

EXECUTIVE SUMMARY

The Reactor Oversight Process (ROP) self-assessment program evaluates the overall success of the ROP being objective, risk-informed, understandable, and predictable as well as its success in meeting the agency's performance goals of maintaining safety; protection of the environment and the common defense and security; increasing public confidence; making NRC activities and decisions more effective, efficient, and realistic; and reducing unnecessary regulatory burden on stakeholders. Periodically, the self-assessment program collects information from various sources, including the Reactor Program System (RPS), the inspection program, the ROP performance indicator (PI) program, additional industry level PIs, periodic independent audits, stakeholder surveys, and public comment. Based on this information, the ROP's success in meeting the overall goals is determined in each program area: PIs, inspections, significance determination process, and assessment. In addition, an assessment of overall ROP efficacy is made and recommendations developed for improving the program.

This report focuses on those self-assessment questions associated with the inspection program. The metrics do not directly measure the quality of inspections and one year of implementation may not be sufficient to draw conclusive results. However, where appropriate, some conclusions are reached.

A majority of the NRC employees who are implementing the ROP believe that the program leads to objective findings whose significance can be clearly documented, and the majority of inspection findings are documented in accordance with program requirements. Therefore, the reactor inspection program contributes to objectively assessing licensee performance. However, the program needs to improve the clarity of the significance descriptions for findings in inspection reports.

Few changes to the baseline inspection program were needed to improve its risk-informed aspects and the changes for scope or frequency were not significant. However, the number of changes to SDPs and Inspection Manual Chapter (IMC) 0610* indicate that the tools for determining the significance of findings, the thresholds for documenting findings, and guidance for documenting inspections need improvement. Although the descriptions of significance of findings in inspection reports were often deficient, the findings were usually valid. The few no color findings in audited reports may indicate that fewer of them are being documented, which is consistent with the program's design. None of the challenges of significance of issues have been sustained. The survey of those implementing the program indicate they believe the program is risk informed. Therefore, the staff concludes that the baseline inspection program is risk-informed.

Although program documents are understandable to the staff implementing them, they can be much improved. Inspection reports on average provide relevant information for their target audiences; however, they too can be improved.

The baseline inspection program can be fully implemented in a 12-month cycle and is completed fairly evenly over the year. Less than 9 percent of scheduled inspections had to be changed, usually because inspectors were not available or conditions at the site were not appropriate for the inspection. The direct inspection resources necessary to implement the program were below the estimates. Only one plant had its baseline program significantly altered. Millstone Units 2 and 3 were treated as two single unit sites, as they had been under the previous program. Therefore, the program is determined to be predictable. All of the

information required to calculate this measure is not available in RPS and RITS and significant effort is needed to develop the resulting numbers.

The baseline inspection program covers the important aspects of plant operation, and the program is being implemented as planned. Although almost a fourth of the baseline inspection program procedures were changed affecting scope or frequency of inspection, few of the changes were significant. However, some other significant changes are being planned. The changes made to inspection schedules accounted for less than 9 percent of all scheduled inspections, and a large portion of those were to improve the effectiveness or efficiency of the inspections. The majority of NRC employees surveyed find the program covers areas important to safety and the key attributes of the cornerstones of safety. Therefore, the staff concludes that the program contributes to maintaining safe plant operations.

The resources used during the first year of the ROP for baseline inspection program direct effort was about 10 percent less than the estimated effort. Contractor effort was used in the areas expected: design and fire protection. However, a sizeable contractor effort was necessary to supplement Region I because of efforts at Indian Point 2. Although only about 9 percent of scheduled inspections needed to be changed (about 100 changes), a large portion of those (41) were because inspectors were not available or cascading effects of making changes to a schedule. Changes to schedules to make inspections more effective or efficient (e.g., combining inspections, using inspectors already on site, or plant conditions not appropriate for the inspection) accounted for a sizeable number of schedule changes (22).

The number of change notices issuing significant changes to the program increased during the year. A large percentage of the changes were for new or revised SDPs. The number of changes to the program will probably not decrease in the near term as changes from first year evaluations are made and issued. The survey of those implementing the ROP found that the baseline inspection program emphasizes planning inspections, which is necessary for effective and efficient inspections.

Inspection reports and completion of temporary instructions were timely with only a few exceptions.

The staff concludes that the inspection program is effective, efficient, and realistic. Improvements can be made by stabilizing the program (fewer significant changes) and improved SDPs.

All the postings of inspection data to the Internet web pages available to the public were made within timeliness goals set by the program. Only 13 instances of incorrect data with the issued or posted inspection data were noted, a very small percentage of the data made available. The NRC employees implementing the ROP who were surveyed found that the inspection reports are timely and accurate (supported by the timeliness and accuracy metrics), and that the information contained in the reports is relevant to the public. Therefore, the staff concludes that the inspection program does enhance public confidence in the oversight of operating power reactors.

Although the ROP has reduced overall burden on licensees and the inspection program is focusing the NRC and licensees on the more important issues, there are opportunities to improve the burden imposed by the inspection program.

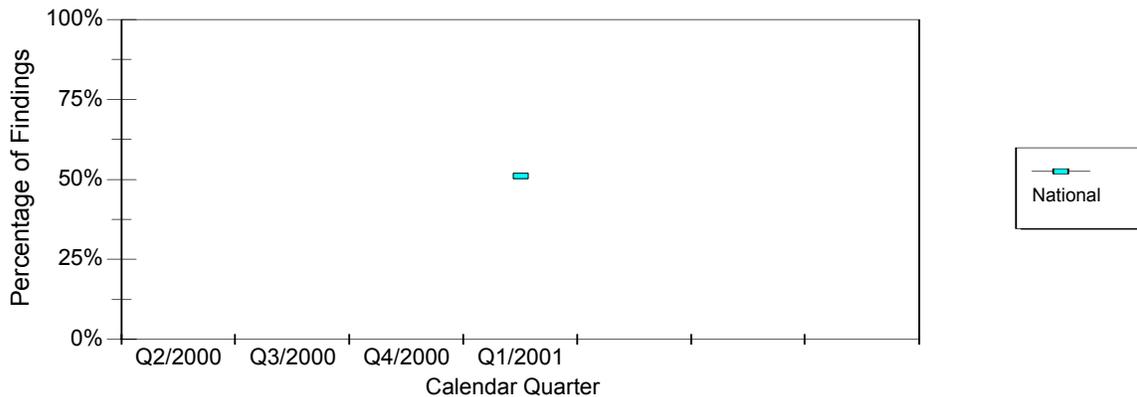
OI1 Findings and Conclusions in Inspection Reports Are Based on Facts Documented in the Reports.

OI1.a Program is objective when inspection findings are documented in accordance with program guidance.

How: Audit inspection reports to program requirements for documenting Green, greater than Green, no color findings, and violations (IP's, 0610*, 2515), count the number of findings that do not meet the program requirements. Each year audit all team reports, one resident/consolidated report from all plants, 25 percent of all other baseline reports, and all non-baseline inspection reports.

Success: Track and trend results showing improving trend over time.

Lead: IIPB



Percentage of Inspection Report Findings Properly Documented by Quarter

Analysis:

IIPB began auditing reports with those issued during the first calendar quarter of 2001. The results are based on a total of 55 findings in 30 inspection reports. For the first quarter of 2001, the average rate of conformance with program requirements was 51 percent. That rate is consistent with previous audits and analyses of inspection findings for comparably significant issues. The biggest problem area was the discussion of significance in the report details (24 findings) followed by discussion of findings in the summary of findings (10 findings).

Additional guidance in the form of examples are being added to IMC 0610*, "Reactor Inspection Reports." Other means of disseminating the guidance, such as meetings with regional branch chiefs, are also being considered.

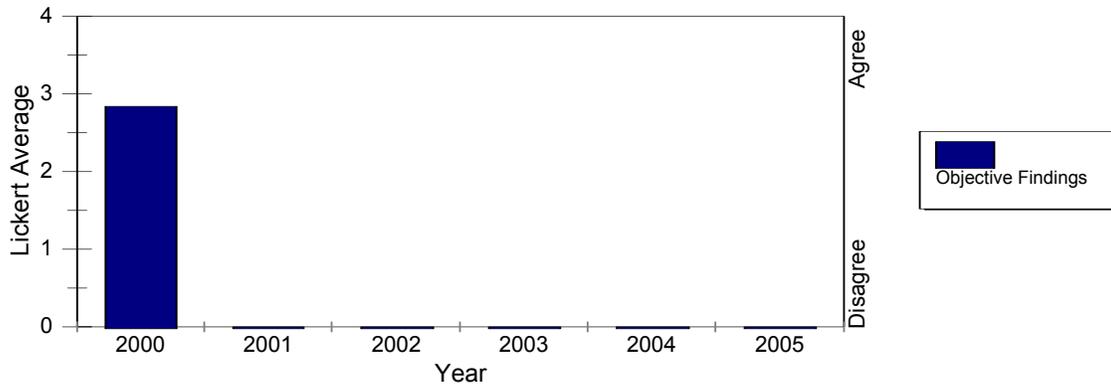
Other Areas: Risk Informed

OI1.b Program leads to objective findings whose significance can be clearly documented as measured by a survey of inspectors and other users of the program.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 6, second question)

Success: Trend average level of agreement.

Lead: IIPB



Program Leads to Objective Findings Whose
Significance Can be Clearly Documented

Analysis:

The majority of responders believe the program leads them to objective inspection findings whose significance can be clearly documented in inspection reports.

Other Areas: None

OBJECTIVE - Conclusions:

A majority of the those implementing the ROP believe that the program leads to objective findings whose significance can be clearly documented, and the majority of inspection findings are documented in accordance with program requirements. Therefore, the reactor inspection program contributes to objectively assessing licensee performance. However, the program needs to improve the clarity of the significance descriptions for findings in inspection reports.

RI1 Inspection Findings are Related to Risk

RI1.a - Inspection findings are related to risk if they meet established standards.

How: NOTE: Design a single audit process to include elements noted in all subsequent metrics (i.e., see US1a, PS1a, MS1a, ES2a). Independent reviewer given inspection reports containing a representative (cross-regional) selection of green findings. Sample size selected for 95% confidence (for all audit samples).

Success: 95% confidence factor - Yes in all cases. Must explain why if not.

Lead: DSSA/SPSB (reactor); DIPM/IOLB (non-reactor)

Results:

The audit of GREEN inspection findings to determine if the findings met established significance determination process standards was inconclusive. In several instances, the available documentation was not sufficiently developed and limited the ability of the of the auditor to assess the accuracy and adequacy of the inspection findings. Report documentation must be improved (measured by OI1.a) in order to improve the validity of this metric.

