CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

Agenda

Tuesday, May 24, 2022

7:00 PM

Council Chamber and Virtual Platform (Zoom)

City Council

CONCURRENT GEOLOGIC HAZARD ABATEMENT DISTRICT BOARD AND CITY COUNCIL MEETING

NOTICE: The City Council will hold a hybrid meeting in Council Chambers and virtually via Zoom.

How to observe the Meeting:

1. *Comcast TV Channel 15*
2. *Live stream https://hayward.legistar.com/Calendar.aspx*
3. *YouTube Live stream: https://www.youtube.com/user/cityofhayward*

How to submit written Public Comment:

1. Use eComment on the City's Meeting & Agenda Center webpage at: https://hayward.legistar.com/Calendar.aspx. eComments are directly sent to the iLegislate application used by City Council and City staff. Comments received before 3:00 p.m. the day of the meeting will be exported into a report, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda.

2. Send an email to List-Mayor-Council@hayward-ca.gov by 3:00 p.m. the day of the meeting. Please identify the Agenda Item Number in the subject line of your email. Emails will be compiled into one file, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda. Documents received after 3:00 p.m. through the adjournment of the meeting will be included as part of the meeting record and published the following day.

How to provide live Public Comment during the City Council Meeting:

Come to City Hall or click link below to join the meeting: https://hayward.zoom.us/j/83390169641?pwd=WngzVGJNNDExWElQTVVCSmN0blpDQT09

Meeting ID: 833 9016 9641
Password: CC5/24@7pm

or

Dial: +1 669 900 6833 or +1 346 248 7799 or 888 788 0099 (Toll Free)

Meeting ID: 833 9016 9641
Password: 4995291189

A Guide to attend virtual meetings is provided at this link: https://bit.ly/3jmaUxa

HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD) BOARD OF DIRECTORS MEETING

CALL TO ORDER: Mayor/Chair Halliday

Pledge of Allegiance: Council/GHAD Member Lamnin

ROLL CALL

PUBLIC COMMENTS

The Public Comment section provides an opportunity to address the GHAD Board on items not listed on the agenda. As the GHAD Board is prohibited by State law from discussing items not listed on the agenda, items will be taken under consideration and may be referred to GHAD staff.

CONSENT

1. MIN 22-070 Approve the Hayward Geologic Hazard Abatement District Board Minutes of the Special Meeting on March 15, 2022

Attachments: Attachment I Draft Minutes of 3/15/22

PUBLIC HEARING

2. PH 22-028 GHAD Budget: Resolution Approving the Geologic Hazard Abatement District (GHAD) Budget for the 2022/23 Fiscal Year (Report from GHAD Manager Harrell)

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Hayward GHAD Budget for FY22-23

GHAD Manager's Report

An oral report from the GHAD Manager on ongoing activities, events, or other items of general interest to the GHAD and the public, if any.

GHAD Boardmembers' Reports, Referral, and Future Agenda Items

Oral reports from GHAD Boardmembers on their activities, referrals to GHAD staff, and suggestions for future agenda items, if any.

Next Meeting: No future meetings are scheduled. All future meetings will be noticed.

The Hayward Geologic Hazard Abatement District Board of Directors Adjourns and Reconvenes into the Meeting of the City Council.

CITY COUNCIL MEETING

CLOSED SESSION ANNOUNCEMENT

PRESENTATION

Asian and Native Hawaiian/Pacific Islander American Heritage Month Proclamation

PUBLIC COMMENTS

The Public Comment section provides an opportunity to address the City Council on items not listed on the agenda or Information Items. The Council welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Council is prohibited by State law from discussing items not listed on the agenda, your item will be taken under consideration and may be referred to staff.

CITY MANAGER'S COMMENTS

An oral report from the City Manager on upcoming activities, events, or other items of general interest to Council and the Public.

ACTION ITEMS

The Council will permit comment as each item is called for the Consent Calendar, Public Hearings, and Legislative Business. In the case of the Consent Calendar, a specific item will need to be pulled by a Council Member in order for the Council to discuss the item or to permit public comment on the item. Please notify the City Clerk any time before the Consent Calendar is voted on by Council if you wish to speak on a Consent Item.

CONSENT

1. MIN 22-071 Approve the City Council Minutes of the Special City Council Meeting on May 14, 2022

Attachments: Attachment I Draft Minutes of 5/14/2022

2. CONS 22-319 Adopt an Ordinance Adding Article 30 to Chapter 10 of the Hayward Municipal Code Regarding Traffic Impact Fees for Property Developers

Attachments: Attachment I Staff Report

Attachment II Summary of Published Notice

3. CONS 22-321 Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Exhibit A

4. CONS 22-296 Adopt a Resolution Authorizing the City Manager to Appropriate $8,394.29 in Asset Forfeiture Fund Balance and to Transfer the Appropriation from the Asset Forfeiture Fund (265) to the General Fund (100)

Attachments: Attachment I Staff Report
Attachment II Resolution

5. CONS 22-297 Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 8 to the Professional Services Agreement with CSG Consultants, Inc., for Private Development Review Services in the Amount of $400,000 for a Total Not-To-Exceed Amount of $2.1 Million and Extending the Date of the Agreement to June 30, 2023

Attachments: Attachment I Staff Report
Attachment II Resolution

6. CONS 22-313 Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 2 to the Professional Services Agreement with EKI Environment & Water for As-Needed Technical Support Related to Implementation of a Groundwater Management Plan Increasing the Contract Amount by $35,000 for a Total Not-to-Exceed Amount of $95,000

Attachments: Attachment I Staff Report
Attachment II Resolution

7. CONS 22-335 Adopt a Resolution Adopting the Traffic Impact Fee, Setting Initial Fee Rates for FY23, and Amending the FY23 Master Fee Schedule

Attachments: Attachment I Staff Report
Attachment II Resolution

WORK SESSION

Work Session items are non-action items. Although the Council may discuss or direct staff to follow up on these items, no formal action will be taken. Any formal action will be placed on the agenda at a subsequent meeting in the action sections of the agenda.

8. WS 22-019 Presentation Regarding 2021 Explosion at Russell City Energy Center and Follow Up Investigation and Actions (Report from City Manager McAdoo and Fire Chief Contreras)

Attachments:
Attachment I April 26, 2022 CEC Staff Report and Order
Attachment II Calpine Redacted Root Cause Analysis
Attachment III CEC Gap Analysis
Attachment IV Powerpoint Presentation

9. WS 22-018 Climate Action Plan and Environmental Justice: Considerations for New General Plan Policies and Programs (Report from Public Works Director Ameri)

Attachments:
Attachment I Staff Report
Attachment II CAP Mural Board Responses
Attachment III EJ Workshop 1 Mural Board Responses
Attachment IV Hayward EJ Draft Policy Framework
Attachment V EJ Workshop 2 Mural Board Responses

COUNCIL REPORTS AND ANNOUNCEMENTS

Council Members can provide oral reports on attendance at intergovernmental agency meetings, conferences, seminars, or other Council events to comply with AB 1234 requirements (reimbursable expenses for official activities).

COUNCIL REFERRALS

Council Members may bring forward a Council Referral Memorandum (Memo) on any topic to be considered by the entire Council. The intent of this Council Referrals section of the agenda is to provide an orderly means through which an individual Council Member can raise an issue for discussion and possible direction by the Council to the appropriate Council Appointed Officers for action by the applicable City staff.

ADJOURNMENT

NEXT MEETING, June 7, 2022, 7:00 PM

PUBLIC COMMENT RULES

Any member of the public desiring to address the Council shall limit their remarks to three (3) minutes unless less or further time has been granted by the Presiding Officer or in accordance with the section under Public Hearings. The Presiding Officer has the discretion to shorten or lengthen the maximum time members may speak. Speakers will be asked for their name before speaking and are expected to honor the allotted time. Speaker Cards are available from the City Clerk at the meeting.

PLEASE TAKE NOTICE

That if you file a lawsuit challenging any final decision on any public hearing or legislative business item listed in this agenda, the issues in the lawsuit may be limited to the issues that were raised at the City's public hearing or presented in writing to the City Clerk at or before the public hearing.

PLEASE TAKE FURTHER NOTICE

That the City Council adopted Resolution No. 87-181 C.S., which imposes the 90-day deadline set forth in Code of Civil Procedure section 1094.6 for filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure section 1094.5.

****Materials related to an item on the agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website. Written comments submitted to the Council in connection with agenda items will be posted on the City's website. All Council Meetings are broadcast simultaneously on the City website, Cable Channel 15 - KHRT, and YouTube. ****

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400 or cityclerk@hayward-ca.gov.

