

**Building a Smarter Fuel Cycle Licensing Program –
Comment Resolution Table**

#	Suggestion	Primary PGR	Additional NRC Considerations	Resolution Grouping & Proposed Action
1	Solicit input from each licensee regarding milestones that should be established for each application. Milestones may vary based on the complexity of the licensing action and estimated timeline.	Openness Reliability	Effective communication of the PM with licensee staff and management is identified in the fuel cycle Licensing Review Handbook (LRH) as a vital activity. The expectation to work with the licensee in establishing milestones for an application is established in the LRH. This suggestion is closely tied to Suggestion #6.	Communication/Openness Continue the practice of soliciting input from licensees regarding the milestones for specific applications, consistent with Suggestion #6, Future revisions of the procedures and/or instructions governing the fuel cycle licensing program and associated knowledge management training should ensure this practice is maintained.
2	Consider sharing standard metrics from Web Based Licensing along with the hours estimated in the acceptance letter.	Openness Clarity	The LRH already notes that the PM should communicate technical reviewer estimated hours for the review at the completion of the acceptance review. Including the information in the acceptance review letter has been implemented by fuel cycle PMs and should continue.	Communication/Openness Continue sharing standard metrics and hours estimates with licensees. Future revisions of the procedures and instructions governing the fuel cycle licensing program should ensure this practice is maintained.

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3	<p>Consider updating the status of the review as it progresses (i.e., encourage routine status calls between NRC and licensee). Licensees are planning capital projects, so the status of the reviews will allow them to keep their management informed.</p>	Openness	<p>Effective communication of the PM with licensee staff and management is identified in the fuel cycle LRH as a vital activity.</p>	<p>Communication/Openness PMs should initiate a telephone call (or other communication means; e-mail) with each licensee at an agreed upon periodicity and/or specific action review phase, dependent on the level of activity at the licensee, to update the status of licensing actions. For large applications, this may involve routine status calls focused solely on that application. Future revisions of the procedures/instructions governing the fuel cycle licensing program and associated knowledge management training should ensure this practice is maintained.</p>
4	<p>Consider a meeting with the applicant during the acceptance review to better understand the unique aspects of the licensee's request and provide for early identification of complexities or unique aspects of the review and provide for early identification of complexities or unique aspects of the review.</p>	Efficiency Clarity	<p>This process (either during pre-application or the acceptance phase) could increase the initial cost to the licensee, but efficiencies may be realized over the course of the review. This suggestion is similar to Suggestion #27.</p>	<p>Review Efficiency/Effectiveness PMs should discuss a meeting with the licensee to better understand the licensing action during the pre-application phase or the acceptance review phase. Holding this meeting should be dependent on the level of complexity of the licensing action.</p>
5	<p>Consider if multiple steps of the licensing process can be combined for simple actions (e.g., acceptance and approval letters).</p>	Efficiency	<p>This process was recently implemented by fuel cycle PMs and should continue when appropriate. However, the internal review metrics may disincentivize combining steps if it results in missing a metric. This suggestion is similar to Suggestion #28.</p>	<p>Process/Metrics Continue evaluating each review for potential time savings. Provide an allowance within the review metrics to exempt earlier due dates for combined steps if overall efficiency is achieved (i.e., be outcome-oriented). Future revisions of the procedures/instructions governing the fuel cycle licensing program should ensure that PMs continue to be aware of this option and that metrics do not obstruct this efficiency.</p>