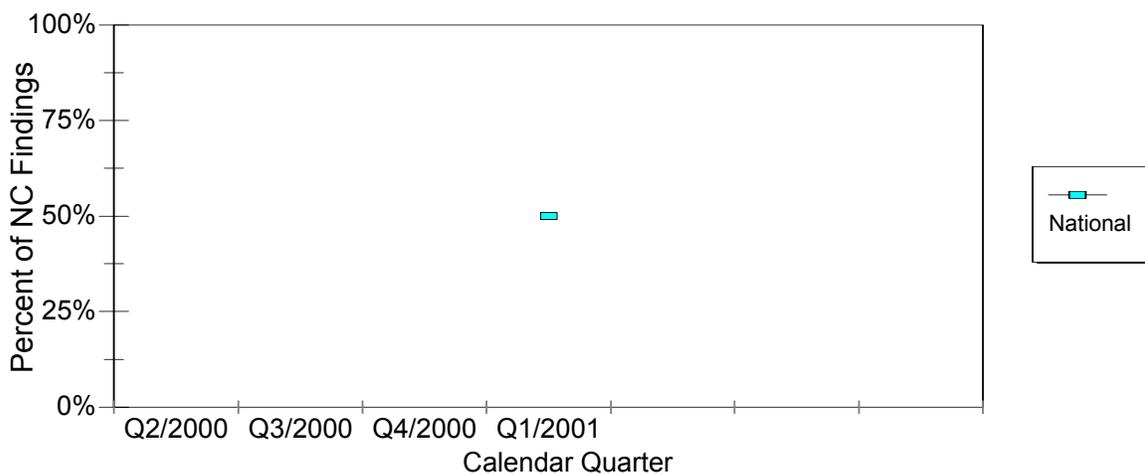
Other Areas: None

RI1.b Inspection program uses risk insights if inspection findings are documented in accordance with program guidance.

How: Audit inspection reports to program requirements for documenting Green, greater than Green, and no color findings (IP's, 0610*, 2515), count the number of findings that do not meet the program requirements. Each year audit all team reports, one resident/consolidated reports from all plants, 25 percent of all other baseline reports, and all non-baseline inspection reports.

Success: Track and trend showing improving trend.

Lead: IIPB



Percentage of Inspection Findings Properly Documented
by Quarter

Analysis:

IIPB began auditing reports with those issued during the first calendar quarter of 2001. The results are based on a total of 55 findings in 30 inspection reports. For the first quarter of 2001, the average rate of conformance with program requirements for all inspection findings was 51 percent. That rate is consistent with previous audits and analyses of inspection findings for comparably significant issues. The biggest problem area was the discussion of significance in the report details (24 findings) followed by discussion of findings in the summary of findings (10 findings).

Additional guidance in the form of examples are being added to IMC 0610*, "Reactor Inspection Reports." Other means of disseminating the guidance, such as meetings with regional branch chiefs, are also being considered.

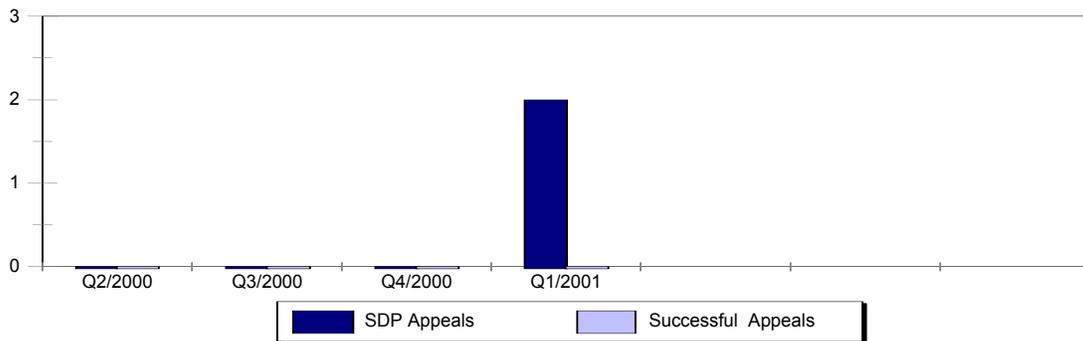
Other Areas: Objective

RI1.c Inspection findings are related to risk as evidenced by the number of appeals of SDP determinations and the number that are successful.

How: Regions report: track total and by region

Success: Track 1st year to establish baseline
Steady or decreasing trend
Any will be considered for process adjustment
Annual report of any resultant adjustments

Lead: Regions



Number of Appeals and Sustained Appeals of SDP Determinations

Analysis:

As of May 1, 2001, two appeals of SDP findings have been received for:

- 1) Comanche Peak 2 Steam Generator Tube Rupture-RED (Upheld)
- 2) Callaway ALARA Issues-WHITE (Upheld)

No appeals have resulted in overturned final SDP results.

Other Areas: None

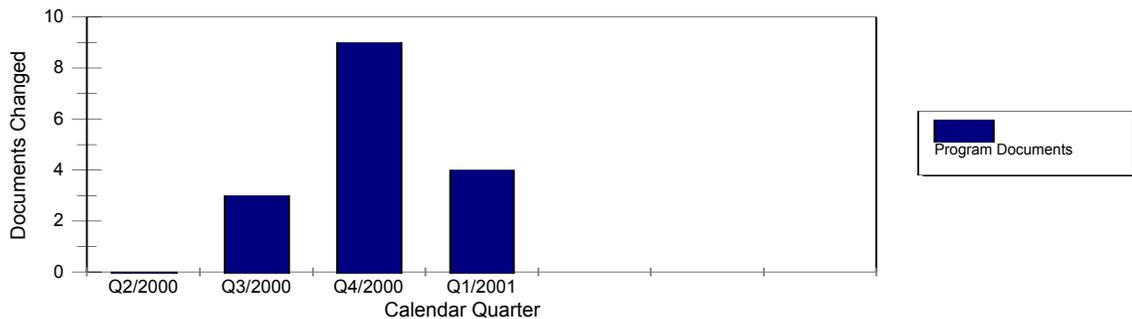
RI2 Inspection Program Uses Risk Insights

RI2a Inspection program uses risk insights as evidenced by the number of changes to inspection program documents relating to improving risk informed aspects

How: Review all changes to baseline inspection program and count the number of changes that relate to risk-informing the inspection.

Success: Relatively few significant changes, trend stable or declining

Lead: IIPB



Number of Program Documents Changed Affecting Risk-Informed Aspect of Program

Comments: Based on a total of approximately 150 documents (45 baseline inspection program procedures, 99 supplemental inspection program procedures, 10 Inspection Manual Chapters and appendixes) composing the program.

Analysis:

Almost half (7 of 16) of the documents changed to improve the risk-informed nature of the inspection program were new or revised significance determination processes. Another four changes were new or revised supplemental inspection procedures covering areas such as steam generator replacement, maintenance rule changes, force-on-force security assessments, and risk assessment and management. Only three baseline inspection program procedures were revised to improve the risk-informed nature of the baseline inspection program (physical security, maintenance rule implementation, and operator requalification). The other two changes were to IMC 0610* to improve the questions for determining the threshold for documenting a finding.

Few changes were needed for the baseline inspection program to improve its risk-informed aspects. However, the SDPs, which categorize the importance of findings, still require improvement.

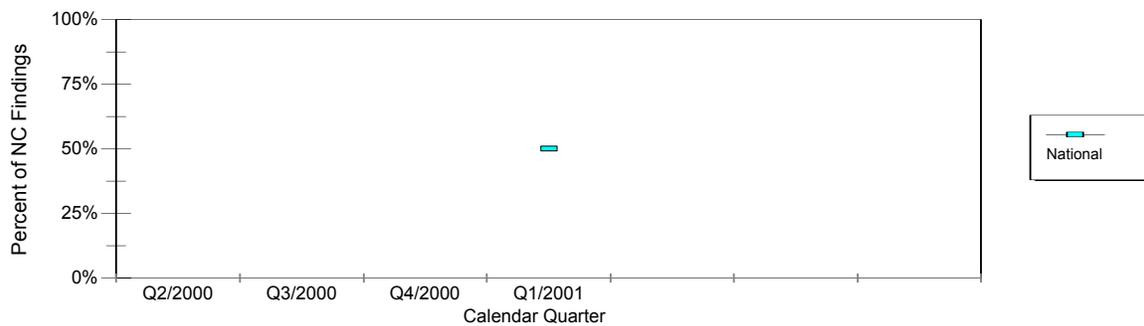
Other Areas: None

RI2.b Inspection program uses risk insights as evidenced by the number of “no color” inspection findings IAW program guidance.

How: Audit inspection reports to verify proper classification of no color issues in accordance with program requirements for documenting inspection findings, counting the number of no color findings that are properly characterized. Each year audit all team reports, one resident/consolidated reports from all plants, 25 percent of all other baseline reports, and all non-baseline inspection reports.

Success: Trend of percentage of findings meeting criteria steady, use first year to establish benchmark for comparison.

Lead: IIPB



Percentage of “No Color” Findings Properly Documented by Quarter

Analysis:

IIPB began auditing reports with those issued during the first calendar quarter of 2001. The results are based on auditing 30 inspection reports in which only 3 no color findings were documented.

Of the three findings, two were properly documented. No general conclusion can be drawn from such a small sample. Also, this metric will be deleted when changes are implemented to remove the “no-color” category from the ROP.

Other Areas: Objective

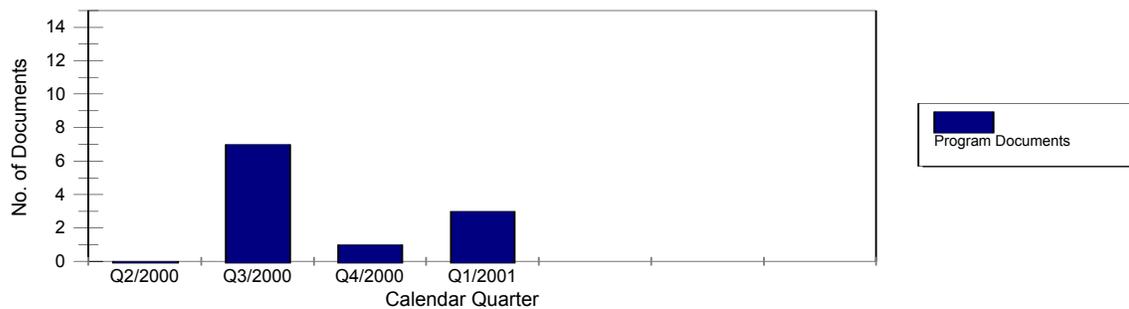
RI3 Inspection Areas (Including Their Scope and Frequency) Are Appropriate (i.e., Inspectable Areas Are Risk-significant, Nothing Is Missing, and There Is Nothing Extraneous)

RI3.a The inspection program is risk informed if it covers all appropriate areas as evidenced by the number of changes to baseline inspection program documents that affect scope or frequency of inspections.

