TAF / DESIGN NUMBER:		Addressed	Not Applicable
Chemistry			
1.	Chemistry requirements such as provision for sampling and limitations on water chemistry.	☐	☐
Control & Instrumentation			
2.	Have KLM-011 and KLM-012 been considered with respect to the required accuracy of any new instrumentation?	☐	☐
3.	Instrumentation and control requirements including indicating instruments, controls and alarms required for operation, testing and maintenance. Other requirements such as the type of instrument, installed spares, range of measurement and location of indication should also be included.	☐	☐
4.	Microprocessor and Automation Design Checklist – Complete and attach 240-119531688 (KFU-019) if applicable.	☐	☐
5.	Was the EPRI Gold Card Report (1022990) for new circuit card systems considered while completing the PM Strategy Input Sheet?	☐	☐
Conventional Safety			
6.	Have all the hazardous location requirements been addressed?	☐	☐
7.	Have the conventional safety risks that will be present during construction been considered? Does the design consider constructability and the construction process?	☐	☐
8.	Requirements to prevent undue risk to the health and safety of the public.	☐	☐
9.	Safety requirements for preventing personnel injury including such items as restricting the use of dangerous materials, escape provisions from enclosures, grounding of electrical systems and other conventional safety considerations.	☐	☐
Cyber Security			
10.	Consider if the design shall introduce changes to digital, network and communication systems associated with safety, security and emergency preparedness functions, if it will, then ensure all applicable technical controls as per 240- 118792614 Operational Technology Cyber Security Programme at Koeberg Operating Unit are applied accordingly.	☐	☐
11.	For information on plant digital systems regarding cyber security vulnerabilities contact the Koeberg Operational Technology Cyber Security Engineer to ensure that required actions and mitigations were taken to address the identified vulnerabilities in the design.	☐	☐
12.	Baseline configurations introduced by the modification shall be submitted to Koeberg Operational Technology Cyber Security Engineer, this shall include as a minimum, a current list of all components e.g., hardware, software, configuration of peripherals and software version release, as well as switch settings of the machine/hardware components.	☐	☐
Electrical			
13.	Diesel Generator Load Balance Performed.	☐	☐
14.	Electrical requirements such as source of power, voltage, impact on back up battery loading (in particular DTV), raceway requirements, electrical insulation and motor requirements.	☐	☐
15.	New electrical board loads calculated and original drawings updated with new values?	☐	☐

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TAF / DESIGN NUMBER:		Addressed	Not Applicable
Environment			
16.	Effect on Environmental Qualifications – Complete and attach KFU-021 if applicable.	☐	☐
17.	Environmental conditions anticipated during storage, construction and operation such as pressure, temperature, humidity, corrosiveness, site elevation, wind direction, nuclear radiation, electromagnetic radiation and duration of exposure.	☐	☐
Equipment Failure & Redundancy			
18.	Common-mode failures and other common-mode effects.	☐	☐
19.	Failure modes and effects considerations of structures, systems and components including a definition of those events and accidents for which they must be designed to withstand.	☐	☐
20.	Have KGU-035 and KGU-038 been considered with respect to Single Point Vulnerabilities, that is SPV's eliminated and /or no new SPV's introduced. Also, see SPV Master List on the NalApp for SPV components. Note: If any doubt exists that an SPV is affected, contact the SPV project owner.	☐	☐
21.	Redundancy, diversity and separation requirements of structures, systems and components.	☐	☐
Fire Protection			
22.	Fire protection or resistance requirements.	☐	☐
23.	For changes to a fire system, has concurrence from FRM been obtained?	☐	☐
24.	Was the impact of new installations to combustible loading of fire sectors described in KLV-001 Appendix 8, considered? When applicable, update Koeberg Fire Load Listing, KBA1222A001015, using 240-118672865 as guidance.	☐	☐
25.	For new or altered buildings, has a Fire Protection/Detection Assessment been completed in accordance with Eskom standard 240-54937439?	☐	☐
General			
26.	Basic functions of each system, structure, and component.	☐	☐
27.	Design process conditions such as pressure, temperature, fluid chemistry and radiation levels.	☐	☐
28.	Layout and arrangement requirements.	☐	☐
29.	Performance requirements such as capacity, rating, system output.	☐	☐
30.	Transportation, handling and storage requirements such as size, shipping weight and legal limitations.	☐	☐
Human Factors and Personnel			
31.	Adequate protection exists to prevent inadvertent activation of essential controls, e.g. emergency buttons?	☐	☐
32.	Effect of the design on the Control Room Human Engineering Factors.	☐	☐