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6	Establish and share licensing milestones for most submittals to include all offices and centers of excellence (COEs) involved. For example, clarify when NRC's Office of General Counsel (OGC) is involved with the review of a licensing action.	Openness	Expands upon Suggestion #1, but specific to the support offices/COEs. A representative from OGC discussed this comment during the public meeting on August 8, 2019. Key review milestones typically do not go to the level of detail of providing specific office/COE review timeframes.	<p>Communication/Openness</p> <p>Incorporate guidance for PMs to coordinate with licensees on key review milestones (cf. Suggestion #1). However, such milestones should not identify unique milestones for inputs or reviews by specific staff, branch, division, COE, or office.</p>
7	Site visits are valuable, and the timing of the visits should optimize the effort of NRC's review (prior to and/or after submittal) and with respect to requests for additional information (RAIs).	Efficiency	The LRH recommends scheduling a site visit shortly after draft RAIs are developed and the RAIs provided to the licensee in preparation for the visit. The scheduling of site visits could be especially valuable for large applications, such as major license amendments, license renewals, and new applications.	<p>Review Efficiency/Effectiveness</p> <p>Continue optimizing the timing of site visits and leverage "virtual audits/visits" using available technology, as appropriate. Staff from supporting offices (e.g., NSIR and OGC, as appropriate) involved in a review should also be included in site visits. Also, consider the timing of the site visit, such as holding a meeting at the site as part of a pre-application meeting or when draft RAIs are developed. Future revisions of the procedures governing the fuel cycle licensing program should ensure this practice is maintained.</p>
8	RAIs should have clear regulatory bases, perhaps a uniform template is needed.	Clarity Efficiency	The LRH states that the regulatory basis for the RAI should be addressed. The importance of providing regulatory bases for RAIs has been communicated to the staff. There is a job aid developed for the spent fuel reviews that could be leveraged to address this suggestion, especially in establishing a template for RAIs.	<p>Good Practices</p> <p>Develop a template for RAIs to further ensure that regulatory bases for RAIs are consistently provided. Include the template in future revisions of the procedures/instructions governing the fuel cycle licensing program and provide to the staff as a job aid.</p>

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9	Consider if RAIs should be discussed with the licensee in draft form to confirm understanding of the request and also consider holding a discussion when the licensee has developed a draft response to ensure the response is appropriately addressing the staff request.	Efficiency	The LRH allows holding clarifying calls for draft RAIs. These calls serve to: ensure the draft RAI questions are understood, the regulatory basis for the question is clear, clarify the type and amount of information the staff needs, minimize the likelihood of multiple rounds of RAIs, and improve the efficiency of the licensing process. Similar calls can be used for draft RAI responses. This suggestion is also related to Suggestion #7 in that a site visit could be coordinated at the draft RAI stage for larger applications to ensure full understanding of the RAIs and/or proposed licensee responses.	<p>Review Efficiency/Effectiveness PMs should arrange discussions of draft RAIs with the licensee at an established milestone and for larger applications to consider scheduling a site visit (consistent with Suggestion #7) at this stage. For large applications or complex RAIs, the PMs should also arrange discussions with the licensee to ensure the response fully addresses the staff request. Future revisions of the procedures/instructions governing the fuel cycle licensing program and associated knowledge management training should ensure this practice is maintained.</p>
10	Consider when the clock should start on NRC's metrics surrounding RAIs.	Clarity	The Nuclear Energy Innovation and Modernization Act (NEIMA) direction will likely influence how this item is addressed.	<p>Process/Metrics Develop a tool to enable tracking and establishing metrics for RAIs, including RAIs developed in a phase manner, and setting expectations for timeliness of RAIs. The RAI phased approach and considerations will also be captured within the RAI business line instruction that is currently under development.</p> <p>30-day response time – WBL issue – track metric from individual RAI</p>

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11	Consider if the requirement to notice a public meeting 10-days in advance limits the benefit of discussing draft RAIs.	Clarity Efficiency	There is existing guidance in the LRH that allows RAI clarification calls (cf. Suggestion #9) without needing to be public meetings, as long as they stay within the bounds of clarifying the meaning and intent of the RAIs. This can be very beneficial at the draft RAI stage to ensure the final RAIs are clearly communicated and understood by the licensee/applicant.	<p>Process/Metrics</p> <p>The RAI business line instruction effort initiated by this working group (cf. Suggestion # 16) should include guidance on RAI “clarification calls” and when it needs to be a public meeting is required.</p>
12	Reduce the likelihood of multiple rounds of RAIs.	Efficiency	This expectation is already captured in the LRH (cf. Suggestion #9) in which the calls are expected to minimize the likelihood of multiple rounds of RAIs, and improve the efficiency of the licensing process. Further, the LRH states that RAIs should not be submitted if the information is available elsewhere or can be inferred from other information. Clarifying calls can be used to address or confirm such information instead of using formal RAIs. Current review guidance also indicates that RAIs should be developed from gaps in a draft SER. Addressing Suggestion #7 and #9 would also support achieving this goal.	<p>Good Practices</p> <p>Continue emphasizing the tools that are available to facilitate achieving the goal of a single round of RAIs. Future revisions of the procedures/instructions governing the fuel cycle licensing program should ensure this practice is maintained.</p>

