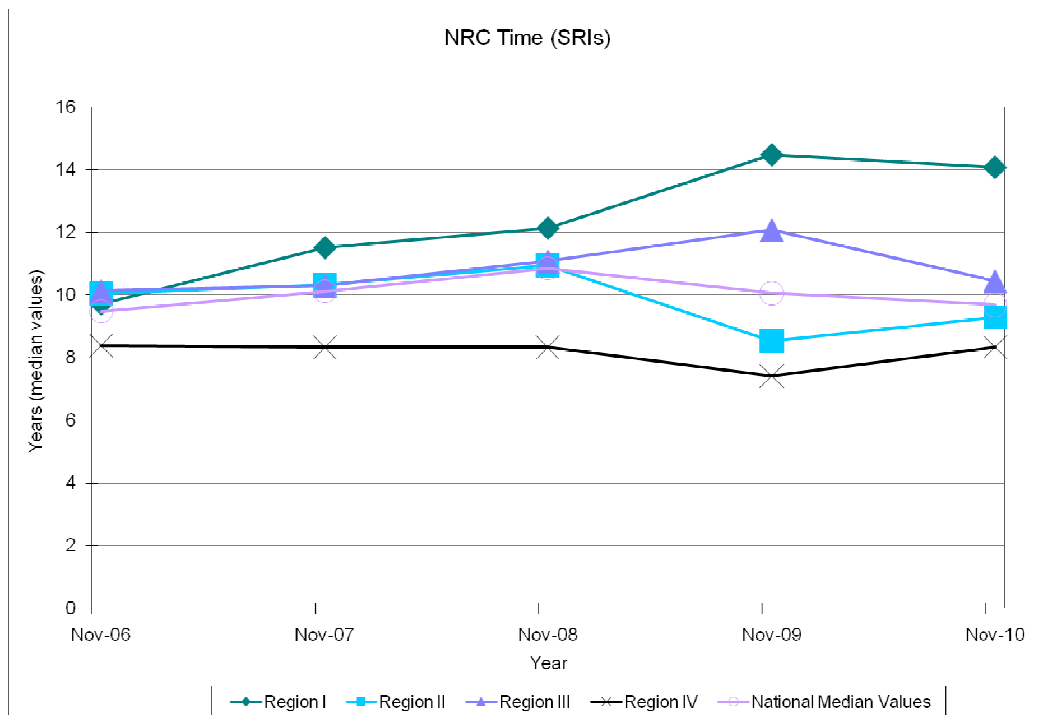


Figure 2 NRC time (SRIs)

- (2) **Total Resident Time:** From 2008 to 2010, total resident time for RIs significantly increased in Regions II, III, and IV, and marginally increased in Region I (Figure 3). This indicates an increased resident experience level. For 2006 through 2010, total resident time for SRIs remained about the same for the national median value (Figure 4).

