Regulatory Impact Analysis of the Accrued Costs of Options

The general license working group (GLWG) conducted a general regulatory impact analysis of the accrued costs of the proposed recommended options, to include impacts to the U.S. Nuclear Regulatory Commission (NRC), Agreement States, and the general licensees (GLs) regulated by NRC. This cost analysis measures the incremental costs of each option relative to a "baseline" that reflects anticipated behavior in the event the NRC undertakes no additional action (the "no action" option). This option is equivalent to the status quo and serves as a baseline to measure against the other options. As part of the baseline used in this analysis, it is assumed that the licensee is in full compliance with existing NRC regulations.

The options considered by the GLWG are broken down into five main "observations" to determine the effectiveness of the reporting requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) 31.5, whether better accountability of GL devices is needed, and whether there is potential to remove some regulatory burden for some general licensees.

General License Information

- Total NRC GLs: 18,000 - approximately [approximately 161,000 devices]
    - GLs must comply with the applicable requirements in 10 CFR 31.5(c) or 10 CFR 31.7
- 525 NRC GLs have to comply with annual registrations [approximately 2,580 registered devices]
- 17,475 NRC GLs do not have to comply with annual registrations
- 100 vendors – approximately
- 11 GLs that possess devices with International Atomic Energy Agency Category 3 quantities [total of 21 devices]

Section I. Assumptions

General Assumptions:

For the purposes of this analysis, the GLWG anticipates that the primary employees that would be impacted by the proposed changes would be the "Occupational Health and Safety Specialist" who acts in the capacity of the Radiation Safety Officer (RSO). Estimates for licensee labor rates were obtained from Bureau of Labor Statistics National Wage Data, for calendar year 2017, available on the Bureau of Labor Statistics Web site. The GLWG selected an appropriate mean hourly labor rate depending on the listed industry and the occupation, and multiplied it by 1.5 to account for pension, insurance, and other legally-required benefits. The labor rate multiplier is used by the NRC as the standard method to estimate appropriate industry labor rates. The current labor rate multiplier was obtained from NUREG/BR-0058, "U.S. Nuclear Regulatory Commission Guidance on Performing Benefit-Cost Analyses, Revision 5" (ADAMS Accession No. ML15336A003). Because exact hourly rates can vary significantly, the GLWG used nationwide mean hourly rates. The working group applied the following hourly rates in this analysis:

- Occupational Health and Safety Specialist (Licensee RSO): $53.07 ($35.38 x 1.5)
- General Office Clerk (Licensee): $24.45 ($16.30 x 1.5)
- Life Scientist (Agreement State inspectors/license reviewers): $61.20 ($40.80 x 1.5)
- Lawyer (Agreement State): $102.33 ($68.22 x 1.5)

- NRC Contractor: $94.79
- NRC staff: $128

In order to alter the infrastructure for general licensing in the options developed by the GLWG, regulatory agencies would need to perform rulemaking and update guidance. Based on the average resource burden to revise and publish a rule and related guidance, the GLWG estimates five Full-time Equivalents (FTE) for the NRC to complete rulemaking and update its guidance. It is estimated that the Agreement States would need 0.5 FTE ("Lawyer" for the rulemaking and "Life Scientists" for the guidance/procedures update) to complete rulemaking and update their guidance/procedures.

The NRC's labor rates are determined using the methodology in Abstract 5.2, "NRC Labor Rates," of NUREG/CR-4627, "Generic Cost Estimates, Abstracts from Generic Studies for Use in Preparing Regulatory Impact Analyses." This methodology considers only variable costs that are directly related to the implementation, operation, and maintenance of the amendments. Currently, the NRC hourly labor rate is $128. The estimation of costs for rulemaking is based on professional NRC staff FTE. Based on actual data from the NRC's time and labor system, the number of hours in 1 year that directly relates to implementation of assigned duties is 1,420 (1,420 was derived by taking the annual number of hours (2,080) and accounting for leave, training, and completing administrative tasks). Therefore, an NRC professional staff FTE hourly rate is based on 1,420 hours.