How: Review all issued changes to baseline inspection procedures and count those documents that have their scope or frequency of inspection changed, and count new inspectable areas that relate to risk-informing the inspection.

Success: Relatively few significant changes, trend stable or declining

Lead: IIPB



Number of Baseline Inspection Program Documents Changed Effecting Scope or Frequency

Analysis:

There are 45 procedures in the baseline inspection program. Of these, 11 procedures were revised changing their scope or frequency of inspection. In most cases the changes were not significant.

- The four physical protection procedures deleted the corrective action program requirements to make the procedures consistent with the other baseline inspection program procedures in this area. And the frequency of inspection of one of the procedures was changed from biennial to triennial.
- The number of permanent plant modifications to be sampled was reduced to from 20-24 to 5-10.
- The maintenance risk assessment procedure was changed to reflect the change in the maintenance rule.
- The nonroutine plant evolutions procedure was revised to clarify its scope covering human performance and the interrelationship between this procedure and the event follow up procedure.

- The event follow up procedure was revised to include degraded conditions.
- The identification and resolution of problems procedure was revised to delete requirements related to collective risk of maintenance back logs and accounting for equipment availability.

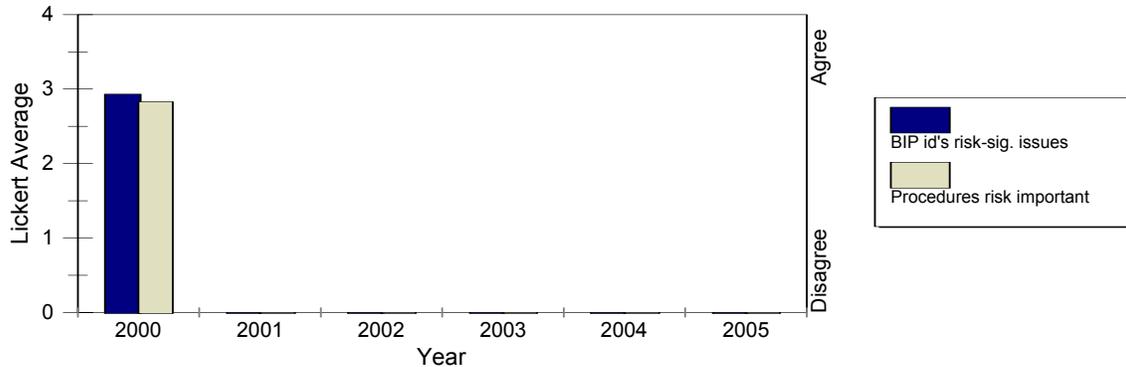
Other Areas: Maintain safety (Also Primary)

RI3.b The inspection program is risk informed if it appropriately inspects for and identifies risk-significant issues as measured by a survey of the program's users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 6, first question and section 7, fourth question)

Success: Trend average level of agreement.

Lead: IIPB



Baseline Inspection Program Identifies Risk-Significant Issues and Inspection Procedures Lead to Risk Important Areas

Analysis:

A percentage of respondents to the survey find the program is focused on risk and leads to risk-significant issues.

Other Areas: None

RISK-INFORMED - Conclusions:

Few changes to the baseline inspection program were needed to improve its risk-informed aspects and the changes for scope or frequency were not significant. However, the number of changes to SDPs and IMC 0610* indicate that the tools for determining the significance of findings, the thresholds for documenting findings, and guidance for documenting inspections needs improvement. Although the descriptions in inspection reports of significance of findings were often deficient, the findings were usually valid. The few no color findings in audited reports may indicate that fewer of them are being documented, which is consistent with the program's design. None of the challenges of significance of issues have been sustained. The survey of those implementing the program indicate they believe the program is risk informed.

Therefore, the staff concludes that the baseline inspection program is risk-informed.

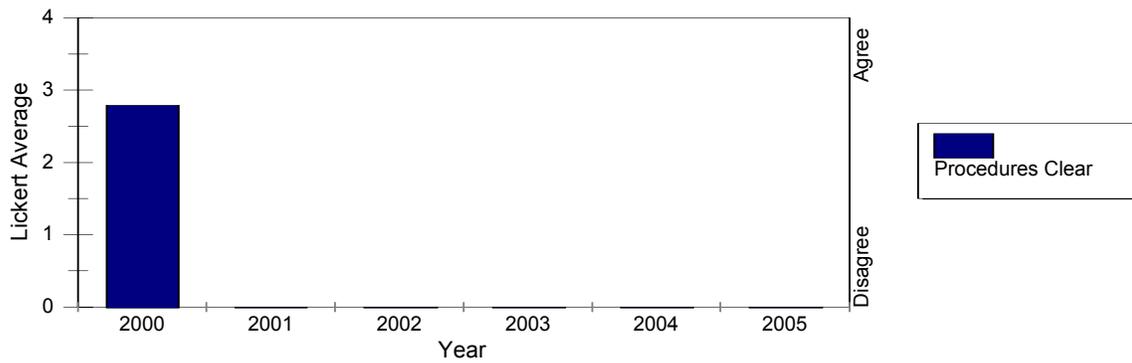
UI1 The Program Documents Are Clearly Written.

UI1.a The inspection program is understandable if the baseline inspection program procedures are clearly written as measured by a survey of the program's users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 7, second question)

Success: Trend average level of agreement.

Lead: IIPB



Baseline Inspection Program Procedures are Clearly Written

Analysis:

On average, those using the baseline inspection program documents find them understandable. However, a percentage do not.

Other Areas: None

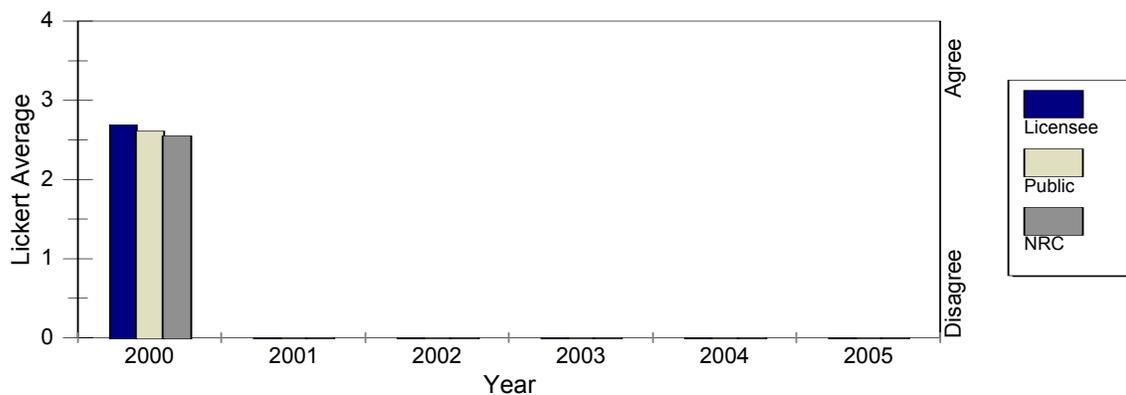
UI2 Inspection Reports Adequately Communicate Relevant Information

UI2.a The inspection program is understandable if the inspection reports adequately communicate relevant information to licensees, the public, and the NRC, as measured by a survey of the program's users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 8, first, second, and third questions)

Success: Trend average level of agreement.

Lead: IIPB



Inspection Reports Communicate Relevant Information
to Licensees, Public, NRC Users

Analysis:

The majority of respondents find inspection reports do provide relevant information for the licensee, public, and other NRC audiences, although in decreasing numbers for the three audiences.

Other Areas: Enhances Public Confidence

UNDERSTANDABLE - Conclusions:

Although program documents are understandable to the staff implementing them, they can be much improved. Although inspection reports on average provide relevant information for their target audiences, they too can be improved.

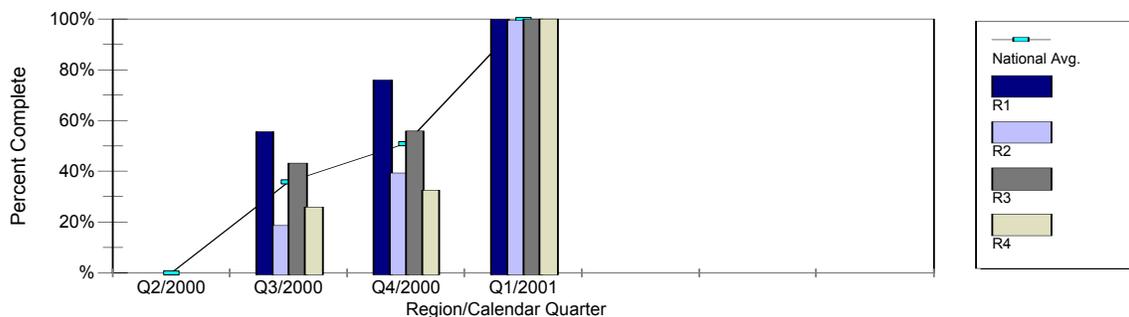
PI1 The Inspection Program Is Implemented as Defined—Inspections Are Pre-defined and Implemented as Planned.

PI1.a, Inspection program is predictable if implemented as defined.

How: (1) Analyze Reactor Programs System (RPS) data to determine if baseline inspection procedures are performed as scheduled. Percentage of IP's to which time is charged vs scheduled IP's for that quarter. (2) Also assess cumulative completion of baseline Ips on annual basis.

Success: Track initial year, then set goals for % completion rates; 100% completed at end of inspection cycle.