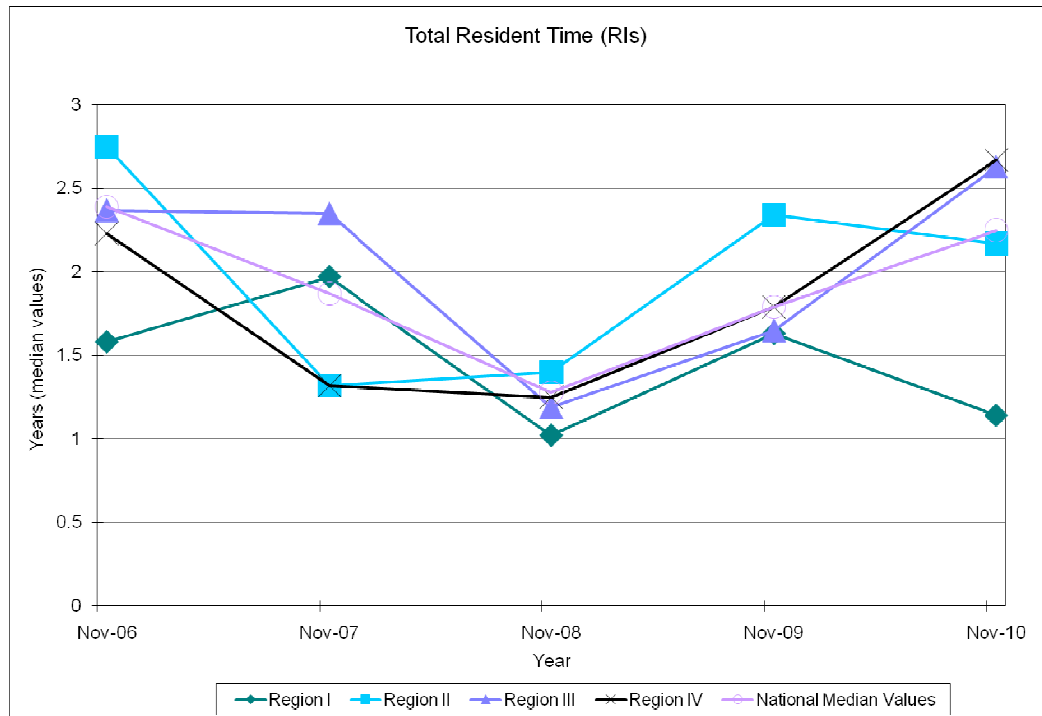


Figure 3 Total resident time (RIs)

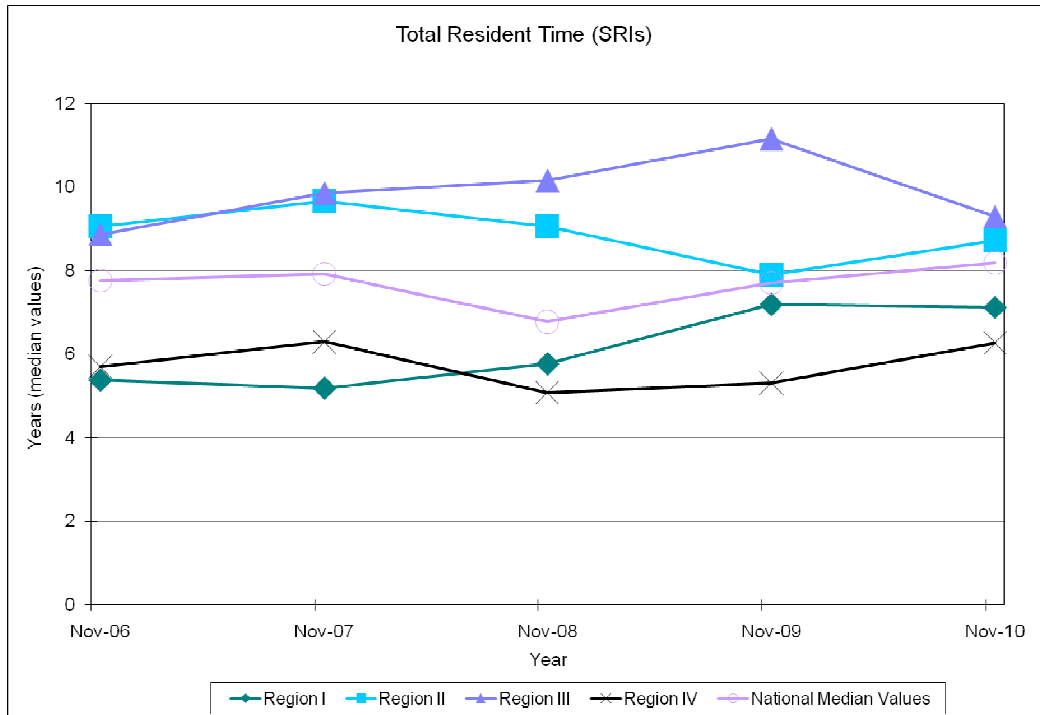


Figure 4 Total resident time (SRIs)

- (3) **Current Site Time:** From 2008 to 2010, the current site time for the RIs significantly increased in Regions III and IV and the national median value, and remained about the same in Regions I and II (Figure 5). Current site time for the SRIs has been fairly steady from 2006 through 2010, as indicated by the national median value, notwithstanding fluctuations for individual regions (Figure 6).

