November 1, 2024

Javelin Energy Partners
5221 N. O'Connor Blvd
Suite 1100
Irving, TX 75039

Dear Mr. Shepherd and Mr. Schuyler:

As the third-party reviewer for the Verification of Design Analysis Work Plan as required under Paragraph 24 of the Consent Decree, Case No. 2:22-cv-00225-DBB, lodged March 29, 2022, between the United States of America, the State of Utah and Javelin Energy Partners (Javelin), KLJ Engineering submitted a final report detailing observations and conclusions on September 10, 2024.

Per the findings published in the final report, KLJ is pleased to certify that the requirements of Paragraph 24.c(1) through (3) as detailed in the Scope of Work were completed in accordance with the applicable provisions of the Consent Decree. This certification covers the items below:

- Site-specific inputs and assumptions were correctly identified in the Open Loop Vapor Control System Engineering Evaluation as informed by the Modeling Guideline and Engineering Design Standards.
- The PPIVFR, Vapor Control System capacity, and Peak Modeled Pressure were determined by methods consistent with the Modeling Guideline and Engineering Standards for each of the 246 tank systems.
- Each Open Loop Vapor Control System is adequately designed and sized in accordance with the Open Loop Vapor Control System Engineering Evaluations.

Certification from of the requirements of Paragraph 24.d were not required because no physical modifications were needed on any VCS System and were not subject to this analysis.

KLJ understands that quality in design and engineering, responsiveness, and exceptional communication are critical to you and Javelin. Thank you for considering us as your engineering services team, and we look forward to additional opportunities to work with you in the future.

Sincerely,

Greg Kishiyama

Greg Kishiyama
Sr. Process Engineer
KLJ Engineering

ENGINEERING, REIMAGINED

FINAL REPORT FOR

Javelin Energy Partners

Verification of Design Analysis Work Plan

September 10, 2024 Rev 0

400 Inverness Parkway
Suite 150
Englewood, CO 80112

September 10, 2024

Javelin Energy Partners
5221 N. O'Connor Blvd
Suite 1100
Irving, TX 75039

RE: Verification of Design Analysis Work Plan, Rev 0

Dear Mr. Shepherd and Mr. Schuyler:

KLJ Engineering is please to present our findings to Javelin Energy Partners for the verification services of the Verification of Design Analysis Work Plan. This study was conducted in order to meet the requirements for design analysis verification as required under Paragraph 24 of the Consent Decree, Case No. 2:22-cv-00225-DBB, lodged March 29, 2022, between the United States of America, the State of Utah and Javelin Energy Partners (Javelin).

KLJ understands that quality in design and engineering, responsiveness, and exceptional communication are critical to you and Javelin. Thank you for considering us as your engineering services team, and we look forward to additional opportunities to work with you in the future.

Sincerely,

Ray Bliesmer

Ray Bliesmer

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Project Objective

KLJ Engineering was selected to fulfill the role of a third-party observer to review the contents of the Verification of Design Analysis Work Plan, dated May 14, 2024. The work plan was developed to meet the requirements for design analysis verification as required under Paragraph 24 of the Consent Decree, Case No. 2:22-cv-00225-DBB, lodged March 29, 2022, between the United States of America, the State of Utah and Javelin Energy Partners (Javelin). The verification and review work plan applies to the approved Modelling Guideline and Engineering Design Standards (12/18/23 r0) document, the 246 Tank Systems and 284 Wells addressed in the Consent Decree.

Scope of Work

As the selected third-party reviewer, KLJ Engineering conducted a review to verify the items below and shall submit a written report detailing observations and conclusions reached pursuant to Paragraph 24.c(1) through (3), and 24.d of the Consent Decree.