Assistance will be provided to those requiring language assistance. To ensure that interpreters are available at the meeting, interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400.

File #: MIN 22-070

DATE: May 24, 2022

TO: Geologic Hazard Abatement District Board

FROM: GHAD Manager

SUBJECT

Approve the Hayward Geologic Hazard Abatement District Board Minutes of the Special Meeting on March 15, 2022

RECOMMENDATION

That the Hayward Geologic Hazard Abatement District Board approves the GHAD Board meeting minutes of March 15, 2022

SUMMARY

The Hayward Geologic Hazard Abatement District Board held a meeting on March 15, 2022.

ATTACHMENTS

Attachment I Draft Minutes of March 15, 2022

MINUTES OF JOINT CITY COUNCIL/HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT BOARD MEETING OF THE CITY OF HAYWARD
Council Chambers
777 B Street, Hayward, CA 94541
Tuesday, March 15, 2022

The Joint City Council/Hayward Geologic Hazard Abatement District Board meeting was called to order by Board Chair Halliday at 7:02 p.m.

ROLL CALL

Present: BOARD MEMBERS Andrews, Márquez, Lamnin, Salinas, Wahab, Zermeño and Chair Halliday

Absent: None

PUBLIC COMMENT

None.

CONSENT CALENDAR

1. Approve the GHAD Minutes of the Board Meeting of January 18, 2022. It was moved by Board member Márquez and seconded by Board member Andrews to approve the minutes; the motion carried unanimously (7-0-0).

PUBLIC HEARING

2. Approve a Resolution to Accept the Tabulation of Votes and if Allowed by the Votes, Confirm the Assessment and Order the Levy and Collection of the Assessment for the Hayward SoMi Development. Ms. Ralston provided a brief staff report, summarizing that the Board had previously approved the draft Engineer's Report for the Hayward SoMi Development to set an assessment limit of $567.00 per townhome unit and $454.00 per condominium unit. In order to impose the assessment, the property owner of the Hayward SoMi Development must approve the proposed assessments. Amara Morrison, acting as GHAD Clerk, opened the sealed ballot which had been submitted by the property owner; the ballot was certified as complete and was found to approve the proposed assessment.

It was moved by Board member Salinas and seconded by Board member Zermeño to approve Resolution No. 22-02 to accept the tabulation of the votes for the Hayward SoMi Development; the motion carried unanimously (7-0-0).

It was also moved by Board member Salinas and seconded by Board member Zermeño to approve Resolution No. 22-03 to confirm the assessment and to authorize the level and collection of the assessment for the Hayward SoMi Development; the motion carried unanimously (7-0-0).

GHAD MANAGER REPORT

3. The GHAD Manager reported that the assessment map for the Hayward SoMi Development will be recorded within the next 20 days. Ms. Ralston also reported that the GHAD Manager anticipates the Hideaway development will be eligible for transfer in 2023 and that other possible annexations may occur later this year.

Chair Halliday request a tally of the total confirmed number of residential units within the Hayward GHAD; Ms. Ralston responded there are 427 units which includes the addition of the Hayward SoMi units.

Board member Márquez asked how often the GHAD newsletter has been issued. After some discussion, the Board directed the GHAD Manager to send an updated newsletter to property owners in recently-annexed developments and to send a newsletter to all property owners within the GHAD on an annual basis thereafter.

Ms. Ralston also noted staff will return to the Board in mid-May to early June for budget approval.

GHAD BOARD MEMBERS' REPORTS, REFERRAL, AND FUTURE AGENDA ITEMS

4. None.

ADJOURNMENT

GHAD Board Chair Halliday adjourned the meeting at 7:30 pm.

APPROVED:

_____

Barbara Halliday, Board Chair,
Hayward Geologic Hazard Abatement District

ATTEST:

_____

Patricia E. Curtin, Clerk,
Hayward Geologic Hazard Abatement District

File #: PH 22-028

DATE: May 24, 2022

TO: Geologic Hazard Abatement District Board

FROM: GHAD Manager

SUBJECT

GHAD Budget: Resolution Approving the Hayward Geologic Hazard Abatement District (GHAD) Budget for the 2022/23 Fiscal Year.

RECOMMENDATION

Staff recommends that the Hayward GHAD Board of Directors adopt Resolution 22-04 approving the GHAD budget for the 2022/23 fiscal year.

SUMMARY

The Hayward GHAD Board of Directors accepted monitoring, maintenance, and/or ownership of selected parcels within The Reserve (formerly La Vista) development within the Hayward GHAD with the approval of Resolution 20-01 on February 25, 2020. The proposed budget allows funding of GHAD responsibilities for the 2022/23 fiscal year from July 1 to June 30. The proposed budget for the 2022/23 fiscal year is $145,570.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	GHAD Resolution 22-04
Attachment III	Hayward GHAD Budget for Fiscal Year 2022-2023

HAYWARD
GEOLOGIC HAZARD ABATEMENT DISTRICT

TO: Hayward GHAD Board of Directors

FROM: GHAD Manager

BOARD MEETING DATE: May 24, 2022

SUBJECT: Resolution Approving the Geologic Hazard Abatement District (GHAD) Budget for the 2022/23 Fiscal Year.

RECOMMENDATION(S):

Staff recommends that the Hayward GHAD Board of Directors adopt Resolution 22-04 approving the GHAD budget for the 2022/23 fiscal year.

SUMMARY:

The Hayward GHAD Board of Directors accepted monitoring, maintenance, and/or ownership of selected parcels within The Reserve (formerly La Vista) development within the Hayward GHAD with the approval of Resolution 20-01 on February 25, 2020. The proposed budget allows funding of GHAD responsibilities for the 2022/23 fiscal year from July 1 to June 30. The proposed budget for the 2022/23 fiscal year is $145,570.

BACKGROUND AND DISCUSSION:

Hayward City Council adopted Resolution 16-030 approving the formation of the Hayward GHAD and the Plan of Control for The Reserve (La Vista) development within the Hayward GHAD on March 1, 2016.

The Hayward GHAD Board of Directors accepted monitoring, maintenance, and/or ownership of selected parcels within The Reserve (La Vista) development within the Hayward GHAD with the approval of Resolution 20-01 on February 25, 2020. The adopted Plan of Control summarizes the GHAD's responsibilities and the approved Engineer's Report established a budget and assessment limit for residential properties within The Reserve development.

The following are improvements owned and/or maintained by the GHAD and activities funded through the proposed budget.

- General maintenance of the surface drainage improvements
- General maintenance of storm drain inlets and outlets in open space, subdrain outlets, and risers
- Maintenance of concrete-lined drainage ditches
- Maintenance of existing property line/boundary fencing
- Inspection and maintenance of surface water quality treatment, water quality pond, and detention basins
- Retaining wall east of Alquire Parkway at the northwest corner of the Moita property

- Maintenance roads associated with the water quality pond and the detention basins
- Maintenance roads/trails over public water mains on the GHAD-owned parcels
- Debris benches and walls
- Subdrains
- Storm drain inlets, outfalls and pipelines within the GHAD-owned parcels
- Maintenance including trails (other than City-owned public trails) within the GHAD-owned parcels
- Slopes including Hayward Concentrated Fault Zone
- Vegetation control for fire suppression

The Hideaway (formerly Ersted) development will be eligible for transfer of Plan of Control responsibilities in December of 2023; therefore, the GHAD does not have any ownership or maintenance responsibilities within the Hideaway development for fiscal year 2022/23. With the recent annexation of the Hayward SoMi development into the Hayward GHAD, the Hayward SoMi development will be eligible for transfer of Plan of Control responsibilities in approximately summer of 2025.

The Hayward GHAD has been levying and collecting assessments since fiscal year (FY) 2017/18. For the 2022/23 FY, all 179 residential units with The Reserve development, all 59 residential units within the Hideaway development, and 37 of 189 residential units (21 condominiums and 16 townhomes) within the Hayward SoMi development, for a total of 275 units are subject to the levy of a GHAD assessment. Parcels are subject to the levy starting the first fiscal year following issuance of a building permit.

As the GHAD has exceeded its target reserve rate of accumulation forecast estimate in the approved 2016 Engineer's Report for The Reserve Development, we have recommended suspension of the levy for residences within The Reserve development for FY 2022/23. We provided this recommendation based on the following conditions.

- Unencumbered reserve funds collected from within The Reserve Development exceed the target reserve amount estimated in the approved Engineer's Report
- Reserve funds collected from within The Reserve Development exceed the dollar amount estimated for a large-scale repair
- Plan of Control responsibilities have been transferred from the developer to the GHAD

We are recommending the FY 2022/23 levies for the Hideaway and SoMi Hayward developments still be imposed at the assessment limit. The total assessment revenue for the Hayward GHAD for FY 2022/23 is estimated at $82,000.

