AGENDA
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3
LICENSE RENEWAL APPLICATION
MONDAY, OCTOBER 22, 2001

PURPOSE: To provide Exelon an opportunity to clarify the scoping and screening methodology, particularly as it relates to the use of system "realignment" to determine components within the scope of renewal. The NRC staff expects to understand how this process fulfills the requirements of §54.4 in sufficient detail to complete the review of the system scoping results and the methodology.

1	Introduction : Define the issues and expected outcome of the meeting.	NRC	9:00am
2	Clarify the scoping and screening process as shown in figure 2.1-1 of the PBLRA, as discussed at the meeting on 9/24/01, and explain how Exelon concluded that this process meets the requirements of 10 CFR 54.4 with respect to the following: • System intended functions. • Explain the system realignment process and the rational for its use. • Determination of system/structure boundaries. • How the systems, structures and components reflected in the Peach Bottom current licensing basis [as defined by §54.3(a)] are captured in a consistent manner in the scoping process. • Explain the differences between the Component Record List and the UFSAR and how they are treated by the scoping process and reflected in the LRA.	Exelon	9.15am
	-Break-		10:45am
3	Discussion of NRC examples of apparent scoping inconsistencies and LRA clarity that could hamper the transparency of the review process: • Reactor Water Cleanup (RWCU) System example is not in-scope (Fig 2.1-1 vs §54.4) but SCs of RWCU are in-scope per §54.21. • Given that system boundaries have been realigned for the PB LRA, how can the staff efficiently determine that all SCs are included in the Component Groups defined by the PBLRA?	NRC	11:00am
	-Lunch-		12:00pm
4	Exelon to provide explanation for the specific examples in item 3 as to how the scoping and screening process was performed to ensure that SCs that need to be in scope of license renewal are captured in a consistent manner, in accordance with Part 54.	Exelon	1:00pm

Attachment 2

	Discuss the samples of Table 2.1-1 provided to the staff.		
	-Break-		2:30pm
5	Discuss potential schedule impacts as a result of the LRA complexities.	NRC	2:45pm
6	Caucus	NRC	3:15pm
7	Conclusions and action assignments	All	3:45pm
8	Adjourn	All	4:00pm

Exelon SM
Nuclear

Peach Bottom Atomic Power Station

License Renewal Application
Scoping and Screening
Methodology meeting
October 22, 2001

Attachment 3

AGENDA
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3
LICENSE RENEWAL APPLICATION
MONDAY, OCTOBER 22, 2001

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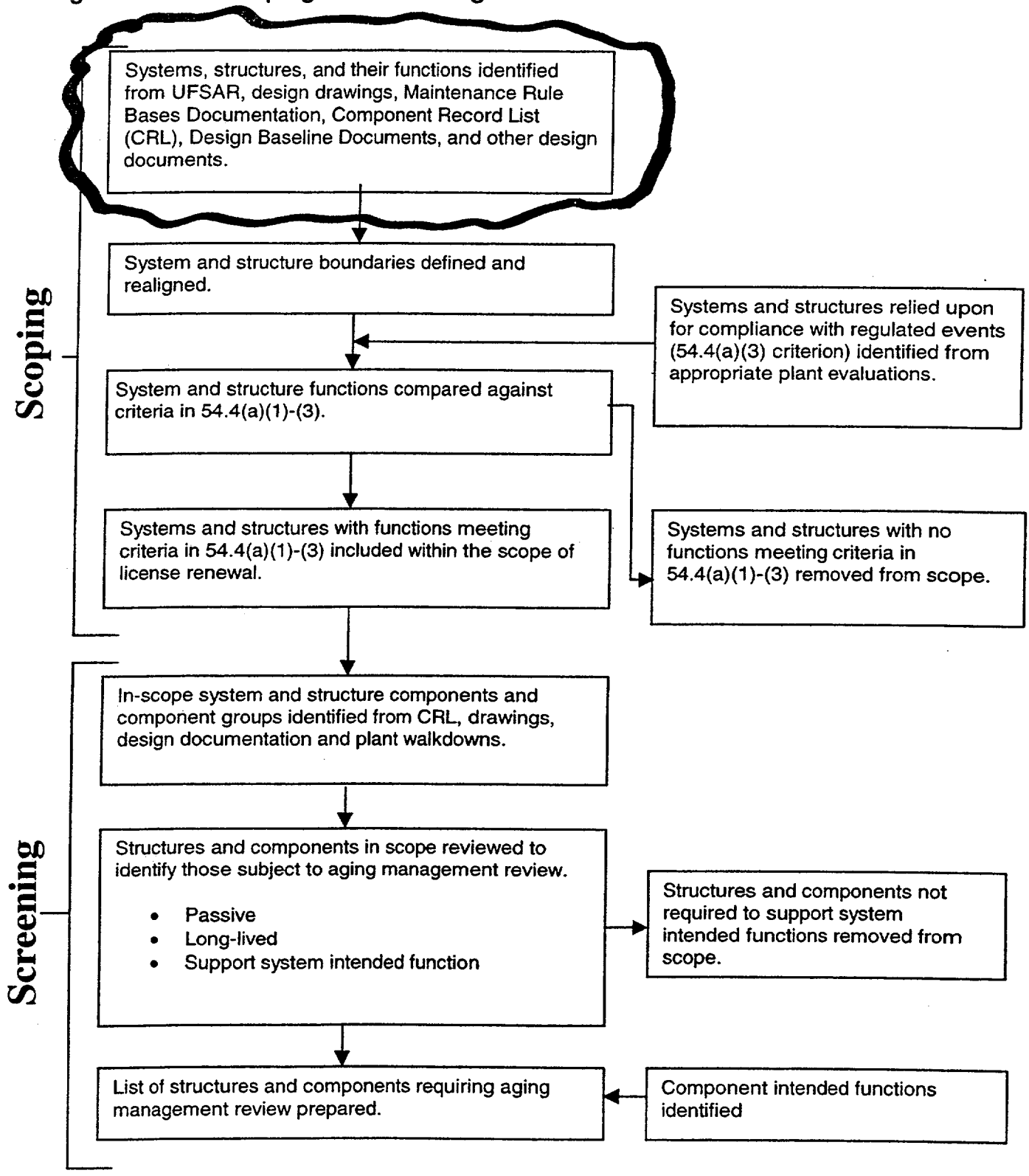
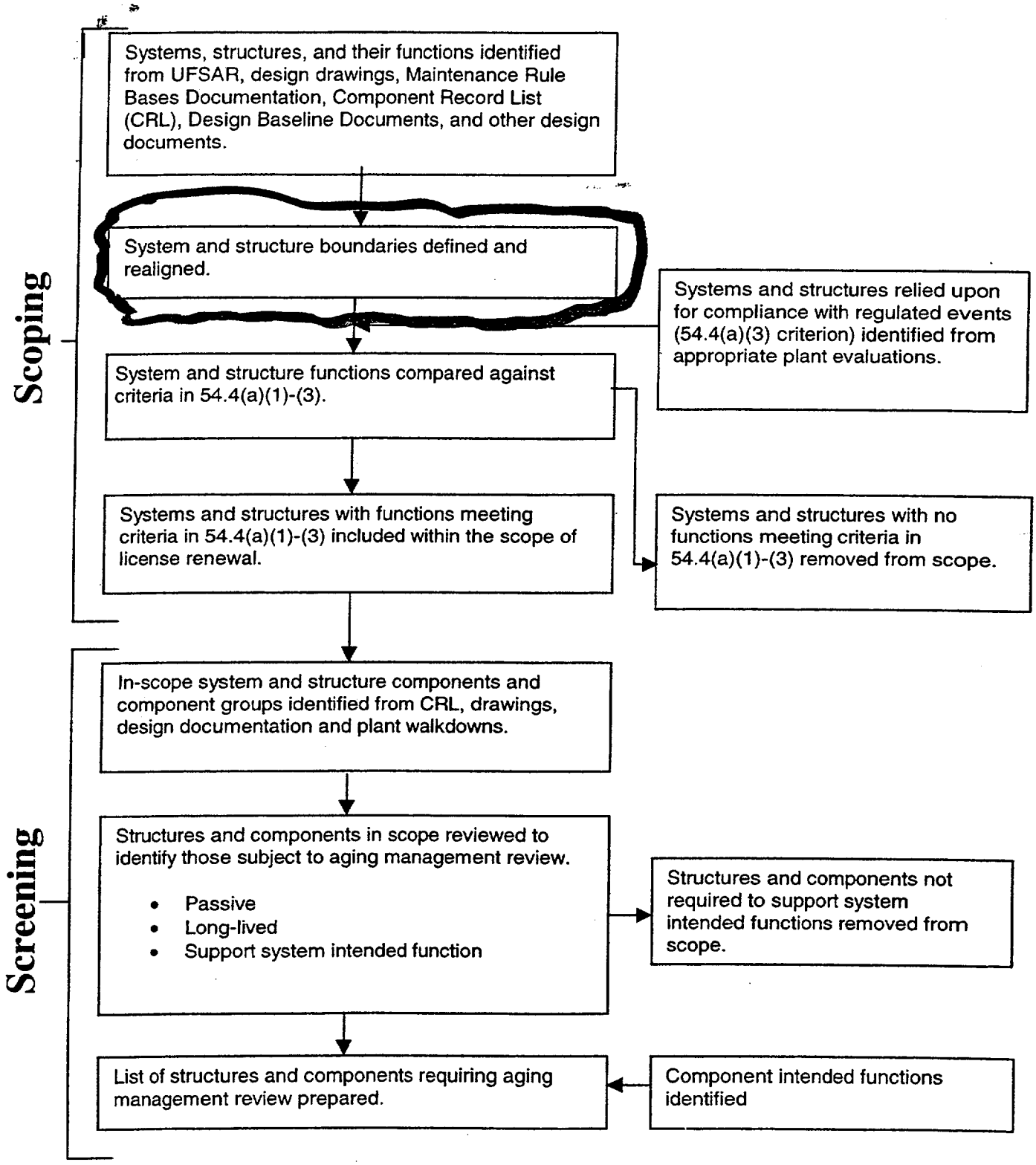
Figure 2.1-1 - Scoping and Screening Process Overview