Lead: IIPB



Percent Baseline Inspection Procedure Completion

Comments: Graph shows cumulative percent of baseline inspection procedure completion by region as reported in Reactor Program System (RPS). (Ratio of completed samples/required samples expressed as a percent)

NOTE: Actual end of cycle results show that the baseline procedures required to be completed were completed at all sites as follows:

- Region I - all procedures completed except IP 71111.02 at Limerick (scheduled for July 2001)
- Region II - all procedures completed except one attachment to IP 71130 at Robinson, St. Lucie and McGuire (completed within several weeks of the end of the assessment year)
- Region III - 100 percent complete
- Region IV - 100 percent complete

Analysis:

The baseline inspection program can be planned and implemented throughout the year to achieve completion in a 12-month period. The metric also indicates completion rate during the year.

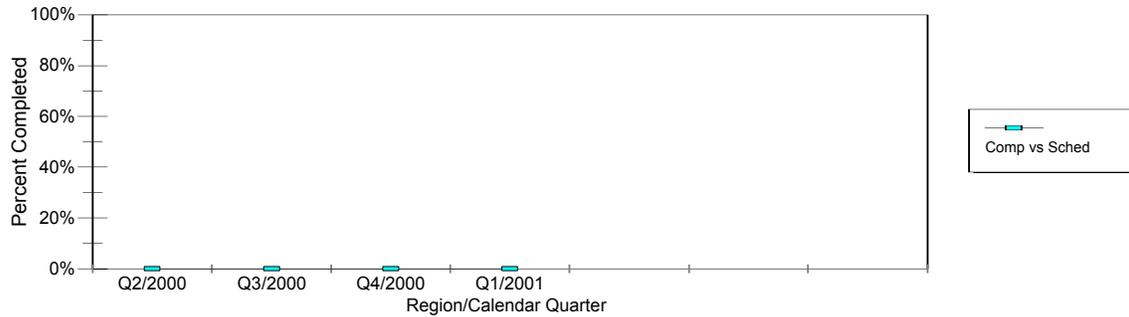
Other Areas: None

PI1.b Inspection program is predictable if implemented as defined and implemented as planned.

How: Review of RITS data.

Success: Minimal deviations from schedule

Lead: Regions



Inspection Procedure Completion vs Scheduled

Comment: Graph shows percent of inspection procedures completed vs procedures scheduled by quarter.

NOTE: All of the information required to calculate this measure is not available in RPS and RITS and significant effort is needed to develop the resulting numbers. Since this measure is very similar to PI1.a, the incremental benefit provided may not be justified by the significant effort required to obtain this measure. This measure may be deleted.

Analysis: (Data not available)

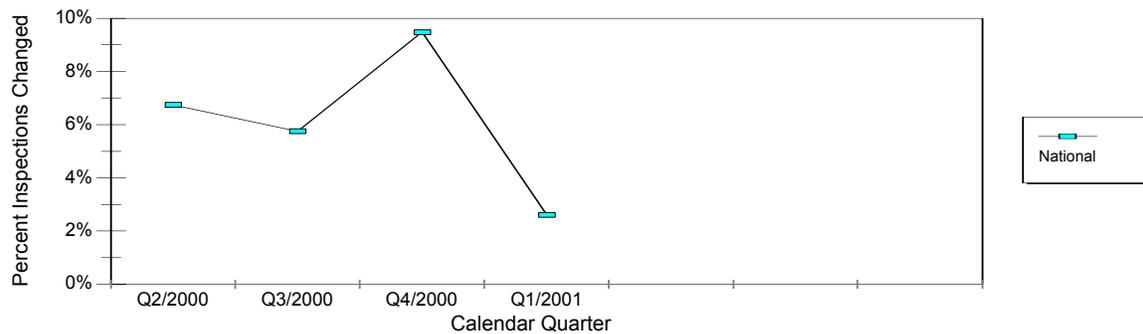
Other Areas: Maintain Safety (Also Primary), Effective, Efficient & Realistic (Also Primary)

PI1.c Inspection program is predictable as evidenced by the proportion of and reasons for changes of inspection schedules for reasons other than regulatory impact.

How: Collect number of activities, number of changes, and reasons for such changes.

Success: Track and trend changes. For larger inspections (SSDI, Fire, PI&R), any change in time should be captured. For smaller inspections, changes of >2 weeks should be captured. Categorize by reasons for changes such as needs of NRC (e.g., qualified inspectors not available, etc.), conflict with INPO, or request by plant to have key employees available.

Lead: Regions



Percentage of Scheduled Inspections Changed Each Quarter

Analysis:

Although the rate of changes to inspection schedules varied during the year, it averaged under 9 percent overall. The largest number of changes (42 percent) were due to inspectors being unavailable or perturbations in schedules to accommodate a plant the region needed to focus on, such as Indian Point 2 in Region I. Schedule changes to make the inspection efforts more effective or efficient, such as by combining inspections or because the licensee’s schedule or program changed making site conditions inappropriate for the inspection, accounted for 22 percent of the changes. Changes made to accommodate a licensee (regulatory impact changes) accounted for 19 percent of the schedule changes. Another 6 percent of the changes were because of a conflict with another NRC inspection or meeting. The reasons for 10 percent of the changes were not identified. This metric provides nearly identical insights to P12.c and may be considered for deletion.

Other Areas: Maintain Safety (Also Primary), Effective, Efficient & Realistic (Also Primary)

PI2 Scope of Inspection Program as Implemented Is Consistent Across Regions.

PI2.a Inspection program is predictable if its scope is implemented consistently across regions as evidenced by a comparison of frequencies of baseline inspections, sample sizes, and direct inspection effort (DIE) hours to program requirements by inspector type (specialist, resident)

How: Collect and analyze RPS data (number of samples, regular hours, overtime hours) for each inspection procedure (including Plant Status). Collect preparation/documentation time.

Success: (1) No significant deviations (explore reasons for such deviations) (report only - no graphic)
(2) Track and trend OT for baseline inspection program and reasons for OT, first year data to establish baseline
(3) Track and trend prep, doc, travel, and comm to establish baseline, effects on budgeted resources.

Lead: IIPB

See table on next page.

BASELINE INSPECTION ACTIVITIES
Actual Total Hours vs. Estimated Hours By Region
4/2/00 - 4/1/01

Activity Code	Region I (12 single-unit sites) (7 dual-unit sites)			Region II (5 single-unit sites) (12 dual-unit sites) (1 triple-unit site)			Region III (8 single-unit sites) (8 dual-unit sites)			Region IV (8 single-unit sites) (5 dual-unit sites) (1 triple-unit site)		
	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T
Direct Inspection Effort (BI/CO)	39798	39659	5.55	30803	38523	4.97	33506	33656	8.89	23581	29494	6.73
Preparation and Documentation BIP+PID	33925	39659	3.03	29006	38523	1.99	27516	33656	3.23	23418	29494	3.70
Plant Status (PS)	12449	12460	2.74	11559	12390	1.12	10880	10640	4.49	8863	9380	1.70
Total Staff Hours	86172	91778	4.15	71368	89436	3.13	71902	77952	6.06	55862	68368	4.66
Contractor Hours	1245			2110			2260			2580		
Total Hours	87417			73478			74162			58442		

* Actual total hours = regular hours + non-regular hours

Analysis:

The actual total staff hours shown in the above table are significantly lower than the estimated hours (by about 10 percent); however, they do not include indirect inspection activities (e.g., inspection related travel, routine communications, significance determination process, enforcement support, etc.). Addition of these activities to the actual total hours will reduce the difference between actual and estimated hours. An improved metric definition will be recommended for future use.

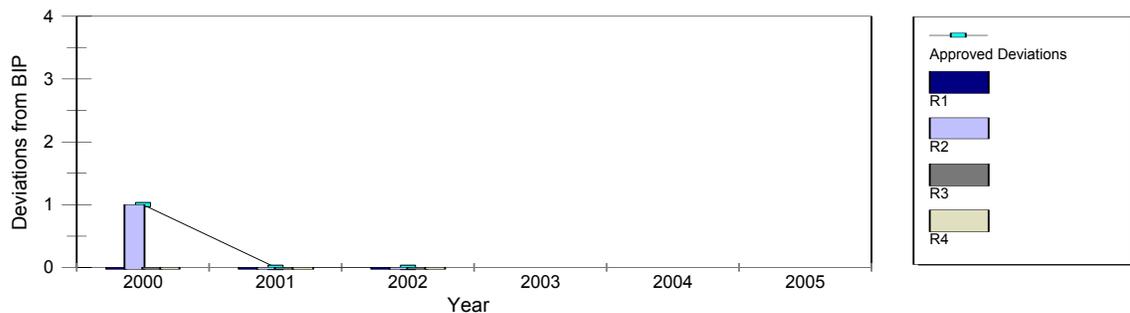
Other Areas: Efficient, Effective, Realistic

PI2.b Inspection program is predictable if its scope is implemented consistently across regions as evidenced by the number and justifications for approved “significant alterations” (as defined in IMC 2515) from the baseline inspection program

How: Collect number of requests from regions to change frequency or sampling, number of approvals, and reasons for such requests.

Success: Track and trend. Expect steady or declining number of requests, infrequent—use first year to develop base.

Lead: IIPB, Regions



Number of Approved Deviations from Baseline Program
by Region

Analysis:

The baseline inspection program was significantly altered at only one plant during initial implementation. As in the previous program, Millstone units 2 and 3 were treated as two single unit sites because of the difference in their designs. Inspections of common areas, such as security or emergency preparedness, were conducted site wide as at other multi-unit sites.

Oversight of D.C. Cook under IMC 0350 was not counted by the metric.

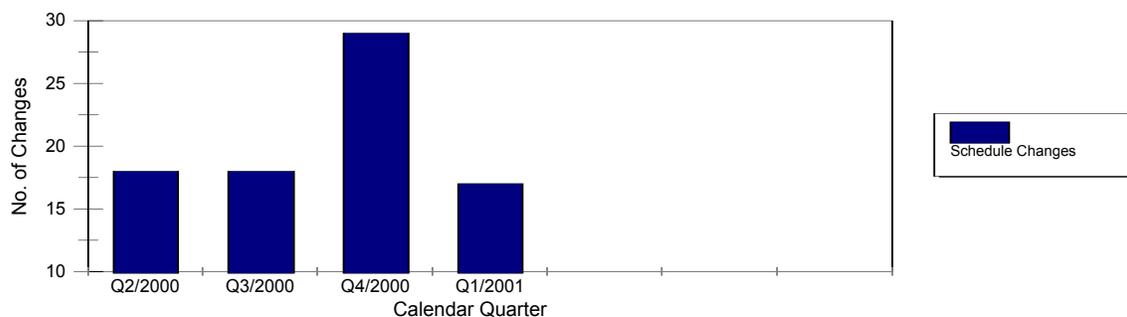
Other Areas: None

PI2.c Inspection program is predictable if its scope is implemented consistently across regions as evidenced by the number of changes to inspection schedules and reasons for the changes

How: Collect number of activities, number of changes, and reasons for such changes. Count the number of changes because qualified inspectors were unavailable.