1. Site-specific inputs were correctly identified and input into the Open Loop Vapor Control System (VCS) Engineering Evaluation as identified in the Modeling Guideline and Engineering Design Standards, Attachment E, VCS Modeling and Design Basis:
    - Number of wells connected to the Tank System
    - Well operation type: gas lift (30% surge factor) or other (25% surge factor)
    - Oil Treater minimum temperature and maximum pressure
    - Minimum inlet pressure to the control device (VRU or Combustor)
    - Open Loop Vapor Control System piping set-up and configuration
    - Vapor sources
    - Oil Treater oil Stock Tank flash gas
    - Oil Treater water dissolved gas
    - Low volume recycled liquids from Gas lift compression (where applicable) and VCS system liquid knockouts
2. For each of the 246 Tanks Systems, confirm the following were determined by methods consistent with the Modeling Guideline and Engineering Design Standards:
    - the Potential Peak Instantaneous Vapor Flow Rate (PPIVFR)
    - the Vapor Control System capacity
    - the Peak Modeled Pressure
    - each Open Loop Vapor Control System is adequately designed and sized in accordance with the Open Loop Vapor Control System Engineering Evaluations
    - demonstrate that the PPIVFR does not exceed the Vapor Control System capacity
    - the Peak Modeled Pressure does not exceed the Maximum Design Pressure of the Open Loop Vapor Control System
3. Confirm that all defined inputs are properly input throughout the Process Simulation Model and Engineering Design Calculations for each Tank System.

Prior to the evaluation, Javelin Energy Partners has ensured that adequate resources have been available for each of the 246 Tanks Systems. The important resources were identified as critical files and relevant data that include the following:

i. Attachment E, VCS Modeling and Design Basis presented in Modeling Guideline and Engineering Design Standards
ii. VCS Master Input File
iii. VCS Surveys
iv. Process Simulation Models (PSM)
v. Engineering Design Standard (EDS) Reports
vi. Capacity Results Summary Input File
vii. Uinta Basin Recombined Well Stream Compositions
viii. Piping Equivalent Length Summary File

During the course of the evaluation, Javelin has been available to KLJ Engineering to answer questions or supply any requested information.

As the third-party reviewer, KLJ Engineering shall submit a written report detailing observations and conclusions reached pursuant to Paragraph 24.c(1) through (3) of the Consent Decree.

a. The Verification of Design Analysis Report shall include:

i. a certification from the Reviewer that the requirements of Paragraph 24.c(1) through (3) were completed in accordance with the applicable provisions of the Consent Decree;

ii. a certification from Javelin or the Reviewer (as applicable) that the requirements of Paragraph 24.d were completed in accordance with the applicable provisions of this Consent Decree.

Paragraph 24.c (1) through (3) of the Consent Decree states:

24. Vapor Control System Verification of Design Analysis. EP Energy's Open Loop Vapor Control Systems Engineering Evaluations and Modifications shall be subject to the following verification:

c. Verification. For all Tank Systems that underwent Open Loop Vapor Control System Engineering Evaluation, the Reviewer shall conduct a review (document and/or field visit, as necessary) to verify:

1. Site-specific inputs and assumptions were correctly identified in the Open Loop Vapor Control System Engineering Evaluation as informed by the Modeling Guideline and Engineering Design Standards (e.g., number of wells connected to the Tank System, well operation type, frequency and duration of dump events, minimum Separator temperature and maximum Separator pressure, minimum inlet pressure to the control device, maximum tank liquid level, Open Loop Vapor Control System piping set-up and configuration, vapor sources, etc.)

2. The PPIVFR, Vapor Control System capacity, and Peak Modeled Pressure were determined by methods consistent with the Modeling Guideline and Engineering Standards; and
3. Each Open Loop Vapor Control System is adequately designed and sized in accordance with the Open Loop Vapor Control System Engineering Evaluations, by demonstrating that the PPIVFR does not exceed the Vapor Control System capacity, or that the Peak Modeled Pressure does not exceed the Maximum Design Pressure of the Open Loop Vapor Control System.

Summary of Findings

During the review of the materials described in the Scope of Work, KLJ Engineering found some differences in the data presented in the three summary files, Attachment E of the VCS Modeling and Design Basis Document, the Master Input File and the Capacity Results file, that were inconsistent with the calculated results reported in the EDC Reports, PSM Reports, VCS Surveys, Equivalent Lengths excel file and the Uinta Basin Recombined Well Stream Composition excel file. Some errors are expected when reviewing over 500 files containing multiple tabs and sheets, each containing hundreds of lines of data. For the majority of the cases, the inconsistencies did not represent errors in the calculations, only the transfer of values into the summary files.

Per the calculations reported in the Capacity Results file, all of the Tank Systems show an excess VCS capacity that satisfies Consent Decree Item 3, above. KLJ Engineering reviewed all calculations into the PPIVFR and data inputs used to calculate them, and found them to be correct.