TAF / DESIGN NUMBER:		Addressed	Not Applicable
33.	Personnel requirements and limitations including the qualification and number of personnel available for plant operation, maintenance, testing and inspection and permissible personnel radiation exposures for specified areas and conditions.	☐	☐
	Koeberg Processes and Programmes		
34.	Are the safety screening / evaluation and design input consideration checklist completed using the latest design scope changes?	☐	☐
35.	Determined the effect on Severe Accident Management Guidelines?	☐	☐
36.	Foreign Material Exclusion (FME) requirements during all intrusive mechanical work such as cutting, grinding and welding.	☐	☐
37.	Has this modification resulted in new classifications? Has the impact on technical specifications, procedures, transient files and programmatic controls been determined? Has the new classification been considered adequately for safety importance?	☐	☐
38.	Have all engineering programmes related documents and requirements been considered e.g. PER, EQ, IST, CAMP?	☐	☐
39.	Is the current design change being simultaneously implemented on the same system with another design change package and has the impact been assessed and been documented in both design change packages?	☐	☐
	Maintenance		
40.	Accessibility, maintenance, repairs and in-service inspection requirements for the plant, including the conditions under which these will be performed.	☐	☐
41.	Has the PM Strategy Input Sheet (QFR-026) been sent to Reliability Engineering? (Engineering Request (ER) number to be included in the DCIF).	☐	☐
	Materials & Surface Treatment		
42.	Avoided selecting materials that contain zinc in components to be installed in containment.	☐	☐
43.	Have surface treatment processes on new equipment been evaluated in relation to the elimination or reduction of high dose radioisotopes?	☐	☐
44.	Material requirements including such items as compatibility, electrical insulation properties, protective coating and corrosion resistance, including flow accelerated and microbiologically induced corrosion.	☐	☐
	Mechanical & Civil		
45.	Have the appropriate drains been identified and are they being used?	☐	☐
46.	Hydraulic requirements such as pump suction and discharge elevations and pressures, allowable pressure drops and allowable fluid chemistry.	☐	☐
47.	Loads such as seismic, wind, thermal and dynamic.	☐	☐
48.	Mechanical requirements such as vibration, stress, shock and reaction forces.	☐	☐
49.	Structural requirements covering such items as equipment foundations and pipe supports.	☐	☐

TAF / DESIGN NUMBER:		Addressed	Not Applicable
	National Grid		
50.	Has the system operator been informed of any modification, in particular GEV, GEX, GSY, GPA and LGR (including LGR protection settings) to determine if it affects Transmission protection equipment settings?	☐	☐
51.	Impact on the South African Grid Code – Complete and attach 240-119530923 (KFU-018) if applicable.	☐	☐
52.	This modification must be evaluated to determine its impact on the Grid and the relevant offsite responsible authority such as the System Operator, Transmission, or Distribution must be informed, and concurrence requested?	☐	☐
	Operating Experience (OE)		
53.	Has EDF implemented a similar modification, has this information been considered in this design? If so, are the input parameters similar?	☐	☐
54.	Relevant Operating Experience.	☐	☐
55.	Was any EPRI guidance/report/study considered?	☐	☐
	Operational		
56.	Interface requirements including definition of the functional and physical interfaces involving structures, systems and components.	☐	☐
57.	Operational requirements under various conditions such as plant start-up, shutdown, power operation or emergency operation.	☐	☐
58.	Reactivity management considerations such as heat balance, boron concentration, burnup, poisons and control rod positioning.	☐	☐
	Radiation		
59.	Are any additional nuclear safety analyses necessary for the design and is there an update required to Koeberg analysis models and codes (e.g. PSA, MAAP, RELAP, and SCALE)?	☐	☐
60.	Considered if there is an effect of the design on the RP Migration Model.	☐	☐
61.	Radiation exposure to the public and to plant personnel (application of the ALARA principle). Complete and attach 240-119528368 (KFU-028) if applicable.	☐	☐
62.	Has the Radwaste Department been informed of any radwaste that will be generated during implementation of this design change? Note: Capture any recommendations provided by the Radwaste Department in the design package.	☐	☐
	Regulatory		
63.	Code reconciliation to ASME XI of new plant items not conforming to the DSE referenced construction code. Note: The use of the RCC-M code for the procurement of Safety Class 2 and 3 mechanical components and spare parts without the requirement for a reconciliation report is allowed. See NNR letter k27507N.	☐	☐
64.	Codes, standards and regulatory requirements including the applicable issue and/or addenda. If ASME III is used refer to the latest NRC 10 CFR 50.55a for any limitations of use.	☐	☐
65.	Compliance with the requirements of ANSI/ANS-58.8 Time Response Design Criteria for Safety-Related Operator Actions.	☐	☐

Public

TAF / DESIGN NUMBER:		Addressed	Not Applicable
	Security & Access Control		
66.	Access and administrative control requirements for plant security.	☐	☐
	Simulator		
67.	Has the simulator engineer been informed of this design change to the plant? Note: If any doubt exists that the design change has an impact on the simulator, contact the simulator engineer.	☐	☐
	Software		
68.	Is the version of the software used for analysis in the design later than the version listed in 331-398 (KLA-022)? If so, update 331-398 (KLA-022)	☐	☐
69.	Software and programming requirements.	☐	☐
70.	Software Design Consideration Checklist – Complete and attach 240-119532043 (KFU-020) if applicable.	☐	☐
	Testing		
71.	Test requirements including in-plant tests and the conditions under which they will be performed. Are ASME XI leak tests in lieu of hydro tests justified in the design.	☐	☐
	Training		
72.	Has the Training Change Request (TCR) form (KFT-004) been sent to the Koeberg training department? (TCR number to be included in the DCIF). Note: This step is mandatory for all modifications.	☐	☐

Comments:

The design input requirements are correctly selected and reasonable

_____	_____	_____
COMPILER	SIGNATURE	DATE
_____	_____	_____
REVIEWER	SIGNATURE	DATE

Public