Success: Small number, declining trend in changes because of lack of qualifications

Lead: Regions



Number of Changes to Inspection Schedules for Reasons Other Than Regulatory Impact

Analysis:

Although the rate of changes to inspection schedules varied during the year, it averaged under 9 percent overall. The largest number of changes (42 percent) were due to inspectors being unavailable or perturbations in schedules to accommodate a plant the region needed to focus on, such as Indian Point 2 in Region I. Schedule changes to make the inspection efforts more effective or efficient, such as by combining inspections or because the licensee’s schedule or program changed making site conditions inappropriate for the inspection, accounted for 22 percent of the changes. Changes made to accommodate a licensee (regulatory impact changes) accounted for 19 percent of the schedule changes. Another 6 percent of the changes were because of a conflict with another NRC inspection or meeting. The reasons for 10 percent of the changes were not identified.

Other Areas: Maintain safety (Also Primary), Effective, Efficient & Realistic (Also Primary)

PREDICTABLE—Conclusions:

The baseline inspection program can be fully implemented in a 12-month cycle and has been evenly apportioned over the year. Less than 9 percent of scheduled inspections had to be changed, usually because inspectors were not available or conditions at the site were not appropriate for the inspection. The direct inspection resources necessary to implement the program were below the estimates. Only one plant had it’s baseline program significantly altered. Millstone units 2 and 3 were treated as two single unit sites.

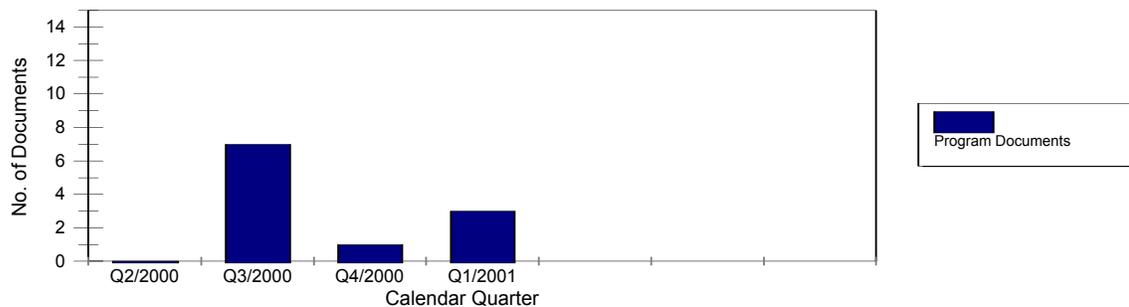
MI1 Inspection Areas (Including Their Scope and Frequency) Are Appropriate (i.e., Inspectable Areas Are Risk-significant, Nothing Is Missing, and There Is Nothing Extraneous).

MI1.a The baseline inspection program maintains safety if it covers all appropriate areas as evidenced by the number of baseline inspection program documents changed that affect scope or frequency of inspections.

How: Review all issued changes to baseline inspection procedures and count those documents that have their scope or frequency of inspection changed, and count new inspectable areas that relate to risk-informing the inspection.

Success: Relatively few significant changes, trend stable or declining

Lead: IIPB



Number of Baseline Inspection Program Documents Changed Effecting Scope or Frequency

Analysis:

There are 45 procedures in the baseline inspection program. Of these, 11 procedures were revised changing their scope or frequency of inspection. In most cases the changes were not significant.

- The four physical protection procedures deleted the corrective action program requirements to make the procedures consistent with the other baseline inspection program procedures in this area. And the frequency of inspection of one of the procedures was changed from biennial to triennial.
- The number of permanent plant modifications to be sampled was reduced to from 20-24 to 5-10.
- The maintenance risk assessment procedure was changed to reflect the change in the maintenance rule.
- The nonroutine plant evolutions procedure was revised to clarify its scope covering human performance and the interrelationship between this procedure and the event follow up procedure.

- The event follow up procedure was revised to include degraded conditions.
- The identification and resolution of problems procedure was revised to delete requirements related to collective risk of maintenance back logs and accounting for equipment availability.

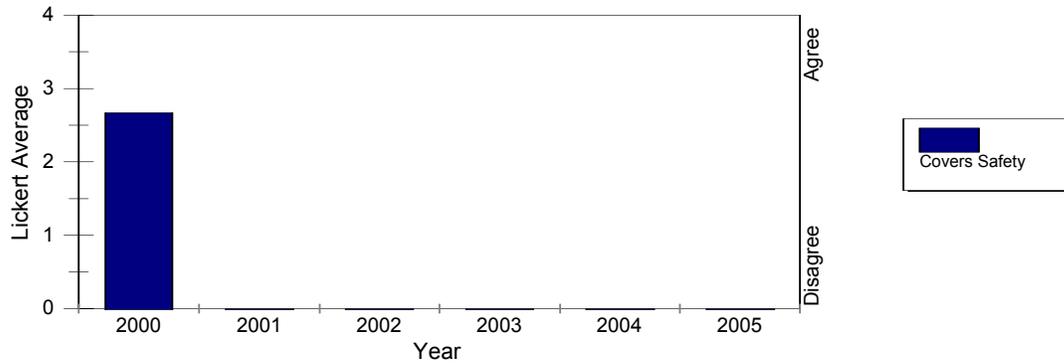
Other Areas: None

MI1b The inspection program maintains safety if it covers activities and operations important to safety as measured by a survey of its users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 6, sixth question)

Success: Trend average level of agreement.

Lead: IIPB



Inspection Program Covers Areas Important to Safety

Analysis:

The majority of respondents find the program does cover areas important to safety.

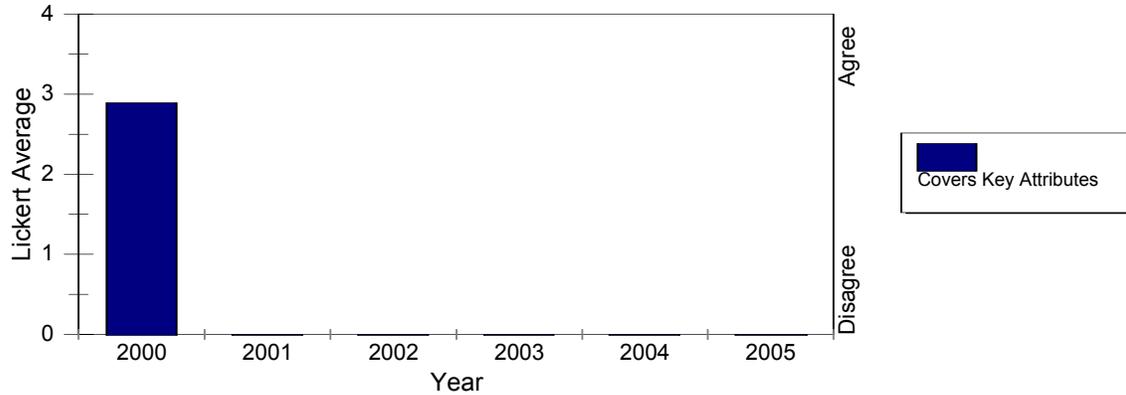
Other Areas: None

MI1.c The baseline inspection program maintains safety if its procedures address the key attributes of the cornerstones of safety as measured by a survey of the program's users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 7, first question)

Success: Trend average level of agreement.

Lead: IIPB



Inspection Program Covers Key Attributes
of Cornerstones of Safety

Analysis:

A majority of respondents think the inspection program covers the key attributes of the cornerstones of safety, which contribute to meeting the goals of safety in each strategic area and assure continued safe operation.

Other Areas: None

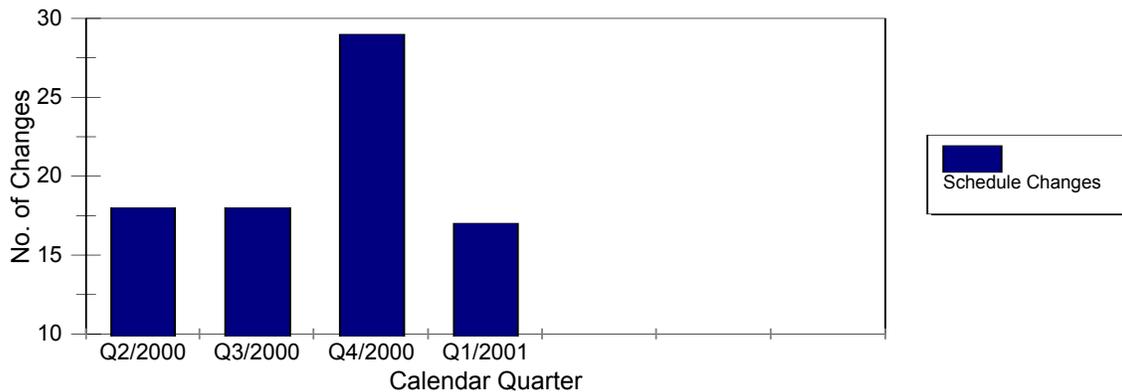
MI2 Inspection Schedule Changes are Minimized

MI2.a Inspection program maintains safety if changes to inspection schedules are minimized.

How: Collect number of activities, number of changes, and reasons for such changes. Count the number of changes because qualified inspectors were unavailable.

Success: Small number, declining trend in changes because of lack of qualifications

Lead: Regions



Number of Changes to Inspection Schedules
for Reasons Other Than Regulatory Impact

Analysis:

Although the rate of changes to inspection schedules varied during the year, it averaged under 9 percent overall. The largest number of changes (42 percent) were due to inspectors being unavailable or perturbations in schedules to accommodate a plant the region needed to focus on, such as Indian Point 2 in Region I. Schedule changes to make the inspection efforts more effective or efficient, such as by combining inspections or because the licensee’s schedule or program changed making site conditions inappropriate for the inspection, accounted for 22 percent of the changes. Changes made to accommodate a licensee (regulatory impact changes) accounted for 19 percent of the schedule changes. Another 6 percent of the changes were because of a conflict with another NRC inspection or meeting. The reasons for 10 percent of the changes were not identified.