A summary of the inconsistencies found is provided in Attachment A. For each entry, KLJ Engineering has rendered an opinion on the overall impact to the PPIVFR results and the impact on the Consent Decree, per Paragraph 24.c items (1) through (3). These consisted of higher reported PPIVFR gas flow rates than was necessary, higher reported hydraulic limitations than would be experienced at the well facilities, or small data differences or omissions between files that did not result in any calculation errors.

Conclusions

Per the Verification Design Analysis Work Plan developed by Javelin Energy Partners (Javelin) to address Consent Decree, Case No. 2:22-cv-00225-DBB, lodged March 29, 2022, between the United States of America, the State of Utah and EP Energy, now Javelin Energy Partners (Javelin), KLJ Engineering acted as a third-party reviewer to verify the consistency of data provided in the multiple file sources.

The study included process simulation models, equipment surveys, field data, oil characteristics and performance calculations that were presented in files known as the EDC Reports, PSM Reports, VCS Surveys, the Uinta Basin Recombined Well Stream Compositions and the

Equivalent Lengths file, representing piping lengths used for hydraulics. Subsequently, these results were summarized in files known as Attachment E of the VCS Modeling and Design Basis Document, the Master Input File and the Capacity Results file. As the third-party reviewer, KLJ Engineering's responsibility was to determine if all materials met the requirements as stated in Paragraph 24.c(1) through (3), and 24.d of the Consent Decree.

Other inconsistencies were determined to be minor per the opinion of the third-party reviewer because they did not represent calculation errors, only transfer of data to the summary files.

ATTACHMENT A

Summary List of Findings

The first evaluation was a review of the contents between the Master Input File, EDC Report, PSM Reports, Uinta Basin Recombined Well Stream Composition excel file and the Equivalent Length excel file. The evaluation started with these files because much of the data was centralized in the Master Input File and sourced from the others. These files are most appropriate to Consent Decree items 1 & 2, above.

The second evaluation was a review of the Capacity Results file, which contained the information most appropriate to Consent Decree item 3, above. This file contains inputs from the Master Input File and the EDC Reports to calculate the PPIVFR.

PART 1: For the Master Input File, EDC Report, PSM Reports, Uinta Basin Recombined Well Stream Composition excel file, and Equivalent Length excel file, the following inconsistencies were noted. The affected Consent Decree(s) are listed after the detail.

Inconsistency # 01: Production surge entry in Line 13 for Tank System Oil Production in the Master Input File is shown as 25%. Since these facilities have gas lift operation, production surge should be 30%. This affects calculation in Line 20, Separator Production Flowrate with Surge. The entry for production surge is correctly entered in Line 23 for Tank System Water Production as 30%.
Impact: The increase in surge by 5% to the oil production rate for the impacted wells will increase the reported PPIVFR. The affected Consent Decrees have over 50% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 1, 6, 20

Inconsistency # 02: Maximum VCS Operating pressure reported in the Master File is 10 oz/in^2 and 14 oz/in^2 in Capacity Results file.
Impact: The calculation in the VCS Survey and Capacity Results file correctly show that 14 oz/in^2 was used, and therefore the calculated values involving capacity are correct. The inconsistency is how the data was transferred between files.
Affected Consent Decree: 4

Inconsistency # 03: Inputs for piping lengths and segments that are shown in the EDC Report, Equivalent Length, and Master Input File are not correctly relayed in the VCS Survey. The EDC Report relays the information that is shown in the Equivalent Length.
Impact: The piping segment missing will have a minimal impact on hydraulics. These items were passed on to Javelin early in the evaluation. The affected Consent Decrees have over 40% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 6, 9, 20

Inconsistency # 04: The Separator Oil Control Valve listed in the VCS Survey does not match the control valve that is reported in both the EDC Report and the Master Input File. For pipe

segment length from Control KO to Control (VRU/Combustor), the inputs for number and type of fittings agree between the VCS Survey and Master Input File match each other. The number and type of fittings in EDC Report and Equivalent Length match each other, but are not consistent with the input to the other files.
Impact: The control valve is a throttling type valve and the characteristics show the capacity is not a limiting factor. The piping segment differences appear to have not been entered correctly on tab for Maximum Piping Capacity. However, the hydraulics for that worksheet tab appear to be correct. This appears to be a case where information on a worksheet page was inadvertently omitted. The affected Consent Decree has over 2000% excess capacity above the calculated PPIVFR.
Affected Consent Decree: 22