Systems, structures, and their functions identified from UFSAR, design drawings, Maintenance Rule Bases Documentation, Component Record List (CRL), Design Baseline Documents, and other design documents.

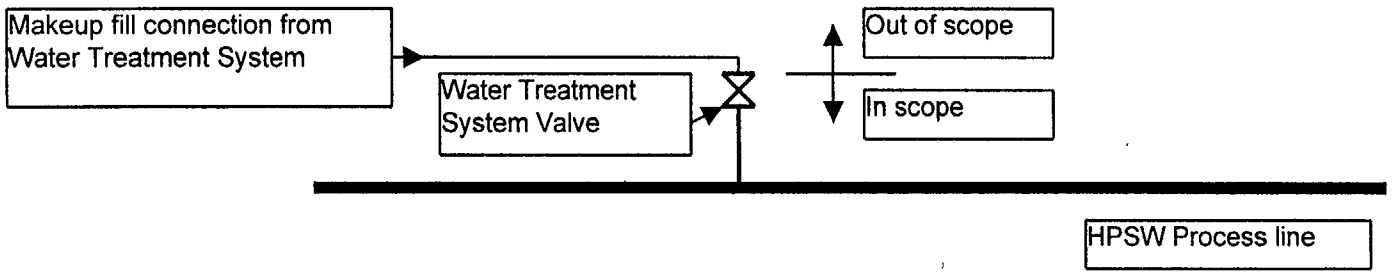
- A comprehensive list of systems and structures to be evaluated for license renewal scoping was produced from the above documentation sources (LRA page 2-2, Section 2.1.2.1, first paragraph). These information sources are consistent with NUREG-1800 Standard Review Plan for License Renewal Table 2.1-1, and also Table 3.1-1 of NEI 95-10 revision 3, endorsed by Regulatory Guide 1.188:
  - Master Equipment Lists (CRL)
  - UFSAR
  - Q-List (CRL)
  - P&IDs
  - Design Basis Documents
  - Maintenance Rule Compliance Documentation
- The comprehensive system list includes mechanical and electrical systems, plant structures, and some non-traditional "systems" used to capture items such as doors or snubbers, as described on LRA page 2-4.
- For mechanical and electrical systems, the list is identical to the Maintenance Rule system list.
- For mechanical and electrical systems, the evaluation against license renewal scoping criteria 10 CFR 54.4(a)(1) and (2) is taken from the corresponding Maintenance Rule scoping criteria (LRA page 2-7). System functions and intended functions are identified from the Design Baseline Documents and the UFSAR (LRA page 2-11).
- For structures, the evaluation against license renewal scoping criteria 10 CFR 54.4(a)(1) and (2) is based on seismic classification as described in the UFSAR (LRA page 2-7 and 2-8). Structure functions and intended functions are identified from the UFSAR (LRA page 2-11).

