BURSICH ASSOCIATES

Clemens Food Group (CFG) TDS Chronology of Key Events

Date	Summary of Key Event
October 9, 2017	CFG entered into a Consent Agreement with TMA for the reduction of TDS in their process wastewater discharging to the TMA WWTP, which mandates compliance with the currently permitted TDS daily maximum limit of 3,950 mg/L by September 2022.
October 24, 2018	Pretreatment Pre-Design Meeting held at TMA WWTP. Representatives from Bursich, Gilmore, LD Dorsa, Redox, CFG, and TMA are present.
October 24, 2018	*Highlights from 10/24/18 Pretreatment Pre-Design Meeting held at TMA WWTP:* -CFG's "Project Smoke" will construct a new facility for their Smoked Meats process; 2020-2025 timeframe; estimated operational by Summer 2020. Plans to backfill vacancies at existing facility. -Brine chiller process is the primary source of TDS at CFG. Bacon, Hotdogs & Sausage production will remain at the existing facility; these processes contribute very little TDS to the wastewater. Pollution load will be effectively the same between the existing & proposed facilities; hydraulic load will increase incrementally. -CFG has two (2) separate discharges, both of which are metered – Pretreated Process Wastewater & Sanitary Wastewater. Reported CFG Flow to TMA is the total of both Process and Sanitary Wastewater. -Water recycle/reuse at the plant is currently limited due to issues with USDA compliance in reclaimed water use (Cl residual); reused water is brine-heavy. Recycled flow is metered and measured daily. Currently limited water reuse at the existing facility is a major reason for flow NOVs. Reuse is expected to improve with future operational changes. -Total Requested Additional Capacity is 350,000 GPD relative to current Permitted Daily Average/Month Flow of 680,800 GPD; Total Requested Capacity is 1,030,800 GPD. -Plan is to increase flow by approx.100,000 GPD initially with construction of new facility, and by an additional approx. 250,000 GPD over remaining 5 years. -Using 1,200 GPM/1.728 MGD as the flow basis, Gilmore capacity analysis reports that the limiting segment of the SCI is between MH 509 & MH 505. -Considering CFG's additional capacity request of 350,000 GPD, future connections from Hatfield Twp, Accupac, Lower Salford Twp, Land Development, etc. (using a Peaking Factor of 3.5 & flow at 300 gpd/EDU), the SCI at its limiting segment will be at 93% capacity, with 7% capacity remaining (approx. 35,000 GPD). -1,300 GPM Avg. & 1,600 GPM Max. may be used for design purposes. -Primary source of TDS at CFG is from brine used to cool meat product. -With construction of the new facility (2020), most brine chillers will no longer be used. Transition to air-chilling will provide benefits by reducing TDS & improve food safety. Confirmed 12,000 to 14,000 lbs/day reduction in TDS; likely will address issue of concentrated TDS in TMA wastewater, as well as CFG meeting SIU permit criteria (3,950 mg/L TDS).

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October 26, 2018	*Thomas Figaniak, PE of Gilmore expresses concerns to Bill Fink of CFG regarding expected average/maximum discharge rates associated with Project Smoke, and requests confirmation for Planning Module Component 3:* -If total proposed flows are 1,300 GPM/1.872 MGD avg. daily, and 1,600 GPM/2.304 MGD max., the SCI would be expected to surcharge and would require significant upgrades. -CFG confirms that Project Smoke's total avg. daily flow is 1,030,800 GPD; Existing CFG Capacity of 680,800 GPD + Additional Requested 350,000 GPD.
February 27, 2019	Pretreatment Pre-Design Meeting held at TMA WWTP. Representatives from Bursich, CFG, and TMA are present.