Inconsistency # 05: For pipe segmentation from Control KO to Control (VRU/Combustor) inputs between the VCS Survey and Master Input File match while those inputs are not accounted for on both the EDC Report and Equivalent Lengths.
Impact: The piping segment missing will have a minimal impact on hydraulics. These items were passed on to Javelin early in the evaluation. The affected Consent Decrees have over 150% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 23-28, 30-36

Inconsistency # 06: The value for the input for 2" pipe is inserted on the wrong line.
Impact: The entry does not ultimately affect the hydraulic calculations. This is a simple data location error.
Affected Consent Decree: 27

Inconsistency # 07: The VCS Surveys for both wells are switched in the report for each individual report.
Impact: None. These are multi-well sites, so the order of the entries does not affect the total sum for any of the calculations.
Affected Consent Decrees: 36,37

Inconsistency # 08: For pipe segmentation from Slop/Overflow Tank to Control KO inputs between Master Input File, EDC Report and Equivalent Length match while the inputs in the VCS are different.
Impact: None. The EDC Report contains the pertinent calculations for the Capacity Results file.
Affected Consent Decrees: 36, 38, 68

Inconsistency # 09: For pipe segmentation from Control KO to Control (VRU/Combustor) inputs between Master Input File, EDC Report and Equivalent Length match while the inputs in the VCS are different.
Impact: None. The EDC Report contains the pertinent calculations for the Capacity Results file.
Affected Consent Decrees: 38, 58-59

Inconsistency # 10: There is a temperature discrepancy for the Slop/Overflow Tank on the PSM Report and the EDC/Master Input File.
Impact: The PSM Report shows a higher temperature than what is in the Master Input File. Since gas density is lower at higher temperatures, the calculated gas velocity in a pipe will be higher, resulting in a higher pressure drop. The higher temperature error is actually favorable in terms of the evaluation as it has resulted in a lower excess capacity determination.
Affected Consent Decree: 50

Inconsistency # 12: The pipe segment input is offset by one cell for the 6" pipe under Stock Tank to Slop/Overflow Tank or Combustor Knockout. As well as there being a discrepancy for the total equivalent piping length on the EDC Report.
Impact: The entry does not ultimately affect the hydraulic calculations. This is a simple data location error.
Affected Consent Decree: 52

Inconsistency # 13: For pipe segmentation from the Slop/Overflow Tank to Control KO inputs on the VCS Survey does not match the Master Input File, EDC Report and Equivalent Length match.
Impact: The piping segment missing will have a minimal impact on hydraulics. These items were passed on to Javelin early in the evaluation. The affected Consent Decrees have over 400% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 58-59

Inconsistency # 14: There are two different entries within the Equivalent Length excel sheet. The combo entry on the Equivalent Length sheet will be the one that is used. The pipe segment inputs on the Master File for the Control KO to Control (VRU/Combustor) does not match the given inputs on the EDC Report, VCS, and Equivalent Length report. The pipe segment inputs on the Master File for the Combined Alpine Ranch 34-33/35-36 VCS to Control KO does not match the given inputs on the EDC Report, VCS, and Equivalent Length report. The pipe segment inputs on the Master File for the Stock Tank to Combined Alpine Ranch 34-33/35-36 VCS does not match the given inputs on the EDC Report, VCS, and Equivalent Length report.
Impact: Since the combo entry will be used, the hydraulic pressure loss will be reflected as a higher number and will have a positive effect on the excess capacity calculation.
Affected Consent Decrees: 53-60

Inconsistency # 15: Master File shows operating pressure of in Row 3 which is not consistent with Oil Treater Max Operating Pressure listed in Attachment E, Col 30.
Impact: The pressure reported is less than 1 psig. This will have a minimal impact on the hydraulic calculations.
Affected Consent Decrees: 64, 179, 195

Inconsistency # 16: The Master Input File line item for PSM Model Description should show the Tank System as Single Well with Gas Lift to be consistent with Attachment E, Col 21.