Since no data is available to determine the number of productive hours in 1 year for Agreement States, and actual values are likely to vary from State to State, the FTE hours for the Agreement States are based on the number of hours estimated in the Office of Management and Budget Circular A-76, "Performance of Commercial Activities." Therefore, the number of productive hours in 1 year for an Agreement State professional is 1,776.

For the purposes of estimating number of licensees and costs, all the numbers in this cost analysis have been rounded to the nearest whole number.

Section II. Observations

The NRC and Agreement State representatives on the GLWG believe that current regulatory structure for GL devices does not align with current industry and regulatory practices. In some cases, the current regulations and procedures increase burden for both the licensee and the regulating entity. Other situations were noted where the licensee was unaware of the risks associated with the device they own and operate. The GLWG noted through survey results and other gathered data that many GL licensees have little or no interaction with their applicable regulator, whether that is the NRC or an Agreement State. Experience and data records indicate that GL devices may also be improperly transferred, disposed, or lost because, over the years, owners become unaware of the sources or the owner's obligations for handling. The NRC has identified violations of similar requirements for specific licensees. The GLWG believes that GLs, who have little interaction with a regulator, are performing in a similar matter. Consequently, the GLWG has identified the following observations associated with the existing GL program and has proposed the following recommendations to further assess the applicability of the current rules and enhance the GL program to relieve burden and strengthen public health protection related to the use of GL devices.

Observation 1 – Data in General License Tracking System (GLTS) needs to be reconciled with physical inventory to assess the effectiveness of the reporting requirements in 10 CFR 31.5. The NRC receives vendor reports of generally licensed devices distributed in NRC jurisdiction

on a quarterly basis. That information is stored in the NRC's GLTS. The NRC currently has approximately 18,000 general licensees reported in GLTS; this is only a percentage of the generally licensed devices possessed nationwide. A subset of these GLs are required by 10 CFR 31.5(c)(13)(i) to register their devices with the NRC on a yearly basis. The number of general licensees required to register their devices is only 525 of the 18,000 GL licenses. Since GLs, specifically those with only non-registered generally licensed devices, do not receive a physical license as documentation or any other routine communication from the NRC, consistent with conclusions from past reviews of the general license program, the GLWG believes that there is an opportunity for potential gaps of regulatory compliance by GLs.

Staff have begun evaluating the use of electronic submittals through an outward-facing GLTS portal for those GLs requiring annual registration. This new outward-facing GLTS module could be leveraged as a mechanism for GLs using non-registerable devices to confirm their inventory. This could potentially lower the cost of a reconciliation effort. However, this approach would delay the reconciliation effort until the changes to Web-based Licensing and GLTS were implemented.

Options:

- Option 1: No action (No reconciliation)

  Pros:
  1. No additional resources expended to maintain the current NRC's general license program.
  2. Information reported to the NRC indicate that registered GL devices are being used in a matter as intended and the regulatory requirements are protective of public health and safety.

  Cons
  1. Compliance with current regulatory requirements for non-registered GL devices are not known due the lack of routine communication with GLs and lack of an inspection program.
  2. Regulatory requirements for initial distribution of non-registered GL devices has not been updated since the 1960s and do not reflect NRC's licensing approach to verify that all radioactive material is used for its intended purpose.
  3. An indication of poor compliance by non-registered GLs is the percentage of devices in GLTS that are beyond their operating life.

- Option 2: Perform a one-time reconciliation of existing records in GLTS. A formal request, which would require a response, would be sent to all GLs who possess only non-registered generally licensed devices. The request would also require confirmation of the individual identified as the point of contact for each generally licensed device, as well as update contact information to include an email address. The reconciliation of the data in GLTS will serve to provide a baseline to determine the current status of the national general license program. Based on the results of the initial reconciliation effort, the staff will consider additional recommendations regarding reconciliation.

