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IES UTILITIES

September 17, 1997
NG-97-1598

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-37
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Partial Response to NRC Request for Additional Information on the DAEC Improved Technical Specifications

References: 1) J. Franz (IES) to F. Miraglia (NRC), "Submittal of License Amendment Request to Convert the DAEC Technical Specifications to the Improved Technical Specifications (NUREG-1433), (RTS-291)," NG-96-2322, October 30, 1996.
2) Letter, G. Kelly (NRC) to L. Liu (IES), dated August 18, 1997, Request for Additional Information on the DAEC Improved Specifications (TAC No. M97197).

File: A-117, SPF-167

Dear Sir(s):

In Reference 1, IES Utilities docketed a request to convert the DAEC Technical Specifications to the Standard Technical Specifications (NUREG-1433). In Reference 2, the NRC transmitted Questions on selected sections of the Reference 1 submittal. Subsequent to receiving these Questions we have had several discussions with the NRC Staff to determine the desired format for our Response to these Questions. Because of the substantial volume of information involved with the conversion submittal and the significant number of Questions received to date and anticipated to be received later, we have drafted an initial partial Response to serve as a sample for interaction with the Staff on that format. In addition, we are proposing several conventions to be applied in our Responses and revisions to the original submittal. By applying these conventions, we hope to assure consistency that should allow more efficient use of NRC and IES

A001

Utilities resources, such that NRC approval can be obtained in a timely manner that will support an implementation of the Improved Technical Specifications (ITS) prior to our April, 1998 Refuel Outage (RFO15).

Our Responses to this first set of Questions will fall into three general categories:

a) Responses which stand alone, are sufficient and do not require revision to the original submittal.

b) Responses that require revision to the original submittal, but the revisions are limited to the justifications for the changes (i.e., the Discussion of Change (DOC) and/or the No Significant Hazards Consideration (NSHC)) and do not affect the content of the Improved Technical Specifications (including BASES).

c) Responses that require revision to both the ITS and/or BASES, and the supporting DOCs/NSHCs, "mark-ups," etc.

In the attached partial Response, we have selected examples of each of these categories.

In preparing these selected Responses we applied the following conventions and process, which we believe meet the Staff's needs for traceability of the changes (based upon discussions with the Staff), but will also allow efficient processing of this extremely large amount of information by both IES Utilities and the Staff.

1) Given the large number of Questions, of varying complexity, contained in individual Sections, and our desire to have a timely review of our submittal, we will respond to individual Questions as soon as practical even if some Questions in the same Section remain open at the time of that submittal. That is, we will not hold back Responses to Questions within a Section until Responses to all the Questions in that Section are completed. Unanswered Questions will be annotated in the Response Section as [To be provided at a later date.]. All Questions will be tracked and addressed as soon as practical. The electronic files will be returned to the Staff using a format and nomenclature similar to the originals. We have only added a Response section just below each Question. No attempts have been made to "standardize" the Question and Answer format between the Sections.

2) No revisions to the "pen & ink" mark-ups of the Standard Technical Specifications (STS), i.e., NUREG-1433, will be provided. Revisions to the ITS and/or BASES will be done as "pen & ink" changes to the current Revision at the time the changes are made (e.g., currently Rev. A) and new clean, typed pages of the new Revision (e.g., Rev. B) will be provided. Revisions to the "pen & ink" mark-ups of the Current Technical Specifications (CTS) will only be made if the changes

can not be clearly conveyed by some other means. For example, if an Administrative Change, denoted on the CTS mark-ups by an "A - DOC," is recategorized as a More Restrictive Change, normally denoted by an "M - DOC," the CTS mark-up page with the "A - DOC" will not be revised. Instead, the text description of the original "A - DOC" will be revised to indicate that the change has been recategorized as a result of a Staff Question to be a More Restrictive Change, with a cross-reference to the new "M - DOC."

3) As stated in the original transmittal letter (Reference 1), the DAEC ITS submittal was prepared and finalized prior to the issuance of the Conversion Guidance Document (i.e., NEI 96-06). Therefore, we did not use some of the conventions in that document. In particular, all of the items relocated from the CTS were designated in the DAEC submittal as Relocated Changes, i.e., "R - DOCs." The conventions in NEI 96-06 would have subdivided our Relocated Changes into three separate categories, "R - DOCs" for items screened out by the 10 CFR 50.36 criteria, "L.A - DOCs" for relocated administrative details, and "L.R - DOCs" for relocated technical details. The Staff has agreed that we need not recategorize our original "R - DOCs" into the three NEI 96-06 categorizes. Instead, we will provide, as part of our next Response to the Reference 2 RAI, a matrix which will identify the repository of these Relocated Changes, such as the Technical Requirements Manual (TRM), the Updated Final Safety Analysis Report (UFSAR), Quality Assurance Program, etc., and the associated regulatory controls for making future revisions (e.g., §50.59, §50.54(a), etc.). We would like to point out in advance of that submittal that we believe that some of these Relocated Changes deal with minor details, below the threshold of regulatory control, and will therefore, be relocated to "plant documents," which will be under licensee control only.

4) Many of the Staff's Questions request additional justification for the More Restrictive changes in the conversion from the CTS to the ITS. In general, these "M - DOCs" fall into two categories: those that merely add an administrative check or verification to the ITS, which do not require any actual manipulation of plant equipment; and, those changes that impact plant equipment, such as revisions to Required Actions or Surveillances and shortened LCO Completion Time or Surveillance Frequency. We understand, based upon dialogue with the Staff, that in the first case, our Responses can be very simple and "generic," while in the latter case, we need to confirm that the new/changed requirement will not have an adverse effect on plant safety, but that our description of such confirmation need not be extensive.

5) A number of the Staff Questions indicate that our proposed change is potentially generic to other plants and that we should submit a "Generic Traveler" to the Technical Specification Task Force (TSTF). However, many of these requested

Travelers would be considered by the TSTF to be "below threshold" for consideration and would not be processed; in particular, changes to the BASES that only add amplifying information (i.e., are not correcting an error or are adding clarifications to preclude potentially misinterpreting the specifications.) We have discussed this with the Staff and it is agreed that Travelers need not be submitted to the TSTF as originally requested by the Staff, and that the DAEC-proposed changes will not be withdrawn.

6) It is our understanding that the Staff now believes it will be able to complete its review of our request to extend Surveillance Frequencies from an 18 month operating cycle to a 24 month operating cycle in time to support our ITS conversion. Consequently, we will not remove the 24 month cycle changes from our ITS, as we originally agreed.

7) When Questions necessitate revision to the ITS, a Response will be provided with sufficient detail to allow preliminary staff review for acceptability. Revisions to the Specifications (including BASES) will be processed separately to minimize potential conflicts between revisions and to allow for the internal reviews by the DAEC Operations and Safety Committees required by the CTS.

We would appreciate prompt feedback from the Staff on these conventions, as we will be submitting our next Response to the Reference 2 RAI very shortly.

Sincerely,

Kenneth E. Peveler
Manager, Regulatory Performance

Enclosure: IES Sample Response to NRC Questions on the DAEC ITS Conversion

cc: R. Browning
L. Root
J. Franz
D. Wilson
G. Kelly (NRC-NRR)
A. B. Beach (Region III)
NRC Resident Office

Enclosure to
NG-97-1598

IES Sample Response

to

NRC Questions

on the

DAEC ITS Conversion

7/18/97

1.0	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
1.0-1	A.4		The ITS 1.1 definition of Operable-Operability changes the CTS 1.0 definition by changing "cooling or seal water" to "cooling and seal water." This is a more restrictive change.	Reclassify the change as more restrictive and provide discussion and justification for the more restrictive change.	
DAEC RESPONSE: Changing the "or" to an "and" does not create any real technical change to CTS. The new definition is effectively the same as the current definition. Both versions of the definition are intended to ensure required support functions are available where applicable. We know of no instance where this change would influence an Operability determination. Therefore, no further action should be necessary.					
1.0-2	L.1		The CTS 1.0.9 definition of Hot Standby Condition requires the coolant temperature be > 212 F for the plant to be in Hot Standby. This definition and requirement is not maintained in ITS 1.1, Definitions, or ITS Table 1.1-1, Modes. Allowing the plant to be in Hot Standby with temperature < 212 F is a less restrictive change that is not adequately justified.	Provide discussion and justification for the less restrictive change to CTS requirements.	
DAEC RESPONSE: To be provided at a later date.					
1.0-3	L.1		The discussion and justification for this change states that it encompasses both Administrative and Less Restrictive changes. Changes to the CTS definitions of Hot Standby Condition, Reactor Power Operation, and Shutdown are stated to the Administrative. However, these changes are classified as Less Restrictive and none of the changes are classified as Administrative.	Provide discussion and justification separately for the Administrative and the Less Restrictive changes.	
DAEC RESPONSE: Although it may not be clearly stated in all cases, the changes are Administrative, except for the change to Cold Shutdown (i.e., no longer required to be "vented"). "Cold Shutdown" is explicitly described as Less Restrictive and will be retained in L.1. "Hot Standby Condition", "Reactor Power Operations", and "Shutdown" are explicitly described as Administrative. The remainder ("Cold Condition", "Hot Shutdown", "Refuel Mode", and "Startup/Hot Standby Mode") are also administrative. New Doc A.26 for these Administrative changes has been created (revised DOCs attached).				