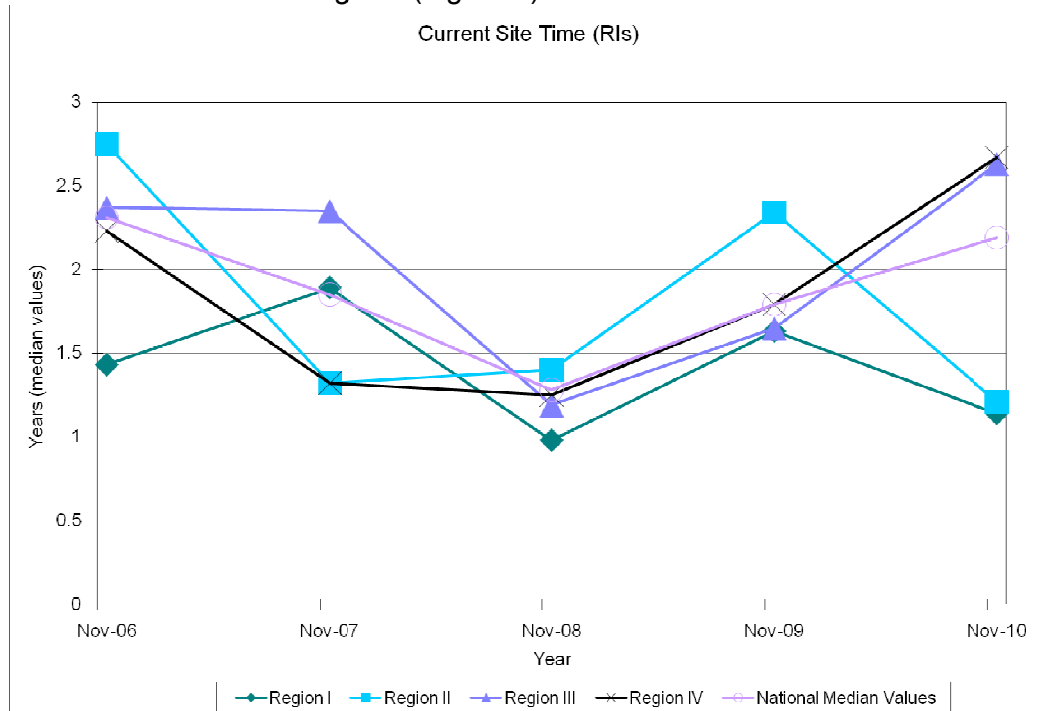


Figure 5 Current site time (RIs)