Impact: Multi-well sites have a larger surge volume allocation. This works in favor of the PPIVFR excess capacity calculation.
Affected Consent Decree: 76

Inconsistency # 17: Master File reported value for Stock Tank Individual Well Oil Flowrate in Row 10 is not consistent with the reported value in Attachment E, Col 18. Numbers appear to be rounded.
Impact: Negligible. Rounding has less than 0.5% impact on the values. This is inconsistent with the remaining sites.
Affected Consent Decrees: 79, 86-88, 100, 105, 111

Inconsistency # 18: The Water and Oil Control Valves from the VCS Survey do not match both the EDC Report and the Master Input File sheet.
Impact: Negligible. The valve type will confirm the maximum amount of liquid that can be transferred to storage tanks from the separator. This addresses item 1 above to ensure the valves had the proper capacity to pass flow.
Affected Consent Decree: 85

Inconsistency # 19: The EDC Report and Equivalent Lengths shows no inputs for the pipe segments under Stock Tank to Slop/Overflow Tank or Slop/Overflow Tank to Control KO while the VCS and Master Input File record inputs.
Impact: The piping segment missing are data errors but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation. The affected Consent Decrees have over 600% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 91-92, 213-214

Inconsistency # 20: The EDC Report and Equivalent Lengths file show no inputs for the pipe segments under Control Knockout to Control (VRU/Combustor) while the VCS and Master Input File record inputs.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation. The affected Consent Decrees have over 50% excess capacity above the calculated PPIVFR.
Affected Consent Decrees: 91-92, 94-100, 102-108, 155-160, 163-167, 170, 213, 214, 216-222, 224-231

Inconsistency # 21: The PSM Report has the incorrect Stock Tank total Oil Flowrate from what is listed in Attachment E.
Impact: The oil flowrate value in the PSM Report is lower than the value in Attachment E. The values in Attachment E are the basis for the PPIVFR calculations so this favors the amount of excess capacity reported.
Affected Consent Decree: 99

Inconsistency # 22: The input for the 2" pipe segment is off by one cell.

Impact: The entry does not ultimately affect the hydraulic calculations. This is a simple data location error.
Affected Consent Decree: 105

Inconsistency # 23: Master File shows PSM flash temperature in Row 4 which is not consistent with Oil Treater Isothermal Flash Temperature listed in Attachment E, Col 32. The number appears to be rounded.
Impact: The round up error is inconsistent with the rest of the entries. This will have a negligible effect on the PPIVFR gas rates reported.
Affected Consent Decree: 113

Inconsistency # 24: The VCS Survey is missing the size of the Combustor.
Impact: None. The PPIVFR excess capacity calculation was used with the smallest combustor size available.
Affected Consent Decree: 116

Inconsistency # 25: The VCS Survey shows there are pipe segments reported under Slop/Overflow Tank to Control KO while the EDC Report, Equivalent Length report, and the Master Input File show no pipe segments recorded. The VSC Survey shows a missing input for the pipe segment under Stock Tank to Slop/Overflow Tank or Combustor KO.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation.
Affected Consent Decree: 122

Inconsistency # 26: On the VCS Survey, the model number on the oil control valve is mislabeled.
Impact: None. The valve capacity was calculated using comparable numbers and there is no issue with the amount of flow it can accommodate.
Affected Consent Decree: 127

Inconsistency # 27: The VSC Survey shows a missing input for the pipe segment under Slop/Overflow Tank to Control KO.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation.
Affected Consent Decree: 135

Inconsistency # 28: The Oil Control valve on the Survey does not match the input given on either the Master Input File or the EDC Report. The Water Control valve on the Survey does not match the input given on either the Master Input File or the EDC Report.
Impact: None. The valve capacities were calculated using comparable numbers and there is no issue with the amount of flow it can accommodate.
Affected Consent Decree: 140

Inconsistency # 29: The equivalent piping lengths were not properly multiplied together under Slop/Overflow Tank to Control KO. This is also repeated under the section for Control KO to Control (VRU/Combustor) and Stock Tank to Slop/Overflow Tank or Combustor Outlet.
Impact: The piping segment should be corrected in future hydraulics calculations. These items were passed on to Javelin early in the evaluation. The change will most likely have a minor affect as both systems show over 800% excess capacity.
Affected Consent Decrees: 152-153

Inconsistency # 30: The Model Number and Capacity for the combustor within the VCS Survey does match what is inputted in the EDC Report and Master Input File.
Impact: The combustor listed in the VCS Survey has a capacity of 2.1 MMBtu/hr vs. the 5.9 MMBtu/hr used in the Capacity Results evaluation, which would be 35.6% lower capacity. This would switch the governing case to the combustor instead of the system hydraulics. However, the PPIVFR gas flow is sufficiently low that the excess capacity still is available. However, the excess capacity drops from around 860% down to approximately 75%.
Affected Consent Decree: 154