As provided in the approved Engineers' Reports, the assessment limits in each of the three developments (The Reserve, Hideaway, and Hayward SoMi) will continue to be adjusted for inflation annually. The proposed levy suspension for FY 2022/23 for The Reserve Development does not preclude the GHAD Board in the future from increasing or decreasing the levy of the assessment up to the inflation adjusted assessment limit. This determination is made by the GHAD Board each year in approving the annual budget for the GHAD. As long as the GHAD Board levies future assessments in accordance with the Engineer's Report, a vote of property owners is not required; a vote is only required if the assessment limit is increased beyond that allowed in the Engineer's Report.

The proposed program budget for fiscal year 2022/23 is $145,570. The budget expenses break down into the following amounts:

Major Repair	$0
Preventive Maintenance and Operations	$104,000
Special Projects	$0
Administration	$ 23,400
Additional - Outside Professional Services	$ 18,170
Total Expenses	**$** 145,570

FISCAL IMPACT:

The Hayward GHAD is proposing a budget of $145,570 for anticipated management and maintenance fees for the 2022/23 fiscal year. At the beginning of the 2022/23 fiscal year, the cumulative reserve is estimated at approximately $1,102,693 and approximately $1,074,123 at the end of the 2022/23 fiscal year.

The Hayward GHAD operates as a separate entity from the City of Hayward; therefore, there is no fiscal impact to the City of Hayward.

NEXT STEPS:

None.

Prepared by: The GHAD Manager, Eric Harrell

Recommended by: GHAD Manager, Eric Harrell

ATTACHMENTS:

A. Resolution No. 22-04

THE BOARD OF DIRECTORS OF HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT

RESOLUTION NO. 22-04

APPROVING THE BUDGET FOR THE 2022/23 FISCAL YEAR FOR THE HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT AND SUSPENDING RESIDENTIAL LEVY WITHIN THE RESERVE DEVELOPMENT

WHEREAS, on March 1, 2016, the City Council adopted Resolution 16-030, approving and ordering formation of the Hayward Geologic Abatement District (GHAD) as described in the GHAD Plan of Control for the La Vista subdivision (Tract 7620) and appointed itself to act as the GHAD Board of Directors (the "Board"); and

WHEREAS, the GHAD Manager, ENGEO, has prepared a budget for Fiscal Year 2022/23 as attached as Attachment 1; the estimated budget amount for management, maintenance, and repair responsibilities is $145,570; and

WHEREAS, the GHAD Board of Directors desires to adopt the budget for the fiscal year 2022/23.

WHEREAS, based on the GHAD's current account balance and the anticipated expenditures in the proposed FY 2022/23 budget, the GHAD Board desires to suspend the residential parcel levy for Fiscal Year 2022/23 for residences within The Reserve Development;

NOW, THEREFORE, BE IT RESOLVED that the Hayward GHAD Board of Directors hereby orders that:

1. The GHAD Board approves the GHAD Budget for the 2022/23 fiscal year attached as Attachment 1.
3. The recitals are incorporated herein by this reference.
4. This Resolution shall become effective immediately upon its passage and adoption.

IN COUNCIL, HAYWARD, CALIFORNIA May 24, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:_____
Clerk of Hayward Geologic Hazard Abatement

District Board of Directors

APPROVED AS TO FORM:

_____

General Counsel of the Hayward Geologic Hazard Abatement District

Attachment 1- Hayward GHAD Budget for Fiscal Year 2022-2023

ATTACHMENT III

HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT
PROGRAM BUDGET FOR FISCAL YEAR 2022/23

May 3, 2021

Hayward Geologic Hazard Abatement District Board of Directors
Chair Barbara Halliday
Boardmember Aisha Wahab
Boardmember Angela Andrews
Boardmember Sara Lamnin
Boardmember Elisa Márquez
Boardmember Mark Salinas
Baordmember Francisco Zermeño

Hayward Geologic Hazard Abatement District
777 B Street
Hayward, CA 94541

Subject: The Reserve (La Vista) Development
Hideaway (Ersted) Property Development
Hayward SoMi Development
Hayward Geologic Hazard Abatement District
Hayward, California

PROGRAM BUDGET FOR FISCAL YEAR 2022/23

Dear Chair Halliday and Boardmembers:

Attached is the program budget for the Hayward Geologic Hazard Abatement District (GHAD) for Fiscal Year (FY) 2022/23. The proposed program budget is $145,570. The budget expenses break down into the following amounts.

Major Repair	$0
Preventive Maintenance and Operations	$104,000
Special Projects	$0
Administration	$23,400
Additional - Outside Professional Services	$18,170

The budget anticipates FY 2022/23 revenue of $117,000 with an estimated decrease of $28,570 in the reserve fund. A summary of the expenses is shown on Table 3, followed by a brief description of each budget item on the following pages.

If you have any questions regarding the contents of this letter, please contact us.

Sincerely,

Hayward Geologic Hazard Abatement District
ENGEO Incorporated, GHAD Manager
ENGEO Project No. 6671.002.021

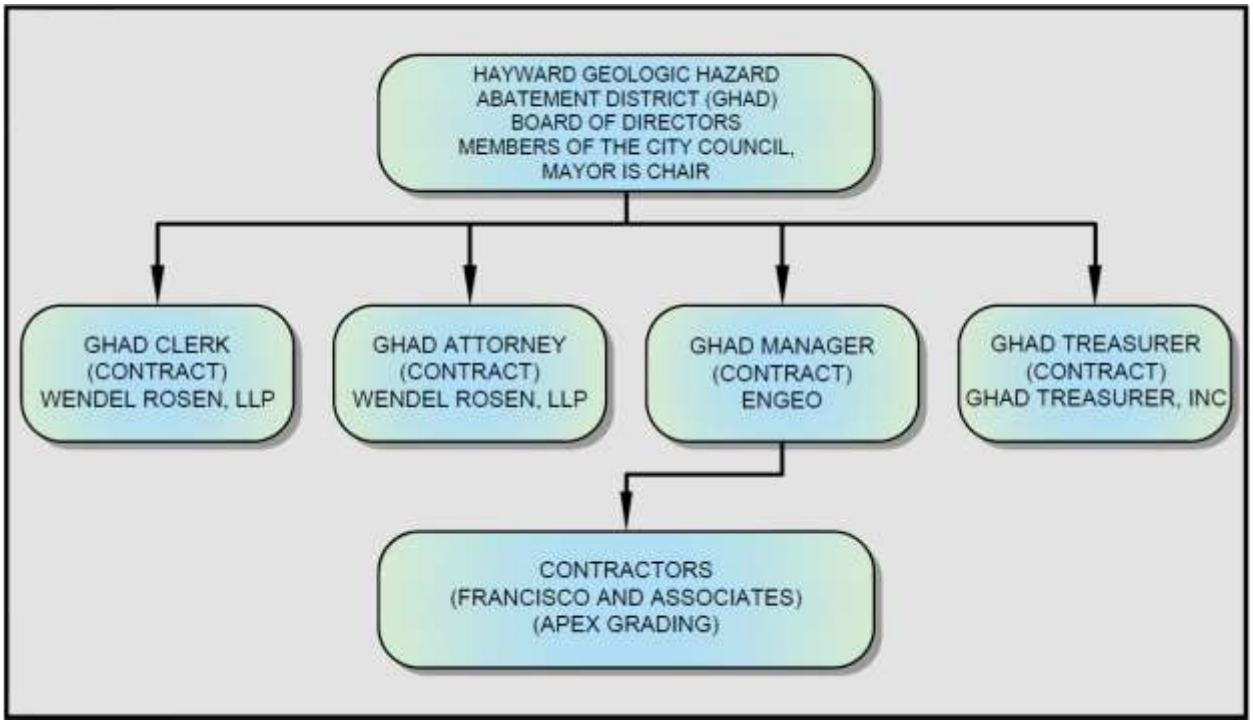
Haley Ralston

Eric Harrell

hjr/eh/cjn

HAYWARD GEOLOGIC HAZARD ABATEMENT DISTRICT
PROPOSED PROGRAM BUDGET
FISCAL YEAR 2022/23

The following proposed program budget summarizes the anticipated revenues and expenditures for FY 2022/23 for the Hayward Geologic Hazard Abatement District (GHAD), which includes The Reserve (formerly known as La Vista (Tract 7620)), Hideaway (formerly known as Ersted Property (Tract 8439)), and Hayward SoMi (Tracts 8605 and 8614) developments. The structure of the Hayward GHAD is shown below.



