VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
178	Error in power calculation for CPR calculation in transients	3	Fixed
179	Calculation of film boiling temperature can fail for problems with very high rod powers	1	Fixed
180	Inconsistent common block in subroutines CHAND and CHANL	1	Fixed
181	Convergence problems with drift flux model in transients	3	Fixed
182	Typographical error on variable name 'inone' in subroutine DRIFTV	3	Fixed
183	Documentation error; Y' term in Bowring WSC-2 is defined incorrectly in Appendix D of Vol. 1	1	----
184	Documentation error: parameter MN is described incorrectly	1	----
185	Reference film temperature for Groeneveld 5.7 film boiling heat transfer correlation is defined as the average of the fluid and wall temperatures, rather than as the wall temperature	3	Fixed
186	Some problems result in 'underflow' condition in matrix inversion in subroutine SOLVER (NOTE: problem occurs only on IBM mainframes with certain compilers.)	1	Fixed
187	Y-axis numerical labels have insufficient number of decimal places for some line-printer plot variables	1	Fixed
188	Confusion about units of g*gc term in EPRI void model cleared up by inserting an explanatory comment line	1	Fixed
189	Cold inlet length not accounted for in programming of BowringWSC-2 CHF correlation	1	Fixed
190	Underflow due to taking exponent of a very small number, in the Groeneveld-Delorme heat transfer correlation (NOTE: problem occurs only on IBM mainframes with certain compilers.)	1	Fixed
191	CHF ratio in test for transition to film boiling does not search for minimum value, considering all rods facing a given channel (NOTE: affects only Bowring correlation)	1	Fixed
192	In boiling heat transfer, local value of the quality used is from previous axial level, not the current axial level	3	Fixed
193	Incorrect index on loop searching for heat flux on inside surface of a tube or wall rod	3	Fixed
194	If superheated steam properties are not specified by input, code will fail with table look-up failure in film boiling heat transfer regime	1	Fixed

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
195	Large BWR core model fails with diverging solution when uniform pressure drop boundary is used	1	Not Fixed
196	option for user-coded subcooled boiling quality correlation is not accessible with 'MINE' flag	3	Fixed
197	Drift flux model parameters set to zero between stacked cases if group CORR is not included in the subsequent case	3	Fixed
198	Input error in variable node length specification is not caught during input processing; causes code to fail without apparent reason	1	Fixed
199	Iteration on inlet temperature to specified MDNBR does not work properly if inlet flow is specified using the inlet velocity option	3	Fixed
200	If power is specified as a heat flux, stacked cases that change number of rods will not have correct power calculated in cases after the first one	3	Fixed
201	Iteration to find film enthalpy from the film temperature for the post-CHF film boiling regime may fail under some conditions	1	Fixed
202	Code fails due to variable-type mismatch when reading CHF correlation flags (NOTE: this error has occurred only on IBM mainframe with extended H compiler)	1	Fixed
203	If group CONT is read before group RODS, input to select limited number of rods for output will not be processed properly, and information will be printed for all rods	1	Fixed
204	If void fraction exceeds about 85%, the Zuber-Findlay bulk void correlation gives incorrect values and can cause the solution to oscillate (NOTE: code fix is to print an error message and terminate the calculation if the equilibrium void fraction exceeds 0.85 when the Zuber-Findlay model is specified by input.)	3	Fixed
205	If the forcing function file created by RETRAN (and read by VIPRE-1 from lun13, file name 'force') is double precision, the read statements in VIPRE for lun13 must also be double-precision	1	Fixed
206	Unrecognized characters in the first case title line of the VIPRE-1 output file *outptt* can cause some workstation editors to lock up	1	Fixed
207	Documentation error; typographical errors in the thermal conductivity equation and the equations for specific heat for water, in Vol. 1, Appendix A, pp. A-7, A-8, and A-10	1	----