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13	The continuity of licensing process quality and efficiency must be maintained despite staff and/or management turnover.	Reliability Efficiency	The importance of providing for continuity of reviews has been communicated to the staff and guidance on this topic has recently been incorporated into the LRH. The staff agrees that continuity should be more uniformly achieved. In addition, current staff review guidance states the draft SER inputs should be developed early in the review process (by the timing of the draft RAIs), which ensures more efficient development of RAIs (supporting Comment #s 7, 9, and 12) and provides more effective turnover.	<p>Review Efficiency/Effectiveness Knowledge/Awareness</p> <p>Emphasize and institutionalize the development of draft inputs early in reviews. Guidance and training should ensure PMs request draft deliverables at specific interim milestones to better ensure staff effort is captured. Future revisions of the procedures and instructions governing the fuel cycle licensing program should ensure this practice is maintained. Aspects of knowledge management and training of incoming new staff need to continue to be considered, such as technical mentoring and teaming new staff up with more senior staff in performing reviews. Aspects supporting efficiency and effectiveness during management turnover include maintaining briefing books on the various licensees, their facilities and processes, and the fuel cycle regulatory and licensing aspects.</p>

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14	<p>The current approved license provides a basis for acceptance review and limited NRC review for license renewals. This renewal application identifies program changes since last renewal. As such, license renewals should focus only on safety significant areas of change. This may result in needing no review for specific areas in which there are no changes to that program and no new/ revised requirements. Also, consider a holistic review with industry input on recent renewals to identify lessons learned.</p>	<p>Reliability Efficiency</p>	<p>Depending on the type of staff review (e.g., programmatic, sampling, etc.), some reviews may be able to focus solely on the areas of change. However, other aspects, such as sampling type reviews, may involve additional sampling to confirm the accepted methods are being implemented appropriately. Even in these aspects of the review there should be more emphasis, though not entirely, on areas that have changed since the recent renewal. Implementation of Suggestion #23 should directly address this suggestion as well.</p>	<p>Process/Metrics & Knowledge/Awareness Clarify how technical reviewers should focus their reviews for a license renewal. This may be captured in guidance developed strictly for license renewals (cf. Suggestion #23) or as part of a job aid. In addition, developing such guidance or reviewer job aids could be informed based by reviewing recent renewals and identifying associated lessons learned.</p>
15	<p>Consider incorporating concepts from the recently issued NRR LIC-206, "Integrated Risk-Informed Decision-Making for Licensing Reviews," into the fuel cycle licensing program.</p>	<p>Efficiency</p>	<p>A key concept, that is directly implementable by fuel cycle for larger team reviews, is the use of integrated teams throughout the review, starting at pre-application phase, and the use of relative risk insights in planning and conducting the review. LIC-206 is available at: https://www.nrc.gov/docs/ML1903/ML19031C861.pdf.</p>	<p>Process/Metrics Incorporate into review guidance the use of integrated, multi-disciplined, review teams, especially for larger scope applications. To be successful (i.e., efficient and effective) the guidance needs to ensure review teams hold regular team meetings throughout the review (including pre-application, acceptance, draft SER, RAI, and final SER phases, as appropriate) to ensure understanding of the application and consideration of relative risk insights in planning the review, the scope and focus of individual review areas, identifying unique considerations, and in conducting the reviews.</p>