The GHAD has accepted maintenance and monitoring responsibilities for the following parcels within the District for only The Reserve (La Vista) development as listed on Table 1. In addition, those parcels that are owned by the GHAD are identified. Maintenance, monitoring responsibilities, and ownership for the listed parcels were accepted by resolution on February 25, 2020.

TABLE 1: Accepted Parcels within The Reserve Development

ASSESSOR'S PARCEL NUMBER	DESCRIPTION (Tract 7620)	GHAD OWNERSHIP
83-477-4	Parcel C	Yes
83-480-1	Parcel D	Yes
83-478-1	Parcel E	No
83-478-2	Parcel F	No
83-478-3	Parcel G	No
83-478-4	Parcel H	No
83-478-5	Parcel I	No
83-479-1	Parcel J	No
83-479-2	Parcel K	No

ASSESSOR'S PARCEL NUMBER	DESCRIPTION (Tract 7620)	GHAD OWNERSHIP
83-479-3	Parcel L	No
83-479-4	Parcel M	No
83-480-2	Parcel N	Yes
83-478-6	Parcel O	Yes
83-477-6	Parcel Q	No
83-477-7	Parcel R	No
83-478-7	Parcel S	No
83-477-8	Parcel T	No
83-480-3	Parcel U	Yes
83-480-4	Parcel V	Yes
83-75-2-15	Unsurveyed Remainder	Yes
83-75-2-9	La Vista LP 2006-301610	Yes
83-75-2-11	La Vista LP 2007-408664	Yes
83-75-2-13	La Vista LP 2007-408664	Yes
83-125-1-18	La Vista LP 2007-408664	Yes
83-125-1-21	La Vista LP 2007-408664	Yes
83-477-1	Public Roads	No
Various	Residential Lots 1 through 179	No

Maintenance and monitoring responsibilities for the remaining properties within The Reserve development not listed above are the responsibility of the individual property owners. The parcels listed on Table 2 within The Reserve development have been offered to the GHAD, but have not yet been accepted by the GHAD due to "punchlist" items that remain to be completed.

TABLE 2: Parcels not yet accepted within The Reserve Development

ASSESSOR'S PARCEL NUMBER	DESCRIPTION (Tract 7620)	GHAD OWNERSHIP
83-477-2	Parcel A	No
83-480-3	Parcel B	Yes
83-477-5	Parcel P	No

Within this budget, it is anticipated that during the 2022/23 fiscal year, Parcel B may be transferred to the Hayward GHAD and these expenses have been anticipated in the 2022/23 budget estimates. Based on our discussions with the City of Hayward, construction on the Park site (Parcel "A") will start in early 2023; therefore, the future GHAD-maintained improvements on Parcel A will not be offered for transfer in the 2022/23 fiscal year and GHAD expenses for monitoring and maintenance of these improvements are not included in this budget.

No parcels within the Hideaway (Ersted) development are yet eligible for transfer as eligibility occurs a minimum of 3 years after the issuance of the first residential building permit. The first residential permit was issued on December 18, 2020; therefore, transfer of responsibilities cannot occur earlier than December 2023. Additionally, no parcels within the Hayward SoMi development are yet eligible for transfer as eligibility occurs a minimum of 3 years after the issuance of the first residential building permit, which is estimated to be in summer of 2022.

The GHAD is funded through real property assessments. The initial assessment limits were approved by the Board of Directors. The assessment limits are adjusted annually on June 30 to reflect the percentage change in the San Francisco-Oakland-Hayward Consumers Price Index (CPI) for All Urban Consumers.

The annual assessment limits are shown on Table 3.

TABLE 3: Actual CPI Adjustments and Assessment Limit for Residential Properties

FISCAL YEAR	INDEX DATE	SAN FRANCISCO-OAKLAND-HAYWARD CPI (JUNE /JUNE)	THE RESERVE ANNUAL ASSESSMENT LIMIT AND LEVY[1]	ERSTED PROPERTY ANNUAL ASSESSMENT LIMIT AND LEVY[1]	HAYWARD SOMI TOWNHOMES ANNUAL ASSESSMENT LIMIT AND LEVY[1]	HAYWARD SOMI CONDOMINIUMS ANNUAL ASSESSMENT LIMIT AND LEVY[1]
2016/2017			$1,502.00			
2017/2018	6/30/2017	3.48%	$1,554.30			
2018/2019	6/30/2018	3.91%	$1,615.03	$932.00		
2019/2020	6/30/2019	3.22%	$1,666.96	$961.96		
2020/2021	6/30/2020	1.62%	$1,693.90	$977.51		
2021/2022	6/30/2021	3.16%	$1,747.34	$1,008.35	$567.00	$454.00

[1]If assessment limit is an odd number the annual levy is rounded down to nearest even cent.

For the FY 2021/22, all 179 residential parcels with The Reserve development and 42 of 59 residential parcels were subject to the levy of a GHAD assessment. No parcels within the Hayward SoMi development were subject to the levy of a GHAD assessment. Parcels are subject to the levy starting the first fiscal year following issuance of a building permit. The final assessment roll prepared for the 2021/22 fiscal year and submitted to the Alameda County Assessor's Office identifies 221 properties subject to the levy of the GHAD assessment. The total levy amount for the 2021/22 FY was $355,124.14.

Based on the San Francisco-Oakland-Hayward CPI data reported through April 2022, for budgeting purposes, we have estimated a FY 2022/23 annual inflation rate adjustment of 5 percent. We estimate that 275 residential units will be subject to assessment in FY 2022/23. Parcels are subject to the levy starting the first fiscal year following issuance of a building permit.

As shown on Graph 1 below, the GHAD has exceeded the target reserve rate of accumulation forecast in the approved 2016 Engineer's Report for the Reserve Development. The excess revenue is primarily due to lower expenses than anticipated as discussed below. In general, we have and may in the future recommend an annual levy amount less than the assessment limit if the following conditions are met.

- Unencumbered reserve funds collected from within a development exceed the target reserve amount estimated in the approved Engineer's Report or unencumbered reserve funds collected from a development exceed the target reserve
- Reserve funds collected from within a development exceed the dollar amount estimated for a large scale repair
- Plan of Control responsibilities have been transferred from the developer to the GHAD

As the above conditions have been met for The Reserve development; therefore, we are recommending and the budget prepared, provides that the residential parcel levy be suspended for fiscal year 2022/23. Fiscal Year 2022/23 levies for the Hideaway and SoMi Hayward Developments would still be imposed at the assessment limit.

The GHAD Treasurer has estimated that dividend and interest income for FY 2022/23 should be approximately 1½ to 2 percent above the rate of inflation. For budgeting purposes, we have assumed the lower estimate (1½ percent) when estimating dividend and interest income. The GHAD Treasurer maintains an estimate that the long-term inflation rate will average approximately 2 to 2.5 percent, but in FY 2022/23 may be above this level. We have assumed an inflation rate of 5 percent for estimating total revenues in Table 4 based on CPI published through April 2022.

TABLE 4: Estimated Revenue

	FY 2022/23 LEVY/REVENUE ESTIMATE
Residential Units (The Reserve)	0
Residential Units (Hideaway)	59
Residential Units (Hayward SoMi)	37
Assessment Revenue	$82,000
Investment Income	$35,000
Total Revenues	$117,000

The budget is divided into four categories including Major Repair, Preventive Maintenance and Operations, Special Projects, and Administration and Accounting. As needed, the GHAD Manager, in its discretion, may reallocate funds within the budget. A description of each of the categories is provided below. In general, the budget amounts listed are based on the Engineer's Report approved by the Hayward GHAD Board of Directors in 2016. The budget amounts have been inflation adjusted to provide the estimates.

MAJOR REPAIR

Included within the major repair category are those repair or improvement projects that are intermittent and, by their nature, do not fit within a scheduled maintenance program. Minor slope repair and erosion control items are generally funded within the Preventive Maintenance and Operations category. For the purposes of this budget, we define major repairs as those estimated at over $50,000.

There are currently no major repair projects anticipated in the FY 2022/23 budget within the GHAD-maintained areas of the Hayward GHAD. The reserve portion of the budget allows for funding toward these unpredictable events.

PREVENTIVE MAINTENANCE AND OPERATIONS

Preventive maintenance and operations include slope stabilization services, erosion protection, and professional services within the District. Professional services include site-monitoring events as specified in the GHAD Plan of Control. Slope stabilization and erosion protection responsibilities include the open-space slopes and drainage swales. GHAD-maintained improvements generally include detention and water-quality basins, maintenance roads,

concrete-lined drainage ditches, retaining walls, subsurface drainage facilities, storm drain facilities, trails, and debris benches.