1.0	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
1.0-5	M.1		The CTS 1.0.22 definition of Channel Calibration includes a statement that the acceptable range and accuracy of an instrument and its setpoint are given in the system design control document and its setpoint is used in the CTS. This statement is not included in the ITS 1.1 Definitions. No discussion or justification is provided for deleting this statement.	Provide discussion and justification for deleting the CTS statement.	
DAEC RESPONSE: The correct DOC reference is A.3 to Section 1.0, not M.1 as stated. The definition of Limiting Safety System setting is not included in the ITS as it will be the same as 10 CFR 50.36 upon conversion, as stated in DOC A.3. The subject of setpoint control has been addressed in a separate DAEC Response to Request for Additional Information (RAI); letter J. Franz (IES) to USNRC, NG-97-1010, dated June 10, 1997.					
1.0-6	M.1		The CTS 1.022 definition of Channel Functional Test defines the test for both analog channels and bistable channels. The corresponding ITS 1.1 definition does not distinguish between analog and bistable channels. No discussion or justification is provided for not including both analog and bistable channels in the ITS 1.1 definition.	Provide discussion and justification for not including both analog and bistable channels in the ITS 1.1 definitions or Channel Functional Test.	
DAEC RESPONSE: Separate wording was redundant to other terms in the definition and was removed to reduce confusion. No actual tests were eliminated by this change.					
1.0-7	A.11		ITS 1.1, Definitions, revises the CTS 1.0.22 definition of Logic System Function Test (LSFT) to remove the requirement to include the sensor and end device. Since the CTS definition requires including both the sensor and the end device in the LSFT and the ITS definition does not, this is a less restrictive change.	Provide discussion and justification for this less restrictive change to CTS requirements. Reclassify the change as Less restrictive.	
DAEC RESPONSE: To be provided at a later date.					
1.0-8	A.7		The CTS 1.0.49 definition of SDM requires using the analytically determined strongest rod. The ITS allows either the analytically determined strongest rod or the strongest rod determined by test. Allowing the strongest rod to be determined by test is a less restrictive change.	Provide discussion and justification for the less restrictive change to CTS requirement allowing the strongest rod to be determined by test.	

1.0-8	A.7		The CTS 1.0.49 definition of SDM requires using the analytically determined strongest rod. The ITS allows either the analytically determined strongest rod or the strongest rod determined by test. Allowing the strongest rod to be determined by test is a less restrictive change.	Provide discussion and justification for the less restrictive change to CTS requirement allowing the strongest rod to be determined by test. Reclassify as Less Restrictive.	
DAEC RESPONSE: Discussion of changes A.7 specifically references ITS 3.1.1 as containing the details of any technical changes required to the definition of SDM. Discussion of Changes L.1 in ITS 3.1.1 addresses this allowance to use the strongest rod determined by test specifically. Therefore, this less restrictive change is adequately addressed in ITS 3.1.1 and the change to the definition is Administrative.					
1.0-10		P.1	The change to STS 1.1 definitions of Channel Calibration and Channel Functional test clarifies what portions of a channel require testing to consider the channel OPERABLE. The changes are based on generic change TSTF-64.	Acceptance of this change is contingent upon NRC approval of generic change TSTF-64. 7/17/97 TSTF-64 is still pending.	
DAEC RESPONSE: To be provided at a later date.					
1.0-11		P.2	The STS 1.1 definition of Dose Equivalent I-131 uses microcuries/gram as units for concentration. This is changed to microcuries/ml in ITS 1.1. The units in the CTS are microcuries/gram(ml). The justification does not adequately show why the change to micrograms/ml is needed or preferable.	Provide justification for this STS deviation based on current licensing basis, system design, or operational constraints.	
DAEC RESPONSE: CTS uses microcuries/gram (ml) for the definition of Dose Equivalent Iodine. ITS uses microcuries/ml. As samples are taken at approximately room temperature and pressure, both units are equivalent. Microcuries/ml is the more appropriate units for DAEC because these are the units used in our analyses.					

1.0-12		P.13	The ITS 1.1 definition of Dose Equivalent I-131 deletes the STS 1.1 phrase "..or those listed in Table E-7 of Regulatory Guide 1.109, Rev.1, NRC, 1977, or ICRP 30, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in target Organs or Tissues per Intake of Unit Activity". No justification is provided for deleting this phrase from the STS definition.	Provide justification for this STS deviation based on current licensing basis, system design, or operational constraints.	
DAEC RESPONSE: The definition of Dose Equivalent I-131 in Section 1.1 of BWR/4 Standard Technical Specifications provides a definition and states that "the thyroid dose conversion factors used for this calculation shall be those listed. . . ." from 1 of 3 possible reference documents: a) Table III of TID-14844, b) Table E-7 of Regulatory Guide 1.109, c) Page 192-212, ICRP 30. This was interpreted to mean for us to choose the appropriate reference. The TID-14844 is the current licensing bases and the other references were deleted.					
1.0-13		P.3	The STS 1.1 definitions of Emergency Core Cooling System (ECCS) Response Time and Isolation System Response Time are deleted in ITS 1.1 Definitions. This change is based on EPRI study EPRI NP-7243, Investigation of Response Time Testing Requirements," May 1991.	Determination on hold until ECCS response time requirements in TS 3.3.5.1 are resolved.	
DAEC RESPONSE: To be provided at a later date.					

1.0-14		P.11 P.13	The STS 1.1 phrase used in the definition of End of Cycle Recirculation Pump Trip (EOC RPT) System Response Time "..complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker" is replaced in the same ITS 1.1 definition with "actuation of the breaker secondary (auxiliary) contact." No justification for this change is provided.	Provide justification for this STS deviation based on current licensing basis, system design, or operational constraints.	
DAEC RESPONSE: To be provided at a later date.					
1.0-15		P.4	The ITS 1.1, Definitions, deletes Pressure Boundary Leakage from the STS 1.1 definition of Leakage. This change is based on DAEC TS amendment #203.	NRC is reviewing DAEC's lack of a pressure boundard TS in Section 3.4.	
DAEC RESPONSE: To be provided at a later date.					
1.0-17		P.16	The bracketed term, for each class of fuel, in the STS 1.1 definition of Minimum Critical Power Ratio (MCPR) was not adopted in ITS 1.1. No justification is provided.	Provide justification for this STS deviation based on current licensing basis, system design, or operational constraints.	
DAEC RESPONSE: The ITS will be revised to retain the STS bracketed term.					

1.0-18		P.9	The term Transition Boiling is used in the ITS 1.1 definition of Minimum Critical Power Ratio (MCPR) rather than the STS 1.1 term of boiling transition. The DAEC definition of Transition Boiling is added to the ITS. The term transition boiling is more widely used by heat transfer analysts.	Submit a TSTF generic change package to change boiling transition to transition boiling. The term transition boiling is more widely used by heat transfer analysts.	
DAEC RESPONSE: To be provided at a later date.					
1.0-19		None	The marked up STS 1.1 definition of Minimum Critical Power Ratio (MCPR) indicates that the term boiling transition is replaced in ITS 1.1 by the term transition boiling. The ITS 1.1 definition of Minimum Critical Power Ratio (MCPR) mixes the terms boiling transition and transition boiling. The change to the term transition boiling should be accomplished consistently in the ITS without any ambiguity.	Revise the ITS 1.1 definition of Minimum Critical Power Ratio (MCPR) to consistently use the term transition boiling.	
DAEC RESPONSE: The term "boiling transition" appears on line 6 and 9 of the definition of MCPR on page 1.1-4 of ITS 1.1. This term was inadvertantly introduced into the clean, typed pages (the NUREG mark-up shows the correct version) and will be replaced with "transition boiling" in the ITS.					

DAEG ITS 2.0 SAFETY LIMITS A:\TABL20.DAC

7/18/97

2.0	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
2.0-1	L.1		CTS 1.1.A requires a Minimum Critical Power Ratio (MPCR) less than 1.10 for single loop operation. ITS 2.1.1.2 requires a MPCR $\geq$ 1.08 for single loop operation. This is a deviation to the CTS requirement. This deviation is based on an analysis supporting RTS 124C, NEDO-24272, UFSAR 15.45.	Retain MCRP $\geq$ 1.10 for single loop operation in accordance with current licensing basis and NRC SER to license amendment 119.	

DAEC RESPONSE: As discussed in L1:

CTS 1.1.A requires the MCPR to be greater than or equal to 1.10 for single loop operation when the reactor pressure is greater than 785 psig and core flow greater than 10% of rated core flow. By letter dated December 7, 1984, DAEC submitted a proposed TS change, RTS 124C. This proposed TS changed the MCPR limits for both two loop and single loop operation in accordance with NEDO-24272 and UFSAR 15.4.5. The NRC SER dated May 28, 1985, License Amendment 119, stated on page 3, paragraph 3, "The staff found the MCPR increase of 0.01 acceptable, but suggested that the licensee conservatively increase the MCPR by 0.03." Based on the NRC's suggestion, DAEC used the 1.10 MCPR limit for single loop operation. ITS Specification 2.1.1.2 uses the 1.08 MCPR limit for single loop operation, which is consistent with the analysis supporting RTS 124C, NEDO-24272, UFSAR 15.4.5, and the NUREG.

10CFR50.36 defines a Safety Limit as:

Safety limits for nuclear reactors are limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity.

Our review of the analysis indicates that a MCPR safety limit of greater than or equal to 1.08 most closely matches this definition and is the most appropriate site specific value for inclusion in the bracketed numerical value of ITS 2.1.1.2 and appears to be consistent with industry practice for this variable.

2.0	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
2.0-2	L.3		CTS 1.2.2 requires the reactor vessel dome pressure shall not exceed 135 psig at any time when operating the RHR pump in the shutdown cooling mode. This requirement is incorporated into ITS 3.3.6.1, Table 3.3.6.1-1. The value listed in Table 3.3.6.1 is $\leq$ 152 psig. There is inadequate justification for this difference of CTS requirements.	Provide additional discussion and justification for changing the CTS pressure requirement when operating the RHR pump in the shutdown cooling mode.	
DAEC RESPONSE: 1) This setpoint is selected to assure that pressure integrity of the RHR System is maintained. 2) The Shutdown Cooling System isolation function remains in the TSs with the nominal trip setpoint specified in the CTS being replaced with an Allowable Value in the ITS. 3) The Allowable Value was chosen to be low enough to protect the RHR System piping from overpressurization yet high enough to preclude spurious isolations of shutdown cooling during system startup and operation and to provide sufficient overlap with the low pressure isolations of the HPCI and RCIC turbines to allow the transition to shutdown cooling during plant shutdowns. 4) Allowable Value is the required limitation for the parameter and this value will be inserted in the table. Any change to the trip setpoints will be evaluated in accordance with the DAEC Setpoint Control Program and 10 CFR 50.59 program. This change is consistent with NUREG. The subject of setpoint control has been addressed in a separate DAEC response to Request for Additional Information; letter J. Franz (IES) to US NRC, NG-97-1010, dated June 10, 1997.				
2.0-8	A.5		CTS 1.1.B requires the RTP shall not exceed 25% when the reactor pressure is $\leq$ 785 psig or core flow is less than or equal to 10% of rated core flow. ITS 2.1.1.1 removed the "equal to" from the less than or equal to symbol.	Provide additional discussion and justification for changing the CTS values, including the formulas for this change based on the DAEC Safety Analysis.	
DAEC RESPONSE: The proposed change to CTS 1.1.B is appropriate based on the discussion provided in CTS Bases 1.1.B and NEDO-10958 (GETAB) which has been approved for use at the Duane Arnold Energy Center. Discussion of Change A5 has been expanded to provide additional justification.					