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16	Consider developing an instruction for the Fuel Facility Business Line on license amendments like NRR's LIC-101, "License Amendment Review Procedures." This would take the relevant information out of the internal desk guide (fuel cycle LRH) and place it into a publicly available document that is applicable to all staff performing work under the Fuel Facility Business Line.	Openness Efficiency	It is preferred to develop stand-alone guidance for the various aspects of the review that can be made publicly available without redaction (as would be needed for the LRH). The staff has already begun the development of a business line instruction for the RAI process, which needs to be coordinated and integrated with spent fuel instruction improvement efforts (cf. Suggestion #32)	<p>Communication/Openness & Review Efficiency/Effectiveness</p> <p>Develop and make publicly available procedures and/or instructions governing the various aspects of the fuel cycle licensing program and invite stakeholder input and feedback for consideration in the development process. A business line instruction for the RAI process has already been initiated during this effort.</p>
17	Develop a tool to track licensing actions in accordance with the new metrics associated with the Nuclear Energy Innovation and Modernization Act (NEIMA).	Efficiency	As NRR is also involved in implementing NEIMA, approaches should be consistent with, and incorporate lessons learned from, NRR implementation.	<p>Process/Metrics</p> <p>Develop implementing tools to address the NEIMA requirements</p>
18	Ensure internal work requests identify the appropriate technical staff and that resource estimates are consistent with the projected scope, focus, and level of detail of each review area.	Reliability	This process was recently implemented by fuel cycle PMs and should continue. This suggestion ties to better planning of reviews and ties to numerous other suggestions (e.g., Suggestions #2, #21, #29, and #30).	<p>Good Practices</p> <p>Continue effort developing and utilizing accurate internal work requests. Future revisions of the procedures and instructions governing the fuel cycle licensing program should ensure this practice is maintained.</p>

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19	Training on the licensing program, that highlights recent changes and longstanding fundamentals, should be provided for fuel cycle PMs and technical reviewers	Reliability Clarity Efficiency	Seminars should consider including: How do technical reviewers perform reviews? What are the basics? What job aids and guidance exists? Are there opportunities for on-the-job training?	<p>Knowledge/Awareness</p> <p>There are already seminars being conducted. This continual learning and reinforcing good practices should continue to be used to maintain and expand capability and awareness of the staff.</p>
20	A standard review plan is needed for reviews of greater than critical mass licensees.	Reliability Clarity Efficiency	The current approach is to follow aspects of NUREG-1520, but there is no specific guidance on which aspects to follow. This is not an efficient approach, especially as new reviewers join the organization. An old draft guide exists, however it was not finalized. This could be a starting point for any new guidance or job aid.	<p>Review Efficiency/Effectiveness</p> <p>Develop appropriate review guidance, such as: SRP, instruction, review roadmap to NUREG-1520 (SRP), job aid, etc.</p>
21	Document the scope and focus of licensing reviews in the Safety Evaluation Report (SER).	Clarity	Current guidance does not explicitly require documenting this level of specificity of the staff reviews. This documentation could be especially valuable in ISA reviews and other areas involving sampling approaches (cf. Suggestion #14) and inform future reviewers of areas previously reviewed (or by implication not reviewed).	<p>Good Practices</p> <p>Augment guidance to ensure the specific scope, focus, and depth of review and approach used for the review (e.g., sampling) are documented in the SER.</p>