Inconsistency # 31: The EDC Report and Equivalent Lengths file show no inputs for the pipe segments under Control Knockout to Control (VRU/Combustor) while the VCS and Master Input File record inputs.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation.
Affected Consent Decrees: 168-169

Inconsistency # 32: Separator Oil Control Valve in Line 48 has an entry of "2407.92571538773" for the type valve. It is assumed that this entry should be "Throttle".
Impact: None. This is an input error but does not affect the hydraulic calculations.
Affected Consent Decree: 170

Inconsistency # 33: The VCS Survey, Equivalent Length, and Master Input File all show inputs for an 8" pipe segments under Slop/Overflow Tank to Control KO, while the EDC Report does not show anything.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation.
Affected Consent Decree: 174

Inconsistency # 34: The Operating Pressure and Oil Vapor Pressure is inconsistent between the value reported in Attachment E and the values shown in the Master Input File, EDC Report, and the PSM Report.
Impact: These are rounding errors and most likely due to hand inputs.
Affected Consent Decree: 179

Inconsistency # 35: The PSM Oil Shrinkage (Stock Tank/Separator) number matches on the EDC Report and Master Input File but does not match on the PSM Report.
Impact: The oil flowrate value in the PSM Report is slightly lower than the values in the EDC Report and the Master Input File. The difference in values in is less than 2% and will have minimal impact on the amount of excess capacity reported.
Affected Consent Decree: 185

Inconsistency # 36: The VCS Survey records inputs under the 6" segments in the Slop/Overflow Tank to Control KO while it is recorded under the 4" segments in the Master Input File, Equivalent Lengths, and EDC Report. The VCS Survey records inputs under the 6" segments in the Stock Tank to Slop/Overflow Tank or Combustor KO while it is recorded under the 4" segments in the Master Input File, Equivalent Lengths, and EDC Report.
Impact: The piping segment missing are data errors but have been but have been verified as being included in the hydraulics calculations. These items were passed on to Javelin early in the evaluation.
Affected Consent Decree: 195

Inconsistency # 37: The PSM Separator Oil Flowrate on the Master file does not match the value on the PSM Report. It looks as though the value was not calculated correctly.
Impact: The oil flowrate value in the PSM Report is slightly lower than the values in the EDC Report and the Master Input File. The difference in values in is less than 2% and will have minimal impact on the amount of excess capacity reported.
Affected Consent Decrees: 196, 236

Inconsistency # 38: The Flame Arrestor is mislabeled on the VCS Survey.
Impact: None.
Affected Consent Decree: 204

Inconsistency # 39: The calculation for PSM Total Separator Oil Flowrate was not calculated correctly according to Attachment F on the PSM Report and the Master Input File.
Impact: The values in the PSM Report originate from the Stock Tank Oil entry rather than the Treater Oil entry as with the other PSM Reports. This is a consistency problem as the difference is less than 2%.
Affected Consent Decrees: 222, 228

Inconsistency # 40: The Oil Control valve on the Survey does not match the input given on either the Master Input File or the EDC Report.
Impact: None. The valve capacities were calculated using comparable numbers and there is no issue with the amount of flow it can accommodate.
Affected Consent Decrees: 168-169, 187, 212, 230, 235, 239-242, 246

Inconsistency # 41: The Water Control valve on the Survey does not match the input given on either the Master Input File or the EDC Report.

Impact: None. The valve capacities were calculated using comparable numbers and there is no issue with the amount of flow it can accommodate.
Affected Consent Decrees: 168-169, 187, 212, 230, 235, 239, 241, 242, 246

Inconsistency # 42: The Combustor Model Number and Capacity do not match across the EDC Report, Master Input File, and VCS Survey.
Impact: None. The PPIVFR excess capacity calculation was used with the smallest combustor size available.
Affected Consent Decree: 233

Inconsistency # 43: The Flame Arrestor matches on the EDC Report and Master Input File but they both don't match the VCS Survey.
Impact: None.
Affected Consent Decrees: 235, 239

The inconsistencies listed below specifically refer to the data found in the PSM Reports.