February 27, 2019	*Highlights from 2/27/19 Pretreatment Pre-Design Meeting held at TMA WWTP:* -Purpose of meeting is to have discussions prior to preliminary and final design for the CFG processes to be constructed or modified for Project Smoke (that will generate waste discharged to CFG's Pretreatment Facilities and TMA's WWTP). - Hydraulic capacity at the WWTP is not an issue of concern at this time; principal concerns of TMA with respect to the proposed changes to CFG's discharges are Phosphorus and TDS, with TDS posing potentially greater concerns. -TMA does not have a direct TDS discharge parameter, yet rather an Osmotic Pressure discharge parameter which correlates fairly well with TDS concentration (as determined with a TDS study conducted in 2015/2016). -Since TDS source control and dilution capability are expected to be the principal means of managing TDS/Osmotic Pressure discharge requirements at the TMA WWTP, TMA believes that discussions early in the design process of CFG's plant improvements may be of significant value both now, and for addressing potential future conditions that might affect both of us in the future. *Agenda items for discussion (Agenda issued February 19, 2019) include:* -CFG Expected Wastewater Discharge Flow values for: Daily Average Flow; Peak 5-Day Average Flow; Seasonal Variations in Flow, Maximum 3-Month Average Flow; Operating Month(s) of Highest Flow. -Information regarding expected CFG TDS Concentrations in pretreated wastewater discharged to TMA WWTP: List sources of TDS from the operations; List anticipated treatment or means of TDS reduction for each TDS source within the process and operations; Expected TDS concentration range for average, maximum, and seasonal variations for each source of TDS; Match concentration with expected wastewater discharge flow. -CFG to provide anticipated profile of "periods of time" and extent of "peak wastewater discharge" (based on past operational experience of CFG, and planned improvements) so that TMA can evaluate operational impacts on their treatment operations. -For background, the following items have potential to impact TDS Loading to TMA WWTP, and its discharge: CFG's Operating Peaking Factor; Additional flow from Franconia Township – 100,000 GPD; A revision to Upper Gwynedd Township's Act 537 Sewage Facilities Plan, approved by PADEP last year, is expected to result in an 85-percent reduction in wastewater flow to the Kriebel Road Interceptor (approx. 940,000 GPD) from Upper Gwynedd Township to the TMA WWTP. The timetable indicates that this is planned within the next 2 to 3 years (2021 to 2022); Potential for less dilution water available overall, due to a reduction in I&I from the KRI Upgrade, tributary municipalities' I&I abatement programs, etc.

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February 27, 2019	*Highlights from 2/27/19 Pretreatment Pre-Design Meeting held at TMA WWTP (Cont'd.):* -Discussed the need for a TDS Mass Balance during design of "Project Smoke". -TMA WWTP will lose an expected 800,000 - 900,000 GPD in wastewater from Upper Gwynedd Township (UGT) once UGT diverts flow (estimated 2021-2022) from the KRI. This diversion will reduce the TDS dilution buffering capacity. -Franconia Township will likely add a new discharge of 100,000 GPD which will mitigate some of the TDS dilution buffering capacity lost when UGT diverts flow. -CFG's existing average annual TDS Loading is approx. 31,000 lbs/day. -CFG does not anticipate peak discharges exceeding much more than 1,200 GPM/1.728 MGD. -Primary industrial sources of TDS account for approx. 25,000 lbs/day (81%) of loading: Brine Chiller; Hotdog Production; Smoked Meat Injectors; Drip Loss; and Fresh Pork Injectors. -Background sources of TDS account for approx. 6,000 lbs/day (19%) of loading; **Background TDS concentrations are approx. 1,100 mg/L.** -Removal of Brine Chillers and installation of Air Chillers will reduce total TDS loading to approx. 20,000 lbs/day: **Estimated TDS concentration is 2,300 mg/L;** Discharge volume will increase, but TDS concentrations will decrease, which CFG calculates will reduce the TDS Mass Load drastically. -Local Limits permitting is reevaluated and recalculated periodically as required by USEPA based on average flows and loadings to the TMA WWTP, which presents a "moving target" for CFG's future TDS local limit. Preliminary evaluations, based upon preliminary data, forecast that CFG's TDS local limit may be reduced to approx. 2,800 - 3,000 mg/L (current local limit is 3,950 mg/L), based on its increase in flow of 350,000 GPD.