SPECIAL PROJECTS

The Special Projects category allows the GHAD to budget for projects beneficial to the GHAD that do not fit into one of the other three categories. Although not proposed in the FY 2022/23 budget, special projects can include items such as global positioning system (GPS)/geographic information system (GIS) development for GHAD-maintained improvements; website development and maintenance; and reserve studies to reevaluate the financial condition of the GHAD.

There are currently no special projects anticipated in the FY 2022/23 budget within the GHAD-maintained areas of the Hayward GHAD.

ADMINISTRATION AND ACCOUNTING

This category includes administrative expenses for tasks of the GHAD Manager, clerical and accounting staff related to the operation and administration of the GHAD. The budget amounts listed are based on the Engineers' Reports approved by the Hayward GHAD Board of Directors in 2016 for The Reserve (La Vista) development. The budget amounts have been inflation adjusted to provide the listed budget estimates.

TABLE 5: Summary of Proposed Fiscal Year 2022/23 Budget

BUDGET ITEM	FY 2021/2022 BUDGET	FY 2021/2022 ESTIMATED[1]	FY 2022/23 FORECAST	PERCENT OF TOTAL EXPENDITURES (FY 2022/23)
MAJOR REPAIRS				
Total			**$0**	**0%**
PREVENTIVE MAINTENANCE AND OPERATIONS				
Professional Services				
Open Space Scheduled Monitoring Events	$8,000	$8,000	$9,000	
Heavy Rainfall Monitoring Events	$1,000	$0	$1,000	
Detention Basin Scheduled Monitoring Events	$2,000	$2,000	$2,000	
Detention Basin Heavy Rainfall Monitoring Event	$1,000	$0	$1,000	
Subtotal	**$12,000**	**$10,000**	**$13,000**	**9%**
Maintenance and Operations				
Sediment Removal - Concrete Structures	$9,000	$7,876	$9,000	
Water Quality/Detention Basin Facilities	$10,000	$3,800	$10,000	
Trail and Fence Maintenance	$3,000	$0	$3,000	
Slope, Erosion Repairs, and Minor Repairs	$22,000	$2,200	$23,000	
Vegetation Control	$18,000	$14,100	$18,000	
Subdrain Outlets	$18,000	$0	$18,000	
Conservation Easement Activities	$10,000	$0	$10,000	
Subtotal	**$90,000**	**$27,976**	**$91,000**	**63%**
Preventive Maintenance and Operations Total	**$102,000**	**$37,976**	**$104,000**	
SPECIAL PROJECTS				
Total	**$0**	**$0**	**$0**	**0%**
ADMINISTRATION – GHAD MANAGER				
Administration	$20,400	$20,400	$21,000	
Annual Report and Budget Preparation	$2,300	$2,300	$2,400	
Subtotal	**$22,700**	**$22,700**	**$23,400**	**16%**
Professional Services - Nontechnical				
Assessment Roll and Levy Update Preparation	$1,750	$1,750	$1,750	
GHAD Attorney	$7,000	$7,000	$7,000	
GHAD Treasurer	$5,000	$2,500	$5,000	
GHAD Clerk	$1,500	$1,500	$1,500	
Alameda County Assessor's Fees	$6,100	$6,037	$1,400	
California Association of GHADs Membership	$160	$155	$170	
Insurance	$1,350	$1,500	$1,350	
Subtotal	**$22,860**	**$20,442**	**$18,170**	**12%**
Administration and Accounting Total	**$45,560**	**$43,142**	**$41,570**	
TOTAL PROPOSED EXPENDITURES	**$147,560**	**$81,118**	**$145,570**	**100%**

BUDGET ITEM		FY 2021/2022 BUDGET	FY 2021/2022 ESTIMATED[1]	FY 2022/23 FORECAST	PERCENT OF TOTAL EXPENDITURES (FY 2022/23)
ESTIMATED REVENUE					
Beginning Balance					
Balance (June 30, 2021)	$858,783				
Estimated FY 2021/22 Revenue					
Assessment Income	$355,124				
Investment Income	$-30,096				
Estimated Expenses 2021/22					
Estimated Expenses through 6/30/2022	$81,118				
ESTIMATED RESERVE ON JUNE 30, 2022	**$1,102,693**				
Estimated 2022/23 Revenue					
Estimated FY 2022/23 Assessment	$82,000				
Estimated FY 2022/23 Investment Income	$35,000				
Estimated 2022/23 Expenses					
Estimated Expenses through June 30, 2023	$145,570				
ESTIMATED RESERVE ON JUNE 30, 2023	**$1,074,123**				

For FY 2022/23, the payment limit for the GHAD Manager, ENGEO, is set at $52,400. The tasks included within the payment limit may include oversight of maintenance and repair projects, administration, and monitoring events as summarized in Table 6.

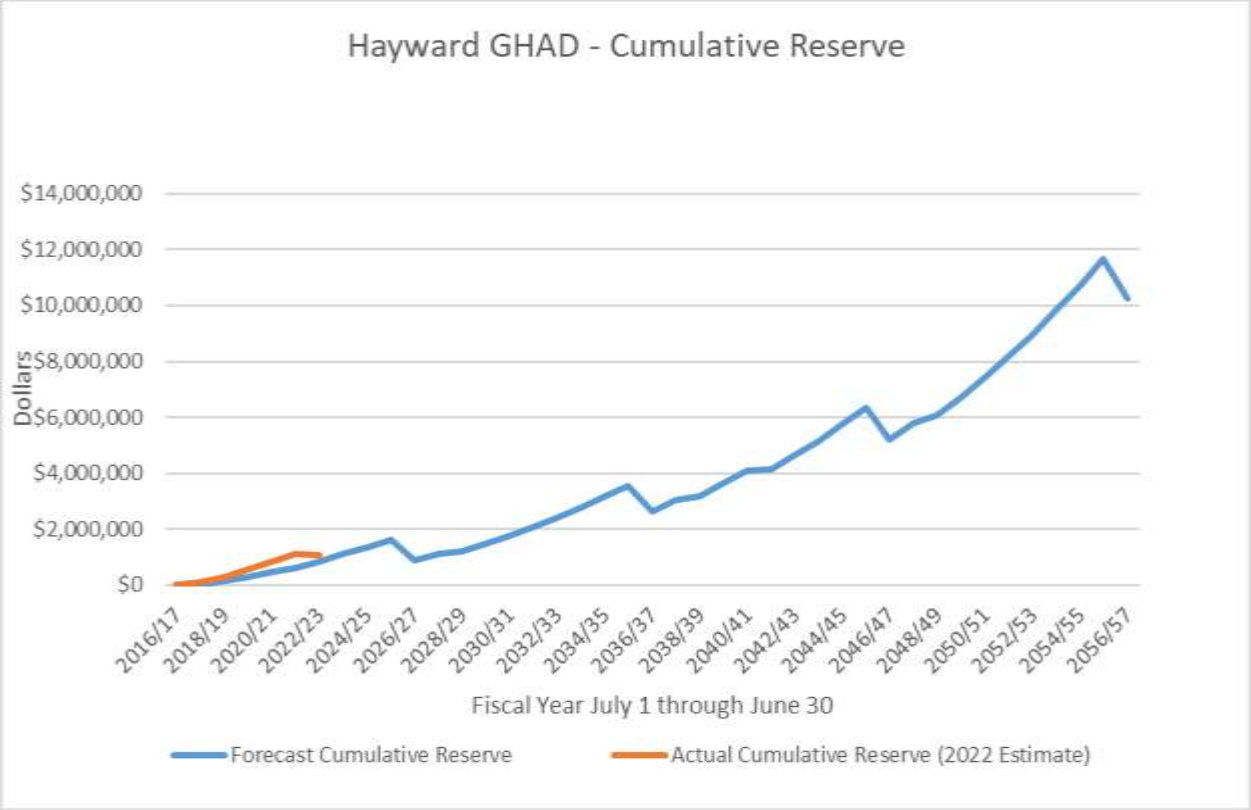
TABLE 6: Payment Limit

TASK	AMOUNT
Scheduled and Heavy Rainfall Monitoring Events	$13,000
Slope Stabilization and Erosion Repairs[1]	$4,400
Water Quality Detention Basin Maintenance[1]	$2,000
Trail and Fence Maintenance[1]	$600
Sediment Removal - Concrete Structures[1]	$1,800
Vegetation Control[1]	$3,600
Subdrain Outlets	$3,600
Administration	$21,000
Budget Preparation	$2,400
TOTAL	**$52,400**

[1]Dependent on maintenance and/or repair activities by the GHAD during FY 2022/23. The GHAD Manager, ENGEO, payment limit is 20% of the total budget item.