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
208	Limitation of energy equation solution results in failure to converge for severe nonlinear transients (such as rod ejection) in some case	1	Fixed
209-218	User-requested code enhancements, for inclusion in MOD02.1	1	----
219	Documentation error; incorrect units cited for array dr(mr) on p. A-16 of Appendix A in Volume 3. Document says units are feet, when in fact they are in inches in the code for this array	1	----
220	Error in updating beginning of boiling length for Tong non-uniform axial flux correction factor in cases with unheated inlet nodes	3	Fixed
221	User-requested code enhancement, for inclusion in MOD2.1	1	----
222	Documentation error; incorrect figure call outs on p. 2-42 of Volume 4, ***Applications***	1	----
223	Output identifies post-CHF heat transfer regime when option for no film boiling (NHTC=1) is selected, and code is (correctly) using single-phase heat transfer correlation	1	Fixed
224	Documentation error; Vol. 1, p. 2-105 -- typo in location of exponent on equation for V_{gj} term	1	Fixed
225	Documentation error: Vol. 1, p. 2-109 -- omitted parameter k, fluid thermal conductivity, from list of properties evaluated by table look-up in the code	1	Fixed
226	Exponential term in Tong F-factor gets too large for machine floating-pt. number size for some advanced fuel designs	1	Fixed
227	inlet temperature array incorrectly reset in stacked cases where (1) the option for non-uniform inlet temperatures (IH=3 on OPER.1) is specified, **and** (2) subsequent stacked cases do not include group OPER in the input stream	3	Fixed
228	Artifact coding considers only 5 channel connections per rod for the inner surface of TUBE or WALL rods, or for any rod when using the Beattie two-phase friction factor multiplier	1	Fixed
229	User-requested code enhancements, for inclusion in MOD2.1	1	----
230	Documentation error: coefficient in Eq. C-15 for Chen nucleate boiling heat transfer correlation appears in manual as -1.007, bit should be -1.087 to match actual coding in subroutine PROP	1	----

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
231	Error in summary output for limiting MDNBR iteration on power when specifying power as average heat flux (NPOWR=2 on OPER.1) in stacked cases, or using the multiple case option in OPER (IRUN>1 on OPER.1)	3	Fixed
232	Documentation error: missing term in equations describing the approximation of integral in Tong F-factor relationship	1	----
233	Typo in variable name (jmdim instead of mjdim) results in undefined variable in subroutine fuelr; may cause problems when VIPRE is compiled under Fortran-90, but has no effect if compiled under Fortran-77	1	233
234	Missing common block results in undefined variable in subroutine setup, and defeats input consistency check on chf options; may cause problems when VIPRE is compiled under Fortran-90, but has no adverse effect on code results	1	234
235	Option to calculate steam mass flux for output to lun75 (for subsequent AOA calculations) uses total heat transfer rate, rather than boiling heat transfer only	3	235
236	In transient calculations, data written to the auxiliary output file *chfdmp* (lun17) for the average heat rate is the original time-zero value, not the current time-step value	1	236
237	Linear heat rate printed in output file does not include direct deposition in coolant (Note: output error only; fluid energy solution correctly includes direct deposition in channel nodes.)	1	237
238	During work on elimination of source code platform dependencies (modification 238), it was found that the results of the VIPRE-01 sample problems varied significantly between platforms.	3	239
239	For a model with the microfiche option turn on (MFOPT=1,CONT.6) and generation of a BOA AOA file (IKEN=2,OPER.1) is used, the code fails with a runtime error message "cannot overwrite existing file, Unit 75, file case.01". Code execution stops at end of first case for a two case input file.	1	247
240	Conflict between modification 237 and 244. Both contain corrections to the output edit for linear heat rate. File test.65 contains debug edits for the calculation of the linear heat rate as used in the energy equation (HEAT.f) and the output edit (RESULT.f). The calculations do not produce the same values.	1	248