Inconsistency # 44: Within the PSM Report Line 27 for the PSM Gas Outlet Flash Gas-Oil Ratio calls upon a Std Ideal Liq Vol Flow instead of the Liq Vol Flow @ Std Cond for the Stock Tank Individual Well Oil Flowrate, which is inconsistent with the other PSM Reports.
Impact: Minor. The difference between Std Ideal Liq Vol Flow and Liq Vol Flow @ Std Cond is a simulation output report basis. This is a consistency problem as the difference is less than 0.5% in most cases.
Affected Consent Decrees: 16, 23, 33, 34, 41, 50, 55, 62, 83-85, 100, 105, 108, 114, 115, 118, 137-140, 148, 168-170, 175, 182, 184, 187, 194, 206, 207, 212, 219, 234, 235, 239-246

Inconsistency # 45: Composition on PSM Out tab is for C53-C80, but well stream composition is for C55-C80. Verify correct EOS was used in PSM.
Impact: Minor. It is assumed that the incorrect template was used for the data transfer. A short review of the simulation models will reveal which stream compositions and EOS were used.
Affected Consent Decree: 33

Inconsistency # 46: Components list is in the PSM output twice – with both endpoints represented. The secondary entry on the PSM output tab is correct, but the first, which is incorrect is listed on the tab. Verify correct EOS was used in PSM.
Impact: Minor. It is assumed that the incorrect template was used for the data transfer. A short review of the simulation models will reveal which stream compositions and EOS were used.
Affected Consent Decree: 55

Inconsistency # 47: Endpoint shown on PSM Out tab is C55-C80, but well stream composition is for C53-C80. Verify proper EOS was used in PSM.
Impact: Minor. It is assumed that the incorrect template was used for the data transfer. A short review of the simulation models will reveal which stream compositions and EOS were used.

Affected Consent Decrees: 66, 68, 70, 72, 75, 103-105, 111, 118, 137, 170, 181, 213, 235, 239, 241-242, 244

Inconsistency # 48: Does not have a line input for Std Ideal Liq Vol Flow from the process simulation.
Impact: None. Omitted simulation output data which does not impact PPIVFR calculations.
Affected Consent Decree: 67

Inconsistency # 49: Lines 27-43 do not reference any cells to check with in the PSM Summary.
Impact: Minor. Formulas in the cells appear to have been converted to values. PSM Report should be verified that this is the case.
Affected Consent Decree: 102

Inconsistency # 50: For line 11 for the PSM Total Separator Oil Flowrate refences the wrong cell and column, it should be column E.
Impact: Minimal. The temperature that is referenced in the cell is 1.58 deg F different than the proper cell reference. This is a consistency error with the other files.
Affected Consent Decree: 109

Inconsistency # 51: The Master File references Std Ideal Liq Vol Flow instead of Liq Vol Flow @ Std Cond.
Impact: None. This is inconsistent with the other entries in the Master File.
Affected Consent Decree: 112

Inconsistency # 52: Unable to verify precedent reference cells in relation to the PSM Gas Outlet Flash Gas-Oil Ratio (FGOR) on Line 27.
Impact: Minor. Formulas in the cells appear to have been converted to values. PSM Report should be verified that this is the case.
Affected Consent Decrees: 144, 166, 172, 173, 178

Inconsistency # 53: Line 11 input for PSM Total Separator Oil Flowrate references the incorrect cell, it should be from column E.
Impact: Minimal. The temperature that is referenced in the cell ranges from 2-3 deg F different than the proper cell reference. This is a consistency error with the other files.
Affected Consent Decrees: 196, 222, 225, 228, 236

Inconsistency # 54: Input values for the vapor control system are all shifted down on cell from where they should be.
Impact: Minor. This is a presentation error where cells do not align with the descriptors.
Affected Consent Decree: 197

PART 2: The inconsistencies listed below specifically refer to the data found in the Capacity Results file.