Figure 2.1-1 - Scoping and Screening Process Overview



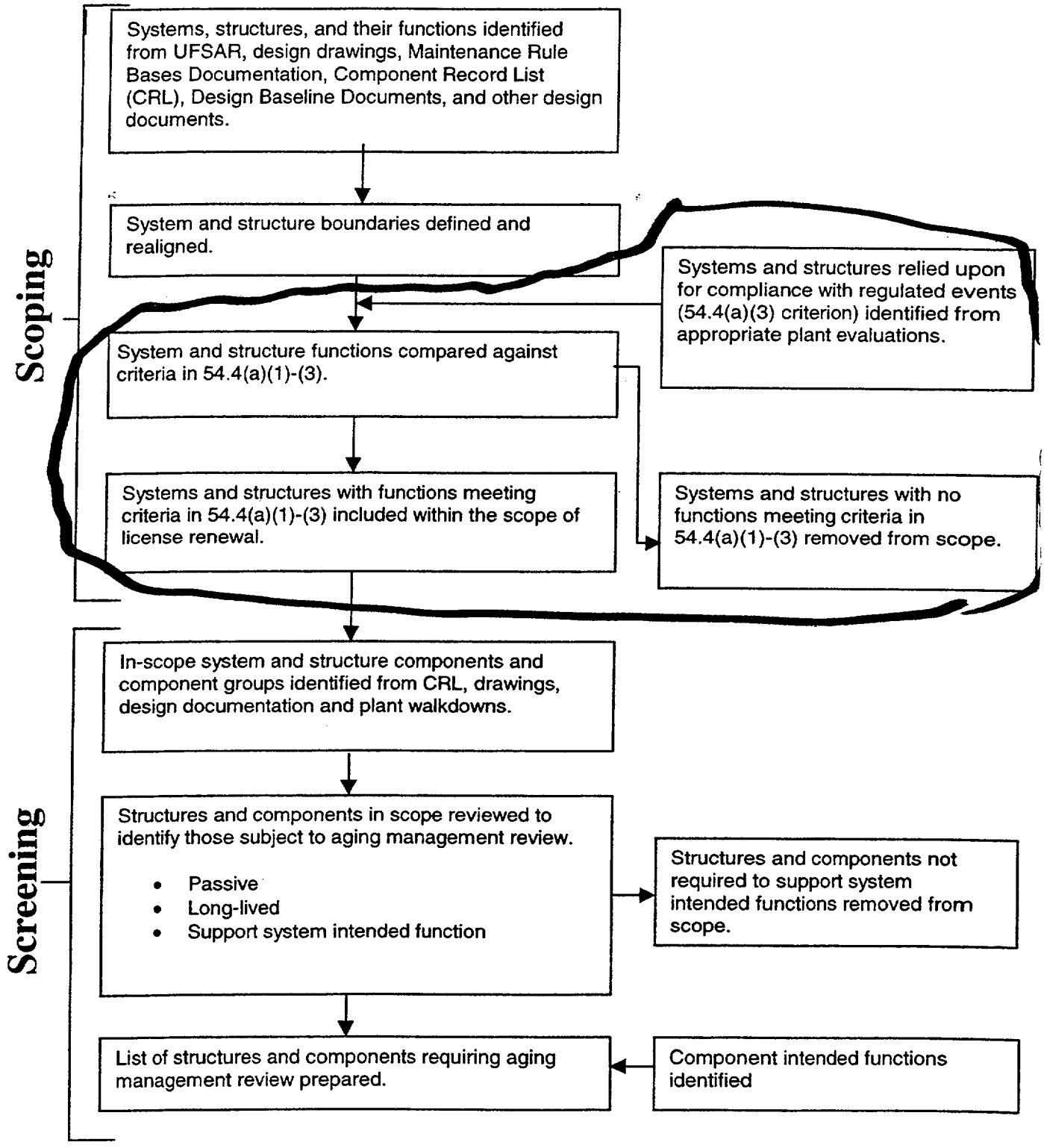
System and structure boundaries defined and realigned.

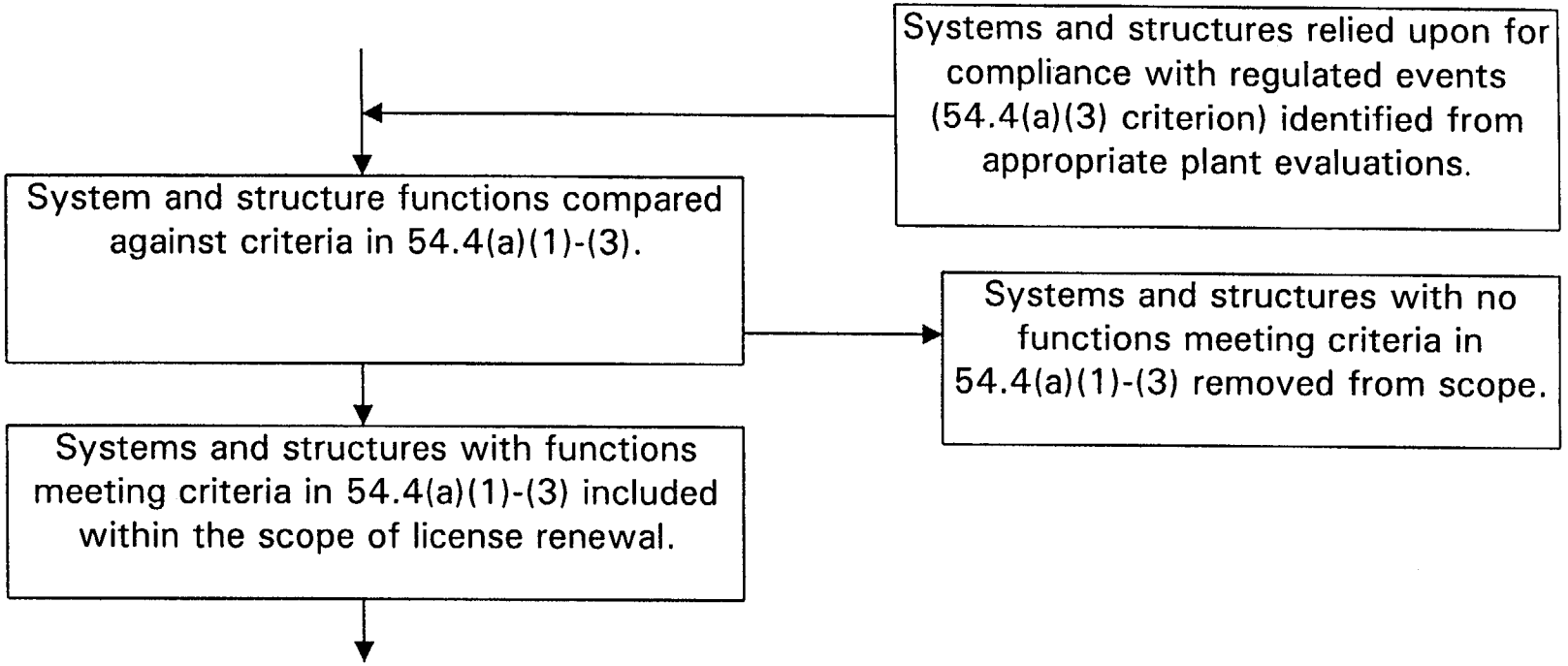
- Component listings were downloaded from the CRL for each system.
- Component listings were used to mark-up P&ID drawings to establish in-scope system boundaries (LRA page 2-5).
- Some non-safety related systems at PBAPS include safety related components. For example, isolation valves in the makeup water fill connection to the safety related High Pressure Service Water (HPSW) system are safety related because they are part of the HPSW boundary. The makeup water connection is from the Water Treatment System, which is not safety related, but these individual isolation valves are safety related. Other examples are described on page 2-5 of the LRA, under the sub-heading of System Boundary Realignment.