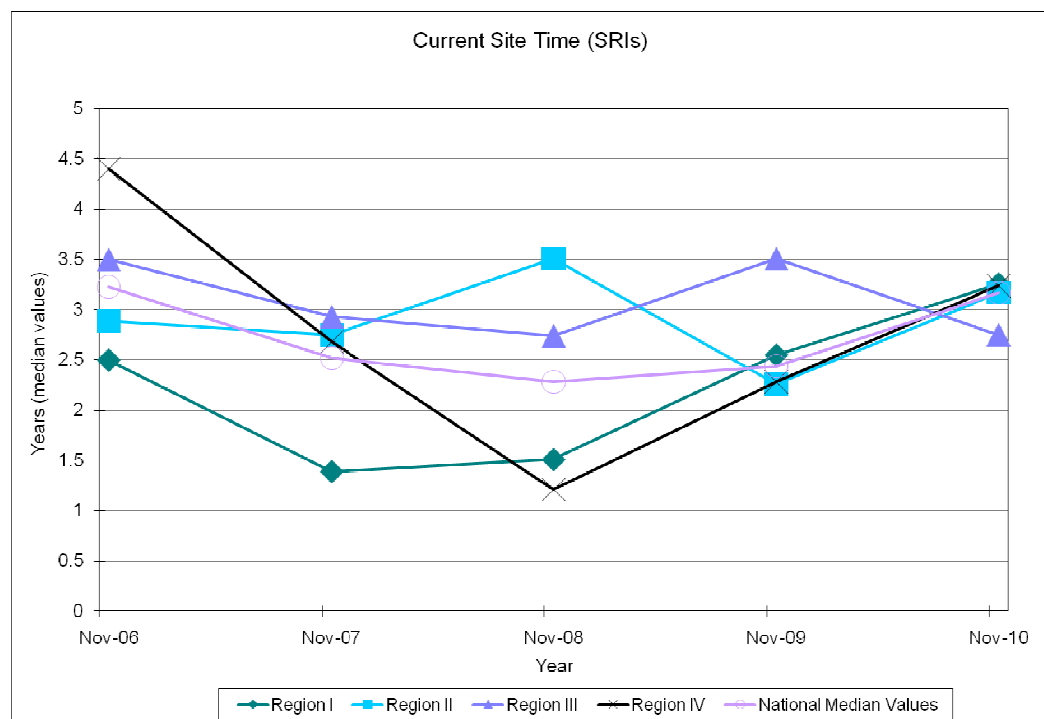


Figure 6 Current site time (SRIs)

- (4) **Relevant Non-NRC Time:** From 2006 to 2010, relevant non-NRC experience for the RIs decreased significantly in all regions and the national median value (Figure 7). Non-NRC experience for the SRIs remained relatively constant in the other regions (Figure 8), with a higher value in Region II and a lower value in Region I.

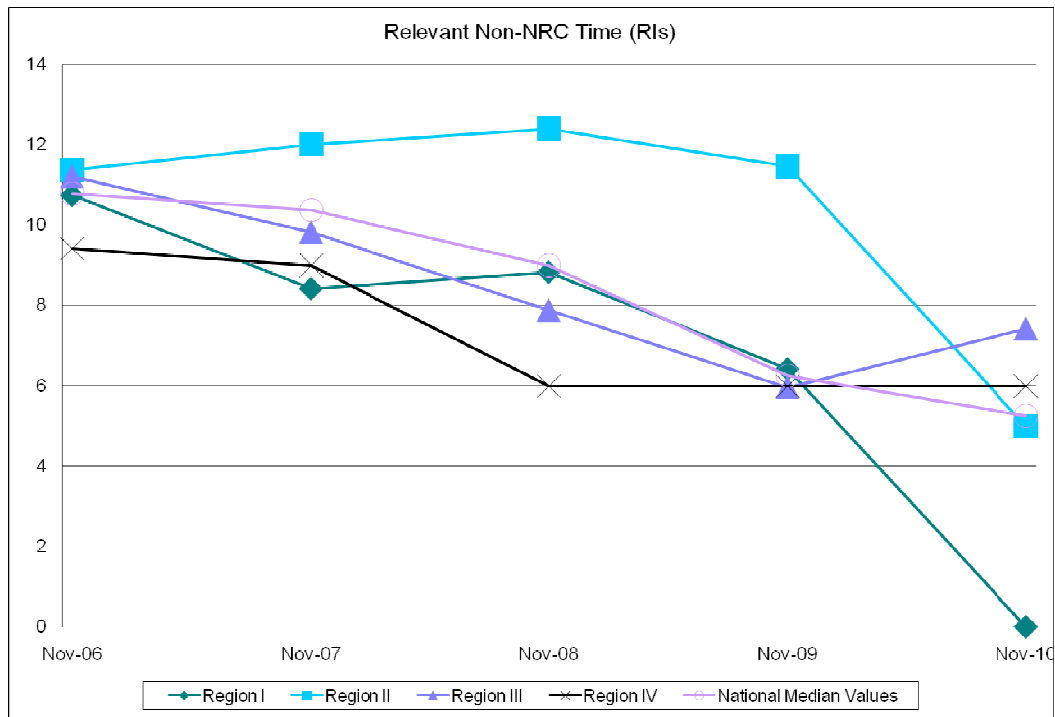


Figure 7 Relevant non-NRC time (RIs)