Pros:

1. Determine the level of compliance of non-registered GLs and provide updated inventory information to:
    a. determine the level of compliance and establish a basis for confidence in the existing regulatory approach, and
    b. address concerns that devices are not being controlled in accordance with existing regulations.
2. More efficient communications with non-registered GLs by establishing electronic communications instead of phone calls and/or mail correspondence.
3. Improve the quality and accuracy of information in GLTS.
4. Increase awareness of regulatory requirements among the non-registered GL population.
5. Estimate the number of unreported lost or damaged devices which could have potential negative impacts on public health and safety.
6. Determine the level of compliance for those GL devices that are just below the registration thresholds.

Cons:

1. Basis for maintaining the GLTS is not well defined for non-registered devices due to their low health and safety significance.
2. Does not address Agreement State non-registered GL devices which represent a majority of all GL devices nationally.
3. Cost to conduct one-time reconciliation may not have an impact on improving health and safety as it is expected that most non-compliance will involve devices of low safety significance (i.e. tritium exit signs).

- Option 3: Perform a one-time reconciliation of a representative portion of devices in GLTS (50 percent). NRC staff would select a random sample of GLs from the non-registered population of GLTS. NRC staff would prepare a request for information, similar to NRC Form 664, which would list the licensee's current contact information and device data in GLTS. GLs would be asked to review the information and update it as necessary. GLs could also add electronic mail addresses to their contact information.

    Pros:

    1. Could be instituted as a pilot program, with a sample population, to identify potential areas within the GLTS program where accountability has lapsed.
        a. Determine the level of compliance on a portion of non-registered GLs and provide updated inventory information. Determine the level of compliance and establish a basis for confidence in the existing regulatory approach.
        b. Address concerns that devices are not being controlled in accordance with existing regulations.
    2. Increase communication with a portion of the non-registered GL device population.
    3. Increase regulatory awareness among a portion of the non-registered GL device population.
    4. Focus on safety significant non-registered GL devices instead of all non-registered GL devices.

5. Estimate the number of unreported lost or damaged devices which could have potential negative impacts on public health and safety.
6. Estimate the level of compliance for those GL devices that are just below the registration thresholds.

Cons:
1. Randomly or focused selected sample may be not representative of data integrity of the entire GLTS device population.
2. Does not address Agreement State non-registered GL devices which represent a majority of national GL devices population.
3. Cost to conduct one-time reconciliation may not have an impact on improving health and safety as it is expected that most non-compliance will involve devices of low safety significance (i.e. tritium exit signs).

- Option 4: Perform a one-time reconciliation of device-specific portion of records in GLTS (20 percent). The execution of this option would be similar to Option 3. However, the GL population chosen for this option could be chosen based on radioisotope, radioisotope maximum activity, device activity (not radioisotope-specific), or device principal use. Specific device or general licensee populations could be targeted with this option.

  Pros:
  1. Could be instituted as a pilot program to identify potential areas of accountability lapses in the GLTS.
  2. Determine the level of compliance on a targeted population of non-registered GLs to approach the level of accountability of current GL registration program and provide updated inventory information.
     a. Determine the level of compliance and establish a basis for confidence in the existing regulatory approach.
     b. Address concerns that devices are not being controlled in accordance with existing regulations.
  3. Increase communication with a specific population of the non-registered GL device population.
  4. Estimate the level of compliance for those GL devices that are just below the registration thresholds.
  5. Estimate the number of unreported lost or damaged devices, which could have potential negative impact public health and safety.

  Cons:
  1. Selected device population may be not representative of data integrity of the entire GLTS device population.
  2. Does not address Agreement State non-registered GL devices which represent a majority of all GL devices nationally.
  3. Cost to conduct one-time reconciliation may not have an impact on improving health and safety as it is expected that most non-compliance will involve devices of low safety significance (i.e. tritium exit signs).

Observation 2 – Lack of consistent accountability of GL data by regulatory agencies. External stakeholders have previously identified a need for a national inventory of all devices, maintained as a centralized database, due to the inconsistent regulation and recordkeeping of devices across the National Materials Program (NMP). There is a large variance in database

capabilities and in recovered fees across the NMP, which affect the consistency of the GL registration process and inventory information across jurisdictions. Additionally, a number of Agreement States have expressed concerns regarding staffing resource availability, which limits any potential increase in activities within most Agreement State's GL programs, if the proposal from the GLWG or previous working groups were to be implemented by the NRC. Agreement States also expressed concerns regarding the completeness and consistency of vendor reporting activities.