DAEC ITS 3.4.1 RECIRCULATION LOOPS OPERATING

3.4.1	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.1-1	A.3		CTS Surveillance Requirement 4.6.F.1 requires daily verification of recirculation pump speed mismatch. CTS 4.6.F Bases contains details on this testing including the limits which are set at ± 10% and ± 15% of the average speed for the above and below 80% power cases, respectively. ITS SR 3.4.1.1 replaces CTS 4.6.F.1. However, the limits of ITS SR 3.4.1.1 is that the faster speed pump is $\leq$122% of the slower pump speed with reactor power $\geq$80 RATED THERMAL POWER and $\leq$135% of the slower pump speed with reactor power <80% RATED THERMAL POWER.	Provide justification for this less restrictive change in acceptance criteria.	
DAEC RESPONSE: There is no change. CTS 4.6.F.1 & 2 values (i.e., 122% and 135%) are being incorporated into ITS SR 3.4.1.1 (i.e., 122% and 135%). The math for +/- 10% and +/- 15% of average speed works out to 122% (1.10/0.9 = 1.22) and 135% (1.15/0.85 = 1.35) respectively.					
3.4.1-2		P.1	ITS SR 3.4.1.1 monitors Recirculation Pump Speed mismatch while STS SR 3.4.1.1 monitors Jet Pump Loop Flow mismatch. The JFD indicates that this change is due to LPCI Loop Select design at DAEC.	The JFD does not provide sufficient details indicating how the LPCI Loop Select affects the SR.	
DAEC RESPONSE: To be provided at a later date.					
3.4.1-3	M.4		The discussion of change for M.4 states in part that single loop limits must be initially applied in Startup and Run (Modes 1 and 2) only in accordance with CTS 3.6.F.2, footnote *. CTS 3.6.F.2 has no footnote.	Identify CTS 3.6.F.2 footnote.	
DAEC RESPONSE: The correct reference is 3.3.F.2.					

DAEC ITS 3.4.1 RECIRCULATION LOOPS OPERATING

3.4.1	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.1-4	R.2		CTS 3.3.F.5.b requires, after startup of the idle recirculation pump, the discharge valve of the lower speed pump not be opened unless the speed of the faster pump is less than 50% of its rated speed. This requirement is moved to unidentified plant procedures.	The discussion does not indicate what plant procedure contains this requirement.	
DAEC RESPONSE: To be provided at a later date.					
3.4.1-5	R.3		CTS 3.3.F.4.c for Single Loop Operation (SLO) requires isolating the idle loop electrically by disconnecting the breaker to the recirculation pump motor generator (M/G) set drive motor prior to reactor startup, or if disabled during reactor operation, within 24 hours of entering SLO. This information is moved to unidentified plant procedures.	The discussion does not indicate what plant procedure contains this requirement.	
DAEC RESPONSE: To be provided at a later date.					
3.4.1-6	none		Action A.1 does not require the action that is recommended in the ITS 3.4.1 Bases for A.1 manually scramming vs. going to Shutdown.	Incorporate ITS 3.4.1 Action A.1.	
DAEC RESPONSE: To be provided at a later date.					
3.4.1-7	none		What in the current licensing basis supports the statement in ITS Bases Applicable Safety Analyses "For some limited low probability accidents..." and why is a procedural limitation alone acceptable on allowed variations in recirculation pump speeds?	Discuss CLB and why a procedural limitation alone is acceptable for allowed variations in recirculation pump speeds.	
DAEC RESPONSE: To be provided at a later date.					

DAEC ITS 3.4.3 SRVs and SVs

3.4.3	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.3-1	R.1		The CTS 4.6.D.2 requirement to disassemble and inspect one SRV once per Operating Cycle is moved into unidentified plant procedures.	The discussion of change contains no information on what plant procedure contains this requirement.	
DAEC RESPONSE: To be provided at a later date.					
3.4.3-2	None		In ITS SR 3.4.3.1, the rounding off of SRV setpoints needs to be addressed to make the allowed values reflect +1 and -3%.	Provide justification.	
DAEC RESPONSE: The justification for the +1% and -3% is provided in L1 for 3.4.3. The +1% allowed values are rounded down to whole numbers and the -3% allowed values are three times the +1% amounts, after they have been rounded down. For example: +1% of 1140 is +11.4, but +11.0 is used and the -3% amount is 3 times as much. -33.0. This conservatively reflects the +1% and -3% tolerance. Also, this is the accuracy of the reported setpoints from the test lab.					
3.4.3-3	None		ITS 3.4.3 Bases LCO. If six valves are what is required the statement "eight valves are required to be OPERABLE so that the reactor will not be operated for an unlimited period of time with any valve inoperable." needs to be further explained.	Provide justification.	
DAEC RESPONSE: To be provided at a later date					

DAEC ITS 3.4.3 SRVs and SVs

3.4.3	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.3-4	Lcy. 2		This discussion covers extension of surveillance test intervals from once per operating cycle to once per 24 months.	This is beyond the scope of the conversion.	
DAEC RESPONSE: To be provided at a later date					
3.4.3-5	M.1		CTS Surveillance Requirement 4.6.D.3 requires verifying each SRV open when manually actuated with reactor pressure ≥ 100 psig and turbine bypass flow to the main condenser. ITS SR 3.4.3.2 replaces this requirement with a Note that states that ITS SR 3.4.3.2 is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. The ITS SR Bases states "adequate pressure at which the test is to performed is approximately 150 psig..." This is a change from the CTS which required performance of the test once pressure reached greater than 100 psig.	Provide justification.	
DAEC RESPONSE: CTS surveillance 4.6.D.3 requires that the safety relief valves be tested at a reactor pressure equal or greater than 100 psig with adequate turbine bypass flow available to detect that the safety relief valves open and close. Reactor pressure and turbine bypass flow is controlled by the Electro Hydraulic Control (EHC) system. At DAEC, the EHC system is unable to control reactor pressure and turbine bypass flow below 150 psig reactor pressure. Consequently, the earliest time Operability of the safety relief valves can be demonstrated is at a reactor pressure of 150 psig. DAEC currently performs the CTS surveillance 4.6.D.3 at approximately 150 psig with adequate steam flow as defined by turbine bypass valve position. This satisfies the requirements of CTS surveillance 4.6.D.3 as neither an upper limit on pressure nor time limit after reaching 100 psig is specified. To reflect the fact that the surveillance cannot be performed at reactor pressures less than 150 psig, the ITS Basis for SR 3.4.3.2 states, "Adequate pressure at which this test is to be performed is approximately 150 psig which is the lowest pressure EHC can maintain." This is consistent with LLS and ADS Specifications to avoid repeated cycles of the SRV's.		

DAEC ITS 3.4.5 LEAKAGE DETECTION INSTRUMENTATION

3.4.5	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.5-1	none		ITS 3.4.5 has only one REQUIRED ACTION yet is designated A.2.	Correct REQUIRED ACTION numbering.	
DAEC RESPONSE: ITS 3.4.5 will be revised to correct this typographical error in the numbering.					
3.4.5-2	none		ITS Bases Background next to last paragraph reads "The Primary Containment Air Sampling System is not ... but are ..."	Correct Bases.	
DAEC RESPONSE: The ITS will be revised from "are" to "is".					
3.4.5-3		P.16	STS 3.4.6, ACTION B.1, requires analysis of grab samples once per 12 hours when primary containment air sampling is inoperable and restoration of the monitor to operable status within 30 days. P16 in part states that the CTS does not contain such requirements. While CTS 3.6.C.4 contains no requirements for restoration of or compensatory action for inoperable containment air sampling, CTS 3.6.C.3 refers to Table 3.2.E which requires Action 68 be taken in such a case. A3 eliminates that action by stating it is solely a reference to another specification without describing what action is eliminated. Without description of the action required it cannot be verified that the CTS do in fact not require any action when air sampling alone is inoperable.	Provide description/justification.	
DAEC RESPONSE: Action 60 (not 68 as stated in the question) in Table 3.2-E can be eliminated by A3 because it merely refers to CTS 3.6.C. No action is eliminated by A3. There is no action required for the Air Sampling System alone being inoperable; it is only a backup to the Sump system, as stated in note (b) to CTS Table 3.2-E. Action is taken only when CTS 3.6.C.5 is entered. CTS 3.6.C.5 addresses restoration of either the Sump System or Air Sampling System when both are inoperable. This requirement is maintained in the ITS as Condition C to 3.4.5.					

DAEC ITS 3.4.5 LEAKAGE DETECTION INSTRUMENTATION

3.4.5	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.5-4	none		ITS Bases SR 3.4.5.2. Shouldn't it be the "tests ensure" rather than the "test ensures"?	Correct wording.	
DAEC RESPONSE: The ITS will be revised to the suggested wording ("...these tests ensure...").					