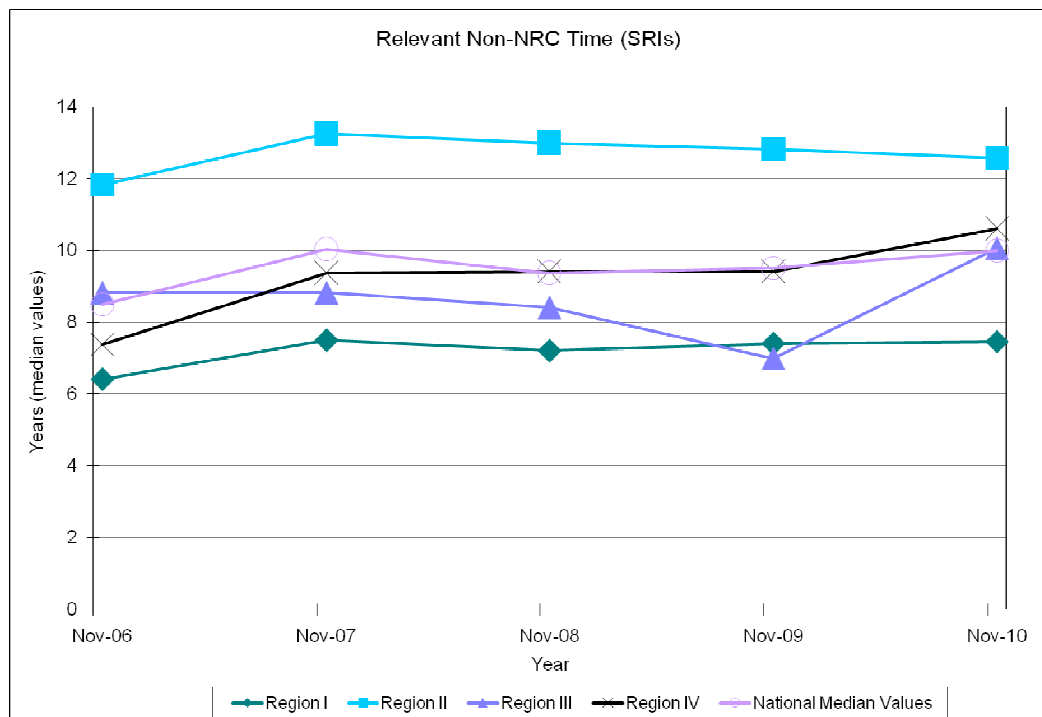


Figure 8 Relevant non-NRC time (SRIs)

- (5) **Summary:** Figures 9 and 10 graphically portray the average national demographic data for the RIs and SRIs shown in Tables 2 and 4. For RIs and SRIs, the data indicate steady national values from 2006 through 2010, except for decreasing relevant non-NRC time for RIs.