Inconsistency # 55: PPIVFR Gas reported in the Capacity Results spreadsheet references the gas flow from the Stock Tank to Overflow tank instead of the Control KO to Control Unit (VRU/Combustor).
Impact: None. The PPIVFR gas flow rates reported are higher values that represent flow into equipment upstream of the control unit, so these are the worst case flows. Some liquid drop-out is expected and accounts for the lower flowrates.
Affected Consent Decrees: All

Inconsistency # 56: The Oil Rate reported in the VCS Hydraulics at PPIVFR (Includes Surge) category in the Capacity Results file is not consistent with the values for Separator Production Flowrate with Surge, reported in Row 20 of the Master Input File, which includes Surge and Shrinkage.
Impact: The reported values in the Capacity Results file are 1-2 bpd lower than those in the Master Input File. This represents less than 1% of the flow contribution to the PPIVFR calculation and will not impact the expected excess capacity calculation results.
Affected Consent Decrees: 1, 3, 4, 6, 7, 9, 20, 36-40, 44, 52-53, 57-61, 101, 121, 195, 226:

Inconsistency # 57: The Tank system pressure does not reference the correct cell or value.
Impact: The reported value appears to be an input error in the Capacity Results file. The value is actually higher than the value in the Master File or the EDS files. This value should be 10 oz/in^2 and will not impact the PPIVFR results as the correct value was used for the hydraulic calculations
Affected Consent Decree: 30

Inconsistency # 58: The Combustor Maximum Capacity is double what is referenced in the EDC Report. Duty of the combustor at 5 oz/in^2 is 4 times above the listed value in the EDC Report. Duty of the combustor at 3 oz/in^2 is 4 times above the listed value in the EDC Report.
Impact: The reported values only appear to be for the combustor control evaluation at the 3 oz/in^2 & 5 oz/in^2 reporting columns, not the overall combustor evaluation as it pertains to determining the governing case of Max Controls vs Max Hydraulics. This appears to be due to an input error in the EDC Reports and not the evaluation.
Affected Consent Decrees: 39-40

Inconsistency # 59: The Value (Tank system pressure) differs from that of the Consent Decree 53 where the devices are shared.
Impact: The configuration for the Vapor Control System should be verified. A separate EDC Report should be created for each system if it is found that the piping configurations are different as this entry implies.
Affected Consent Decree: 60

Inconsistency # 60: The duty for 3 oz/in2 tank pressure references the wrong cell.
Impact: The reported values only appear to be for the combustor control evaluation at the 3 oz/in^2 reporting column, not the overall combustor evaluation as it pertains to determining the governing case of Max Controls vs Max Hydraulics.

Affected Consent Decree: 76

Inconsistency # 61: The value for Maximum Hydraulic Gas Capacity in the Maximum VCS Hydraulic Capacity category in the Capacity results file references the Control Maximum Capacity worksheet instead of Maximum Piping Capacity worksheet. The value for Gas Flowrate in the Maximum Controls Capacity and Tank Pressure category is not consistent with the EDC Spreadsheet value.
Impact: The input error makes it unclear if Hydraulics or Controls is the governing case. The EDC Report should be corrected. The PPIVFR gas rate is sufficiently low that comparable sites have considerable excess capacity.
Affected Consent Decree: 141

Inconsistency # 62: Tank System Pressure appears to be incorrect and not consistent with the values in the EDC Report.
Impact: The pressures in the EDC Report should be verified with the original outputs to ensure the hydraulic calculations were performed accurately. The excess capacity evaluation showed high values, so the impact is most likely to be minimal.
Affected Consent Decrees: 141, 231

Inconsistency # 63: Combustor Capacity is incorrectly listed as 2.7 MMBtu/hr in the Capacity Results file. The EDC Report lists this at 5.9 MMBtu/hr. Gas flows and Combustor Duties at 5 oz/in^2 and 3 oz/in^2 are not consistent with the EDC Report. Water Rate in column H is not consistent with the values in Row 25 of the Master Input File, which includes Surge.
Impact: The reported values only appear to be for the combustor control evaluation at the 3 & 5 oz/in^2 reporting columns, not the overall combustor evaluation as it pertains to determining the governing case of Max Controls vs Max Hydraulics. The reported water rate is 25% lower than reported in the Master Input File. Because the water tanks have a much lower flash gas/liquid ratio than oil does, the amount of flash gas represents less than 5% of the total flash gas. Since the calculated excess capacity is over 2000%, the impact should be minimal.
Affected Consent Decree: 226

Inconsistency # 64: The Maximum Piping Capacity worksheet and Control Maximum Capacity worksheet appear to be identical. The gas flowrate value in the Maximum Controls Gas Capacity and Tank Pressure category in the Capacity Results spreadsheet does not match the EDS Spreadsheet value.
Impact: The Maximum Piping Capacity should be recreated to ensure the evaluation can be done properly.
Affected Consent Decree: 231

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