- The CRL was used to identify safety related components in non-safety related systems.

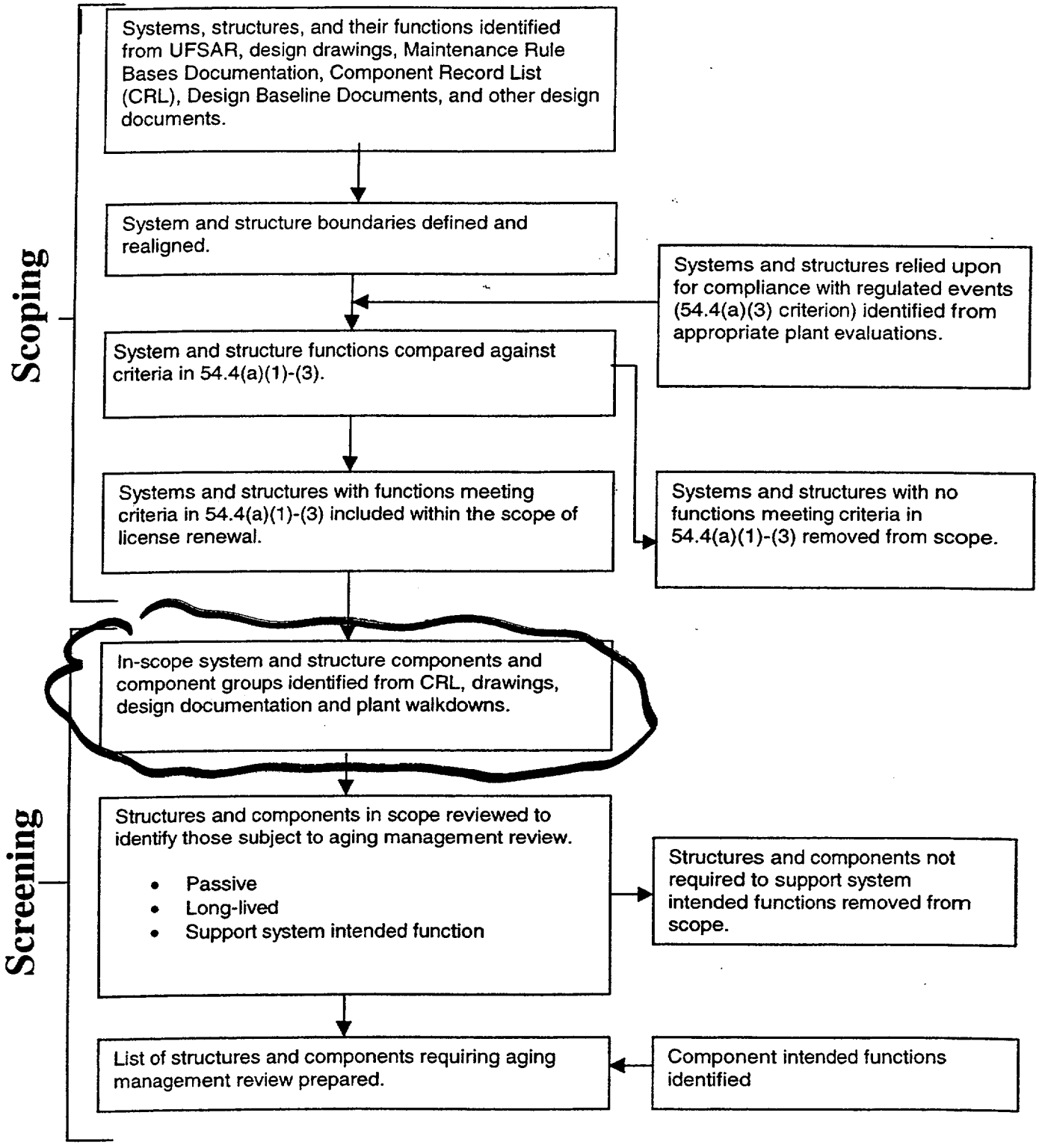
Figure 2.1-1 - Scoping and Screening Process Overview





- This is a general overview of the process of addressing the license renewal scoping criteria, which is described in detail in LRA pages 2-6 through 2-10.
- For systems, evaluation against criteria 54.4(a)(1) and (2) is based on Maintenance Rule program scoping documentation (LRA page 2-6 and 2-7).
- For structures, evaluation against criteria 54.4(a)(1) and (2) is based on review of UFSAR seismic classification (LRA pages 2-6 through 2-8).
- For systems and structures, evaluation against criteria 54.4(a)(3) is based on review of appropriate plant evaluations for the regulated events (page 2-9 and 2-10). License renewal position papers were prepared to identify specific systems credited for 10 CRF 50.48 (Fire Protection) and for 10 CFR 50.63 (Station Blackout).
- ATWS systems determined from CRL ATWS data field.