DAEC ITS 3.4.7 RHR SHUTDOWN COOLING SYSTEM-HOT SHUTDOWN

3.4.7	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.7-1		P.27	STS 3.4.8 is applicable in MODE 3 with reactor steam dome pressure < [the RHR cut in permissive pressure]. This is changed in the ITS 3.4.7 APPLICABILITY to be in MODE 3 with reactor steam dome pressure < the RCIC Steam Supply Line Pressure-Low isolation pressure. ITS 3.4.7 Bases LCO states "Two shutdown cooling subsystems are required to be OPERABLE, and when no recirculation pump is in operation one shutdown cooling subsystem must be in operation. Given that recirculation pumps are required only to be operable in Modes 1 and 2 and the Applicability of ITS 3.4.7 is Mode 3 reactor steam dome pressure less than RCIC Steam Supply Line Pressure-Low isolation pressure, what assures the Bases will be met?	Provide discussion.	

DAEC RESPONSE: Recirculation pumps are not required to be in operation to meet this LCO, only 1 RHR-SDC subsystem is required to be in operation. The only way the recirculation pumps are involved is that if one of them is running (providing forced coolant circulation) the RHR-SDC system would not have to be running to meet the LCO. If no recirculation loop is in operation, the RHR-SDC subsystem would be required to be in operation. As stated in P.27, the RCIC Steam Supply Line Pressure-Low isolation pressure (approximately 75 psig) is below the pressure permissive for putting SDC into service (approximately 135 psig). Thus, there is overlap such that forced circulation can be maintained by the RHR-SDC subsystem once the Applicability is entered if no recirculation pump is operating. Otherwise, Condition B to 3.4.7 would be entered.

DAEC ITS 3.4.9 RCS PRESSURE AND TEMPERATURE LIMITS

3.4.9	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.9-1	R.1		CTS 3.6.A.2 contains specific operator direction that the reactor vessel be vented and power operation not be conducted unless the reactor vessel temperature is equal to or greater than that shown in Curve C of CTS Figure 3.6-1, when RCS temperature limits are exceeded. This operator direction to vent the reactor vessel is moved to plant procedures. The discussion does not identify the procedures now containing this direction.	Provide discussion.	
DAEC RESPONSE: To be provided at a later date.					
3.4.9-2	R.2		CTS 4.6.A.1 contains details for when the RCS temperature Surveillance for heatups and cooldowns may be discontinued. These details are moved to unidentified plant procedures. The discussion does not identify the procedures now containing these details.	Provide discussion.	
DAEC RESPONSE: To be provided at a later date.					
3.4.9-3	R.3		CTS 4.6.A.1 and 4.6.A.2 contain specific RCS locations for monitoring temperature during heatups and cooldowns and inservice hydrostatic or leak testing. These details are moved to unidentified plant procedures. The discussion does not identify the procedures now containing these details.	Provide discussion.	
DAEC RESPONSE: To be provided at a later date.					
3.4.9-4	R.5		CTS Surveillance Requirements 4.6.A.2, 4.6.A.3 and 4.6.A.4 contain recording requirements. The ITS does not contain this level of detail in the ITS SRs. These details have been moved to unidentified plant procedures. The discussion does not identify the procedures now containing these details.	Provide discussion.	
DAEC RESPONSE: To be provided at a later date.					

DAEC ITS 3.4.9 RCS PRESSURE AND TEMPERATURE LIMITS

3.4.9	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.9-5		None	STS SR 3.4.10.3 has a note which states "Only required to be met in MODES 1, 2, 3, and 4 [with reactor steam dome pressure $\geq$ 25 psig]. This is changed in ITS SR 3.4.9.3 to be "Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup." No justification is given.	Provide justification.	
DAEC RESPONSE: The justification for the proposed change to the Notes for NUREG SR 3.4.10.3 and SR 3.4.10.4 (ITS SR 3.4.9.3 and SR 3.4.9.4) is in the submittal as Justification for Deviation P.28 to NUREG 1433. P.28 was inadvertently left off the NUREG markup for this change. The change is based upon TSTF-35, which as been approved by the NRC.					
3.4.9-6		None	STS 3.4.10.4 has a note which states "Only required to be met in MODES 1, 2, 3, and 4." This is changed in ITS SR 3.4.9.4 to be "Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup." No justification is given.	Provide justification.	
DAEC RESPONSE: The justification for the proposed change to the Notes for NUREG SR 3.4.10.3 and SR 3.4.10.4 (ITS SR 3.4.9.3 and SR 3.4.9.4) is in the submittal as Justification for Deviation P.28 to NUREG 1433. P.28 was inadvertently left off the NUREG markup for this change. The change is based upon TSTF-35, which has been approved by the NRC.					

DAEC ITS 3.4.9 RCS PRESSURE AND TEMPERATURE LIMITS

3.4.9	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3.4.9-7	none		Figure 3.4.9.1. Minimum vessel metal temperature as measured where? On the critical component for that portion of the curve?	Provide discussion.	

DAEC RESPONSE:

Fig. 3.4.9.1 is identical to Fig. 3.6-1 in CTS. It is read and interpreted in the same way. Amendment 203 issued these curves and documents NRC review and approval.

DAEC ITS 3.7.2 RIVER WATER SUPPLY (RWS) SYSTEM AND ULTIMATE HEAT SINK (UHS)

3.7.2	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
1	R.1		CTS Surveillance Requirements 4.5.J.1.b, 4.5.J.1.c (pump and valve quarterly testing and post-maintenance testing) and 4.5.J.1.d (daily operating pump flow rate demonstration) specify Inservice Testing (IST) criteria for the RWS System pumps and motor-operated valves. ITS SRs do not contain these IST requirements. This change relocates these requirements to Licensee-controlled documents or the IST Program in ITS 5.5.6, "Inservice Testing Program." This change moves requirements outside the ITS into Licensee-controlled documents. Specific documents are not referenced. There is insufficient information to ensure that the CTS details for achieving the requirements are incorporated into the Licensee-controlled documents controlled by 10 CFR 50.59.	Provide specific document references to assure that these CTS details for achieving the IST requirements are contained into the Licensee-controlled documents that are controlled by 10 CFR 50.59.	
DAEC RESPONSE: To be provided at a later date.					

DAEC ITS 3.7.2 RIVER WATER SUPPLY (RWS) SYSTEM AND ULTIMATE HEAT SINK (UHS)

3.7.2	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
2	L.1 A.4		CTS Surveillance Requirement 4.5.J.1.c requires performing RWS pump flow rate testing daily to demonstrate OPERABILITY when the UHS level is < 727 feet above mean sea level. Neither the STS 3.7.2 SRs nor the ITS 3.7.2 SRs contain such requirements. Rather, they declare the UHS inoperable whenever river level is too low to provide the required flow to support RWS pump OPERABILITY (i.e., 725.2 feet above mean sea level). The river water level specified in CTS 4.5.J.1.c of 727 feet is based on providing adequate net positive suction head (NPSH) to the RWS pumps. There is inadequate discussion and justification related to the RWS pumps NPSH requirements and lowering the allowed river level value to 725.2 feet.	Provide additional discussion and justification relative to the ability of a river water level of 727 feet, required in the CTS, to provide adequate NPSH for the RWS pumps. Include a discussion of the margin provided by this level, and justify deleting this requirement.	
DAEC RESPONSE: To be provided at a later date.					

DAEC ITS 3.7.2 RIVER WATER SUPPLY (RWS) SYSTEM AND ULTIMATE HEAT SINK (UHS)

3.7.2	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3	L.3 A.3		CTS Surveillance Requirement 4.8.E.1.c specifies a conditional Surveillance to perform ESW pump testing weekly when the river water temperature is > 80°F. The ITS 3.7.2 SRs do not require such conditional surveillances. However, ITS 3.7.2 SRs replace the CTS 4.8.E.1.c conditional Surveillance with a SR to monitor river temperature daily to verify it is < 95°F. There is inadequate discussion and justification for the 95°F upper limit for the river water temperature.	Provide additional discussion and justification for the 95°F upper temperature limit for the river water. Justify not utilizing conditional SR of CTS.	

DAEC RESPONSE: The Ultimate Heat Sink (UHS) limit of 95 degrees F is based on the design limit of River Water Supply system, Residual Heat Removal Service Water System and Emergency Service Water System. This limit is discussed in UFSAR Section 9.2.3.2.1 and 9.2.3.2.2. Conditional SRs are no longer required as the ITS has separate LCO and SR requirements for the UHS that were not included in the CTS.

DAEC ITS 3.7.2 RIVER WATER SUPPLY (RWS) SYSTEM AND ULTIMATE HEAT SINK (UHS)

3.7.2	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
4	A.2	P.2	The cross-train operability verification required by the CTS is deleted since this function is covered by the Safety Function Determination Program in the STS. STS 3.7.2 Actions A and B (on pump inoperabilities) are deleted since these conditions are not a part of the CTS (the current licensing basis-CLB). Deleting the explicit cross-train verification checks required by the CTS, on the one hand, and not including the STS pump requirements because they are not in the CLB is not prudent. In addition, the ITS/CTS completion time for subsystem inoperability is greater than that provided by the STS (7 days vs 72 hours).	Include the pump inoperability condition with the 30 day completion time of the STS or provide justification for the STS deviation.	

DAEC RESPONSE: The cross train checks were deleted as their function is covered by the Safety Function Determination Program (required by ITS 5.5.11) which gives a more rigorous review of the inoperable support or supported system than a simple "cross-train" check, as the SFDP determines if a loss of safety function exists for any cause. As discussed in JFD P.2, the DAEC RWS system consists of two independent subsystems, each of which contains two RWS pumps. Each RWS pump is a 100% capacity pump and can totally support the service water requirements for the associated supported subsystems, i.e., each subsystem has 100% redundancy. Therefore, NUREG LCO 3.7.2, Actions A and B have been deleted and Action D has been modified to be ITS LCO 3.7.2 Action A, which allows 7 days for restoration if one RWS subsystem is inoperable. The 7 day LCO is consistent with the ITS for loss of redundancy (e.g., STS 3.6.2.3 Action A) and is therefore justified. This requirement is identical to the CTS. Subsequent sections of ITS 3.7.2 have been renumbered or modified to reflect the deletion of Actions A and B.