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
241	Different compiler version results in run-time errors when executing sample problems. Obtain errors due to an array index that exceeds the declared sizes. In addition, the compiler issues an error due to a missing comma in routine recirc.f.	1	249
242	Installation problem when installing Mod2.1 on a SUN workstation with NAGWare F95 compiler.	1	----
243	Differences noted in the CHFDMP (Unit 17) summary file when using the SI units output option not due simply to unit conversions.	3	250
244	BWR fuel bundle cases using the Hench-Gillis Correlation. Problems encountered with oscillatory behavior of CPR versus number of axial nodes, non-physical CPR jumps in response to small changes in bundle power, and some situations in which the boiling node is not identified.	1	****
245	In subroutine COMROD, for $NOPT8 = 4$, (Compressed Rod Layout input for BWR cores using 1 average rod - 1 average channel and options for canisters and water tubes), the logic for input error processing is flawed. No BWR model using this option will run on the current version (VIPRE-01 MOD2.2.1). A review of the VIPRE-01 MOD2.0 COMROD routine does not show the problem.	1	256
246	Title Page for Volumes 1 and 2 do not show the correct revision number and released date. A current Summary of Documentation Revisions was also not included.	1	---
247	During an investigation of a convergence problem, it was observed that the calculation iteration and convergence process is affected by parameter '*mw*' in the SPECS common block. *mw* is a parameter that sizes water tube arrays and is the maximum number of water tubes channels. This is an unexpected dependence. If the water tube dimension parameter *mw* is set to 1, the problem will not converge in 100 iterations. If the water dimension parameter *mw* is set to the number of channels (SPEC parameter *mc*), the solution converges readily in 33 external iterations.	1	257
248	A series of DNBR search cases are executed using simple cases of 5x5 arrays. Two of 68 cases fail to converge, but the operating conditions are very similar to the cases that are successful.	1	263

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
249	A problem occurs when executing the VIPRE-D (Dominion version of VIPRE-01) during DNBR search cases. For an unknown reason, an initial heat flux value of 0.20079 causes VIPRE-01 to fail while iterating on heat flux to a minimum DNBR of 1.60. The convergence value is printed as 'NaNQ' and the limiting parameter and relative power goes to 'INF'. This case can be run to completion using heat flux values higher or lower than 0.20079. Convergence was obtained with an initial value of 0.200789 as well as a value of 0.2008. Other values, such as 0.21 seem to also work.	1	260
250	In a BWR model using axial dependent area modifiers (for part length rods), the channel exit summary shows a mass flux that is based on the unmodified channel area.	1	259
251	In large PWR and BWR cases with gaps, array *tempsi* is overwritten (subroutine axlv.f). Unit I3 (output) is compromised and the calculation fails.	1	262
252	Problems with the two-phase multiplier when using the drift flux model 'drft' in heated channels	1	261
253	A PWR case fails on the HP machine but runs successfully on all other platforms. The code fails when a fluid temperature of 4 degrees Fahrenheit is calculated.	1	264
254	SI input for inlet channel mass flows does not use the correct units when using ISP=1 on OPER.1.	1	265
255	Documentation Error. Various missing or incorrect items in VIPRE-01 Volumes 1, 2, and 4	1	---
256	Output from problems with channels > 99 show ** in channel number location. Various output subroutines were modified to handle large problems (999)	1	266
257	Typographical error in flow conversion factor (from liter/min to gallons/min. (.26414 should be .26417)	1	267
258	Post CHF heat transfer indicated for very low heat flux rod surfaces.	1	268
259	SI input for inlet channel mass flows does not use the correct units when using ISP=2 on OPER.1.	1	276
260	A generic BWR bundle example model run fails when input selects 3 rods for rod edits.	1	275
261	The wetted perimeter (*perim()*), a parameter that may be required by an external DLL CHF correlation is not directly available through shared memory.	1	274
262	Problem with input reflection for General Rod Type	1	272

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
263	Incorrect viscosity units used for Chexal-Lellouche void model.	1	273
264	The code fails during input processing although there does not appear to be any actual input errors. The problem appears to be an issue with the dynamic memory allocation logic.	1	278
265	Incorrect calculation of fuel surface roughness to wavelength values in the dynamic gap model	1	280
266	Viscosity in NFPROP= 2 option is not consistent with other options. It is high by 0.1%	1	281
267	Extraneous error message stops the code execution stating that dimensions are not correct.	1	282
268	VIPRE does not print out forcing function table for direct moderator heating in output file.	1	283
269	When using the fuel rod (conduction) model, non-zero heat flux values appear to be calculated after the end of the heated length. While this will not necessarily lead to incorrect results, it is odd. It does not do this when the fuel rod model is not used (ie. using 'dumy' rods).	1	285
270	VIPRE prints misleading message if maximum cpu time limit cause code to terminate.	1	286
271	VIPRE fails with memory allocation error if cases using AXLV option are stacked.	1	291
272	The VIPRE-01 spline fit power distribution is based on a cell edge rather than a cell centered value.	3	294
273	The VIPRE-01 VBC file uses a flat power distribution at t = 0.0, rather than reading the t=0.0 value from the file.	1	295
274	In VIPRE-01 MOD02.4 an input error will occur if IRADP (RODS.63) > 4. This has been corrected in VIPRE-01 MOD02.5	1	278
275	In VIPRE-01 MOD02.5, the new BOA AOA fine mesh file values are incorrect.	1	296
276	If the two phase turbulent mixing (NBBC > 0 on MIXX.1), the input reflection of the table of beta (β) vs quality is incorrect.	1	297
277	The Groeneveld-Delorme film boiling correlation (CORR.6 word 6 = *grdl*) produces NaN in the results	1	298
278	Fields that are not terminated by a comma can be incorrect.	1	299