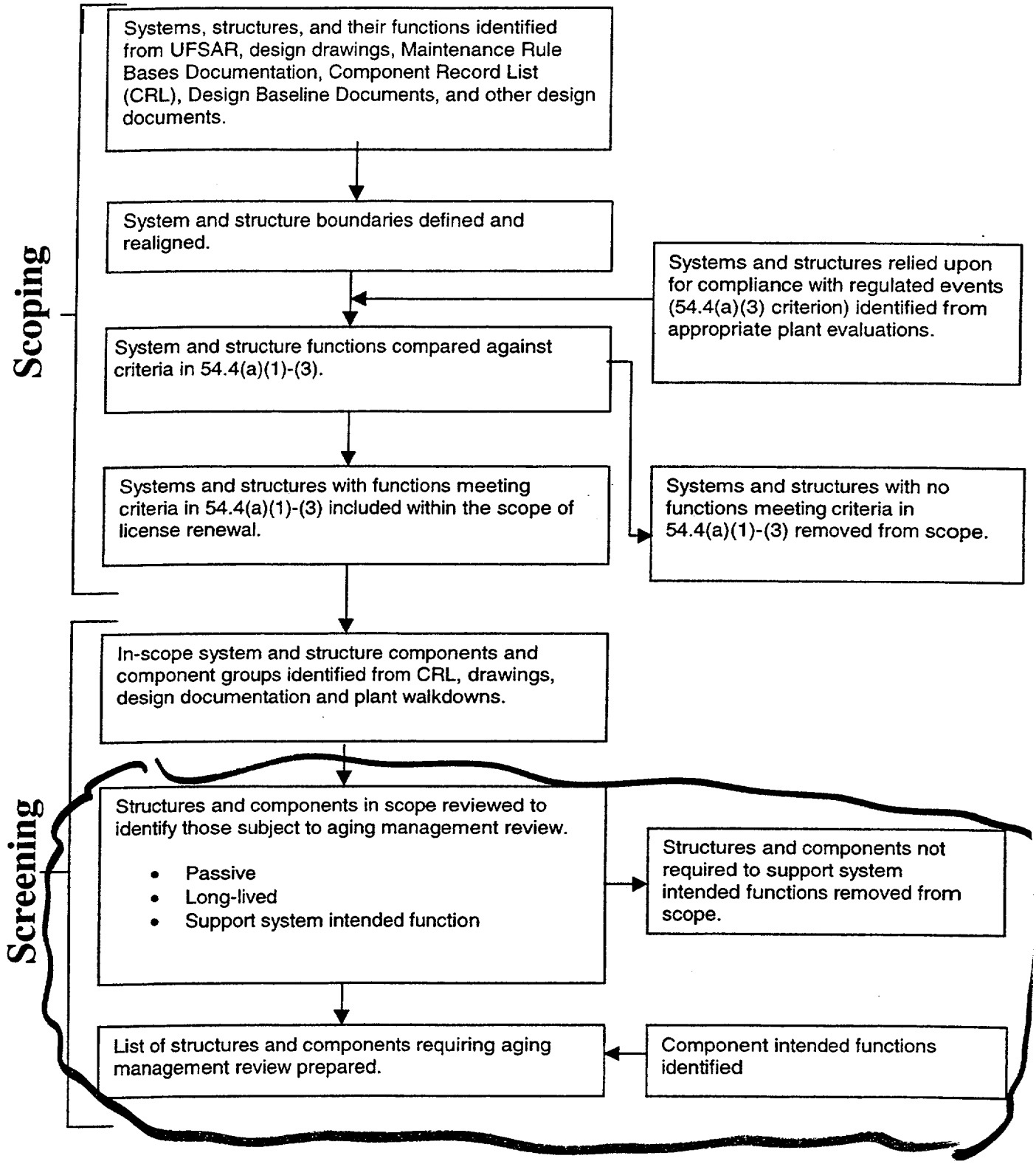
Figure 2.1-1 - Scoping and Screening Process Overview

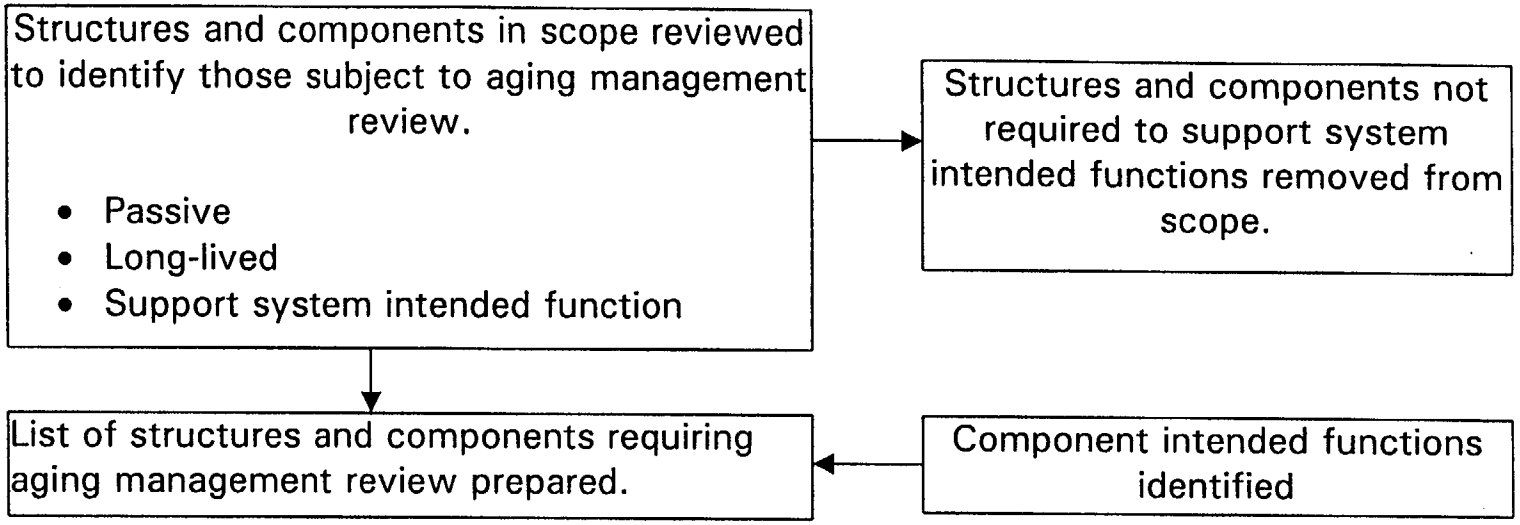


In-scope system and structure components and component groups identified from CRL, drawings, design documentation and plant walkdowns.