February 28, 2019	*Bursich prepares a 'TMA WWTP Effluent TDS Loading Analysis' (using TMA WWTP and CFG data from January 1, 2017 to September 30, 2018) based upon CFG achieving their estimated reduction in TDS concentration to 2,300 mg/L:* -Alternative 2 (Includes add'l. 350,000 GPD from CFG): **Avg. Flow Scenario.** With CFG discharging TDS @ 2,300 mg/L and avg. flow conditions; CFG discharge is modeled to be at approx. 32% of total TMA WWTP Avg. Effluent TDS Load. **Peak Flow Scenario.** With CFG discharging TDS @ 2,300 mg/L and expected peak flow conditions (1,200 gpm); CFG discharge is modeled to be at approx. 51% of total TMA WWTP Avg. Effluent TDS Load. -Alternative 4 (Includes add'l. 350,000 GPD from CFG and 80% reduction in UGT flow): **Avg. Flow Scenario.** With CFG discharging TDS @ 2,300 mg/L and avg. flow conditions; CFG discharge is modeled to be at approx. 40% of total TMA WWTP Avg. Effluent TDS Load. **Peak Flow Scenario.** With CFG discharging TDS @ 2,300 mg/L and expected peak flow conditions (1,200 gpm); CFG discharge is modeled to be at approx. 58% of total TMA WWTP Avg. Effluent TDS Load.
August 20, 2019	CFG receives Act 537 Sewage Facilities Planning approval from PADEP for construction of a new smokehouse building – "Hatfield North." Project to be connected to Towamencin Township conveyance system, and will generate an additional 350,000 GPD of sewage to be treated at TMA WWTP; proposed flows include 50,000 GPD domestic/non-process sanitary flows, and 300,000 GPD process wastewater.
January 29, 2020	Consent Agreement Meeting held at TMA WWTP. Representatives from Bursich, CFG, and TMA are present.

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January 29, 2020	*Highlights from 1/29/20 Consent Agreement Meeting held at TMA WWTP:* -Purpose of meeting is to discuss CFG's progress under its current Consent Agreement to achieve reduction of TDS in its process wastewater discharging to the TMA WWTP, which should include an update on CFG's Project Smoke. -Development of a TDS mass balance for CFG's current and expected discharge is critical to understanding how Project Smoke is likely to affect the levels of TDS discharged from the TMA WWTP. -In its most recent Local Limits revision analysis (conducted in May 2016), TMA used the USEPA Region 3 Local Limits spreadsheet to determine its calculated allowable industrial loading for TDS at the TMA WWTP headworks, based upon its NPDES permit Osmotic Pressure discharge parameter limit. -The resulting calculated allowable industrial loading for TDS at the TMA WWTP headworks (approx. 32,350 lbs/day) corresponded to a uniformly allocated TDS concentration (Local Limit) for all industrial users of 3,950 mg/L, which was based upon the total industrial user flow treated at the TMA WWTP. TMA's calculated maximum allowable headworks loading for TDS, including both domestic and industrial users, is approx. 60,220 lbs/day, per the May 2016 Local Limits revision analysis. **Analyses of CFG's waste loading indicate that CFG currently discharges approx. 90% of the total allowable industrial TDS load, and approx. 50% percent of the total maximum allowable headworks TDS load to the TMA WWTP, based upon average flow & TDS concentrations.** -TMA's draft NPDES permit was published by PADEP in the Pennsylvania Bulletin on January 4, 2020, and requires TMA to submit a re-evaluation of the Local Limits (based on a WWTP headworks analysis) to the USEPA within 1 year of permit issuance. -CFG's 2018 and 2019 average TDS concentration was 4,890 mg/L; which on average, exceeded its currently permitted discharge limit (3,950 mg/L) by 23.8%. -Under TMA's NPDES permit, Osmotic Pressure is used to measure the potential impact of TDS in the effluent on the receiving waters, and a correlation has been established for a comparable value of TDS, which is 1,785 mg/L. -TMA is required to "monitor and report" TDS to the Delware River Basin Commission (DRBC) annually under DRBC's Docket No. 2002-029 CP3. TMA's 2019 Annual Effluent Monitoring Report (AEMR), which was submitted to DRBC in January 2020, shows that TMA exceeded its TDS-equivalent Osmotic Pressure NPDES discharge limit of 1,785 mg/L for 4 months of the past 12 months. TMA also had one excursion for Osmotic Pressure in October 2019, which is a violation of their existing NPDES permit. *Agenda items for discussion (Agenda issued January 23, 2020) include:* -How does CFG plan to manage both its TDS concentration, as well as its TDS quantity (mass) to assure that TMA does not violate the Osmotic Pressure discharge limit specified in its NPDES permit, for the following considered conditions: Present discharge conditions; Projected discharge conditions (once Project Smoke is operational), and; Anticipated discharge conditions (once Project Smoke is operational), incorporating an 80-percent reduction in the existing flow contribution to the TMA WWTP from Upper Gwynedd Township (approx. 800,000 GPD). -A TDS mass balance analysis/profile for each of CFG's current and expected permitted flow conditions, for both TDS quantity (mass) and concentration.