Options:

- Option 1: No action (No National Database)

  Pros:

  1. No additional resources expended for the NRC's general license program.

  Cons:

  1. The nationwide tracking of GL devices and types of device will remain inconsistent due to various methods used by 38 regulatory agencies.
  2. Manufacturers and Distributors (M&D's) will continue to interface with up to 38 different regulators.

- Option 2: Convert the current GLTS into a national tracking system. This centralized national database, managed by the NRC, would require manufacturers and distributors to report their quarterly distributions of GL devices across all jurisdictions to the NRC. Agreement States would have access to the data specific to their State. Currently, manufacturers and distributors are required to report quarterly distributions of generally licensed devices to the NRC and to each individual Agreement State.

  Pros:

  1. Increase data integrity for initial distribution and transfers reported across all regulatory agencies.
  2. Reduce reporting requirements for M&Ds by requiring reports to be submitted only to NRC.
  3. Ease resource burden on Agreement States by eliminating separate State databases.
  4. Types of GL devices tracked by NRC and Agreement States would be consistent across the NMP.
  5. A single national database would promote a consistent regulatory approach to address the health and safety of all GL devices in the NMP.
  6. Eliminate instances where distribution reports are routed to the incorrect jurisdiction due to confusion surrounding federal licensees located in Agreement States.

  Cons:

  1. NRC and all Agreement States need to agree on what data would be reported to a national database.
  2. NRC would need to develop regulatory basis document and amend regulations and Agreement States would need to adopt compatible requirements so that all jurisdictions would implement identical reporting requirements.
  3. Historical Agreement State GL device data would require migration into a national database.

4. A single national database may raise issues associated with the ownership of records.
5. Significant resources required to expand the current GLTS platform (currently in Integrated Source Management Portfolio) and maintain a national database with all GL device information.
6. Agreement States may see delay in their access to information on new GL devices due to NRC processing initial distribution and transfer reports for the national database.

Observation 3 – Current regulatory framework for GL devices needs optimization to ensure that all devices are consistently evaluated in a risk-informed manner. GL devices cover a wide range of radioactive material source activities and device configurations, and some lower activity sources may not warrant the same level of tracking and reporting as larger activity or aggregate sources. Implementing a risk based approach to the application of regulations over the broad range of GL devices would allow the NRC and Agreement States to better align the level of communication, tracking, inspection, and reporting required with the risk the GL device poses to public health. NRC efforts to risk-inform the regulation of certain devices with byproduct material, allows staff to focus on reaching a reasonable assurance of adequate protection based on the entire device performance. This is supported by decades of operating experience which show a very low incidence of reported public exposure caused by GL devices above the regulatory limits. Some devices once distributed as GLs are now distributed as exempt devices based on an updated request from M&Ds to evaluate the device with the current risk based (dose) criteria in 10 CFR Part 32. Applying the existing regulatory framework in 10 CFR Part 32 and using a criteria of reasonable assurance of adequate protection to all GL devices will allow regulatory agencies to apply their limited resources to strengthen their GL program by increasing communications and reconciling for those higher activity devices that may present a higher risk.

Options:

- Option 1: No action

  Pros:

  1. No additional resources expended for the NRC's general license program.
  2. The safety evaluation of devices containing radioactive material already includes a risk-informed element.

  Cons:

  1. Lack of consistency in the NRC's regulatory approach to risk-informing the general license program.
  2. Agency is expending resources on maintaining a database populated by low-risk devices.
  3. There are some instances where devices are being distributed under a GL when there is a similar product being distributed under an exempt distribution license.