- Screening Methodology described in LRA Section 2.1.3, page 2-12 through 2-14.
- Final listing of in-scope components identified from previously downloaded component listings.
- Components entered into a License Renewal Database.
- Additional components not included in the CRL were identified and added to the database.

Figure 2.1-1 - Scoping and Screening Process Overview





- Screening Methodology described in LRA Section 2.1.3, page 2-12 through 2-14.
- Component active versus passive determinations made in accordance with 10 CFR 54.21(a)(1)(i) and the guidance of NEI 95-10.
- Long-lived components identified in accordance with 10 CFR 54.21(a)(1)(ii) and the guidance of NEI 95-10.
- During this detailed component level review, any additional components identified that are not required to support a system intended function are removed from the scope of license renewal. Component listings (the license renewal database) and boundary drawings were updated as required.
- Intended functions identified for the structures and components requiring aging management review.

Component Realignment

Five reasons for component realignment are explained.

- Case 1 Components associated with Containment Penetration
- Case 2 Interfaces between In-scope and Out-of-scope mechanical systems
- Case 3 Interfaces between In-scope electrical and Out-of scope mechanical systems
- Case 4 Components shared between In-scope and Out-of-scope systems
- Case 5 Components required to support specific intended functions

Case 1 – Components Associated with Containment Penetration

- The process lines for some non-safety related systems pass through containment. The non-safety related system has no safety related intended functions. However, components associated with the containment boundary are part of the process system in the plant documentation for component identification purposes, but have intended functions associated with establishing or maintaining the containment boundary.

- GALL report section V.C, "Containment Isolation Components" recognizes and addresses this case of realignment: "The system consists of isolation barriers in lines for BWR and PWR nonsafety systems such as the plant heating, waste gas, plant drain, liquid waste, and cooling water systems."

- NUREG-1800, "Standard Review Plan – License Renewal" also recognizes and addresses this type of realignment in Section 2.1.3.1 Scoping: "An applicant may take an approach in scoping and screening that combines similar components from various systems. For example, containment isolation valves from various systems may be identified as a single system for purposes of license renewal."

- The PBAPS UFSAR addresses this functional "realignment" in a similar manner. For example, UFSAR Section 10.8, "Reactor Building Cooling Water System" describes the system including the primary containment penetrations and associated valves, but does not indicate any safety design basis for the system. The safety design basis for the primary containment penetrations is addressed in detail in UFSAR Section 5.2, "Primary Containment."

- Case 1 type of realignment is identified in the Comments column of LRA Table 2.2-1 and described in LRA page 2-5.

- The components subject to AMR and the applicable system intended functions are included in LRA Section 2.3.2.3 for primary containment boundary components, and in LRA Section 2.3.2.8 for secondary containment boundary components.

Case 2 – Interfaces Between In-scope and Out-of-scope Mechanical Systems

- Some non-safety related systems have connections with safety related systems. For the non-safety related systems that do not meet any of the license renewal scoping criteria, this interface also becomes an interface between license renewal in-scope and out-of-scope systems.

- These interfaces were examined to confirm that the components required to support the in-scope system were included in the scope of license renewal. For mechanical systems, the interfacing components are valves or dampers, and may also include attached segments of piping or ductwork.

- The non-safety related system has no safety related intended functions. The CRL identifies the system that an individual component belongs to. If the CRL includes the interfacing components with the non-safety related out-of-scope system, the components were "realigned" to the in-scope system for license renewal.

Case 2 – Interfaces Between In-scope and Out-of-scope Mechanical Systems (Cont.)

- This type of realignment has no impact on system or component intended functions. The intended function of the interfacing components is "pressure boundary" associated with the in-scope process system intended function.

- An example of this type of realignment is at interfaces between in-scope process systems and out-of-scope sampling systems. In some cases, the interfacing valves are considered in the plant documentation to be sample system valves. These interfacing valves are realigned to the in-scope systems.

- Case 2 type of realignment is not always identified in Table 2.2-1. As stated on page 2-5 of the LRA, only significant realignments are identified in the table. Since the CRL system assignment for these interfacing components is arbitrary, these realignments were judged to be appropriate.

- Case 2 type of realignment is described on page 2-5 of the LRA. The components subject to an AMR are included in the appropriate tables in LRA Section 2.3.

Case 3 – Interfaces Between In-scope Electrical and Out-of-scope Mechanical Systems

- The CRL often identifies electrical isolation devices such as fuses and circuit breakers as belonging to the mechanical system that they feed.
- There are a number of cases where out-of-scope mechanical systems interfaced with in-scope electrical distribution systems where electrical isolation devices are often assigned to the mechanical system that they interface with.
- The safety related function of these electrical isolation devices is to protect the power source. These interfaces were examined to confirm that the components required to protect the in-scope electrical system were included in the scope of license renewal.
- These electrical isolation devices were realigned to the in-scope electrical system.
- Case 3 type of realignment is not identified in Table 2.2-1. As stated on page 2-5 of the LRA, only significant realignments are identified in the table. Since the CRL system assignment for these types of interfacing components is arbitrary, these realignments were judged to be appropriate.
- Case 3 type of realignment is described on page 2-5 of the LRA.

Case 4 – Components Shared Between In-scope and Out-of-scope Systems

- This case applies only to the Instrument Air and Instrument Nitrogen systems and involves an interface between in-scope and out-of-scope mechanical systems.

- The Instrument Air and Instrument Nitrogen systems are not safety related at PBAPS and do not have any system intended functions. These systems are the "normal" source for compressed gas for many plant components. Some safety-related plant equipment normally supplied by these systems require a source of compressed gas in order to perform a safety related function during or following design basis events. In these cases, the plant design includes a safety grade backup source of compressed gas to the equipment.