Other Areas: Predictable; Efficient, Effective, Realistic

MAINTAINS SAFETY—Conclusions:

The baseline inspection program covers the important aspects of plant operation, and the program is being implemented as planned. Although almost a fourth of the baseline inspection program procedures were changed affecting scope or frequency of inspection, few of the changes were significant. The changes made to inspection schedules accounted for less than

9 percent of all scheduled inspections, and a larger percentage of those were to improve the effectiveness or efficiency of the inspections. The majority of NRC employees surveyed find the program covers areas important to safety and the key attributes of the cornerstones of safety. Therefore, the staff concludes that the program contributes to maintaining safe plant operations.

EI1 Inspection Resources Are Consistently Applied Within Program Guidelines.

EI1.a The inspection program is efficient, effective, and realistic if inspection resources are consistently applied within program guidelines, as evidenced by a comparison of frequencies of baseline inspections, sample sizes, and direct inspection effort (DIE) hours to program requirements by inspector type (specialist, resident).

How: Collect and analyze RPS data (number of samples, regular hours, overtime hours) for each inspection procedure (including Plant Status). Collect preparation/documentation time.

Success: (1) No significant deviations (explore reasons for such deviations) (report only - no graphic)
(2) Track and trend OT for baseline inspection program and reasons for OT, first year data to establish baseline
(3) Track and trend prep, doc, travel, and comm to establish baseline, effects on budgeted resources.

Lead: IIPB

EI2 Resources Available Are Adequate to Conduct the Inspection Program (Equals Sufficient Number of Properly Trained Inspectors to Complete the Baseline Inspection Program).

EI2.a The inspection program is efficient, effective, and realistic if available inspection resources are sufficient to conduct the program as evidenced by a comparison of FTE used to implement baseline inspection program to estimated FTE to complete baseline inspection program.

How: Analyze RPS data, calculate number of FTE used to implement baseline inspection program to estimated FTE to complete baseline inspection program.

Success: First year of implementation will be used to refine the estimated number of FTE necessary to implement the baseline inspection program.

Lead: IIPB

See the tables on the next two pages.

BASELINE INSPECTION ACTIVITIES
Actual Total Hours vs. Estimated Hours By Region
4/2/00 - 4/1/01

Activity Code	Region I (12 single-unit sites) (7 dual-unit sites)			Region II (5 single-unit sites) (12 dual-unit sites) (1 triple-unit site)			Region III (8 single-unit sites) (8 dual-unit sites)			Region IV (8 single-unit sites) (5 dual-unit sites) (1 triple-unit site)		
	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T	Actual Total Hrs*	Est Hours	% O/T
Direct Inspection Effort (BI/CO)	39798	39659	5.55	30803	38523	4.97	33506	33656	8.89	23581	29494	6.73
Preparation and Documentation BIP+ BID	33925	39659	3.03	29006	38523	1.99	27516	33656	3.23	23418	29494	3.70
Plant Status (PS)	12449	12460	2.74	11559	12390	1.12	10880	10640	4.49	8863	9380	1.70
Total Staff Hours	86172	91778	4.15	71368	89436	3.13	71902	77952	6.06	55862	68368	4.66
Contractor Hours	1245			2110			2260			2580		
Total Hours	87417			73478			74162			58442		

* Actual total hours = regular hours + non-regular hours

Analysis:

The actual total staff hours shown in the above table are significantly lower than the estimated hours (by about 10 percent); however, they do not include indirect inspection activities (e.g., inspection related travel, routine communications, significance determination process, enforcement support, etc.). Addition of these activities to the actual total hours will reduce the difference between actual and estimated hours.

Other Areas: Predictable

Actual Plant Status Hours vs. Estimated Hours
 4/2/00 - 9/30/00

	One-Unit Sites	Two-Unit Sites	Three-Unit Sites
Region I	629 hours/site	709 hours/site	-----
Region II	564 hours/site	645 hours/site	902 hours/site
Region III	663 hours/site	698 hours/site	-----
Region IV	581 hours/site	720 hours/site	820 hours/site
National Average	615 hours/site	684 hours/site	861 hours/site
Initial Estimate	630 hours/site	700 hours/site	840 hours/site

Analysis:

Plant status activities include time spent by resident inspectors gathering and analyzing information related to current plant status and ongoing activities that are directly applicable to inspection planning, including walking down the control room and areas of the plant, attending licensee status meetings, and attending inspection entrance and exit meetings held by regional inspectors. These activities are predictable both in frequency and duration; therefore, it is not unexpected that the actual hours are very close to the initial estimates.

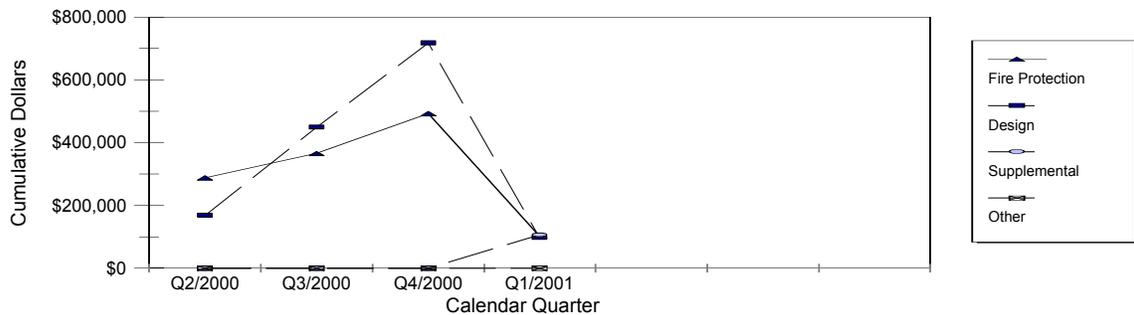
Other Areas: None

EI2.b The inspection program is efficient, effective, and realistic if available inspection resources are sufficient to conduct the program as evidenced by tracking and trending contracted inspection support

How: Track and trend contractor support dollars by discipline/IP/region

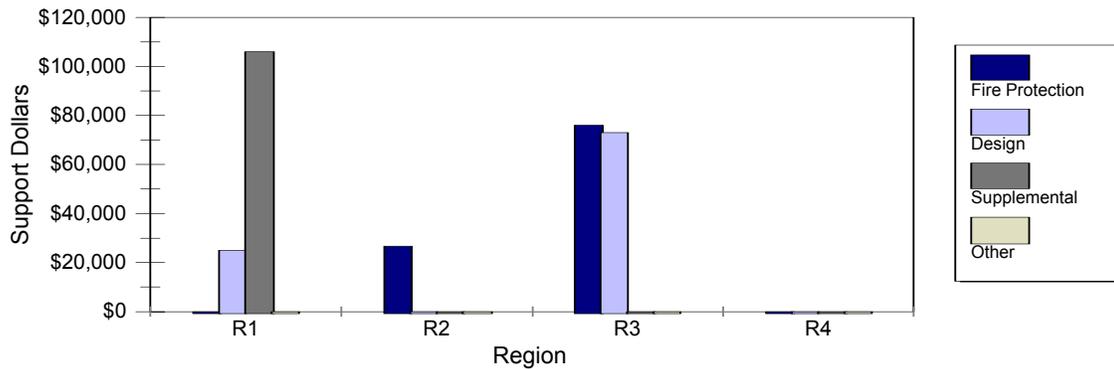
Success: Track and trend

Lead: IIPB



Total Contracted Support By Inspection Type

Contracted Support by Region and Inspection Type



Analysis:

The majority of contracted support has been in the areas expected: design and fire protection for baseline team inspections. The only other contract support needed was mechanical and electrical engineering for the IP 95003 supplemental inspection at Indian Point 2.

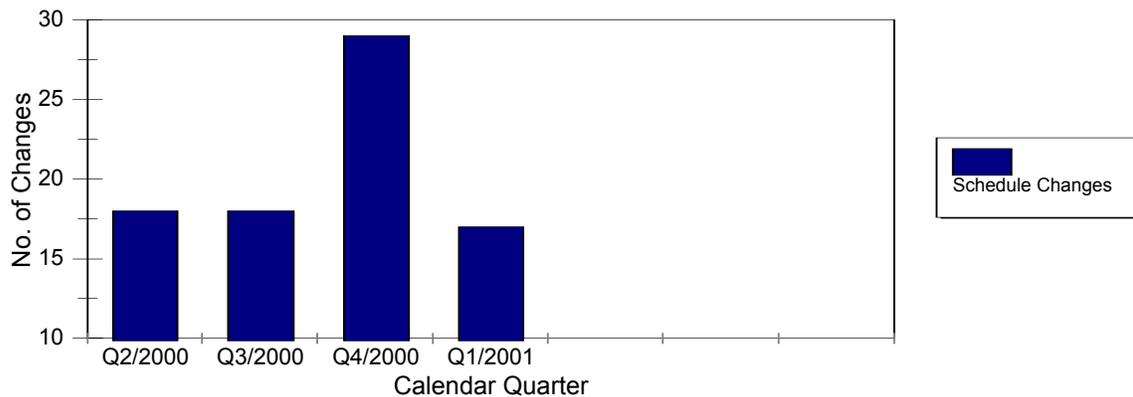
Other Areas: None

EI2.c (same as see PI2.c), The inspection program is efficient, effective, and realistic if available inspection resources are sufficient to conduct the program as evidenced by the number of changes to inspection schedules and reasons for the changes

How: Collect number of activities, number of changes, and reasons for such changes. Count the number of changes because qualified inspectors were unavailable.

Success: Small number, declining trend in changes because of lack of qualifications

Lead: Regions



Number of Changes to Inspection Schedules
for Reasons Other Than Regulatory Impact

Analysis:

Although the rate of changes to inspection schedules varied during the year, it averaged under 9 percent overall. The largest number of changes (42 percent) were due to inspectors being unavailable or perturbations in schedules to accommodate a plant the region needed to focus on, such as Indian Point 2 in Region I. Schedule changes to make the inspection efforts more effective or efficient, such as by combining inspections or because the licensee's schedule or program changed making site conditions inappropriate for the inspection, accounted for 22 percent of the changes. Changes made to accommodate a licensee (regulatory impact changes) accounted for 19 percent of the schedule changes. Another 6 percent of the changes were because of a conflict with another NRC inspection or meeting. The reasons for 10 percent of the changes were not identified.