DAEC ITS 3.7.2 RIVER WATER SUPPLY (RWS) SYSTEM AND ULTIMATE HEAT SINK (UHS)

3.7.2	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
5	LCY.2		CTS 3.5.J.1.a specifies a frequency of "once per operating cycle," which is currently 18 months. ITS SR 3.7.2.4 specifies a Frequency of 24 months, basing the change on Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-month Fuel Cycle."	This change has been withdrawn as part of the conversion.	Closed.
DAEC RESPONSE: To be provided at a later date.					

DAEC ITS 3.7.3 EMERGENCY SERVICE WATER (EWS) SYSTEM

3.7.3	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
1	R.1		CTS Surveillance Requirements 4.8.E.1.b and 4.8.E.1.c (quarterly pump and valve testing and post-maintenance testing) specify Inservice Testing (IST) criteria for the ESW System pumps and motor-operated valves. The ITS 3.7.3 SRs do not contain these IST requirements. This change relocates these requirements to Licensee controlled documents or to the IST Program described in ITS 5.5.6, "Inservice Testing Program." This change moves requirements outside the Technical Specifications into Licensee controlled documents. Specific documents are not referenced. There is insufficient information to ensure that the CTS details for achieving the requirements are incorporated into the Licensee-controlled documents that are controlled by 10 CFR 50.59.	Provide specific document references to assure that these CTS details for achieving IST requirements are contained in the Licensee-controlled documents that are controlled by 10 CFR 50 59.	
DAEC RESPONSE: To be provided at a later date.					
2	L.2		CTS Surveillance Requirement 4.8.E.1.c specifies a conditional Surveillance to perform ESW pump testing weekly when the river water temperature exceeds 80° F. Neither the STS 3.7.3 SRs nor the ITS 3.7.3 SRs require such conditional surveillance requirements. However, reference is made to the ITS 3.7.2 requirement to declare the UHS inoperable whenever river water temperature exceeds 95° F. There is no discussion or justification related to the basis for the 95° F limit.	Provide discussion and justification for the changed CTS requirement, including the basis for the 95° F limit. Provide additional justification for deleting the CTS 4.8.E.1.c conditional surveillance requirement for weekly ESW pump testing.	
DAEC RESPONSE: The Ultimate Heat Sink (UHS) limit of 95 degrees F is based on the design limit of River Water Supply system, Residual Heat Removal Service Water System and Emergency Service Water System. This limit is discussed in UFSAR Section 9.2.3.2.1 and 9.2.3.2.2. Conditional SRs are no longer required as the ITS has separate LCO and SR requirements for the UHS that were not included in the CTS.					

DAEC ITS 3.7.3 EMERGENCY SERVICE WATER (EWS) SYSTEM

3.7.3	DOC	JFD	CHANGE/DIFFERENCE	COMMENT	STATUS
3	LCY-2		CTS Surveillance Requirement 4.8.E.1.a specifies a Frequency of "once per operating cycle," which CTS 1.0.17 states is 18 months. ITS SR 3.7.3.2 specifies a Frequency of 24 months, basing the change on Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-month Fuel Cycle."	This request for extension of CTS Surveillance Test Interval has been removed from the conversion effort.	
DAEC RESPONSE: To be provided at a later date.					
4	A.2	P.2	The cross-train operability verification required by the CTS is deleted since this function is covered by the Safety Function Determination Program in the STS. STS 3.7.3 Actions A and B (on pump inoperabilities) are deleted since these conditions are not a part of the CTS (the current licensing basis-CLB). Deleting the explicit cross-train verification checks required by the CTS, on the one hand, and not including the STS pump requirements because they are not in the CLB is not prudent. In addition, the ITS/CTS completion time for subsystem inoperability is greater than that provided by the STS (7 days vs 72 hours).	Include the pump inoperability condition with the 30 day completion time of the STS or provide justification for the STS deviation.	
DAEC RESPONSE: The cross train checks were deleted as their function is covered by the SFDP (required by 5.5.11) which gives a more rigorous review of the inoperable support or supported system than a simple "cross-train" check, as the SFDP determines if a loss of safety function exists for any cause. STS 3.7.3 [Diesel Generator Service Water] is not applicable to the DAEC as our ESW system supplies other Safety-Related equipment in addition to the Emergency Diesel Generators. The ESW LCO format was based instead on the STS 3.7.2 which more closely matched the requirements for ESW. (STS 3.7.3 is for a stand-alone service water system to a "swing" Diesel Generator). The DAEC ESW design is a single pump per subsystem arrangement. Consequently, STS 3.7.2 Conditions A & B are not applicable for our design and were deleted, as explained in JFD P.7 (not P.2 as referenced by the Question).			

DISCUSSION OF CHANGES
ITS 1.0: USE AND APPLICATION

ADMINISTRATIVE CHANGES

A_1 All reformatting and renumbering is in accordance with the NUREG. As a result, the ITS should be more readable and more understandable by its users. The reformatting, renumbering, and rewording process involves no technical changes to the CTS.

Editorial rewording (either adding or deleting) is made consistent with the NUREG. During NUREG development certain wording preferences or English language conventions were adopted which resulted in no technical changes (either actual or interpretational) to the CTS. Additional information has also been added to more fully describe each subsection. This wording is consistent with the NUREG. Since the design is already approved by the NRC, adding more detail does not result in a technical change.

A_2 A note was added to ITS Section 1.1, Definitions, in order to clarify that the defined terms will appear capitalized and are applicable throughout the ITS and Bases. This addition is administrative in that it clarifies the ITS and Bases. It clarifies the use of the definitions throughout the ITS without changing the intent of any TS. This change maintains the consistency between the ITS and the NUREG.

A_3 The CTS definitions of Safety Limit, Limiting Safety System Setting (LSSS), and Limiting Conditions For Operation (LCO) are deleted because they already exist in 10 CFR 50.36 and do not need to be repeated in the ITS. The deletion of these definitions also maintains the consistency between the ITS and the NUREG. The removal of these definitions is considered administrative with no impact of its own.

A_4 The definition of Operable-Operability was changed editorially to be consistent with the NUREG. No technical changes (either actual or interpretational) to the CTS have been made.

A specific change to the definition of Operable-Operability is changing the "and" to an "or" in "normal and emergency electrical power sources." This is an administrative change because currently the definition along with the second

ADMINISTRATIVE CHANGES (continued)

A_4 (cont.) paragraph of CTS Definition 3 for LCO, requires only one source to be Operable as long as the redundant systems, subsystems, trains, components, and devices are Operable. The second paragraph of CTS Definition 3 for LCO requirements are incorporated into ITS 3.8.1 Actions, for when a diesel or offsite power source is inoperable. Thus, the new requirements are effectively the same as the current requirements. In ITS 3.8.1, new times have been provided to perform the determination of redundant feature Operability. These changes are discussed in the Discussion of Changes for ITS 3.8.1.

A_5 The definition of Operating is deleted because this state of a system does not need to be explicitly defined when considering whether or not the design function can be met. Whether a system is operating or shutdown does not provide relief concerning Operability requirements. The definition of Operable or Operability is sufficient in this case. Operability is assumed until the system, subsystem, etc. is found to be inoperable by failure anytime or during the performance of the SR at the specified frequencies. The deletion of this definition also maintains the consistency between the ITS and the NUREG. The removal of a definition is considered administrative with no impact of its own.

A_6 The definition of Immediate is being moved. It is renamed Immediate Completion Time in the ITS. The term now appears and is defined in ITS Section 1.3, Completion Times. This change maintains the consistency between the ITS and the NUREG. This is an administrative change because the term is being moved from one section of Technical Specifications to another.

ADMINISTRATIVE CHANGES (continued)

A_7 The CTS definition for Shutdown Margin (SDM) assumes the calculation is made with the core in its most reactive state during the operating cycle. The ITS definition for SDM replaced this current wording with equivalent conditions of the reactor is Xenon free and the moderator temperature is 68°F (20°C). The CTS definition already contains the ITS provision for all rods inserted with the single highest worth rod withdrawn. However, the CTS requires the analytically determined strongest rod to be used; whereas, the NUREG allows either the analytically determined rod or determine the strongest rod by test. The definition has been modified to be consistent with the actual LCO for SDM. Discussion of the technical aspects of this change will be addressed in ITS Section 3.1.1, Shutdown Margin. The assumptions that the SDM be calculated assuming Xenon free and moderator temperature is 68°F (20°C) are in accordance with standard GESTAR methodologies. Since the CTS and ITS definitions are equivalent, this change is administrative.

A_8 The definitions of Primary Containment Integrity and Secondary Containment Integrity are deleted because of the confusion associated with these definitions compared to the use in their respective LCOs. All the requirements are specifically addressed in the respective LCOs along with other LCOs in the Containment Systems Section. Discussion of the technical aspects of the deletion or revision of the applicable CTS requirement will be addressed in ITS Section 3.6, Containment Systems. The Bases for these LCOs also contain a description of what constitutes Primary and Secondary Containment Integrity. The deletion of these definitions maintains the consistency between the ITS and the NUREG. The removal of these definitions is considered administrative with no impact of their own.

A_9 The definitions of Operating Cycle, Refueling Outage, Reactor Vessel Pressure, Linear Heat Generation Rate, Fraction of Rated Power (FRP), Total Peaking Factor (TPF), Maximum Total Peaking Factor (MTPF), Protection Action, Protective Function, Simulated Automatic Actuation, Primary Source Signal, Source Check, Engineered Safeguard, Purge-Purging, Venting, Process Control Program (PCP), and Members of The Public are deleted because they are no longer used in the Technical Specifications. The specific TS referring to these definitions no longer contain their use. Discussion of the technical aspects of the deletion or revision of the applicable requirement will be addressed in the affected

ADMINISTRATIVE CHANGES (continued)

A_9 (cont.) section if applicable. The term may also be defined and/or explained in the Bases. The removal of these definitions is considered administrative with no impact of its own. The deletion of these definitions maintains the consistency between the ITS and the NUREG.