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22	Consider an electronic interface with licensees for RAIs, dashboards, etc.	Efficiency	NRR is considering implementation of this practice. Lessons learned from these activities should be incorporated into any action considered by DFM. The main benefit may be achieved for larger or more complicated reviews or new types of applications.	<p>Process/Metrics Need to determine the usefulness of such an approach for the typical application. This may be a longer-term item that builds off lessons learned from NRR and past NRO use to consider for implementing, consistent with Suggestion #15, for large applications.</p>
23	Develop a business line instruction on license renewals.	Reliability Clarity Efficiency	Implementation of this suggestion would directly address Suggestion #14	<p>Review Efficiency/Effectiveness Similar to Suggestion #20, develop the appropriate type of guidance for license renewal applications, such as: SRP, instruction, review roadmap to NUREG-1520 (SRP), job aid, etc.</p>
24	Consider the development of a "licensing manual" to create a catalog of fuel cycle licensing guidance (e.g., NUREGs, Policy & Procedures, Branch technical Positions, generic communications, qualifications).	Reliability Clarity Efficiency	Many of the cited reference examples are available to the staff, though often scattered across multiple locations and platforms (e.g., sharepoint, ADAMS, internal website) and not consistently profiled in ADAMS (cf. Suggestion #25).	<p>Knowledge/Awareness Develop a roadmap for each type of license that identifies the appropriate guidance, job aids, and guidance. Consider creating an unique "catalogue" of references (or cross-reference lists) for each licensee or license type that is maintained by the appropriate PM and made easily available to the staff.</p>

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25	<p>Consider ways to better facilitate inspector involvement with the licensing process. How does an inspector raise a concern about a section of the license application? Can a central depository be developed for the current version of each license application? Are licensing basis documents uniformly profiled in ADAMS consistently? Can lessons be learned from NRR in how they maintain the licensing basis documents?</p>	<p>Reliability Clarity Efficiency Independence</p>	<p>The LRH states that the PM should participate in frequent communications with regional counterparts regarding licensing activities at their facilities and provides an opportunity for inspector insights being shared at the draft SER stage. It is not clear that PMs routinely seek inspector insights into licensing actions. Further, there is not much material related to inspector direct involvement in the licensing review process. A similar recommendation was provided during the Westinghouse Lessons Learned activity. Some aspects of this suggestion are similar to Suggestion #24</p>	<p>Knowledge/Awareness & Process/Metrics Provide further guidance and training in effectively incorporating inspector participation and insights at various stages of a licensing action, especially for large applications. This participation should not be at the end of the review, but as early as possible in the review, including at the pre-application stage.</p>
26	<p>Can any efficiencies be gained that focus on the review of an application to: fabricate pebble bed reactor fuel; or produce medical isotopes? What about for amendments of current licensees to produce accident tolerant fuel?</p>	<p>Reliability Clarity Efficiency</p>	<p>This is a broad suggestion to leverage on-going efforts of continual learning, review lessons learned, and self-assessments to proactively prepare for new technologies and applications. This could build off efforts related to Suggestion #24.</p>	<p>Knowledge/Awareness Champion and institutionalize post-review lessons learned activities of new or complex applications with the aim of informing future new and novel application reviews. Further guidance improvement activities to incorporate lessons learned and knowledge management. In addition, initiate early efforts to develop guidance and/or roadmaps for projected new applications (including new technologies) based on past experiences.</p>

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27	<p>For the pre-application phase set expectations for holding early team meetings of likely technical reviewers and PMs to: understand proposed application, establish risk-informed consideration in setting early scope and focus of review, and identify unique review considerations. Also, consider having a site visit (e.g., as part of a pre-application meeting with the licensee, especially for reviewers (including NSIR, OGC, et al) unfamiliar with the facility.</p>	<p>Clarity Efficiency</p>	<p>While this approach (either during pre-application or the acceptance phase) could increase the initial cost to the license and might require a slightly longer timeframe and metric if done at the acceptance review phase, efficiencies would likely be realized over the course of the review. This suggestion is similar to Suggestion #4 and aspects, such as site visits and team reviews, overlap with Suggestions #7 and #15.</p>	<p>Good Practices PMs should discuss with the licensee about holding a meeting to better understand the licensing action during the pre-application phase or the acceptance review phase. This could involve a site visit for those reviewers unfamiliar with the process(es) involved in the application. Forming an integrated review team and holding periodic meetings is dependent on the scope and level of complexity of the licensing action.</p>
28	<p>For reviews that are expected to be of short duration (e.g., < 60 days) and straightforward, forego the acceptance review phase (or have a minimal acceptance review (e.g., 2 days) with only a teleconference noting acceptance) and perform the technical review using an established timeliness metric for such reviews instead.</p>	<p>Efficiency</p>	<p>This process was recently implemented by fuel cycle PMs and should continue when appropriate. However, the internal review metrics may disincentivize combining steps if it results in missing a metric. This suggestion is similar to Suggestion #5.</p>	<p>Process/Metrics Provide a recognized path for short duration, straightforward reviews that do not need to include an acceptance review phase (or a minimal acceptance review). For example, license changes that are solely administrative or simple changes. Continue evaluating each review for potential time savings and provide an allowance within the review metrics to exempt earlier due dates for combined steps if overall efficiency is achieved (i.e., be outcome-oriented). Future revisions of the procedures/instructions governing the fuel cycle licensing program should ensure that PMs continue to be aware of this option and that metrics do not obstruct this efficiency.</p>