As shown on the graph below, the forecast cumulative reserve is above the amount estimated in the 2016 Engineer's Reports and is estimated to reach approximately $10,000,000 by 2056. The GHAD reserve is intended to fund unanticipated expenses that may occur.

GRAPH 1: Forecast and Actual Cumulative Reserve



MAJOR REPAIRS

There are currently no major repair projects anticipated in the FY 2022/23 budget within the GHAD-maintained areas of the Hayward GHAD. While no major repairs are ongoing at this time, by their nature, major repairs such as landslides are unpredictable and could occur during FY 2022/23. The reserve portion of the budget allows for the funding toward these unpredictable events.

PREVENTIVE MAINTENANCE AND OPERATIONS

Professional Services

Open Space Scheduled Monitoring Events

As provided in the Plan of Control, there are two scheduled monitoring events within the GHAD that will occur during each calendar year.

Estimated budget $9,000

Open Space Heavy Rainfall Events
We have budgeted for one heavy rainfall-monitoring event during the 2022/23 winter season. In the initial Engineer's Report, we anticipated that a heavy rainfall-monitoring event would be needed on average once every two years.

Estimated budget $1,000

Water Quality/Detention Basin Scheduled Monitoring Events
As provided in the Plan of Control, there are two scheduled monitoring events within the GHAD that will occur during each calendar year. The GHAD has not yet acquired detention basin monitoring or maintenance on Parcel A and does not expect to do so during the 2022/23 FY.

Estimated budget $2,000

Water Quality/Detention Basin Heavy Rainfall Events
We have budgeted for one heavy rainfall-monitoring event during the 2022/23 winter season. In the initial Engineer's Report, we anticipated that a heavy rainfall-monitoring event would be needed, on average, once every two years.

Estimated budget $1,000

Maintenance and Operations

Sediment Removal - Concrete Structures
This budget item is to provide for the annual removal of vegetation, cleaning, sealing and minor repair of concrete-lined drainage ditches within The Reserve development.

Estimated budget $9,000

Water Quality/Detention Basin Facilities
The budget item allows for ongoing maintenance activities as described in the operations and maintenance manual.

Estimated budget $10,000

Trail and Fence Maintenance
This budget item includes gravel-surfaced road maintenance, trail maintenance, and fence repairs, which may occur during the 2022/23 fiscal year.

Estimated budget $3,000

Slope Stabilization, Erosion, and Minor Repairs
This is for unanticipated minor repairs, including slope instability or erosion, which may occur during FY 2022/23.

Estimated budget $23,000

Vegetation Control – Open Space
This budget item includes annual firebreak mowing and litter removal, which will occur during FY 2022/23. This budget item has been increased to allow for a second cutting of fire breaks as needed.

Estimated budget $18,000

Subdrain Maintenance
This budget item allows for construction of subdrain markers and outfall structures to facilitate future monitoring and maintenance of the subdrain outlets, which are critical to slope stability within The Reserve development. This item was included in the Request for Proposals scope of services and is a one-time expense.

Estimated budget $18,000

Conservation Easement Activities
This budget item includes activities that may be needed in relation to the City of Hayward Conservation Easement or East Bay Regional Park District Conservation Easement in FY 2022/23.

Estimated budget $10,000

SPECIAL PROJECTS

There are currently no special projects anticipated in the FY 2022/23 budget within the GHAD-maintained areas of the Hayward GHAD.

ADMINISTRATION AND ACCOUNTING

GHAD Manager

Administration
Administrative expenses include the GHAD Manager duties related to the operation and administration of the GHAD. The budget estimate for administrative services is derived from the original GHAD budget used to prepare the GHADs Engineer's Report.

Estimated budget $21,000

Budget Preparation
This budget provides for the preparation of the annual report and budget.

Estimated budget $2,400

Outside Professional Services – Nontechnical

Legal Counsel
This budget item allows the GHAD to fund legal counsel for the District. The Board appointed Wendel Rosen to serve as the GHAD Attorney on September 13, 2016, with the approval of Resolution No. 16-002. The duties of the legal counsel may include but not be limited to, transfer documentation, preparation or review of contracts, grant deeds, right of entry, and board resolutions.

Estimated budget $7,000

Treasurer
This budget item accounts for fees related the GHAD Treasurer and the investment manager functions. The Board appointed the GHAD Treasurer on September 13, 2016, with the approval of Resolution No. 16-002 and authorized a change in the GHAD Treasurer designation to GHAD Treasurer, Inc. on February 25, 2020, with the approval of Resolution 20-02.

Estimated cost $5,000

Clerk

This budget item allows the GHAD to fund clerk services for the District. The Board appointed Wendel Rosen to serve as the GHAD Clerk on September 13, 2016, with the approval of Resolution No. 16-002.

Estimated cost $1,500

Assessment Roll and Levy Update

This budget item allows for preparation of the assessment roll for the District and the updated levy based on the Consumer Price Index adjustment.

Estimated budget $1,750

Alameda County Assessor's Fees

This budget item accounts for fees from the Alameda County Assessor's Office.

Estimated cost $1,400

California Association of GHADs Membership

The GHAD maintains membership in the California Association of GHADs.

Estimated cost $170

Insurance

The GHAD maintains general liability insurance for open space areas within the District.

Estimated cost $1,350

File #: MIN 22-071

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Clerk

SUBJECT

Approve the City Council Minutes of the Special City Council Meeting on May 14, 2022

RECOMMENDATION

That the Council approves the special City Council meeting minutes of May 14, 2022.

SUMMARY

The City Council held a meeting on May 14, 2022.

ATTACHMENTS

Attachment I Draft Minutes of May 14, 2022

SPECICITY COUNCIL MEETING
777 B Street, Hayward, CA 94541
Council Chamber and Virtual Platform (Zoom)
https://hayward.zoom.us/j/89967627550?pwd=MDFnbDNzK3FKenFGaXB2NURBQUh1Zz09
Saturday, May 14, 2022, 9:00 a.m.

The special City Council meeting was called to order by Mayor Halliday at 9:00 a.m. The City Council held a virtual meeting with participation via Zoom by members of the City Council, staff and public.

Pledge of Allegiance: Council Member Andrews

Present: COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab
MAYOR Halliday
Absent: COUNCIL MEMBER Zermeño

PUBLIC COMMENT

TJ, Hayward Concerned Citizens' representative, referenced her email to Council and expressed she had budgeting concerns related to the FY 2023 Strategic Roadmap priorities specifically the restitution for survivors and descendants of Russell City.

WORK SESSION

1. Council Budget Work Session: Review Proposed Fiscal Year 2023 Operating Budget and Five-Year Plan and Receive and Discuss Department Budget Presentations (Report from City Manager McAdoo and Finance Director Claussen) **CONS 22-245**

   Staff report submitted by City Manager McAdoo and Finance Director Claussen, dated May 14, 2022, was filed.

Finance Director Claussen and City Manager McAdoo provided an overview of the General Fund (revenue vs. expenses); General Fund five-year forecast update; key cost drivers impacting the General Fund; proposed FY 2023 General Fund revenues and expenses; and proposed FY 2023 operating funds.

Discussion ensued among members of the City Council and City staff regarding: American Rescue Plan Act (ARPA) funds; Redevelopment Agency dissolution and distribution; Real Property Transfer Tax; one-time funds; proposed FY 2023 General Fund revenues and expenditures; reserve policy; vacancies throughout departments; Human Resources organizational study; and changes in technology.

Members of the City Council provided the following suggestions: as ARPA projects and programs are reported, provide information for the community and Council on how federal relief funds are allocated and spent; consider extra payment for future liability costs (Unfunded Actuarial Liability UAL) and economic development funds at Mid-Year; consider setting a reserve goal of no less than six months of city operating costs as opposed to two months in an effort to plan for an emergency or economic downturn.

Members of the City Council thanked department heads for their service provided to the community and their efforts and accomplishments during FY 2022.

MAINTENANCE SERVICES

Maintenance Services Director Rullman gave an overview of the Maintenance Services Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Maintenance Services organizational chart; FY 2022 highlights and accomplishments; and goals for FY 2023.

Members of the City Council offered the following comments: as staff continues implementation of the Illegal Dumping Pilot Program, consider a model like Eco Thrift for dropping items; work with property managers of multifamily complexes to address illegal dumping; consider Clean California funds to clean and beautify public spaces; seek opportunities to work with organizations that repurpose items; consider programs that address blight such as San Jose's Cash for Trash model to incentivize unhoused residents to pick up trash in exchange for cash; be mindful of designing a program that empowers the community to be a part of the solution; partner with the Ohlone indigenous community for collection efforts and creating opportunities for reusing; and continue to partner with e-waste providers to be present at future cleanup events.