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	-Potential need for CFG to submit an updated Industrial Wastewater Discharge Permit Application, reflective of the operational changes and increased flows associated with PADEP's sewage planning approval provided for Project Smoke. *Highlights from 1/29/20 Consent Agreement Meeting held at TMA WWTP (Cont'd.):* -Bill Fink introduced his associates from CFG, Jordan Detweiler as the person taking over his responsibilities at the Hatfield plant, and Jim Lee, Associate General Counsel, whom he advised was there to observe and not in an official capacity. -TMA's NPDES Permit Osmotic Pressure discharge limit is 52 mOS/kg. A correlation has been established for a comparable value of TDS, which is 1,785 mg/L. -TMA exceeded its NPDES permit Osmotic Pressure discharge limit (52 mOS/kg) during the 4th quarter of 2019, which was published in TMA's required monthly Discharge Monitoring Reports (DMRs) to PADEP. -CFG's "Project Smoke" and "Hatfield North" are synonymous. -TMA is requesting some detailed process information related to TDS to assist in their preparation of the EDU agreement (per email of January 30, 2020), and that a high level of detail be included in CFG's next Bi-annual Report (February 2020), due to TMA by March 10, 2020. Requested details include: -Engineering drawing/process block flow diagram, clearly depicting operations, and current average TDS concentrations and/or TDS mass into, through, and out of CFG's existing Hatfield facility. -Engineering drawing/process block flow diagram, clearly depicting operations, and expected average TDS concentrations and/or TDS mass into, through, and out of CFG's existing Hatfield facility, once TDS source reduction process overhauls and related process improvements are complete. -Engineering drawing/process block flow diagram, clearly depicting operations, and projected average TDS concentrations and/or TDS mass into, through, and out of CFG's Hatfield North facility, once constructed and operational. -Summary of net TDS mass projected to be removed, once TDS source reduction process overhauls and related process improvements are complete at CFG's existing Hatfield facility, and once CFG's Hatfield North facility is constructed and operational. -Financial summary detailing capital allocations and/or expenditures for TDS source reduction process overhauls and related process improvements at both CFG's existing Hatfield facility, and CFG's Hatfield North facility. -A TDS mass balance analysis/profile for each of CFG's current and expected permitted flow conditions, for both TDS quantity (mass) and concentration. -TDS discharges to TMA are governed through Local Limits permits authorized by USEPA and enacted by Towamencin Township's Pretreatment Ordinance. -The calculated allowable industrial TDS headworks loading is a dynamic number, which is influenced by changes in the parameters of wastewater flow and user TDS contributions to the TMA WWTP, from both domestic and industrial constituents. -The calculated allowable industrial TDS headworks loading is expected to decrease with the added CFG Project Smoke flows, adjustments to other Industrial User flows, and reduced flows resulting from the UGTwp flow diversion, by approximately 10%. -Preliminary evaluations, (prior to receiving any of the information requested at this meeting) utilizing CFG's previously estimated/projected future target TDS concentration of 2,300

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	mg/L, indicate a potential concern for TDS mass loading to the TMA WWTP, particularly during CFG peak flow periods, as evidenced by the following: *Highlights from 1/29/20 Consent Agreement Meeting held at TMA WWTP (Cont'd.):* -With CFG's increased average permitted flow of 1,030,800 GPD, and existing UGTwp flow contributions to the TMA WWTP remaining, modeling results indicate CFG will utilize 100% of the estimated total allowable industrial TDS load at a peak flow of approximately 1,300 GPM (i.e., between 1,200 GPM & 1,400 GPM). -With CFG's increased average permitted flow of 1,030,800 GPD, and a reduction in UGTwp flow contributions to the TMA WWTP of approximately 800,000 GPD, modeling results indicate CFG will utilize 100% of the estimated total allowable industrial TDS load at a peak flow of approximately 1,100 GPM (i.e., between 1,000 GPM [CFG's expected permitted peak flow] & 