A_{10} The definitions of Critical Power Ratio and Transition Boiling were incorporated into the definition of Minimum Critical Power Ratio (MCPR) to enhance the clarity by using a technically precise term (transition boiling) versus a less precise term (boiling transition).

A_{11} The CTS definitions of Instrument Calibration or Channel Calibration and Logic System Functional Test (LSFT) were changed. The Instrument Calibration or Channel Calibration definition was revised to include testing of the sensor. The definition of LSFT was revised to remove the requirement to include the sensor and end device. The end device will be tested during the system operational test requirements of the affected ITS (e.g., ITS SR 3.5.1.7, which tests to ensure an ECCS pump starts automatically on an initiation signal). Since any of the tests can be credited for performance in parts, as long as the whole channel is tested, it does not matter when the sensor and end device are tested (i.e., with the Channel Functional Test, Channel Calibration, the LSFT, or the system operational test). Similarly, the definition of Channel Functional Test was revised to allow testing to be performed in segments to be consistent with the Channel Calibration definition. Thus, the accumulation of these changes results in an administrative change.

" CTS definition for Channel Functional Test requires the test to verify the proper response, alarm, and/or initiating action. The ITS definition requires verifying Operability, including all components in the channel, such as alarms, interlocks, displays, and trip functions, required to perform the specified safety function(s). The ITS also adds the word "required" in the Logic System Functional Test definition. As a requirement for Operability of a Technical Specification channel, not all channels will have a required sensor or alarm function. Conversely, some channels may have a required display function. This is the intent of the existing wording, and therefore, the revised wording is proposed to more accurately reflect this intent, consistent with the NUREG.

ADMINISTRATIVE CHANGES (continued)

A_{11} (cont.) The CTS definition for RPS Response Time was modified to state that the test can be performed in segments, provided the total response time is measured. This is the intent of the existing wording, and therefore, the revised wording is proposed to more accurately reflect this intent, consistent with the NUREG

A_{12} The definitions for Channel, Trip System and Logic were deleted because they are commonly understood and not prone to unique and inappropriate interpretation. The removal of these definitions is considered administrative with no impact of its own. The deletion of these definitions maintains the consistency between the ITS and the NUREG. Unique or hard to interpret channel or Trip System arrangements will be described in the Bases.

A_{13} The definition of Functional Test is deleted because it is not used in either the LCOs or Surveillance Requirements. The definition of Functional Test is the manual operation or initiation of a system, subsystem, or component to verify that it functions within design tolerances (e.g., the manual start of a core spray pump to verify that it runs and that it pumps the required volume of water). These types of tests in the ITS are called out directly in the Surveillance Requirements (e.g., Verify the following ECCS pumps develop the specified flow rate...). Post maintenance functional testing is covered by plant procedures and is no longer in the TS. The deletion of this definition maintains the consistency between the ITS and the NUREG. The removal of this definition is considered administrative with no impact of its own.

A_{14} The requirements specified by the definition of Frequency Notation for TS Surveillance Requirements and the definition of Annual are being deleted because the SR Frequencies in the ITS do not use this type of notation. The Frequencies for the SR lists the specific number of hours, days, or months (e.g., instead of "M" for Monthly, the ITS will list 31 days).

A_{15} The definition of Shutdown Margin has been modified to address stuck control rods when the core is in its most reactive state during an operating cycle. This is consistent with the existing requirement found in CTS 3.3.A.2.f.(ii) which infers

ADMINISTRATIVE CHANGES (continued)

A_{15} (cont.) accounting for the worth of a stuck control rod when the core is in its most reactive state during an operating cycle.

A_{16} The Offsite Dose Assessment Manual (ODAM) definition is moved to Section 5.0 of the ITS, consistent with the NUREG.

A_{17} The definition of Reportable Event was deleted because it is not used in either the LCOs or SRs of the ITS. The use of Reportable Event is covered in 10 CFR 50.73 and does not need to be defined in the ITS. The deletion of this definition maintains the consistency between the ITS and the NUREG. The removal of a definition is considered administrative with no impact of its own.

A_{18} New definitions for Actions, Average Planar Linear Heat Generation Rate (APLHGR), Turbine Bypass System Response Time, L_a, Physics Tests, Staggered Test Basis, and Thermal Power are being added to the ITS. These definitions were added for consistency with the NUREG. These definitions are used throughout the ITS and in the CTS. The defined terms are used in the LCOs, SRs, and Bases of the ITS and were defined for the convenience of the users of the TS. The inclusion of these definitions are deemed administrative and have no impact on their own. If the added definitions are used in new requirements (which is a technical change) the discussion of changes for the individual sections of the TS will provide the justification.

A_{19} The following sections are being added to the TS. These additions aid the understanding and use of the new standard ITS format and style of presentation. Some conventions in applying the TS to unique situations have previously been the subject of debate and interpretation by the licensee and the NRC Staff. Because the guidance in these proposed sections is presented in the NUREG as approved by the NRC Staff, and the guidance is not a specific deviation from anything in the CTS, these additions are considered to be administrative. The added sections are as follows:

ADMINISTRATIVE CHANGES (continued)

A_{19} (cont.) SECTION 1.2 - LOGICAL CONNECTORS

ITS Section 1.2 provides specific examples of the logical connectors "AND" and "OR" and the numbering sequence associated with their use. This revision is being proposed consistent with the NUREG.

SECTION 1.3 - COMPLETION TIMES

ITS Section 1.3 provides proper use and interpretation of Completion Times. The proposed section also provides specific examples that aid the user in understanding Completion Times. The proposed Completion Times Section is consistent with the NUREG.

SECTION 1.4 - FREQUENCY

ITS Section 1.4 provides proper use and interpretation of the Surveillance Frequency. The proposed section also provides specific examples that aid the user in understanding Surveillance Frequency. The proposed Frequency Section is consistent with the NUREG.

A_{20} The intent of applying the Mode definition only when fuel is in the vessel is incorporated into the definition of Mode. Since the vessel head can only be removed if the head closure bolts are less than fully tensioned, there is no purpose in including "or with the head removed." These changes are considered editorial.

A_{21} Footnotes (c), (d), (e), and (f) on CTS Table 1.0-1 are addressed by the exceptions allowed to LCO requirements in the proposed Special Operations section, ITS 3.10. Any technical changes to these requirements will be addressed in the discussions of changes for individual Specifications.

A_{22} A clarification has been added to the definition of Channel Calibration which states that the calibration of instrument channels with Resistance Temperature Detectors (RTDs) or thermocouple sensors may consist of an in place qualitative assessment of the sensing elements. Certain types of sensing elements, by their design, construction, and application have an inherent resistance to drift. They are designed such that they have a fixed input/output response which cannot be

ADMINISTRATIVE CHANGES (continued)

A_{22} (cont.) adjusted or changed once installed. When a credible mechanism that can cause change or drift in this fixed response does not exist, it is unnecessary to test them in the same manner as the other remaining devices in the channel to demonstrate proper operation. RTDs and thermocouples are sensing elements that fall into such a category. Thus, for these sensors, the appropriate calibration at the Frequencies specified in the ITS would consist of a verification of OPERABILITY of the sensing element and a calibration of the remaining devices in the channel. Calibration of the other devices in the channel is performed by applying the sensing elements' (RTDs or thermocouples) fixed input/output relationships to the remainder of the channel and making the necessary adjustments to ensure range and accuracy. This ensures that the sensing elements are consistent with one another and will identify potentially bad sensing elements. This ITS "verification of OPERABILITY" of the sensing element (RTDs or thermocouples) is considered to be explicitly defining the currently accepted method for calibration of these instruments. As such, this change is considered to be administrative.

A_{23} Minor editorial changes were made to CTS 4.1.A.2 to match the CTS definition for RPS Response Time (Definition #29) and to delete the statement that response time testing is not done as part of the Channel Calibration. This is consistent with the intent of both the CTS and ITS that specify separate SRs for response time tests and calibrations.

A_{24} CTS Table 4.2-G Footnote "*" contains the definition of the EOC-RPT System Response Time for Turbine Control Valves. The CTS definition starts from energization of the fast acting solenoid, which is changed in the ITS to when the TCV hydraulic oil control oil pressure drops below the pressure switch setpoint. The ITS and CTS response time test requirements are equivalent and is discussed more completely in ITS Section 3.3.1.1, RPS Instrumentation, thus this change is considered administrative in nature.

A_{25} The CTS contains a definition for Instrument or Channel Check. The proposed change will delete the "Instrument part" of this definition. For this test the "Instrument" and the "Channel" are the same. Therefore, this change is considered administrative in nature.

ADMINISTRATIVE CHANGES (continued)

A_{26} ITS Modes Table 1.1-1 encompasses the following definitions in the CTS: Cold Condition, Cold Shutdown, Hot Shutdown, Hot Standby Condition, Reactor Power Operation, Mode of Operation (Refuel Mode, Run Mode, Shutdown Mode, and Startup/Hot Standby Mode), Shutdown. The Modes Table defines five specific Modes, by number, title, mode switch position, and average reactor coolant temperature (where applicable for the Mode). By incorporating these definitions into the ITS Modes Table, the Modes are more definitive, and this decreases the likelihood of the interpretation of being in more than one Mode at any time. This change encompasses both Administrative and Less Restrictive changes, (See L_1 for the less restrictive change to the definition of Cold Shutdown). Below is a highlight of the Administrative changes from each of the existing definitions which were incorporated into the Table.

Cold Condition

The existing definition is incorporated into Mode 4. The Cold Condition definition requires Reactor Coolant System (RCS) temperature to be $\leq 212°F$.

Hot Shutdown

This existing definition is incorporated into Mode 3.

Hot Standby Condition

This existing definition is incorporated into Mode 2. The requirement to maintain pressure below 1055 psig is not required and has been deleted because 1055 psig is the RPS High Pressure nominal trip setpoint and the reactor would trip if pressure were greater than this value. As a result, the existing Hot Standby Condition could not be maintained at a pressure greater than 1055 psig. Similarly, the specification for reactor coolant temperature to be > 212° F has also been deleted from the definition of Mode 2, consistent with the CTS Table 1.0-1 for startup (Mode 2)/Hot Standby. This is considered an administrative change.