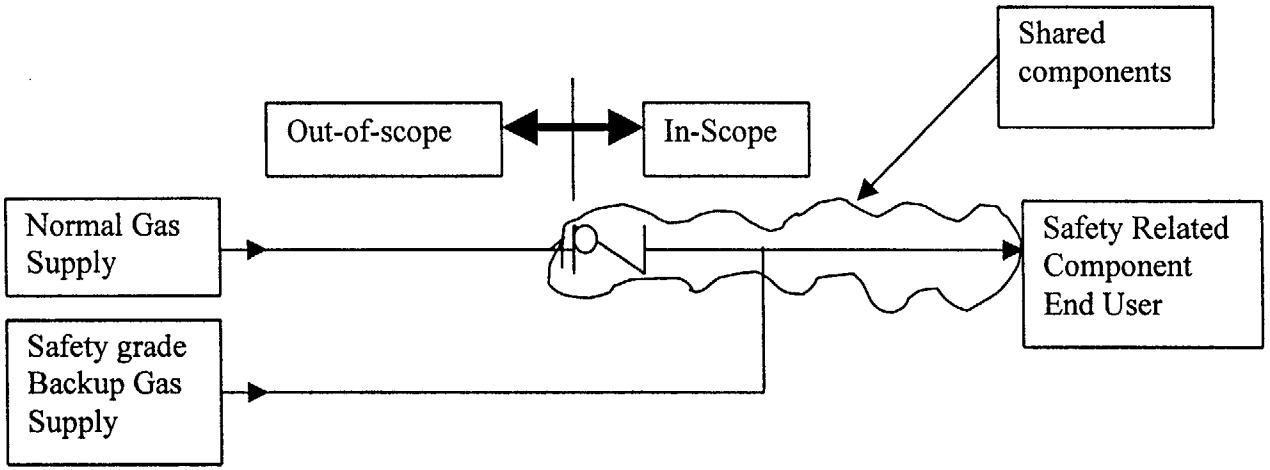
- There are three systems that provide safety grade backup gas:

    1. Safety Grade Instrument Gas

    2. Backup Instrument Nitrogen to ADS

    3. Battery And Emergency Switchgear Ventilation System (dedicated gas bottles).

Case 4 – Components Shared Between In-scope and Out-of-scope Systems (Cont.)



- This realignment was necessary because the CRL includes the subject components with the non-safety related out-of-scope system. The intended functions are only applicable to the in-scope safety grade backup systems.

- The relevant system intended functions are addressed as follows:
  1. Components associated with the Safety Grade Instrument Gas system pressure boundary are required to support that system's intended function of "Backup Nitrogen Supply."
  2. Components associated with the Backup Instrument Nitrogen to ADS system pressure boundary are required to support that system's intended function of "Backup Nitrogen Supply."
  3. Components associated with the Battery And Emergency Switchgear Ventilation system pneumatic control pressure boundary are required to support both of the system's intended functions of "Ventilation" and "Heating." In this case, the safety grade backup is provided by dedicated gas bottles that are components of the Battery And Emergency Switchgear Ventilation system, so a system level intended function related to compressed gas supply is not appropriate.

- Case 4 type of realignment is identified in LRA Table 2.2-1. Components requiring an aging management review are identified in the appropriate tables in LRA Section 2.3.

Case 5 – Components Required to Support Specific Intended Functions

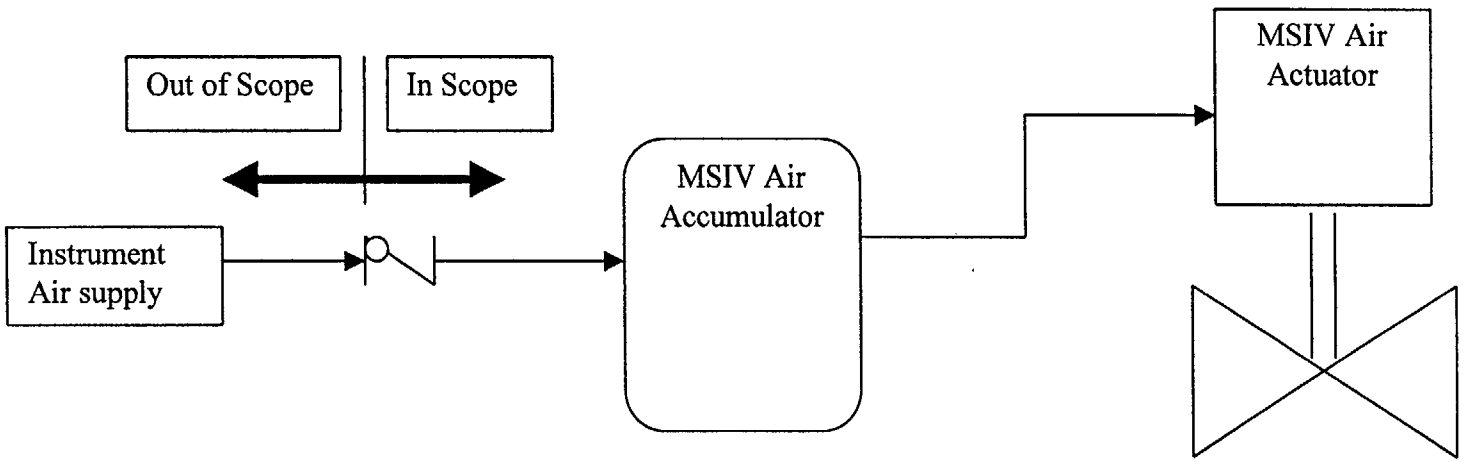
- Some non-safety related systems have functional interface connections with safety related systems. Because of the manner in which the system boundaries are established in the plant documentation, some non-safety related systems may include safety related components required to support a function of a safety related system. From a system level perspective, the non-safety related system does not have any safety related functions. The safety related components are functionally part of the safety related system.

- This type of realignment is due to the manner in which system boundaries are established in the plant documentation. At system interfaces, the boundaries are usually established based on the "normal" system functions, and not necessarily based on the functions performed during design basis events. For example:

    1. The Reactor Water Cleanup (RWCU) system normal function involves drawing reactor coolant from the Reactor Recirculation system, processing the water, and then returning the water back to the nuclear system via the Reactor Core Isolation Cooling (RCIC) connection to the Feedwater system. In the plant documentation, system boundaries are established at the interfaces with the Reactor Recirculation system and the RCIC system on this functional basis. During a design basis event, the RWCU system will be isolated from the nuclear system. Once isolated, the RWCU system has no safety related functions except for the components required to maintain the reactor coolant pressure boundary or the primary containment boundary. For license renewal, the RWCU system boundary is considered to be at the outboard side of the outboard isolation valves. The RWCU components in the containment isolation boundary are realigned to the Primary Containment Isolation system, as described in Case 1. The RWCU components in the reactor coolant pressure boundary are realigned to the Reactor Recirculation system.