1,200 GPM). -TMA is proposing changes to Towamencin Township's Pretreatment Ordinance, in part to clarify the present method for mass-based control of TDS from industrial sources. -The allowable total TDS mass allocated to CFG (based upon average flow & TDS concentrations) must be a reasonable fraction of the calculated allowable industrial TDS headworks loading, in part to accommodate excess TDS mass discharged from CFG at higher instantaneous peak flow rates, and to ensure the equitable allocation of TDS mass to all existing and potential future Industrial Users. -TMA is proposing a fixed/capped TDS mass (specific to each Industrial User), and corresponding mass-based concentration limits, in its pending Local Limits revision analysis (anticipated to be complete by the end of 2020), in order to protect the TMA WWTP from experiencing pass-through and/or interference in its treatment operations. -Recommended changes to Towamencin Township's Pretreatment Ordinance with regard to TDS are to be based upon a reasonable maximum TDS discharge limit (1,780 mg/L) associated with TMA's TDS-equivalent Osmotic Pressure NPDES permit discharge limit. At minimum, all users with TDS levels above DRBC's TDS discharge limit (1,000 mg/L) would be subject to Local Limits permitting. -Lehigh Valley Dairies, Inc. and Merck & Co., Inc. are located in UGTwp, and will not contribute significant flow in the future to the TMA WWTP, due to the UGTwp flow diversion (anticipated to occur in mid-2021 to early 2022). -TMA currently relies upon UGTwp's flow contribution, and extraneous I/I flow to aid in the dilution and "treatment" of TDS in the effluent. -DRBC has instituted a cap on other wastewater authorities within the basin via their DRBC dockets, limiting the acceptance of waste sources (e.g., leachate) which contribute TDS. -TMA will re-examine the TDS loading dynamics upon receiving the requested details of the TDS contributions from the new and upgraded processing plant facilities. -Primary industrial sources of TDS loading from CFG's existing process operations are: Brine Chiller (generates approximately 14,000 lbs/day of TDS); and Hotdog Production (generates approximately 1,000 lbs/day of TDS). -Secondary industrial sources of TDS loading from CFG's existing process operations are: Smoked Meat Injectors; Drip Loss; and Fresh Pork Injectors. The secondary processes contribute lesser amounts of TDS loading to CFG's industrial wastewater, yet are intrinsic/essential processes, which will remain integrated in CFG's future process operations, and may increase the net TDS load.

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	Highlights from 1/29/20 Consent Agreement Meeting held at TMA WWTP (Cont'd.): -CFG will be transitioning from brine chilling (used in its current operations) to air chilling (to be used in its future operations), which is a major process overhaul. -TDS is generated implicitly from the use of bulk salt in CFG's process operations. -Bulk salt deliveries are expected to greatly decline once CFG begins to utilize air chilling. Use of air chilling is tentatively expected to begin in July 2022. -CFG removed its Hotdog Production equipment during the last week of December 2019, which has reduced bulk salt use, and removed approximately 1,000 lbs/day of TDS. -CFG does not anticipate peak discharges exceeding much more than 1,200 GPM/1.728 MGD. -CFG has expedited planning, design, and engineering for construction of the Hatfield North facility, with respect to the timeframes initially considered during execution of the Consent Agreement (October 9, 2017). -Construction of CFG's Hatfield North facility (i.e., CFG's new smoked meats facility) is currently scheduled to begin in March 2020. -$178.5M is committed, and $19.6M has been expended, for the Hatfield North facility. -Approximately $7M is allocated to industrial wastewater pretreatment facility upgrades, which are anticipated to begin in July 2020, and include some of the following: Separation of hog manure from the pretreatment process; Alteration/modification of certain waste streams; Improved efficiency and beneficial reuse of skimming/rendering byproducts; and Adoption of useful technology from CFG's Coldwater, MI operation. -CFG would like to finalize purchase proceedings for the required EDUs associated with its approved additional flows (350,000 GPD) for the Hatfield North facility.