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
279	Documentation Corrections for the Chexal-Lellouche option and the dynamic gap roughness factor. No code revision is required.	1	----
280	Implementation limitations in the DLL CHF model and the 'FACT' uncertainty input	1	302
281	VIPRE-01 'rod-to channel' connections are limited to 6. This limitation can make modeling of large central rods or water rods difficult. A modification will be made to remove this limit and allow up to 16 connections.	1	300
282	Incorrect inlet temperature when using SI input and OPER.14 (percent of initial) forcing functions.	1	301
283	BIGDNBR threshold defined by user is always 10.0	1	303
284	CHF Heat Flux Values Printed as 0.0 when DNBR is 10.00 or above	1	----
285	CHF Summary File indicates convergence when the Thermal-hydraulics solution fails	1	305
286	VBC file initialization failure using Intel Complier 14.0.	1	304
287	Error in EPRI-1 CHF correlation using the Bowring non uniform axial correction factor	1	309
288	Differing values calculated for fuel enthalpy when using user-defined fuel rod material properties	3	mod_312
289	RETRAN-3D trouble report number 649 was recently submitted. Trouble Report 649 detailed a problem in RETRAN-3D that results in incorrect direct moderator heating fraction (DMHF) being printed in the VBC file. This trouble report (289) is by way of information to alert individuals using the VBC file in conjunction with VIPRE-01 that the data in the VBC file may be incorrect.	1	----
290	The VIPRE-01 User's Manual Volume 2 includes a section on pages 2-129(a) – 2-129(b) which explains that when the power is input as an average heat flux (NPOWR = 2) and there are both heated and unheated rods input on the RODS.9 cards that a reduced value for power must be input on the oper.5 card(PWRINP). There is an equation for this adjustment listed in equations 2-7 and 2-8.	1	mod_313

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
291	1. It was observed that the average power per rod in the output file did not correspond to the value input on OPER.5. The value was input as 60 KW per rod. Each rod had a heated length of 3.5 meters. The reported power per rod in the output was 37792.00 j/s-m, but the expected value should be 60000 KW/3.5meters = 17142 j/m-s. 2. It was observed that when using absolute SI units to input the temperature tables on the OPER.14 cards, the output file printed these tables with incorrect values. Example, the first input table value of 0.000, 563.0000 was printed in the output file as 0.0000E+00 2.4205E-01. 3. It was observed that when using GRDL as word 6 on CORR.6, and NC=1 (conduction model), in conjunction with not including the PROP cards in the input file, the enthalpy gets set to zero and errors occur. Using the input methods in the listed input files, the restart file fails to run.	1	mod_314
292	Error found in license library file, LicCheck.lib and libLicenseChecker.a.	1	mod_315
293	The VIPRE-01 User Manual (Vol. 1, p. B-1) states that "UO_2 thermal conductivity is computed from the MATPRO-9 (B-2) correlation, instead of the more complex version in MATPRO-11 (Revision 2), to save computer time." Conversely, comment lines in files **fthcon.f90** and **gaphtc.f90** reference MATPRO-11. Given the context, we presume (but have not verified) that the user manual is correct. If so, then please revise the comment lines at the next convenient opportunity to reference MATPRO-9 (or the VIPRE-01 User Manual).	1	----