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29	<p>Improve early processing, alignment, and documentation in establishing the expected focus, scope, and level of detail of reviews. Make this information available to the licensee/applicant.</p>	<p>Openness Reliability Clarity Efficiency</p>	<p>This suggestion ties to better planning and documenting of review effort and ties to numerous other suggestions (e.g., Suggestions #2, #18, #21, and #30).</p>	<p>Communication/Openness & Process/Metrics Incorporate into review guidance and improve the processing of reviews so that there is early alignment on the expected focus, scope, and level of detail of reviews. The improvements will also include early documentation (including branch chief acceptance) within the PM process and communicated with the licensee/applicant. This will also then need to include a review revision process that includes the justification for changing these previously agreed upon aspects of the reviews.</p>
30	<p>Develop process and technical job aids that augment the process and technical staff guidance at a lower level that incorporates: review area/discipline lessons learned and insights; typical considerations for determining the focus, scope and level of effort for different types of applications; considerations in review sampling approaches (if appropriate).</p>	<p>Reliability Clarity Efficiency</p>	<p>Implementing this suggestion would involve nearly every technical staff lead and many lead PMs to fully capture its scope and breadth. However, it could be initiated for what are considered the most significant areas of the typically more significant applications. This suggestion is closely related to Suggestion #31.</p>	<p>Process/Metrics & Knowledge/Awareness In concert with Suggestion #31, develop process and technical job aids to support risk-informed reviews and decisionmaking. Develop process and technical job aids within each of the review disciplines and for different types of applications. It is recognize that this may need to be implemented in a progressive and prioritized manner over a long period.</p>

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31	<p>Consistent with NRC staff Innovative Idea #68, develop a set of “risk factors and their impacts” (i.e., considerations) associated with specific tasks of a review; including schedule risk and review/decisionmaking risks.</p>	<p>Openness Reliability Clarity Efficiency</p>		<p>Knowledge/Awareness In concert with Suggestion #30, develop process and technical job aids to support risk-informed reviews and decisionmaking. Consider job aids that provide example questions to ask to ensure every aspect of a review is appropriately risk-informed. For example, during pre-application and acceptance review questions to aid in identifying the scope, focus, and level of detail of each review area and likely complex aspects of the review that might challenge the schedule; during development of RAIs in determining the means for seeking information by call or formal request, the significance of information needed, and if the RAI should be elevated for management awareness.</p>
32	<p>Given the recent merger of the divisions addressing fuel cycle facilities and spent fuel, staff review guidance, procedures, and instructions should be harmonized and best practices within each of the prior divisions implemented in a coherent manner within the new division.</p>	<p>Reliability Clarity Efficiency</p>	<p>This suggestion is being further evaluated and addressed by a newly formed DFM integration team, which will address all working group proposed actions.</p>	<p>Process/Metrics Combine, where appropriate, and make consistent the staff review procedures/instructions, as time and resources are available. As an example, the initial activities on developing a business line instruction on RAIs (cf. Suggestion #16) will be integrated with the lessons learned activities being addressed within the prior spent fuel division. An expected outcome is the development of a single RAI instruction that can be applied consistently across both business lines.</p>