February 6, 2020	USEPA Region 3 conducts an audit of TMA's Pretreatment Program. Upon review of requested SIU files; including SIU violations, significant noncompliance (SNC), and any enforcement actions taken by TMA, the USEPA Region 3 Auditor informed that CFG's existing Hatfield facility would be inspected that day. The USEPA Region 3 Auditor directed CFG to provide an analysis of the current production's TDS mass loading (based on the existing Hatfield facility operations), as well as an analysis of the projected production's TDS mass loading (based on expected conditions, once the new Hatfield North facility is operational, production is increased, and the existing Hatfield facility is re-purposed); with calculations specifically demonstrating the "net effect" of changes in CFG's TDS mass loading. The subject information was ordered to be provided to USEPA Region 3 no later than February 10, 2020.
September 10, 2020	*CFG submits required Mid-term Evaluation report (9/10/20) to TMA:* -KSI/Franks (Hotdog) machine was removed from operation at the beginning of 2020; Average TDS before KSI removal reported as 4,939 mg/L; Projected TDS average after KSI removal reported as 4,736 mg/L; Actual TDS (through 8/27/20) reported as 4,677 mg/L. -CFG's strategy to meet its TDS concentration limit is to implement a process change from brine chilling to air chilling. This process change is to coincide with the construction of a new Smoked Meats facility in Hatfield that will operate in conjunction with the existing Hatfield facility. As the Smoked Meats facility becomes operational, air chilling will begin to be utilized in the new facility while the brine chillers in the existing facility will be put out of service. The brine chillers are CFG's largest source of TDS, contributing about 14,857 lbs of TDS per day to CFG's effluent discharge to TMA. CFG projects the removal of this source, along with the

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	KSI machine already being removed, will reduce the effluent TDS concentration to about 3,077 mg/L, which is well within the limit of 3,950 mg/L. *CFG submits required Mid-term Evaluation report (9/10/20) to TMA (Cont'd.):* -All necessary permitting, design, and engineering were completed and CFG was set to begin construction in March 2020, then the COVID-19 pandemic began. When all non-life sustaining businesses in PA were ordered to shut down in March 2020 due to the pandemic, all non-essential construction projects were included. With construction planned to begin at the same time as the shutdown, CFG was forced to put the project on hold. Due to the uncertainty of the pandemic and its effect on business, CFG decided to postpone the start of the project. CFG continues to evaluate its situation during these changing times, and is in the process of determining when restarting the project will be feasible. -CFG has identified the TDS reduction strategy described above as the most effective way to meet the TDS concentration limit, and has presented this strategy to TMA during the term of the consent agreement. Due to the PA COVID-19 restrictions forcing CFG to put the Smoked Meats project on hold and the subsequent decision to delay the project, the change from brine chilling to air chilling may not be fully implemented in time for CFG to meet the TDS concentration limit before the consent agreement ends. CFG will provide an updated construction timeline at the next report period. The construction timeline will indicate when CFG can meet the TDS concentration limit. -The basis for the calculations provided is as follows: QeCe+QaCa=QtCt Where, for CFG's future flow scenario (with no source reduction), the following was used. Qe – Existing CFG permitted flow (Hatfield Plant), 0.6808 MGD Ce – Existing CFG TDS concentration (Hatfield Plant), 4,939 mg/L Qa – Additional CFG flow (Smoked Meats Facility), 0.350 MGD Ca – Additional CFG TDS concentration (Smoked Meats Facility), 4,939 mg/L Qa – Aggregate total CFG flow (Hatfield Plant & Smoked Meats Facility), 1.0308 MGD Ca – Aggregate total CFG TDS concentration (Hatfield Plant & Smoked Meats Facility), 4,939 mg/L *Calculated total of 42,460 lbs/day of TDS at future CFG flow, without any source reduction -CFG computes a future permitted mass-equivalent TDS limit of 33,958 lbs/day, based upon no change in the permitted daily maximum TDS local limit concentration (3,950 mg/L), and the aggregate total future permitted avg. flow of 1.0308 MGD. **-CFG reports a required reduction in TDS discharge concentration and mass of 20% (i.e., 989 mg/L [4,939 mg/L to meet 3,950 mg/L]; and 8,502 lbs/day [42,460 lbs/day to meet 33,958 lbs/day], respectively).** -CFG reports flow rate, TDS concentration, and TDS mass information for TDS sources: TDS Source | Brine Flow Rate (GPD) | TDS Conc. (mg/L) | TDS Mass (lbs/day) Chiller 1 - 9 | 8,094 | 220,100 | 14,857 KSI/Franks | 899 | 153,900 | 1,154 Injectors @ Smoked Meats | 549 | 243,400 | 1,115 Bacon - Drip Loss | 396 | 323,050 | 1,066 Injector 1 - Fresh Pork | 54 | 121,900 | 55 Total TDS Mass from Sources (lbs/day): 18,247

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	CFG submits required Mid-term Evaluation report (9/10/20) to TMA (Cont'd.): -Removing solely the brine chillers and KSI/Franks (Hotdog) machine yields a total of 16,011 lbs/day of TDS as the final projection for TDS removal in CFG's processes. CFG therefore reports a final expected TDS loading of 26,449 lbs/day, equivalent to a final expected TDS discharge concentration of 3,077 mg/L at their future permitted avg. flow of 1.0308 MGD.