Other Areas: Maintain Safety, Predictable

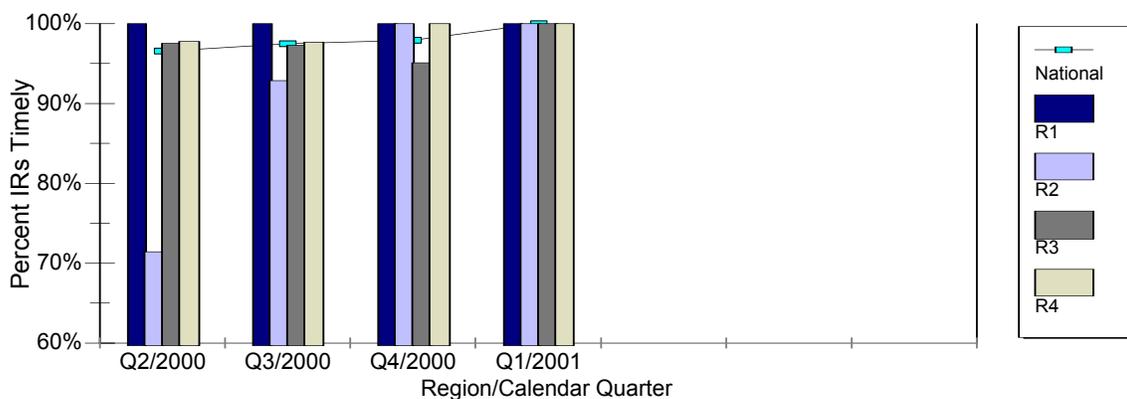
EI3 The Inspection Program Is Timely (Applies to Inspection Reports, Inspections, TI's).

EI3.a The inspection program is efficient, effective, and realistic if inspection program is timely as evidenced by inspection reports being issued within timeliness goals

How: Obtain RPS data on number of reports issued and number issued within timeliness goals.

Success: Number/percent of reports issued within program goals steady or increasing

Lead: Regions



Percentage of Inspection Reports Issued w/i Timeliness Goals

Comments: Based on a total of 705 issued inspection reports: 116 reports 2nd quarter 2000, 199 reports 3rd quarter 2000, and 195 reports both 4th quarter 2000 and 1st quarter 2001.

Analysis:

With few exceptions, inspection reports are issued within the timeliness goals set by the program.

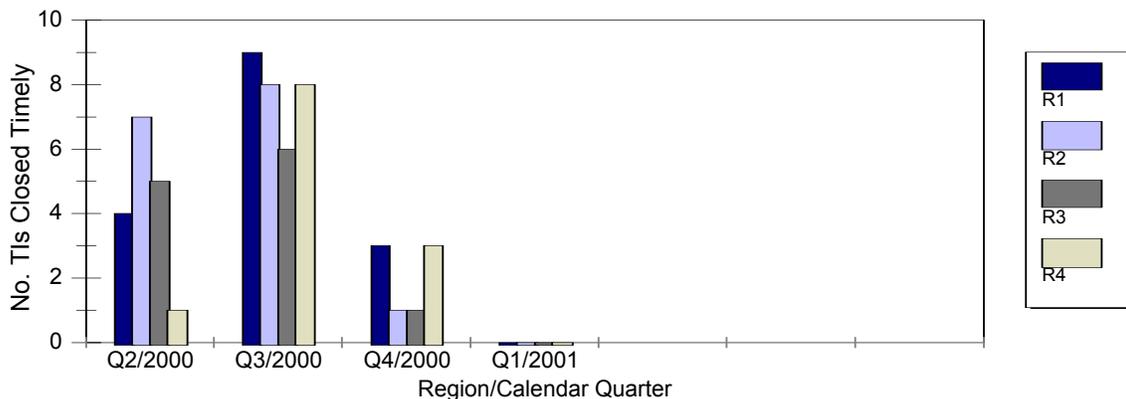
Other Areas: None

EI3.b The inspection program is efficient, effective, and realistic if it is timely as evidenced by temporary instructions (TI's) being completed within time requirements

How: audit time to complete TI's by region. Compare completion status in RPS to TI requirements. Regions to report closure of TI's within time goals.

Success: Number/percent of TI's completed within TI requirements steady or increasing

Lead: Regions



Number of TI's Completed on Time

Comments: Metric was not clearly explained causing regions to report inaccurate numbers. Only eight TI's are open in the operating reactor inspection program

Analysis:

Only one TI was not closed within its original deadline. TI 2515/144, which inspected the PI reporting programs for plants not part of the original ROP pilot program had to be extended six months to allow all the plants within it's scope to be inspected. The delay was primarily caused by several plants that were in extended shutdowns and did not have their PI reporting programs up and running.

Other Areas: None

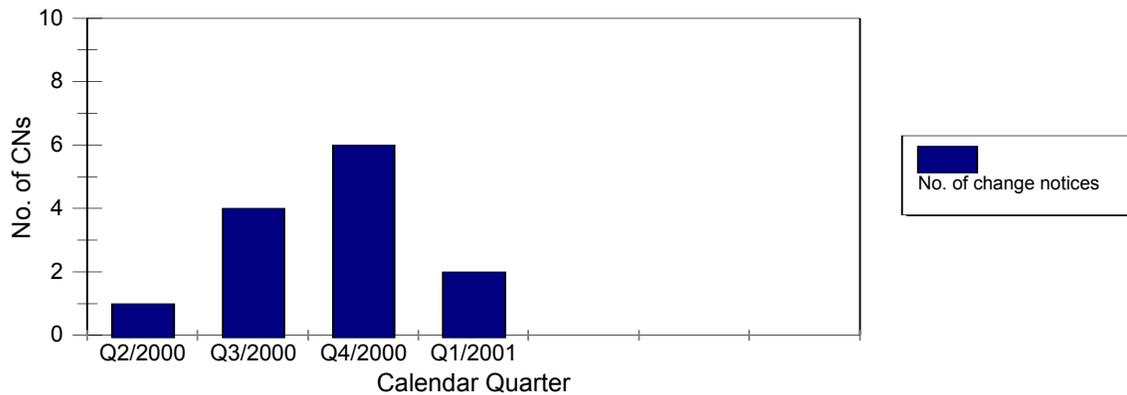
EI4 The Inspection Program Is Stable

EI4.a The inspection program is efficient, effective, and realistic if it is stable as evidenced by few significant changes

How: Track and trend number of C/Ns for IMC 2515 program affecting scope, schedules, training, resources.

Success: Track and trend. Expect steady or declining trend.

Lead: IIPB



Number of Change Notices Issuing Significant Changes to Program

Analysis:

The increase in issued change notices for significant program revisions were to issue new or revised SDPs and changes for the revised maintenance rule.

Other Areas: None

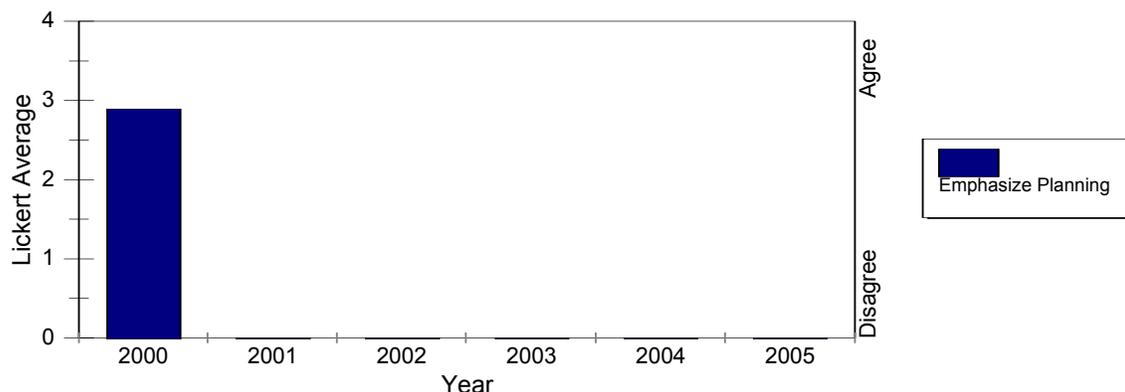
EI5 The Inspection Program Appropriately Emphasizes Planning.

EI5.a The baseline inspection program is efficient and effective if its procedures appropriately emphasize inspection planning as measured by a survey of the program’s users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 7, third question)

Success: Trend average level of agreement.

Lead: IIPB



Baseline Inspection Program Emphasizes Planning

Analysis:

A majority of respondents finds the new baseline inspection program emphasizes inspection planning, which is necessary for risk-informing the program.

Other Areas: None

EFFICIENT, EFFECTIVE, AND REALISTIC—Conclusions:

The resources used during the first year of the ROP for baseline inspection program direct effort was about 10 percent less than the estimated effort. Contractor effort was used in the areas expected: design and fire protection. However, a sizeable contractor effort was necessary to supplement Region I because of efforts at Indian Point 2. Although only about 9 percent of scheduled inspections needed to be changed (about 100 changes), a large portion of those (41) were because inspectors were not available or cascading effects of making changes to a schedule. Changes to schedules to make inspections more effective or efficient (e.g., combining inspections, using inspectors already on site, or plant conditions not appropriate for the inspection) accounted for a sizeable number of schedule changes: 22.

The number of change notices issuing significant changes to the program increased during the year. A large percentage of the changes were for new or revised SDPs. The number of

changes to the program will probably not decrease in the near term as changes from first year evaluations are made and issued. The survey of those implementing the ROP find that the baseline inspection program emphasizes planning inspections, which is necessary for effective and efficient inspections.

Inspection reports and completion of temporary instructions were timely with only a few exceptions.

The staff concludes that the inspection program is effective, efficient, and realistic. Improvements can be made by stabilizing the program (fewer significant changes) and improved SDPs.