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
294	A VIPRE-01 run with input variable (Card CORR.2 // Word 1 // Name NSCVD) inadvertently entered as "erpi" instead of "epri" (and with associated Card CORR.3 omitted) showed unexpected behavior. The standard output file had an error message reporting an "illegal" value of NSCVD, which appears to be consistent with the intended result of file setup.f90. However, execution continued (which appears to be inconsistent with the intended result of file setup.f90) with subcooled voiding apparently deactivated (instead of defaulting to the EPRI model). The problem of execution continuing is suspected to result from resetting of the error flag "iscor" from 1 (when printing the error message) to 0 (when evaluating whether to terminate execution). The problem of subcooled voiding apparently being deactivated instead of defaulted has not been investigated.	1	----
295	Error found in HTC calculation for low amounts of subcooled boiling	1	mod_316
296	Code limitation regarding IDRECT=3 with rod geometries aside from dummy and nuclear rods	1	mod_317
297	Incorrect values for floating-point numbers are written to the error log file.	1	mod_318
298	A VIPRE-01 run based on MOD 2.6 failed 2.64 seconds into a 3-second REA transient with Error Number 303, "out of range of power profile variation table". The input variation table has 67 points that span the desired transient interval using endpoints of 0 and 3.00010 seconds. However, the code is apparently disregarding the last two points, resulting in a decreased interval of 0 to 2.63899 seconds. The apparent cause was traced to the loop in subroutine heat beginning do ii = 1, mf, which is indexed to the maximum number of points in a temporal forcing function table instead of the number of points in the axial power profile variation table. Accordingly, a test case increasing the number of points in the radial power forcing function table from 65 to 67 executed successfully.	1	mod_319

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
299	It was reported that the values for 2 coefficients for the W-3 correlation are incorrectly listed in the VIPRE-01 documentation. Page D-4 of Volume 1 show that $b3 = 0.1772$ and $b17 = 0.00794$. These should be listed as $b3 = 0.1722$ and $b17 = 0.000794$. The coefficients are correctly implemented in the VIPRE-01 code. This is a documentation error, not a code error.	1	----
300	Code failure when restarting if the RODS cards are reentered in the first case of the input file. VIPRE apparently assumes that first case in an input is a new case, which causes it to clear the temperature arrays when reading the RODS cards. The cleared value is 0, which leads to property errors.	1	mod_320
301	Code failure when using the debug version if variable axial lengths are used when the maximum number of gap connections to a channel is less than 4. The array ikntt is used outside of its bounds.	1	mod_321
302	Code failure when using the debug version if the SUMM cards are entered or if water properties are used beyond the range of the tables but still between enthalpies of 32.0 and 2000.0 BTU/lbm. Incorrect maximum error locations and gap data being written to the output file.	1	mod_324
303	Resubmittal of TR-294, error identified.	1	mod_325
304	Code failure when attempting the override of the transient forcing functions of P//G//T//Q from the VBC file by using tables on Cards OPER.13//17//14//20 and the 'none' option on Card Oper.28. Forcing function tables get set to zero.	1	mod_326
305	Code limitations: 1)Fuel enthalpies are written out as cal/gm whether or not the user has requested English or SI units, and 2) Output formatting is non-aesthetic when more than 14 radial nodes are requested in the fuel pellet.	1	mod_327
306	It was reported that when the title for the input file on the VIPRE.2 card, if the title is less than 10 characters long and includes lower-case letters, the title is truncated to the last four characters for all header locations within the output file.	1	mod_327
307	Code failure when using the debug version if the PROP optional inputs are not entered for a stacked case which uses more channels than a previous stacked case.	1	mod_328
308	Error reported in top node axial power profile when using linear fit, value is calculated as too low.	1	mod_329