- Option 2: Reevaluate low-risk GL devices to determine which devices can be converted to exempt products. Implement a risk based approach using 10 CFR Part 32 methodology to evaluate devices which may pose low-risk to the public, such as exit signs and static eliminators. The reevaluation would be based on reasonable assurance of adequate protection and operating experience and would determine if these devices should be continued to be regulated as generally licensed or if they can be regulated as exempt products.

Pros:

1. Low-risk GL devices originally evaluated over 30 years ago have not benefited from a holistic risk-informed evaluation approach.
2. Consistent holistic risk-inform evaluation of GL devices would focus NRC resources on safety significant GL devices.
3. Potential to ease resource burden on Agreement States by reclassifying low-risk GL devices to exempt devices, which fall under NRC jurisdiction.
4. Reduce tracking and reporting burden of low-risk GL devices on regulatory agencies, M&Ds and general licensees.

Cons:

1. M&Ds whose GL devices are currently licensed by Agreement States will incur increased costs to maintain exempt distribution licensees and Sealed Source and Device registry sheets with the NRC.
2. Resources to reevaluate low-risk GL devices and may not offset potential health and safety gains.
3. M&Ds might not want to distribute their devices as exempt products.

- Option 3: Risk-inform reporting requirements to decrease regulatory burden. This option would require that reporting requirements for GLs be risk-informed and regulatory requirements be aligned with these determined risks in the same manner as for specifically licensed devices. The result of the reevaluation of low-risk generally licensed devices would be used as the basis for risk-informing reporting requirements. Currently, 10 CFR 31.5(c)(10) requires that GLs comply with §§ 20.2201 and 20.2202 for reporting radiation incidents, theft, or loss of licensed material. However, 10 CFR 31.5(c)(10) exempts GLs from any other requirements in Parts 19, 20, and 21.

  Pros:

  1. Risk-inform the quantity of material as used in a GL device instead of using the reporting requirements in 20.2201 and 20.2202 developed for specifically licensed uses.

  Cons:

  1. Most GL device reports involving the loss of material (i.e., 20.2201) would not be substantively impacted by a risk-informed approach specific to GL devices.
  2. Risk-informing dose based event reporting (i.e., 20.2202) for GL devices would not change the number of reports since historically number of events is very low (2 events in 28 years).
  3. NRC would need to develop regulatory basis document and amend regulations, whereas Agreement States would need to adopt compatible requirements so that all jurisdictions would implement identical reporting requirements.

- Option 4: Set minimum threshold values for GL devices. The establishment of minimum threshold values, aligned with a risk-informed basis, would set expectations for the Agreement States and would allow them to better plan the use of their resources.

Pros:

1. Provides a risk-informed list of isotopes-specific threshold quantities using GL design criteria in Part 32.
2. Provides clear regulatory framework for determining which devices require general licensing versus exempt licensing.
3. Provides Agreement States with the opportunity to focus resources on higher risk activities.

Cons:

1. NRC would need to develop a regulatory basis document and amend regulations, whereas Agreement States would need to adopt compatible requirements so that all jurisdictions would implement identical threshold requirements.
2. NRC and all Agreement States would need to align on the threshold values.
3. Only NRC can determine if a device can be distributed as exempt.
4. NRC has already approved exempt products through a safety evaluation using current regulations in 32.210 independent of exempt quantity tables in Part 30.

Observation 4 – Lack of consistent regulatory oversight among the NRC and Agreement States. This leads to differences among the NMP. In addition, GL programs are not reviewed as part of Integrated Materials Performance Evaluation Program (IMPEP) evaluations. Agreement States also expressed concerns regarding the consistent of implementing the general license program.

- Option 1: No action

  Pros:

  1. No additional resources expended for the NRC's general license program.
  2. Most GL devices are considered to be lower risk, and IMPEP is deigned to evaluate higher risk activities.