September 11, 2020	A quality-control check is performed on CFG's Mid-term Evaluation report submission. -CFG's current mass-equivalent TDS limit is 22,428 lbs/day, based upon the currently permitted daily maximum TDS local limit concentration (3,950 mg/L), and the current permitted avg. flow of 0.6808 MGD. In order for CFG to meet their currently permitted mass-equivalent TDS limit (22,428 lbs/day) at their future flow scenario (prior to any source reduction), CFG would need to remove a minimum of 20,032 lbs/day of TDS (as opposed to CFG's reported total of 16,011 lbs/day of TDS to be removed). **-In order to meet their currently permitted mass-equivalent TDS limit (22,428 lbs/day) at their aggregate total future permitted avg. flow of 1.0308 MGD, CFG would need to achieve a target TDS concentration of 2,609 mg/L (as opposed to 3,077 mg/L).**
December 16, 2020	Mass-based TDS local limits modeling was refined for Alternative 2 (existing TMA WWTP flows, plus add'l. 350,000 GPD from CFG) & Alternative 4 (existing TMA WWTP flows, plus add'l. 350,000 GPD from CFG, minus 90.05% of UGTwp flows). Basis for the modeling utilized 2015-2019 TMA WWTP (5-Year) AADF, and 2015-2019 CFG TDS loadings. -Updated local limits modeling for Alternative 2 during the period of 2015-2019 indicates a calculated Maximum Allowable Industrial Load (MAIL) for TDS of approx. 35,583 lbs/day, and a Maximum Allowable Headworks Loading (MAHL) for TDS of approx. 63,257 lbs/day (includes residential sources). -Modeling results for Alternative 2 indicate that in order for CFG to meet their currently permitted mass-equivalent TDS limit (22,428 lbs/day) at their future expected Project Smoke peak flow (1.68 PF or 1,200 GPM), CFG would need to discharge an average TDS concentration of no more than **1,556 mg/L**. This would equate to an average required TDS loading of **13,379 lbs/day** discharged to the TMA WWTP, which would consume approx. **37.60%** of the calculated MAIL for the updated Alternative 2 (on average). -Updated local limits modeling for Alternative 4 during the period of 2015-2019 indicates a calculated Maximum Allowable Industrial Load (MAIL) for TDS of approx. 28,818 lbs/day, and a Maximum Allowable Headworks Loading (MAHL) for TDS of approx. 50,915 lbs/day (includes residential sources). -Modeling results for Alternative 4 indicate that in order for CFG to meet their currently permitted mass-equivalent TDS limit (22,428 lbs/day) at their future expected Project Smoke peak flow (1.68 PF or 1,200 GPM), CFG would need to discharge an average TDS concentration of no more than **1,556 mg/L**. This would equate to an average required TDS loading of **13,379 lbs/day** discharged to the TMA WWTP, which would consume approx. **46.44%** of the calculated MAIL for the updated Alternative 4 (on average). -We note the following with regard to the updated local limits modeling for Alternative 2: At CFG's reported target TDS concentration of 3,077 mg/L (post-TDS source reduction) and aggregate total future permitted avg. flow of 1.0308 MGD, CFG would be discharging an approx. average of 26,449 lbs/day of TDS, or **74.33%** of the TDS MAIL (35,583 lbs/day). At CFG's reported target TDS concentration of 3,077 mg/L (post-TDS source reduction) and expected peak flow of 1.728 MGD (1,200 GPM), CFG would be discharging an approx. peak of 44,344 lbs/day of TDS, or **124.62%** of the TDS MAIL (35,583 lbs/day).