ADMINISTRATIVE CHANGES (continued)

A_{26}
(cont.)

Reactor Power Operation

The existing definition is incorporated into Mode 1 and Mode 2 (when reactor power is > 1% RTP). Individual specifications that contain requirements for Operability during Reactor Power Operation are being changed to the appropriate Mode 1 and/or Mode 2 requirements in the ITS. The changes to these CTS Operability requirements have separate justifications provided in the affected specifications. Therefore, this is an administrative change. Single Loop Operation is specified in ITS 3.4.1, "Recirculating Loops Operating," and need not be a definition.

Refuel Mode

This existing definition is incorporated into Mode 5 and into Mode 2 as a mode switch position. With the mode switch in Refuel, only one control rod continues to be allowed to be "not full in" at any one time. The specifics of interlocks for the reactor mode switch position in Refuel are an integral part of the mode switch design and continue to be specified in ITS 3.9.1 and 3.9.2. The SRM count rate need not be specified in the Definitions, since it is specified in ITS 3.3.1.2, "SRM Instrumentation."

Run Mode

This existing definition is incorporated into Mode 1. The specifics of the interlocks for the mode switch position in Run are an integral part of the mode switch design and do not need to be specified in the Technical Specifications. These specifics are located in the plant design documents. Changes to the interlocks and the mode switch design (and therefore the design documents) will be evaluated in accordance with the DAEC 10 CFR 50.59 Program. The Operability requirements of the APRMs do not need to be specified in the definition since they are adequately addressed in ITS 3.3.1.1, "Reactor Protection System Instrumentation."

ADMINISTRATIVE CHANGES (continued)

A_{26} (cont.)

Shutdown Mode

The existing definition is incorporated into the mode switch position for Modes 3, 4, and 5. The specifics of the interlocks for the mode switch position in Shutdown are an integral part of the mode switch and do not need to be specified in the Technical Specifications. These specifics are located in the plant design documents. Changes to the interlocks and mode switch design (and therefore the design documents) will be evaluated in accordance with the DAEC 10 CFR 50.59 Program.

Startup/Hot Standby Mode

The existing definition is incorporated into the mode switch position for Mode 2. The specifics of the interlocks for the mode switch position in Startup/Hot Standby are an integral part of the mode switch and do not need to be specified in the Technical Specifications. These specifics are located in the plant design documents. Changes to the interlocks and the mode switch design (and therefore the design documents) will be evaluated in accordance with the DAEC 10 CFR 50.59 Program.

Shutdown

This existing definition is incorporated into Mode 3 and Mode 4. The incorporation of this definition is purely administrative since the current definition of Shutdown is mode switch in Shutdown and no Core Alterations being performed. The requirement that no Core Alterations are to be performed is indirectly required by CTS Table 1.0-1 Note (a) requirements in both modes specifying all reactor vessel head closure bolts being fully tensioned. Per the existing and proposed Alteration of The Reactor Core (Core Alteration) definition, with the reactor vessel head on, Core Alterations are not possible. {1.0-3}

DISCUSSION OF CHANGES
ITS 1.0: USE AND APPLICATION

TECHNICAL CHANGES - MORE RESTRICTIVE

M_1 The CTS contains definitions for Instrument Calibration or Channel Calibration and Instrument or Channel Functional Test. The proposed change will delete the "Instrument part" of each of these CTS definitions and will adopt the NUREG terminology for these definitions. This change is more restrictive since the CTS definitions do not necessarily include the entire channel when referring to the Instrument Calibration or Instrument Functional Test.

The proposed change states that the Channel Calibration shall encompass those components, such as sensors, alarms, displays, and trip functions, required to perform the specified safety function(s). The addition of these requirements to the ITS is more restrictive than the CTS; however, DAEC current operating practice implements these requirements outside the CTS.

M_2 ITS Section 1.3 describes Completion Times in order to help the Technical Specification user correctly apply them in the ITS. One specific requirement ITS Section 1.3 describes, is the use of Completion Times for the case in which two subsystems become inoperable concurrently, without a note which allows the Conditions to be entered separately. In this case, if one subsystem were restored (within the Completion Time for two subsystems inoperable), the shorter of 24 hours or the remainder of the subsystems Completion Time (for one subsystem inoperable) is allowed to restore the other subsystem to Operable status. Although the current operating practice is similar, the CTS would allow a less conservative interpretation and it is possible that DAEC would take the remainder of the Completion time of the subsystem which is inoperable even if it is greater than 24 hours. Thus, the addition of this requirement of ITS Section 1.3 is more restrictive.

TECHNICAL CHANGES - RELOCATIONS

R_1 The CTS definition of Operable-Operability contains a description of what a verification of Operability means (i.e., an administ. . .ive check, by examination of appropriate plant records, etc.) This change proposes to move this part of the definition of Operable-Operability to the individual ITS Actions and relocate the details to their respective Bases for individual Technical Specifications. This change is acceptable since the definition of Operable-Operability is sufficient without describing the meaning of "verification of Operability." Any changes to

TECHNICAL CHANGES - RELOCATIONS (continued)

R_1 (cont.) the requirement (consistent with the TS Bases Control Program) will require a 10 CFR 50.59 review. This change is consistent with the NUREG.

TECHNICAL CHANGES - LESS RESTRICTIVE

L_1 ITS Modes Table 1.1-1 encompasses the following definitions in the CTS: Cold Condition, Cold Shutdown, Hot Shutdown, Hot Standby Condition, Reactor Power Operation, Mode of Operation (Refuel Mode, Run Mode, Shutdown Mode, and Startup/Hot Standby Mode), Shutdown. The Modes Table defines five specific Modes, by number, title, mode switch position, and average reactor coolant temperature (where applicable for the Mode). By incorporating these definitions into the ITS Modes Table, the Modes are more definitive, and this decreases the likelihood of the interpretation of being in more than one Mode at any time. This change encompasses both Administrative and Less Restrictive changes, (See A_{26} for the Administrative changes). The change to the definition of Cold Shutdown is classified as Less Restrictive and is discussed below. {1.0-3}

Cold Shutdown

The existing definition is incorporated into Mode 4. The current Cold Shutdown definition requires the mode switch to be in Shutdown, RCS temperature to be ≤ 212°F, and the reactor vessel to be vented. The ITS definition of MODE 4 does not require the reactor vessel to be vented. Therefore, this is a less restrictive change. The proposed Technical Specifications (ITS 3.4.8, Residual Heat Removal Shutdown (RHR) Cooling System — Cold Shutdown) provide more prescriptive requirements to assure adequate decay heat removal capabilities in Mode 4. Also, with regard to pressurization concerns (related to deletion of reactor vessel venting requirements), ITS 3.4.9, RCS Pressure and Temperature (P/T) Limits, provides requirements to preclude the reactor vessel from exceeding pressure limits. Therefore, the need to have the reactor vessel vented is not required.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L_2 The CTS definition, Alteration Of The Reactor Core (Core Alteration), is being revised so that the term will apply only to those activities that create the potential for a reactivity excursion and, therefore, warrant special precautions or controls in the Technical Specifications.

Currently, an Alteration Of The Reactor Core (Core Alteration) is defined as "The addition, removal, relocation or movement of fuel, sources, incore instruments or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel." However, routine replacement of incore detectors (e.g. LPRMs, Traversing Incore Probes, etc.) that are not otherwise required to be Operable does not constitute Core Alterations.

The proposed definition for Core Alterations is intended to identify those activities that affect reactivity within the reactor vessel with the vessel head removed and fuel in the vessel. As a result, the term Core Alterations will identify those activities that create the potential for a reactivity excursion and warrant special controls and precautions. Under the revised definition, in-vessel movement of instruments, cameras, lights, tools, etc. will not be classified as Core Alterations since special controls needed to prevent reactivity excursions are not warranted.

It should be noted that control rod movement is not considered a Core Alteration provided there are no fuel assemblies in the associated core cell. The removal of the four fuel bundles surrounding a control rod very significantly reduces the reactivity worth of the associated control rod to the point where removal of that rod no longer has the potential to cause a reactivity excursion. Therefore, removal from the core of a control rod is not considered a Core Alteration provided there are no fuel assemblies in the associated core cell. This fact is recognized in the design of the control rod velocity limiter which precludes removal of a rod prior to the removal of the four adjacent bundles.

DISCUSSION OF CHANGES
ITS 2.0: SAFETY LIMITS

ADMINISTRATIVE CHANGES

A_1 All reformatting and renumbering is in accordance with the NUREG. As a result, the ITS should be more readable and more understandable by its users. The reformatting, renumbering, and rewording process involves no technical changes to the CTS.

Editorial rewording (either adding or deleting) is made consistent with the NUREG. During NUREG development certain wording preferences or English language conventions were adopted which resulted in no technical changes (either actual or interpretational) to the CTS. Additional information has also been added to more fully describe each subsection. This wording is consistent with the NUREG. Since the design is already approved by the NRC, adding more detail does not result in technical change.

A_2 The first sentence of CTS 1.1.B states, in part, that "When the reactor pressure is ≤ 785 psig or core flow is less than or equal to 10% of rated, the core..." ITS Specification 2.1.1.1 deletes this statement since it is repeated from the sentence above. This deletion does not change any intent, parameter, or Safety Limit (SL). This deletion is an administrative wording change and consistent with the guidance provided in the NUREG.