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
309	Code failure when quality decreases as elevation increases.	1	mod_330
310	When using the Direct Moderator Heating (DMH) forcing function via the OPER.29 card in conjunction with a VIPRE Boundary Condiction (VBC) file (cards OPER.27 and OPER.28), VIPRE returns an input error and the code fails. The failure indicates that VIPRE is attempting to read a different card than the OPER.29 card. Initial investigation shows that VIPRE attempts to read the OPER.29 card before the OPER.27 and OPER.28 cards. But, when placing the OPER.29 card before the OPER.27 and OPER.28 cards returns no input error, but the code fails without an error. It is possible that the incorrect ordering of the cards may be causing this error, or it may be that error is similar to that in TR-304/MOD_326 wherein failures occur when attempting to use the VBC file AND forcing functions in the input file. A typo was also reported in recirc.f90 subroutine, wherein logical unit i3 is used instead of i12	1	mod_332
311	When setting up a VIPRE input model, making inputs on the GEOM.4 cards, the Input Manual (Volume 2) states that the user MUST connect a lower-numbered channed to a higher numbered channel (i.e. channel 1 lists the channel connection to channels 2, 3, etc, and not the other way around). It was reported that if a user does connect a higher numbered channel to a lower numbered channel, no error message is produced, and the code continues to run. During the development of this modification, it was observed that the ERR_LOG file was not properly produced when errors were detected while using cards with an alphabetical character at the end of the card designation (RODS.2a, GEOM.4a, etc). This was found to occur due to VIPRE-01 looking for only numerical integers in the final three slots of a card name. Modification includes a correction to this problem.	1	mod_333
312	It was observed that when using a non-VBC external forcing function file, VIPRE stalls out and never reaches an exit point. Program execution must be force-quit. It is suspected that this error has not been observed in the past because it is an option that simply has not been used in many years. Along with this error, a number of typos in the manual were reported, see trouble report folder.	1	mod_335
313	It was discovered that when entering information on the GRID cards, if the value of NKCOR is omitted or set to 0, the code fails without an error message.	1	mod_336

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
314	It was reported that when inputting mispelled correlation names on the CORR cards, the code fails without the creation of an errlog file. It was also reported that the output file reported errors not relevant to the input file, specifically that the drift flux model and chexal-lellouche drift flux model can only be used with the recirc solution. During investigation of this trouble report, it was found that no errlog file was created when a negative chf was calculated.	1	mod_338
315	It was observed that VIPRE-01 MOD02.7 was returning a different value for the 'normalized to' reported in the output file for the axial power profile than the value printed using VIPRE-01 MOD02.6. Further investigation showed that the normalized value reported by MOD02.6 was the correctly calculated value, while MOD02.7 predicted a slightly higher incorrect value. This error was only observed when the value of the heated length was not a whole number. It was determined that this error was introduced in the creation of MOD_323, which was implemented in MOD02.7. The variable zhx(:), a temporary storage array used only for the calculation of the normalization value, was set up as an integer rather than a real number.	1	mod_339
316	The Error Log File message written from Subroutine CURVE2 has a mismatch between the labels and values of two output variables. The variables appear in an edit of the first and last values of the x/y table used in the interpolation. The labels are ordered as x(1), x(n), y(1) and y(n). The values are ordered as x(1), y(1), x(n) and y(n).	1	mod_340
317	It was identified that when attempting to create an external file for steaming rate using the option IKEN = 1 on the OPER.1 card and using SI output units, incorrect values are printed to logical unit 75. The axial locations are all printed as 0.0, while the steaming rate is printed as a constant, incorrect value.along the axial length. This error is not present when using English units.	1	mod_342
318	It was identified that VIPRE-01 uses different values to perform unit conversion from btu/s to kw. In some places, the multiplier of 1.0548 is used, in others, it is 3600/3412 = 1.0550996. It is noted that the value of 1.0548 is only applied to convert from btu/s before printing a value in the output file and not for internal calculations. In one location, the value used was 1.055.	1	mod_343
319	Provide a Trouble Report for a code failure in the VIPRE-01 MOD 2.7 plot generation logic.	1	mod_345

VIPRE-01 Trouble Reports

Trouble Report Number	Description	Part 21 Status Code	Correction[1] Status
320	Investigation started when it was noticed that the last node within the heated length had no reported CHF calculations in the detailed output file. This was, at first, determined to be due to precision drift in the noding description on GEOM.3. For example, when the provided node sizing did not exactly match up with the intended trailing edge of the following node. An attempted fix for this was to adjust the axial noding so that the edges of nodes are best aligned with the intended axial locations, therefore fixing the problem of the last heated node not having power. Further investigation identified that the option to set the axial power to zero was made by determining whether the TOP of a node is above 'zend' rather than the BOTTOM of a node. This would cause any input file that does not match up the end of the heated length with a node boundary would prematurely zero-out a node's axial power factor.	1	mod_347

(1)   ----   indicates the reported problem is not a code error
        ****   indicates the reported problem has not been resolved
        num   indicates modification number for correction

Part 21 Status Codes
1   "not a safety issue"
2   "potentially a substantial safety issue"
3   "indeterminate; must be evaluated by licensee"