



# Component Classification (Q-List)

**EPM uses a proven, streamlined approach for determining safety classification of components in nuclear power plants. This process was developed a number of years ago and has been updated over the years to maintain consistency with current industry guidance; it is based on EPRI Guidelines and ANSI/ANS Standards. EPM's methodology involves:**

- Detailed licensing review and analysis
- Incorporation of utility commitments
- Development of systems level function sheets
- Component classification with detailed justifications
- Development of procedures
- Training

This process results in accurate classification of all components at a very low cost. EPM has applied its methodology using established criteria in the re-classification of components at multiple nuclear facilities, and our efforts have resulted in significant cost savings for our clients due to downgrading hundreds of components based on:

*Classification Criteria:* The basis for identifying safety classification boundary breaks has always been a subject for debate throughout the industry. Using the EPM approach, a clear and concise set of ground rules is presented that allows the user to easily determine the safety classification for all types of components. Classification boundary breaks between safety-related and non-safety-related portions of systems are depicted on selected plant drawings to provide added guidance for the engineer.

*Augmented Quality Criteria:* Among those items that are identified as non-safety-related, EPM has provided the classification of Augmented or Supplemented Quality components for selected Q-List projects.

*System Safety Function Sheets:* The starting point in the classification process begins at the system level. In our process we create a set of system safety function sheets that are used in conjunction with the classification criteria to determine the component's safety function and classification. Through a comprehensive review of the plant accident analysis and licensing basis, the function sheets are tabulated on a system-by-system basis to document and categorize the various functions associated with each system. Upon completion, the engineer is provided with the necessary tools to complete the task at hand: an easy-to-use, self-contained package of safety design basis information for each system and the entire plant.

*Experience:* EPM has completed Q-List projects for several BWR and PWR plants. These projects have ranged from the pilot program implementation stages to complete Q-Lists resulting in the classification of over a quarter of a million components. The process/procedures developed under these projects has been in place at our clients' sites and used on a daily basis.

*Results:* EPM has found that many utilities have conservatively classified components to a higher classification than needed due to a lack of understanding of specific licensing requirements and utility commitments. EPM's process and methods eliminate any over-conservatism and ambiguity resulting in only those components that meet specific criteria being classified safety-related. As such, significant cost-savings is realized immediately by the plant.

- 1 Cost-effective
- 2 Rapid
- 3 Practical
- 4 Correct

## Why EPM?

EPM is expert in Q-List development.

EPM has provided nuclear utilities with component classification and other services for over 25 years. Our engineers have thorough knowledge of the evolution of regulatory requirements in this area and have many years of experience implementing Q-List programs at operating stations.

The development of cost effective engineering, maintenance, and operational processes in order to achieve regulatory compliance is EPM's hallmark. EPM uses the same business processes for Q-List as we do for fire protection, EQ, and other regulatory areas. From Q-List down on through Bill of Materials development, EPM can provide comprehensive, cost-effective single pass verification.

Q-List Project  
Component Classification Form

System: Component Cooling Water (System ID) Page 45 of 72

Component ID	Component Description	System Function(s)	Questions										QA Category	Notes		
			1	2	3	4	5	6	7	8	9	10				
SL-797	CONTAINMENT ISOLATION VALVE 797 STATUS LIGHT	SR-5	Y	Y	N	N									1	2, 24
SL-798	CONTAINMENT ISOLATION VALVE 798 STATUS LIGHT	SR-6	N	Y	N	N									1	2, 25
SL-FCV-625	CONTAINMENT ISOLATION VALVE FCV-625 STATUS LIGHT	SR-5, 6	Y	Y	N	N									1	2, 24
ST-63	SPENT FUEL PIT HTEXCH INLET TEMP STRAINER, SPOOL PIECE	NON	N	N	N	N		N	N	N	N				NON	1, 20
TC-602A	HIGH ALARM CC HTEXCH 1 OUTLET TEMP SINGLE ALARM	M-1	N	N	N	N		N	N	Y	N	Y	Y	M		3, 34
TC-602A-X	HI ALARM, CC HTEXCH #1 OUTLET TEMPERATURE	M-1	N	N	N	N		N	N	Y	N	Y	Y	M		3, 34
TC-602B	CC HTEXCH 2 OUTLET TEMP SINGLE ALARM	M-1	N	N	N	N		N	N	Y	N	Y	Y	M		3, 34
TC-602B-X	HI ALARM, CC HTEXCH #2 OUTLET TEMPERATURE	M-1	N	N	N	N		N	N	Y	N	Y	Y	M		3, 34
TE-602A	CC HTEXCH #31 OUTLET TEMPERATURE ELEMENT	M1-1	N	N	N	N		N	N	Y	N	Y	N	M		3, 12
TE-602B	CC HTEXCH #32 OUTLET TEMPERATURE ELEMENT	M1-1	N	N	N	N		N	N	Y	N	Y	N	M		3, 12
TI-1259	REACTOR VESSEL COOLING SUPP BLOCK LOOP #31 OUTLET TEMP IND	NON	N	N	N	N		N	N	N	N	N	N	NON		3, 12
TI-1260	REACTOR VESSEL COOLING SUPP BLOCK LOOP #32 OUTLET TEMP IND	NON	N	N	N	N		N	N	N	N	N	N	NON		3, 12

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