HUMAN RESOURCES DEPARTMENT

Human Resources Director Sangy gave an overview of the Human Resources Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Human Resources organizational chart; FY 2022 highlights and accomplishments; and goals for FY 2023.

Members of the City Council offered the following comment: consider ways to track employee satisfaction.

FIRE DEPARTMENT

Fire Chief Contreras gave an overview of the Fire Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Fire Department organizational chart; FY 2022 highlights and accomplishments; and goals for FY 2023.

Members of the City Council offered the following comment: consider the feasibility of extending the hours for the Hayward Evaluation and Response Teams (HEART) program.

PUBLIC SAFETY WORKSHOP UPDATE

City Manager McAdoo provided an overview of Public Safety Projects with FY 2023 Budget Requests; Hayward Evaluation and Response Teams (HEART) Budget Request – (Strategic Roadmap); HEART FY 2023 Proposed Org Chart; and HEART Pilot Positions.

YFSB Administrator Young provided an overview of Mobile Evaluation Team (MET) and Fire Chief Contreras spoke about the Mobile Integrated Health (MIHU) soft launch and referral system development and FY 2023 goals/focus areas.

Members of the City Council offered the following comments: consider partnering with California State University, East Bay Master of Social Work program to provide internship that can help shape career trajectory; note that proper staffing at the Dispatch Center is key; consider opioid funding to recruit and train mental health professionals; and continue to prioritize 9-8-8 as the mental health crisis and suicide prevention number in Alameda County.

The City Council took a break at 12:08 p.m.

POLICE

Police Chief Chaplin gave an overview of the Police Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Police Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: continue to evaluate whether the buyback program should include ghost guns in an effort to remove them from the streets; continue to recognize the importance of upholding quality of life and enforcing the noise ordinance related to loud mufflers and tailpipes; consider activating spaces that are problematic in a positive way with non-HPD resources; and consider the Eden Area Regional Occupational Program (ROP) and Chabot College Criminal Justice degree to build a workforce pipeline.

The City Council took a lunch break from 12:44 pm to 1:15 p.m.

DEVELOPMENT SERVICES

Assistant City Manager/Development Services Director Ott introduced Deputy Development Services Director Buizer who gave an overview of the Development Services Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Development Services Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: continue to evaluate best approaches to organizing and supporting pop-up local entrepreneurs with a pathway to permitting and activating spaces and improving economic development; explore programs to help residents remain in compliance maintaining the exterior of their homes such as providing rebates for landscaping and message this information to the community.

INFORMATION TECHNNOLOGY

Information Technology Director Kostrzak gave an overview of the Information Technology Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Information Technology Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: continue efforts to upgrade the current infrastructure given the emergence of new laws; continue efforts to allow residents and people to submit payments, plans and permits online allowing for large PDF files and full integration; remain cautious with threats to cyber security and privacy; ensure water and utilities infrastructure remains protected and safeguarding the software managing the technology; and consider partners such as PilotCity for prospective internship opportunities.

LIBRARY

Library Director Addleman gave an overview of the Information Technology Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Information Technology Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: prioritize infrastructure and needs assessment at the Weekes Library; consider ways to get funds for the future Stack Center; consider possibilities for providing evening programs/events as alternatives working individuals can benefit from; consider unused spaces at the library for revenue generation opportunities such as working spaces; and showcase the activities provided through the library.

CITY MANAGER

City Manager McAdoo introduced Assistant City Manager Youngblood who gave an overview of the City Manager Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; and City Manager Department organizational chart. Assistant City Manager Ott provided an overview of FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: continue to partner with the Chamber of Commerce to organize Downtown Hayward Street Parties for its benefit to the community and businesses; reimagine special events and consider the Tennyson Corridor to build community; exercise flexibility in how businesses conduct their activities such as more outdoor dining and activity options for sidewalk and outdoor retail; be prepared to respond to community members advising that a lack of staffing capacity may impact delivery of services; consider the YFSB Administrator position be restructured to report to the City Manager; stabilize Human Resources to provide support to the rest of the organization, attract and retain workforce, and concentrate on succession planning; expand collaboration between Police and Fire for medical clinics throughout city; provide quarterly updates on City vacancies; consider expansion of the Economic Development Division at Mid-Year; get more life-science companies to Hayward; explore additional opportunities for revenue generation

as ballot measures approach expiration and be proactive and aggressive in expanding tax base and not be so reliant on Measure C or Utility Users Tax funds; consider an arts and cultural commission; and continue to keep the community informed.

FINANCE

Finance Director Claussen introduced Deputy Finance Director Gonzalez who gave an overview of the Library Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Library Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comment: consider social media campaign around the payment tool used by the City and consider having the service installed at different businesses in the city which may assist in boosting sales tax revenue.

The City Council took a break at 3:12 p.m.

CITY CLERK

City Clerk Lens gave an overview of the City Clerk Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; City Clerk Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comment: engage Human Resources to explore creating additional job classifications to create career development within the department.

CITY ATTORNEY

City Attorney Lawson gave an overview of the City Attorney Department budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; City Attorney Department organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comment: continue to oversee the liability insurance premium and increase advocacy efforts through Cal Cities to control insurance cost and mitigate liability.

MAYOR AND CITY COUNCIL

City Manager McAdoo gave an overview of the Mayor and City Council budget comparison FY 2021-FY 2023; significant changes planned for FY 2023; Mayor and City Council organizational chart; and FY 2022 highlights and accomplishments.

Members of the City Council offered the following comments: make sure negotiations with the Police and Fire Departments continue to be effective as it was under the direction of Human Resources Director Sangy; work with the City Attorney to evaluate a policy to erect other flags; and explore restoration for survivors and descendants of Russell City.

City Manager McAdoo noted that due to time constrains, the presentation for the Public Works Department would continue to the May 17th City Council meeting.

ADJOURNMENT

Mayor Halliday adjourned the special meeting at 4:10 p.m.

APPROVED

_____

Barbara Halliday
Mayor, City of Hayward

ATTEST:

_____

Miriam Lens
City Clerk, City of Hayward

File #: CONS 22-319

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Clerk

SUBJECT

Adopt an Ordinance Adding Article 30 to Chapter 10 of the Hayward Municipal Code Regarding Traffic Impact Fees for Property Developers

RECOMMENDATION

That the Council adopts the Ordinance introduced on May 17, 2022.

SUMMARY

This item entails adoption of an Ordinance adding Article 30 Chapter 10 of the Hayward Municipal Code, introduced on May 17, 2022, by Council Member Márquez.

ATTACHMENTS

Attachment I Staff Report
Attachment II Summary of Ordinance Published

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Clerk

SUBJECT: Adopt an Ordinance Adding Article 30 to Chapter 10 of the Hayward Municipal Code Regarding Traffic Impact Fees for Property Developers

RECOMMENDATION

That the Council adopts the Ordinance introduced on May 17, 2022.

SUMMARY

This item entails adoption of an Ordinance adding Article 30 Chapter 10 of the Hayward Municipal Code, introduced on May 17, 2022, by Council Member Márquez.

BACKGROUND

The Ordinance was introduced by Council Member Márquez at the May 17, 2022, meeting of the City Council with the following vote:

AYES:	COUNCIL MEMBERS: Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to one of the priorities outlined in the Council's Strategic Roadmap.

FISCAL IMPACT

There is no fiscal impact associated with this report.

PUBLIC CONTACT

The summary of the Ordinance was published in the Daily Review c/o Bay Area News Group-East Bay on Friday, May 20, 2022. Adoption, at this time, is therefore appropriate.

NEXT STEPS

The Hayward Municipal Code and other related documents will be updated accordingly.

Prepared and Recommended by: Miriam Lens, City Clerk

Approved by:

_____
Kelly McAdoo, City Manager

PUBLIC NOTICE OF AN INTRODUCTION OF AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF HAYWARD

AN ORDINANCE OF THE CITY OF HAYWARD ADDING ARTICLE 30 TO CHAPTER 10 OF THE HAYWARD MUNICIPAL CODE REGARDING TRAFFIC IMPACT FEES FOR PROPERTY DEVELOPERS

THE CITY COUNCIL OF HAYWARD DOES ORDAIN AS FOLLOWS:

Section 1. Article 30 is added to Chapter 10 of the Hayward Municipal Code to read in full as follows:

ARTICLE 30 – PROPERTY DEVELOPERS - TRAFFIC IMPACT FEES

SECTION 10-30.00 - AUTHORITY
SECTION 10-30.01 - FINDINGS AND PURPOSE
SECTION 10-30.05 - DEFINITIONS
SECTION 10-30.10 - ESTABLISHMENT OF FEE AND APPLICABILITY
SECTION 10-30.15 - EXEMPTION FROM REQUIREMENTS
SECTION 10-30.20 - AMOUNT OF FEE
SECTION 10-30.25 - COMPUTATION OF FEE
SECTION 10-30.30 - GENERAL PROVISIONS
SECTION 10.-30.35 - APPEALS

SECTION 10-30.40 – EFFECTIVE DATE OF ARTICLE
The effective date of this Article shall be thirty (30) days after its adoption by the City Council.