The statement regarding when irradiated fuel is in the vessel is being deleted from CTS 1.1.D and CTS 1.2.1. The intent of this statement is to insure that a specific reactor water level (top of active fuel zone) and reactor steam dome pressure is maintained whenever irradiated fuel is in the vessel. Deleting this statement implies that reactor water level (top of active fuel zone) and reactor steam dome pressure must be maintained during all Modes. The only times DAEC would not have irradiated fuel in the vessel is: 1) total core off load during refueling or 2) total new core replacement. In either case, the irradiated fuel would be removed from the vessel. Therefore, with no fuel in the vessel, ITS Specification 2.1.1.3 and 2.1.2 would not be applicable. In addition, the CTS wording, ". . . not be less than 12 inches above the top of the normal active fuel zone" is being replaced with ". . . be greater than 15 inches above the top of active irradiated fuel." This wording is more consistent with the NUREG while still specifically requiring a buffer similar to the CTS and is conservative with respect to the DAEC current licensing bases. This deletion is an administrative wording change consistent with the NUREG.

ADMINISTRATIVE CHANGES (continued)

A_2 (cont.) CTS 1.1.D specifies the SL for water level as 12 inches above the Top of Active Fuel (TAF) where TAF is defined as 344.5 inches above vessel zero. ITS 2.1.1.3 specifies the SL as 15 inches above TAF. As explained in the CTS Bases for 3.2, the TAF is arbitrarily defined as being at 344.5 inches above vessel zero. Since all of the trip settings for instruments that are relied upon for accident or transient mitigation are referenced to vessel zero, the SL for vessel level is actually an administrative limit below which certain regulatory requirements are to be met, and is not directly coupled to any actuation setpoint. Note also that the minimum level assumed for a DBA LOCA is below the TAF, and the degree of cladding damage is a function of core uncovery (reflooded) time, and not minimum vessel level. The SL, therefore, does not directly impact reactor safety; this is reflected in the CTS definition, which states, in part, "Operation beyond such a limit may not in itself result in serious consequences but it indicates an operational deficiency subject to regulatory review." Additionally, since the taps for the reference leg instruments used to monitor vessel level are located at an elevation of 350.0 inches above vessel zero, indicated vessel levels lower than that elevation are not considered reliable (especially considering containment heating effects, vessel depressurization effects and jet pump flow effects). Therefore, it must be assumed that the vessel level SL is violated any time indicated vessel level goes offscale low. Since the lowest reliable vessel level indication is in the range of 15 inches above TAF (344.5 + 15 = 359.5 inches above vessel zero), it must be assumed that the vessel level SL is violated any time indicated level is below 15 inches above TAF. As explained in the Emergency Operating Procedures, current operating practice would be to assume the vessel level SL is violated any time indicated level drops below 15 inches above TAF. Therefore, this change is considered administrative.

A_3 The specific wording in CTS 1.1.A that states that exceeding the MCPR limits "shall constitute violation of the fuel cladding integrity safety limit" is not needed in the ITS and is deleted. Exceeding the MCPR limits is understood to exceed the SL in the ITS without adding the CTS wording. Therefore, this change is considered to be administrative in nature.

ADMINISTRATIVE CHANGES (continued)

A_4 CTS 1.1.A contains the requirement for the MCPR limit when reactor pressure is > 785 psig and core flow > 10% of rated. ITS has slightly reduced this limit (by adding the "equal to" sign). The CTS SL addresses the situation when reactor pressure or core flow is equal to the limit in CTS 1.1.B. This change is consistent with the NUREG, and is considered administrative because the CTS Bases discussion agrees with the ITS convention and with the GEXL correlation assumptions described in NEDO-10958 (GETAB).

A_5 CTS 1.1.B states that when the reactor pressure is ≤ 785 psig or core flow is less than or equal to 10% of rated core flow, the RTP shall not exceed 25%. In ITS Specification 2.1.1.1, the "equal to" was taken out of the "less than or equal to" symbol. This change is being made in conjunction with the change described in A_4 above. This minor change is considered to be Administrative because the CTS Bases discussion agrees with the ITS convention and with the GEXL correlation assumptions described in NEDO-10958 (GETAB). The CTS Bases 1.1.B contains discussions such as "At pressures below 785 psig. . . "and" "Thus, a core thermal power limit of 25% for reactor pressures below 800 psia or core flow less than 10% is conservative." The CTS Bases describes the limit as <785 psig or core flow <10% rated core flow which agrees with ITS 2.1.1.1. NEDO-10958 also contains the limits as <785 psig or core flow <10% rated core flow. NEDO-10958 is applicable to Duane Arnold as incorporated by direct reference to GETAB and GEXL in UFSAR Chapters 4.4 and 15.0. In addition to the justification provided above, the proposed change is consistent with the NUREG. {2.0-8}

A_6 The current SL violation requirements for CTS 6.7, as they relate to NRC notification and permission to restart the unit, are duplicative of requirements located in 10 CFR 50.36(c)(1). Since DAEC is required by the Operating License to comply with 10 CFR 50, the removal of these requirements from the TS is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M_1 CTS 6.7.1 requires the reactor to be shutdown in the event a SL is violated. However, no specific time requirements are identified to accomplish reactor shutdown. ITS Specification 2.2 is being added. This new section requires all SLs to be restored within 2 hours and all insertable control rods to be fully inserted. This change is considered more restrictive, since the CTS can allow more than 2 hours to

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M_1 (cont.) perform the Required Actions. Exceeding a SL may cause fuel damage and create a potential for radioactive releases in excess of 10 CFR 100 limits. These requirements ensure that the operators take prompt remedial action and also ensure that the probability of an accident occurring when a SL is violated is minimal. This change is consistent with the NUREG.

TECHNICAL CHANGES - RELOCATIONS

R_1 CTS 1.1.D defines the Top of Active Fuel (TAF) to be 344.5 inches above vessel zero. The CTS definition of TAF has been relocated to the UFSAR (Tables 7.3-2 through 7.3-6). This change is acceptable since reactor water level setpoints are specified separately in the ITS with respect to TAF, where applicable. Adequate control of TAF will be maintained without requiring that it be specified in the ITS. Changes to the UFSAR will be evaluated in accordance with the DAEC 10 CFR 50.59 program.

R_2 The requirement for notification of the Vice President, Nuclear and the Safety Committee in the event of a SL violation, the requirement for the Operations Committee to prepare and submit the report to the Safety Committee and the Vice President, Nuclear are proposed to be relocated to plant procedures. Given that the notification occurs following the SL violation and that the SL Violation Report is an after-the-fact report, the proposed relocated requirements are clearly not necessary to assure operation of the unit in a safe manner. Additionally, in the event of a SL violation, 10 CFR 50.36(c)(1) does not allow operation of the unit to be resumed until authorization is received from the NRC. Changes to the relocated requirements in plant procedures will be evaluated in accordance with the DAEC 10 CFR 50.59 program. In addition, the SL Violation Report has been replaced with an LER requirement, consistent with 10 CFR 50.36(c)(1).

TECHNICAL CHANGES - LESS RESTRICTIVE

L_1 CTS 1.1.A requires the MCPR to be greater than or equal to 1.10 for single loop operation when the reactor pressure is greater than 785 psig and core flow greater than 10% of rated core flow. By letter dated December 7, 1984, DAEC submitted a proposed TS change, RTS 124C. This proposed TS changed the MCPR limits for both two loop and single loop operation in accordance with NEDO-24272 and UFSAR 15.4.5. The NRC SER dated May 28, 1985, License Amendment 119, stated on page 3, paragraph 3, "The staff found the MCPR increase of 0.01 acceptable, but suggested that the licensee conservatively increase the MCPR by

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L_1 (cont.) 0.03." Based on the NRCs suggestion, DAEC used the 1.10 MCPR limit for single loop operation. ITS Specification 2.1.1.2 uses the 1.08 MCPR limit for single loop operation, which is consistent with the analysis supporting RTS 124C, NEDO-24272, UFSAR 15.4.5, and the NUREG.

L_2 The proposed change deleted the "Power Transient" SL. The intent of this SL was to ensure that other SLs are not exceeded. This SL is assumed to be exceeded when a scram is accomplished by means other than the expected scram signal (Primary Source Signal). The scram setpoints are established in order to ensure margin to the SLs. Exceeding the scram setpoint, in and of itself, does not necessarily indicate that a SL has been exceeded. Sections 2.1 and 2.2.1.A of the CTS contain various trip settings that initiate a reactor scram. These scram setpoints are included in Table 3.3.1.1-1 of the DAEC ITS. The SRs imposed on these scram setpoints in Table 3.3.1.1-1 help to ensure that the margin to a SL is preserved. The redundancy built into the RPS is maintained by the Action of LCO 3.3.1.1. Therefore, the intent of the current Power Transient SL 1.1.C is maintained by the provisions in LCO 3.3.1.1 for the RPS.

L_3 The CTS 1.2.2 SL, when operating the RHR System in the Shutdown Cooling Mode, is proposed to be incorporated into ITS 3.3.6.1 (Table 3.3.6.1-1 for Primary Containment Isolation Instrumentation). The RHR Shutdown Cooling System is designed with an interlock in the logic for the system isolation valves, which are normally closed during power operation, to prevent opening of the valves above a preset pressure setpoint (Allowable Value) of ≤ 152 psig. This setpoint is selected to assure that pressure integrity of the RHR System is maintained. The high pressure interlock is only provided for equipment protection to prevent an intersystem LOCA and, as such, this function should not be considered a SL on plant operation.

DISCUSSION OF CHANGES
ITS 2.0: SAFETY LIMITS

The Bases of the current TS for this section (pages 1.1-5 through 1.1-20 and 1.2-3 through 1.2-6) have been completely replaced by revised Bases that reflect the format and applicable content of proposed ITS Section 2.0, consistent with NUREG-1433. The revised Bases are as shown in the proposed ITS Bases.

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September 17, 1997

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SUBJECT: Partial Response to NRC Request for Additional Information

REFERENCE: 1) Letter from J. Franz (IES) to F. Miraglia (NRC), "Submittal of License Amendment Request to Convert the DAEC Technical Specifications to the Improved Technical Specifications (NUREG-1433), (RTS-291)", NG-96-2322, October 30, 1996.

2) Letter, G. Kelly (NRC) to L. Liu (IES), dated August 18, 1997, Request for Additional Information on the DAEC Improved Technical Specifications (TAC NO. M97197).

FILE: A-117, SPF-167