Meeting all other metrics and criteria will enhance public confidence

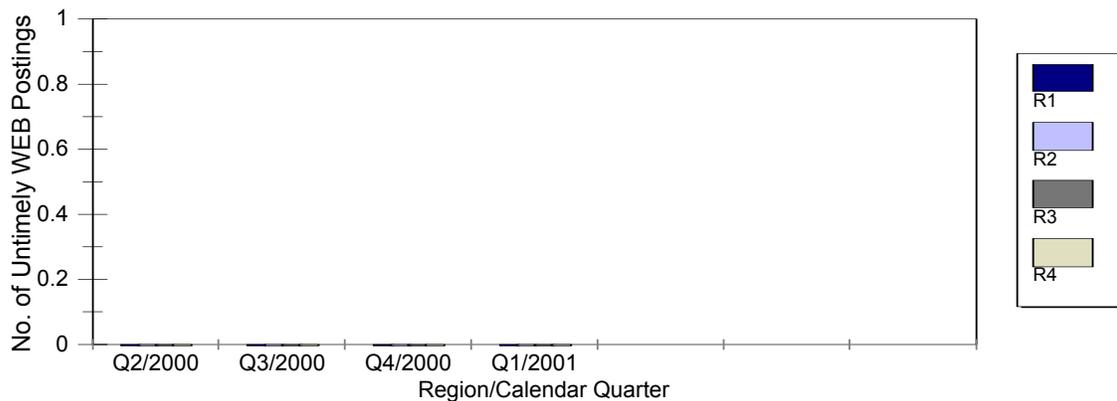
CI1 Public Communication Is Timely and Accurate

CI1.a The inspection program enhances public confidence as evidenced by timely posting of inspection results

How: IIPB post inspection reports to external web within timeliness goals using electronic version of inspection reports entered into ADAMS by the regions. IIPB post PIM entries to external web using data entered into RPS by the regions. IIPB record number of inspection reports not available in ADAMS and number of PIM entries not updated in RPS. Also record number of inspection reports and PIMs not posted to the external web within goals.

Success: IIPB posts issued inspection reports from the previous quarter, using the electronic version in ADAMS, and the associated PIM entries from RPS to the external web within 5 weeks after the end of each quarter. IIPB posts additional inspection reports and PIMs within 7 weeks after the end of each quarter to include all findings from the previous quarter.

Lead: IIPB



Number of Untimely Postings of Inspection Data
By Region Each Quarter

Analysis:

The processes for posting inspection reports and the plant issues matrices were successful. All inspection reports were found in ADAMS and posted to the web along with the latest PIM from RPS within the timeliness guidelines for each of the previous four quarters.

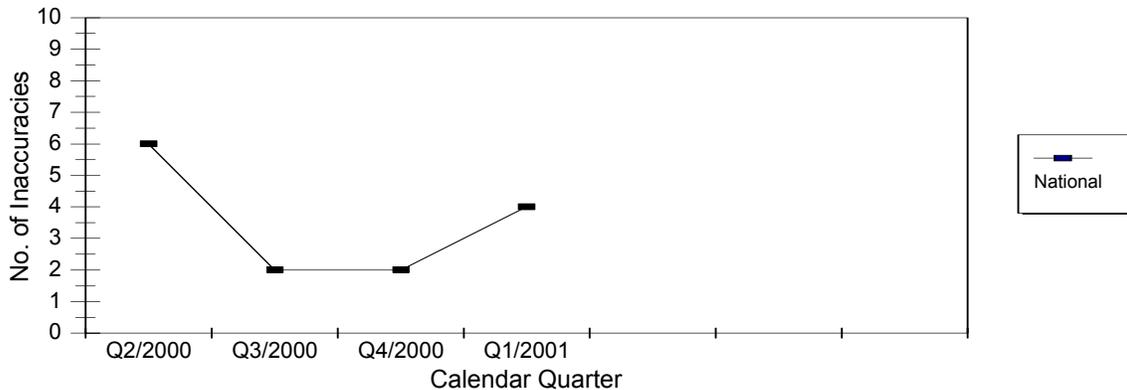
Other Areas: None

CI1.b The inspection program enhances public confidence as evidenced by few inaccuracies in issued or posted data.

How: Periodically sample information on Web site, collect number of times and reasons for regions changing PIMs or IR's (accuracy, new information).

Success: Track and trend

Lead: Regions



Number of Reported Inaccuracies in Posted and Issued Inspection Data by Region

Analysis:

A total of 17 errors were reported by the regions, but only 14 errors are counted by the metric. Four reported problems were with the inspection schedules sent to licensees with the mid-cycle assessment letters and are not subject to the metric. Considering the large number of inspection reports (over 700) and Plant Issues Matrix (PIM) entries, the 14 errors represent a small percentage (much less than one tenth of one percent) of the posted and issued data. The reasons for 10 errors in posted information were not reported by the regions because of a problem with the way the regions were asked to document and report the metric data. The last four problems were with data in the PIMs: more than one PIM entry for the same finding (two examples), error in transcribing data to the PIM (one example), and not updating a PIM entry to indicate the associated inspection report was issued (one example).

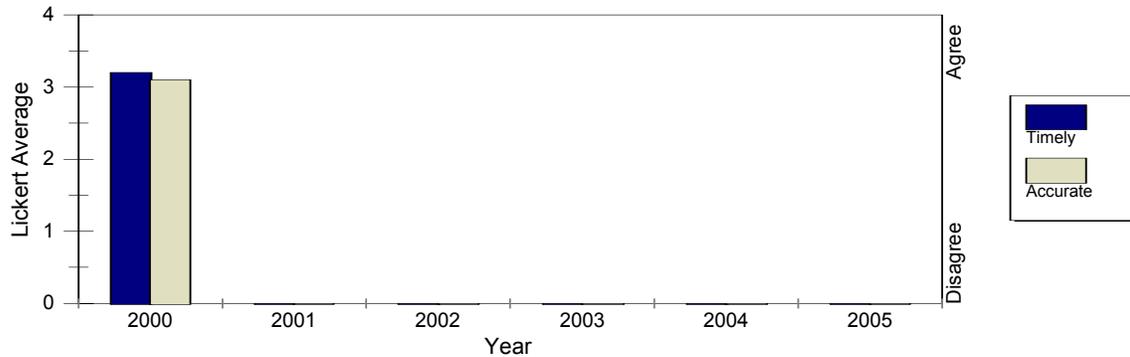
Other Areas: None

CI1.c The inspection program enhances public confidence if the program fosters timely and accurate inspection reports as measured by a survey of the program's users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 6, fourth and fifth questions)

Success: Trend average level of agreement.

Lead: IIPB



Inspection Reports are Timely and Accurate

Analysis:

A percentage of the respondents find the inspection reports to be timely and accurate. Their perception is supported by the timeliness and accuracy metrics for inspection reports. However, quarterly inspection reports have been criticized by some as being untimely.

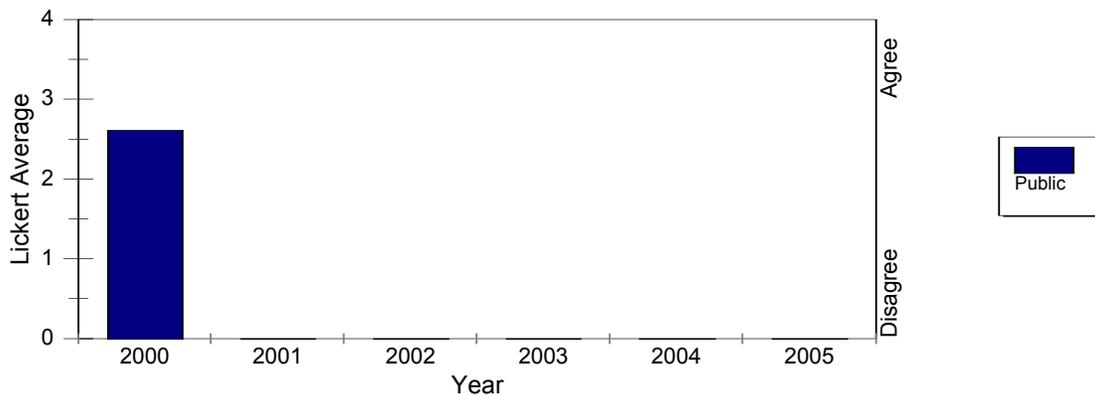
Other Areas: None

CI1.d The baseline inspection program enhances public confidence if the inspection report format adequately communicates relevant information to the public, as measured by a survey of the program’s users.

How: Survey inspectors and other NRC personnel implementing the ROP. (Section 8, second question)

Success: Trend average level of agreement.

Lead: IIPB



Inspection Reports Communicate Relevant Information to the Public

Analysis:

The majority of respondents find that the inspection reports do communicate relevant information to the public.

Other Areas: Understandable

ENHANCES PUBLIC CONFIDENCE—Conclusions:

All the postings of inspection data on the external Internet web pages were made within timeliness goals set by the program. Only 13 instances of incorrect data with the issued or posted inspection data were noted, a very small percentage of the data made available. The NRC employees implementing the ROP who were surveyed found that the inspection reports are timely and accurate (supported by the timeliness and accuracy metrics), and that the information contained in the reports is relevant to the public.

A survey of public stakeholders asked if ROP information is timely, understandable, and appropriate for keeping the public informed. Only one stakeholder (the State of New Jersey) responded to the question. Their response was the 30-day requirement for issuing inspection reports was acceptable, greater than green findings take too long to assess, and the quarterly posting of performance indicators and inspection findings makes the information less than current.

Therefore, the staff concludes that the inspection program does enhance public confidence in the oversight of operating power reactors.

Measured by: Annual feedback from external stakeholders

How: Federal Register notice

Success: Trend stable or increasing favorable perception over time

Lead: IIPB

Analysis:

The general response to the Federal Register notice is that the overall burden of the ROP compared to the previous process has been reduced, although some of the public stakeholders do not see this as a good outcome. The industry attributes the reduction to better focus on risk significant issues and integration of enforcement into the assessment process. Several industry stakeholders commented on areas for further reductions in unnecessary burden within the inspection program. These areas included decreasing the frequency of team inspections, combining inspections of programs that are common across a utility's different reactor sites, and using a licensee's self-assessments for satisfying baseline inspection program requirements. NEW stated that improvements in the focus, efficiency, and effectiveness of the inspection program were most notable in the reactor safety cornerstones and less pronounced in the radiation safety and physical protection cornerstones. One utility commented on the increase of inspection over the previous program in the radiation safety areas despite the advent of performance indicators for monitoring a licensee's performance and NEW stated that the inspection and the occupational exposure effectiveness indicator unnecessarily overlap.

Although the overall burden has declined, the industry stakeholders commented on the increased inspection at formally superior performers (SALP category 1 plants). One utility commented on the seemingly inconsistent allocation of resources between single unit and dual unit plants, with single unit sites receiving a disproportionate amount of inspection. The change in the "N+1" resident policy was mentioned as a contributing factor. Conversely the State of New Jersey's comments included that the level of inspection is too low and the ROP doesn't clearly define the appropriate levels based on performance. However, both the industry and State of New Jersey agree that the ROP focuses resources on risk significant issues.

REDUCES UNNECESSARY BURDEN—Conclusions:

Although the ROP has reduced overall burden on licensees and the inspection program is focusing the NRC and licensees on the more important issues, there remain further opportunities to reduce the un-necessary burden imposed by the inspection program.