  Cons:

  1. The implementation of the general license program across the NMP would remain inconsistent.

- Option 2: Establish an NRC/Agreement State working group to evaluate whether the GL regulatory framework should be expanded to include inspection oversight, paper licenses, reviewed under IMPEP, etc. Currently, the NRC does not perform routine inspections of GLs. NRC may perform reactive inspections of GLs if the licensee was involved in an event that required reporting, or may perform random inspections when the general licensee's location is close to the location of a specific licensee who is being inspected. A routine inspection program based on a risk-informed approach could provide potential benefit by ensuring that GLs are complying with regulatory requirements. A routine inspection cycle could be established at a lesser frequency than for specific licensees, or alternatively, it could be determined that only those licensees that require annual registration or have higher risk to the public would require inspections on a routine basis. Several stakeholders expressed that a general licenses create confusion among individuals who possess GL devices due to the lack of official documentation. The absence of a physical license can leave the general licensee without an indication/reminder of the regulations surrounding the possession of the GL

device and the necessary interactions with State or Federal officials, particularly when devices are being shipped directly from foreign manufacturers.

Pros:

1. Increase consistent routine evaluation of GL program nationally.
2. Implementation of routine inspection programs across the NMP would improve compliance with regulatory requirements and likely decrease the numbers of lost or abandon GL devices.
3. Routine evaluation of GL programs by IMPEP would improve consistent implementation of regulatory requirements across the NMP.
4. Resources expended to convene an NRC-Agreement State working group would be minimal.
5. Provide direct assessment of the GL program's effectiveness in protecting public health and safety.

Cons:

1. NRC and all Agreement States need to align on the common attributes for nationwide GL program.
2. NRC resources required to develop and implement new IMPEP guidance.
3. NRC and Agreement State resource needed to inspection program.
4. Any enhancements to GL program may not offset health and safety gains.

Observation 5 – No routine outreach with GL device users. The NRC does not maintain routine communications with the GL community and the only contact information that the NRC has is provided by the distributor. GLs are included as recipients of appropriate generic communications; however, if the licensee contact information provided/on-file is incorrect, the general licensee may not receive these communications. In addition, the current GL program does not require most GLs to initiate any regulatory contact after receiving a GL device. Furthermore, the NRC does not require GLs to provide electronic mail addresses.

- Option 1: No action

  Pros:

  1. No additional resources expended for the NRC's general license program.
  2. An evaluation of GLTS determines that there is a low percentage of licensee compliance with the GL regulatory requirements.

  Cons:

  1. GLs will continue to have minimal communication with the NRC and this may lead to falling out of compliance with the NRC's regulatory requirements..
  2. An evaluation of GLTS determines that there is a high level of non-compliance with the GL regulatory requirements.

- Option 2: Develop annual communications tool to improve communications between regulatory agencies and GLs. Leverage the lessons learned and information collected from the reconciliation effort (Observation 1) and develop an annual communication tool such as a newsletter or another type of publication.

Pros:

1. Routine communication with non-registered GL users will raise GL awareness of regulatory requirements and would decrease likelihood of regulatory non-compliance.
2. The experience of M&Ds with their customers have demonstrated improved awareness of regulatory requirements with routine interactions.
3. The experience of NRC with registered GL users have demonstrated improved awareness of regulatory requirements as a result of annual communications through the registration program.
4. Use of electronic communications is a cost effective communications mechanism.
5. Improved awareness of regulatory requirements would decrease likelihood of a compromise of public health and safety.

Cons:

1. The NRC does not have email address for a vast majority of non-registered GL users.
2. Resources expended to obtain electronic contact information from non-registered GL users may not offset potential health and safety gains.
3. New non-registered GL users would require additional communication to obtain electronic contact information.

Section III. Cost Analysis

The NRC currently spends approximately $430,000 in order to support the contract for maintaining GLTS as well as administering the annual registration program. The NRC also allocates 1 FTE per fiscal year for supporting the GL program.