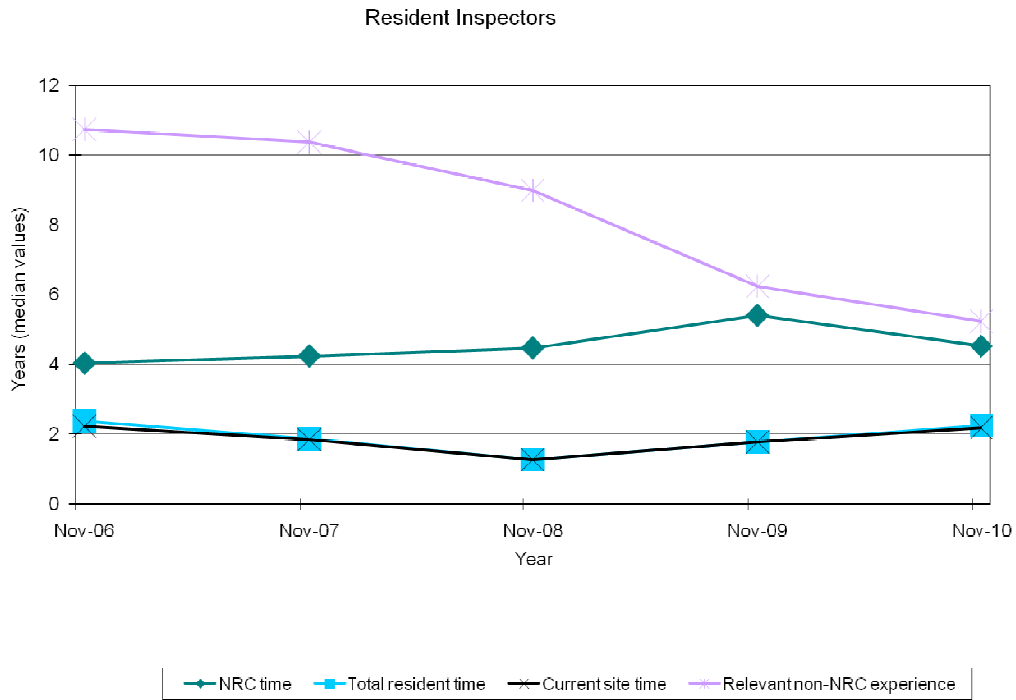


Figure 9 Average national demographic data for RIs

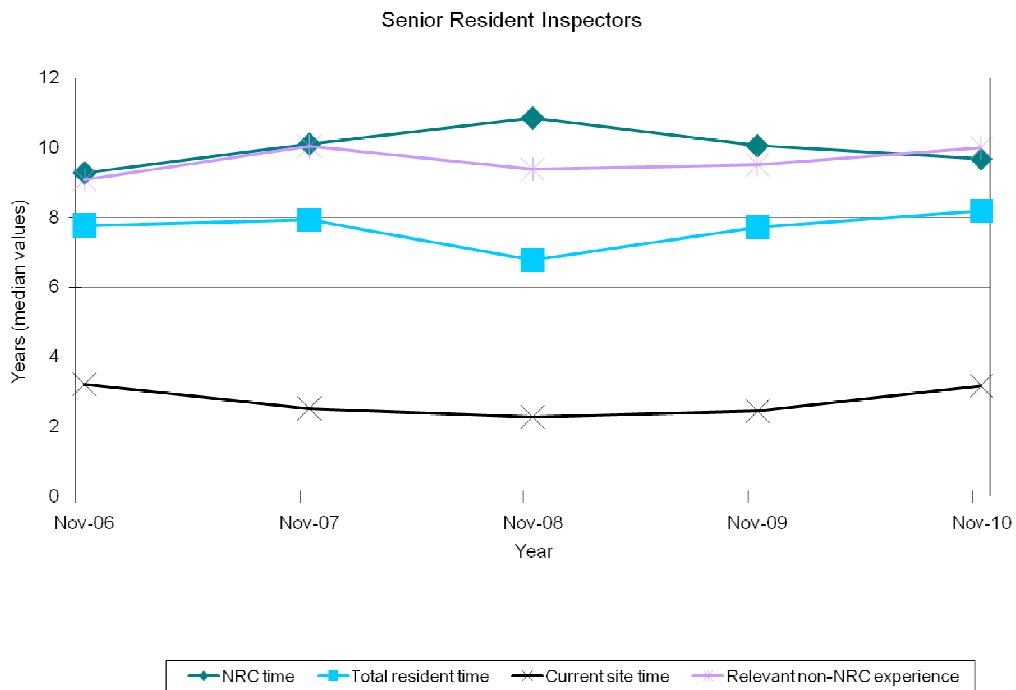


Figure 10 Average national demographic data for SRIs