Date	Summary of Key Event
	Updated Mass-Based TDS Local Limits Modeling (12/16/20) (Cont'd.): -We note the following with regard to the updated local limits modeling for Alternative 4: At CFG's reported target TDS concentration of 3,077 mg/L (post-TDS source reduction) and aggregate total future permitted avg. flow of 1.0308 MGD, CFG would be discharging an approx. average of 26,449 lbs/day of TDS, or **91.78%** of the TDS MAIL (28,818 lbs/day). At CFG's reported target TDS concentration of 3,077 mg/L (post-TDS source reduction) and expected peak flow of 1.728 MGD (1,200 GPM), CFG would be discharging an approx. peak of 44,344 lbs/day of TDS, or **153.88%** of the TDS MAIL (28,818 lbs/day). **-We assert that Alternative 4 is the scenario which will be most likely to imminently occur, given UGTwp's plans to divert roughly 90% of their total flow (via the KRI to the TMA WWTP) during Spring 2021.**
January 5, 2021	CFG presents a Consent Agreement Amendment request to TMA, explaining that due to the impacts of the COVID-19 pandemic, construction of the new Smoked Meats Facility has been delayed to begin in March 2021, with a revised target completion date of July 2022. CFG conveys that after construction of the new Smoked Meats Facility is completed, processes need to be transferred from the existing facility to the new facility, and CFG plans to put the brine chillers out of service by January 2023. CFG reiterates that they will reduce the effluent TDS concentration to about 3,077 mg/L; well within the limit of 3,950 mg/L. CFG ultimately requests that the Consent Agreement be extended by 1 year (through September 2023), due to construction of the new Smoked Meats Facility being delayed by 1 year. **-We note that CFG has evidently failed to acknowledge the following salient information previously provided to them in project meetings:** **1. CFG was notified in February 2019 that their TDS local limit may be reduced to approx. 2,800 - 3,000 mg/L (current local limit is 3,950 mg/L).** **2. CFG was informed as early as February 2019 of the critical need for detailed TDS mass balance information relating their current/future operations.** **3. CFG was clearly presented with the facts and computations in January 2020, showing that on average, they consume approx. 90% of the total allowable industrial TDS load to the TMA WWTP.**
January 9, 2021	Analysis of CFG's December 2020 Quarterly Report was performed for TDS discharge concentration and loading, in response to recent TMA WWTP operational concerns beginning during the 3rd Quarter 2020 (which include exceeding the Osmotic Pressure discharge limit in September & October 2020, and two [2] WETT Test failures). -CFG's average TDS concentration has trended down overall since the inception of reporting under the Consent Agreement by a total of 262 mg/l or 5.3%; yet the average daily TDS loading discharged during the same period has increased by 30.9%. -The average TDS loading reported of 31,906 lbs/day is **98.65%** of the calculated TDS MAIL (32,342 lbs/day), per TMA's 2015 Local Limits Headworks Analysis. -The average TDS concentration during 2020 is reported at 4,746 mg/L, which is **20.15%** above the currently permitted maximum daily local limit of 3,950 mg/L. -The average TDS loading reported of 33,406 lbs/day (6/18/20 – 11/28/20; 24 samples), is **103.29%** of the calculated TDS MAIL (32,342 lbs/day), per TMA's 2015 Local Limits Headworks Analysis. Additionally, there were two (2) violations of TMA's Osmotic Pressure discharge limit (September & October 2020) during this period. 14 of the weeks during this period exceeded the TDS MAIL by 11.48%, including a 6-week period (7/30/20 – 9/3/20) of samples consistently above the calculated TDS MAIL (32,342 lbs/day).