Observation 1: Data in GLTS needs to be reconciled with physical inventory to assess the effectiveness of the reporting requirements in 10 CFR 31.5

NRC Assumptions:

- This is a one-time effort, therefore, there are no recurring costs.
- The total time for the NRC contractor to prepare and process (enter data in GLTS) 1 reconciliation package is 1 hour.
- The NRC contractor labor rate per hour is $94.79.
- The bulk postage rate is $0.378 per package.
- The cost of Certified Mail Return receipt for each package is $2.75 ($1.45 for electronic receipt – do we want this one instead?)
- It is estimated that the NRC Contractor will have to follow up with 75 percent of licensees (to answer questions, follow up with non-responders). The total time for follow ups is estimated at 15 minutes.
- The total costs for Option 3 is 50 percent of the costs of Option 2, and 20 percent for Option 4.

NRC Costs:

	Labor hours	Mean/Best estimate	Labor hours	Mean/Best estimate	Labor hours	Mean/Best estimate
NRC Implementation Cost	Option 2		Option 3		Option 4	
Prepare packages for mailing	1	($1,656,455)	1	($828,228)	1	($331,291)
Bulk rate postage		($6,606)		($3,303)		($1,321)
Certified Mail Return Receipt		($48,056)		($24,028)		($9,611)
Follow up with 75% of licensees	0.25	($310,585)	0.25	($155,293)	0.25	($62,117)
Populate/reconcile GLTS with received data	0.5	($828,228)	0.5	($414,114)	0.5	($165,646)
Total NRC Implementation Cost		($2,849,930)		($1,424,965)		($569,986)

Industry Assumptions:

- This is a one-time effort for NRC GL licensees that do not have to comply with annual registrations (17,475 GLs), therefore, there are no recurring costs.
- Time to complete reconciliation is estimated at 60 minutes. This estimate is based on the current burden to complete NRC Form 664 (20 minutes) plus 40 additional minutes to account for licensees that don't have current inventory information available and to provide licensees time to complete the one-time reconciliation effort.
- The labor rate to complete the reconciliation is based on the rate for an Occupational Health and Safety Specialist.
- The labor rate for processing a package is based on the rate for a General Office Clerk.
- The total costs for Option 3 is 50 percent of the costs of Option 2, and 20 percent for Option 4.

Industry Costs:

	Labor hours	Mean/Best estimate	Labor hours	Mean/Best estimate	Labor hours	Mean/Best estimate
Industry Implementation Cost	Option 2		Option 3		Option 4	
Complete reconciliation	1	($53)	1	($53)	1	($53)
Clerical processing of package	0.25	($6)	0.25	($6)	0.25	($6)
Total Industry Implementation Cost		($1,034,214)		($517,107)		($103,421)

Observation 2 – lack of consistent accountability of GL data by regulatory agencies.

NRC Assumptions:

- The current GLTS needs to be expanded to accommodate use by Agreement States at a cost of $315,000
- The initial cost to set up accounts and train Agreement State personnel in the use of the system is estimated at $30,000
- It is assumed that all Agreement States will not need to upload any historical data, therefore, NRC will not need to load and perform quality assurance on any initial Agreement Sate data into GLTS
- It is estimated that $60,000 will be needed for annual maintenance of the system
- It is estimated that the NRC Contractor will load 400 reports a year (1 quarterly report from 100 vendors) from vendors distributing to Agreement State GLs
- The average NRC Contractor time to load records from Agreement State vendors to GLTS is 1.5 hours

NRC Costs:

	Labor hours	**Mean/Best estimate**
NRC Implementation Cost	Option 2	
Rulemaking and guidance	7100	($908,800)
Contractor cost for expanding GLTS		($315,000)
Agreement State Data Migration		($250,000)
Account setup and training for Agreement States		($30,000)
Total NRC Implementation Cost		($1,503,800)

NRC Annual Cost	**Labor hours**	**Mean/Best estimate**
System maintenance		($60,000)
Load reports from vendors distributing to Agreement State GLs	1.5	($56,874)
Total NRC Annual Cost		($116,874)

Agreement State Assumptions:

- Agreement States will not provide NRC any historical data to load into GLTS
- It is assumed that two license reviewers per State will need to be credentialed to access GLTS
- It is estimated that providing information for the NRC for the credentialing process will take 1 hour
- No recurring costs are expected

Agreement State Costs:

	Labor hours	Mean/Best estimate
Agreement State Implementation Cost	Option 2	
Rulemaking and guidance	888	($3,362,154)
Credentialing	1	($2,264)
Total Agreement State Implementation Cost		($3,364,419)

Industry Assumptions:

- It is estimated that all vendors (100 total) will need to spend 1 hour to update their procedures to include Agreement State data in their quarterly reports to the NRC, plus 0.5 hours for clerical processing and filing of the new documents
- No recurring costs are assumed since vendors will save on costs by providing one report to NRC

Industry Costs:

	Labor hours	Mean/Best estimate
Industry Implementation Cost	Option 2	
Update procedures (technical)	1	($53)
Update procedures (clerical)	0.50	($12)
Total Industry Implementation Cost		($6,530)

Observation 3 – Current regulatory framework for GLs needs enhancements**.**

NRC Assumptions:

- For Option 2, it is estimated that NRC staff will take 45 hours to review one certificate plus 62 hours for a new E-licensing action. The total number of certificates that will need to be reviewed is 20.

NRC Costs:

	Labor hours	**Mean/Best estimate**	**Labor hours**	**Mean/Best estimate**	**Labor hours**	**Mean/Best estimate**
NRC Implementation Cost	Option 2		Option 3		Option 4	
Rulemaking and guidance			7100	($908,800)	7100	($908,800)
NRC certificate review time	107	($273,920)				
NRC working group staff						
Agreement State travel cost						
Total NRC Implementation Cost		($273,920)		($908,800)		($908,800)

Agreement State Assumptions:

- The only costs associated to Options 3 and 4 are for rulemaking
- For Option 5, eight Agreement State representatives will be part of the working group, and will spend 80 hours in this effort.

Agreement State Costs:

	Labor hours	**Mean/Best estimate**	**Labor hours**	**Mean/Best estimate**	**Labor hours**	**Mean/Best estimate**
Agreement State Implementation Cost	Option 3		Option 4		Option 5	
Rulemaking and guidance	888	($3,362,154)	888	($3,362,154)		
Agreement State working group staff					80	($39,168)
Total Agreement State Implementation Cost		($3,362,154)		($3,362,154)		($39,168)

Observation 4 – Lack of consistent regulatory oversight among the NRC and Agreement States.

NRC Assumptions:

- For Option 2, two NRC representatives and eight Agreement States will be part of the working group. Each member will spend 80 hours of work for this effort.

- For Option 2, it is assumed that each Agreement State representative will travel to NRC Headquarters twice, at a cost of $2,000 per trip. NRC will pay for these travel costs.

	Labor hours	Mean/Best estimate
NRC Implementation Cost	Option 2	
Rulemaking and guidance		
NRC certificate review time		
NRC working group staff	80	($20,480)
Agreement State travel cost		($32,000)
Total NRC Implementation Cost		($52,480)

Agreement State Assumptions:

- For Option 2, eight Agreement State representatives will be part of the working group, and will spend 80 hours in this effort.

Agreement State Costs:

	Labor hours	Mean/Best estimate
Agreement State Implementation Cost	Option 5	
Rulemaking and guidance		
Agreement State working group staff	80	($39,168)
Total Agreement State Implementation Cost		($39,168)

Observation 5 – Develop annual communications tool to improve communications between regulatory agencies and GLs.

NRC Assumptions:

- It is estimated that NRC staff will take 80 hours to develop an initial communication newsletter. The estimated 80 hours will also apply to recurring years.
- There will be no costs associated with distributing the newsletter since it will be sent electronically to GLs.

NRC costs:

	Labor hours	Mean/Best estimate
NRC Implementation and Annual Cost	Option 2	
Obtain electronic contact information from non-registered GL users		
a. Prepare packages for mailing	1	($1,656,455)
b. Bulk rate postage		($6,606)
c. Certified Mail Return Receipt		($48,056)
d. Follow up with 75% of licensees	0.25	($310,585)
Develop communication tool	80	($10,240)
Total NRC Implementation and Annual Cost	81.25	($2,032,392)