Case 5 – Components Required to Support Specific Intended Functions (Cont.)

2. The non-safety related Instrument Air (IA) system normally provides a source of compressed air to the outboard Main Steam Isolation Valves (MSIV) air actuators. In the plant documentation, the IA system boundary is established at the interface with the MSIV air actuators, on this functional basis. The design for the MSIV air supply includes an air accumulator located close to each isolation valve to provide pneumatic pressure for valve closing in the event of failure of the normal, non-safety grade, air supply. During a design basis event, the accumulator and associated air supply components are isolated from the non-safety grade IA system by a safety related check valve, and become functionally part of the MSIV air actuator. These components support the safety function of the MSIV air actuators, and so they are considered part of the Main Steam system for license renewal. The same condition exists for the inboard MSIVs, except the normal supply of compressed gas is the non-safety related Instrument Nitrogen system.



Case 5 – Components Required to Support Specific Intended Functions (Cont.)

3. The Residual Heat Removal, Core Spray, High Pressure Coolant Injection and Reactor Core Isolation Cooling pump rooms have safety related room coolers. These room coolers are normally cooled by the non-safety related Service Water system, and are included with the non-safety related Reactor Building Ventilation system in the plant documentation. During a design basis event, these room coolers are supplied cooling from the safety related Emergency Service Water system and function independent of the Reactor Building Ventilation System. The safety function of these coolers is to support the associated safety related equipment in the rooms. These coolers are considered functionally to be part of and realigned to the Residual Heat Removal, Core Spray, High Pressure Coolant Injection or Reactor Core Isolation Cooling system, as applicable.

- Case 5 type of realignment assures all components required for a system intended function are included in the scope of license renewal. The components are realigned to the system whose intended function they support.

- Case 5 type of realignment is identified in Table 2.2-1.

- Case 5 type of realignment is described on page 2-5 of the LRA. The components subject to an AMR are included in the appropriate tables in LRA Section 2.3.

Rationale for Realignment

- Non-safety related systems could include safety related components due to the way components were historically assigned to systems. Components are usually assigned to the systems based on the normal operational function and not the design basis safety related function.

- Maintenance Rule system scoping also considers these systems as non -safety related. Our intent was to keep the license renewal system scoping consistent with the Maintenance Rule system scoping.

- In each case, the safety related components are identified and included with appropriate system based on the intended function they are required to support. This ensures that all components that need to be in the scope of license renewal are included in a consistent manner.

How the systems, structures and components reflected in the Peach Bottom current licensing basis (as defined by 54.3(a)) are captured in a consistent manner in the scoping process.

- The CRL includes the definitive list of systems at PBAPS. The Maintenance Rule scoping review is based on this CRL system list. This Maintenance Rule system list was used for license renewal scoping. A license renewal scoping review was performed on each of the systems on the Maintenance Rule system list. Therefore, all systems were captured in a consistent manner in the scoping review.

- For license renewal, a comprehensive list of structures was identified from review of the UFSAR and the plant design drawings. A scoping review was performed on each identified structure. Therefore, all structures were captured in a consistent manner in the scoping review.

- With a few exceptions, the CRL is the definitive list of components at PBAPS. As discussed in the LRA on page 2-4, under the heading "Use of the Component Record List," the CRL does not include some commodity type items such as piping, flexible hoses, electrical cable or ventilation ductwork. The License Renewal governing procedure, LR-C-14, includes a list of these types of components not found in the CRL that should be looked for during the license renewal scoping process. As discussed on page 2-12 of the LRA, these types of items were identified by plant walkdowns or review of plant design drawings.

- For in-scope systems, all components in the system were downloaded from the CRL for license renewal review. For out-of-scope systems, the CRL was reviewed for any safety related components. If the out-of-scope system contained any safety related components, they were realigned and documented in the system scoping review forms.

- Therefore, all components were captured in a consistent manner in the scoping review.

Explain the differences between the Component Record List and the UFSAR and how they are treated by the scoping process and reflected in the LRA.

- The Component Record List (CRL) is a verified and controlled equipment database. The CRL is used to establish and maintain component and system identification numbers. Each CRL component is assigned to a specific system.

- The CRL includes a Quality Classification for each component, which is used to identify the safety related components in the plant. The CRL is also the Q-list.

- The CRL systems (including subsystems) were previously reviewed for Maintenance Rule scoping, and the Maintenance Rule program documentation includes a review of each of these systems against the Maintenance Rule scoping criteria. As described in the LRA pages 2-6 and 2-7, the results of the Maintenance Rule scoping were used when reviewing these systems against license renewal scoping criteria 10 CFR 54.4(a)(1) and (2). This process assures all plant systems were reviewed, and utilizes work previously completed for Maintenance Rule compliance.

- After scoping evaluations were completed for all of the CRL systems and subsystems, the list was reviewed and consolidated to combine the many subsystems where appropriate. Systems were grouped and organized to reflect the systems as described in the UFSAR. However, there is not a one-to-one alignment of the systems in LRA Table 2.2-1 with the UFSAR Table of Contents. Systems that are in the scope of license renewal are all described in the UFSAR, but may be included in the description of another system.

- The UFSAR is the Updated Final Safety Analysis Report and includes information that describes the facility, presents the design bases and the limits on its operation, and presents the safety analyses of the structures, systems and components and of the facility as a whole.

- The UFSAR was used as the primary source for identification and scoping of plant structures. The UFSAR was also used, in conjunction with the Design Baseline Documents, to identify the intended functions of systems and structures in the scope of license renewal.

CONCLUSION

- Based on the above discussions regarding the scoping and screening process as outlined in Fig. 2.1-1 and explained in the LRA sections 2.1.2 and 2.1.3, including the discussion on realignment, Exelon concluded that this process met the requirements of 10 CFR 54.4.

- Systems and structures with intended functions that need to be in the scope of license renewal were included in the application.

- Exelon hopes this presentation helps NRC understand how this process fulfills the requirements of 10 CFR 54.4.