SECTION 10-30.45 - EFFECTIVE DATE OF FEE
Pursuant to Government Code sections 66017 and 66019 the effective date of the fees established by this Article shall be no sooner than sixty (60) days following adoption of the fees by the City Council.

SECTION 10-30.50 – SEVERABILITY
If any section, subsection, paragraph, or sentence of this Ordinance, or any part thereof, is for any reason found to be unconstitutional, invalid, or beyond the authority of the City of Hayward by a court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance.

Introduced at a meeting of the City Council of the City of Hayward, held the 17th day of May 2022, by Council Member Márquez.

This Ordinance will be considered for adoption at the regular meeting of the Hayward City Council, to be held on May 24, 2022, at 7:00 p.m. Please note the City Council will hold a hybrid meeting which will allow for participation in the Council Chamber and virtually via the Zoom platform. The full text of this Ordinance is available for examination by the public by contacting the City Clerk's office at cityclerk@hayward-ca.gov or (510) 583-4400.

Dated: May 20, 2022
Miriam Lens, City Clerk
City of Hayward

File #: CONS 22-321

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Manager

SUBJECT

Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

RECOMMENDATION

That the Council adopts a resolution (Attachment II) pursuant to AB 361 making specific findings to allow the Council and appointed commissions/task forces and Council committees (Exhibit A to Attachment II) to continue holding teleconferenced public meetings during the COVID 19 state of emergency.

SUMMARY

On September 16, 2021, the Governor signed AB 361 that amended provisions of the Brown Act to allow local governments to conduct virtual meetings during a state of emergency proclaimed by the Governor, subject to complying with specific requirements, including providing public access and participation via call-in or internet-based platforms. While AB 361 does not require legislative bodies to take any specific actions to hold an initial teleconferenced meeting during a state of emergency, a legislative body must act in order to continue holding subsequent teleconferenced meetings while the state of emergency remains in effect. Specifically, no later than 30 days after the initial AB 361 teleconferenced meeting, and every 30 days thereafter, a legislative body must make findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist: the state of emergency continues to directly impact the ability of the members to meet safely in person; or, state or local officials continue to impose or recommend measures to promote social distancing.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Resolution
Attachment III	Exhibit A

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Manager
City Clerk

SUBJECT: Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

RECOMMENDATION

That the Council adopts a resolution (Attachment II) pursuant to AB 361 making specific findings to allow the Council and appointed commissions/task forces and Council committees (Exhibit A to Attachment II) to continue holding teleconferenced public meetings during the COVID 19 state of emergency.

SUMMARY

On September 16, 2021, the Governor signed AB 361 that amended provisions of the Brown Act to allow local governments to conduct virtual meetings during a state of emergency proclaimed by the Governor, subject to complying with specific requirements, including providing public access and participation via call-in or internet-based platforms. While AB 361 does not require legislative bodies to take any specific actions to hold an initial teleconferenced meeting during a state of emergency, a legislative body must act in order to continue holding subsequent teleconferenced meetings while the state of emergency remains in effect. Specifically, no later than 30 days after the initial AB 361 teleconferenced meeting, and every 30 days thereafter, a legislative body must make findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist: the state of emergency continues to directly impact the ability of the members to meet safely in person; or, state or local officials continue to impose or recommend measures to promote social distancing.

BACKGROUND

In general, the Brown Act allows legislative bodies to use teleconferencing during a public meeting as long as certain requirements are met, such as:

- Identification of any remote location from which a member of the legislative body is participating via teleconference;
- Posting of agendas at all remote locations from which members of the legislative body are participating;
- Public accessibility to the remote location and the technological means for allowing the public to participate in the meeting from the location; and
- A quorum of the members must be participating from a location within the jurisdiction of the legislative body.

In response to the COVID 19 state of emergency, the Governor temporarily suspended the rules described above when he issued Executive Order N-29-20 on March 17, 2020 and authorized local legislative bodies to hold virtual public meetings subject to specific public accessibility and noticing requirements.

With the expiration of Executive Order N-29-20, AB 361 amends the Brown Act to allow virtual public meetings during a state of emergency proclaimed by the Governor. A local agency may hold a teleconferenced meeting during a state of emergency without complying with the normal teleconferencing requirements described above if it meets requirements related to providing notice of the meeting, public access and participation via call-in or internet-based service options, real-time public comments, and conduct of the meeting in a manner that protects statutory and constitutional rights of any parties and the public appearing before the legislative body.

AB 361 does not require legislative bodies to take any specific action prior to holding an initial teleconferenced meeting during a state of emergency. However, to hold a subsequent teleconferenced meeting a legislative body must act no later than 30 days after the initial teleconferenced meeting, and every 30 days thereafter, by making findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist:

- The state of emergency continues to directly impact the ability of the members to meet safely in person; or
- State or local officials continue to impose or recommend measures to promote social distancing.

DISCUSSION

On February 25, 2022, the Governor issued Executive Order N-04-22 repealing many of his prior Executive Orders imposing various mandates intended to address the impact of COVID 19. However, the Governor did not lift the State of Emergency related to COVID 19 that he initially proclaimed on March 4, 2020. As of the date of this report, the State of Emergency proclaimed by the Governor remains in effect.

Current guidance and orders of the Alameda County Health Official satisfy both conditions necessary for the AB 361 findings described above:

- Order No. 20-05g, originally issued April 3, 2020 and most recently amended on January 10, 2022, imposes a mandate that all individuals diagnosed or likely to have COVID 19 must isolate themselves and follow requirements further specified in the Order.

- Order No. 20-06q, originally issued April 3, 2020 and most recently updated on May 9, 2022, requires individuals to comply with California Department of Public Health Guidance on Isolation and Quarantine of the General Public except in the specific circumstances described in the order, including, persons who are not fully vaccinated must quarantine for at least 5 days after close contact with an individual infected with COVID-19.

- The Alameda County Public Health Department requires face coverings in the following situations:

    - Indoors at busineses, government offices, youth-serving facilities, and workplace settings that choose to require everyone to mask.
    - On trains, buses, ferries, taxis and rideshare that choose to require everyone to mask.
    - In transportation hubs like bus terminals, train stations, marines, seaports or other ports, subway stations, or any other area that provides transportation that choose to require everyone to mask.
    - Healthcare settings.
    - State and local correctional facilities and detention centers.
    - Shelters and cooling centers.

- The Alameda County Public Health Department strongly recommends everyone to wear a mask in indoor public settings, outdoor crowded settings, and in non-public indoor settings, like a private residence, when they are around people who may be unvaccinated, elderly, or immunocompromised.

- Workplaces must comply with Cal/OSHA safety standards.

The following current guidance from the California Department of Public Health satisfies the AB 361 findings:

- The Department strongly recommends that all persons, regardless of vaccination status, contintue to mask while in indoor public settings and businesses, on public transit, and in transportation hubs.
- Face coverings are required for all individuals in the following indoor settings, regardless of vaccination status: homeless shelters, emergency shelters, cooling and heating centers, healthcare settings, state and local correctional facilities and detention centers, long term care settings and adult and senior care facilities.
- Fully vaccinated invidivuals are recommended to continue indoor masking when the risk may be high.

- Persons with COVID-19 symptoms or who test positive for COVID-19 are required to isolate.
- Persons working or housed in specified high-risk settings are required to isolate and quarantine in the event of an exposure to someone infected with COVID-19.
- Members of the general public, regardless of vaccination status, are not required to isolate if they are asymptomatic after exposure to a person infected with COVID-19. Testing and masking are recommended and vaccination/boosting is strongly encouraged.

Alameda County Health Order No. 21- 04 (effective November 1, 2021), which allows a stable group of fully vaccinated individuals to remove masks in certain indoor situations, is not applicable to the City's public meetings because they do not necessarily involve a stable group of vaccinated individuals.

Currently, the Council is holding hybrid Council meetings that allow for virtual participation via the Zoom platform as well as in-person participation. This format also allows for real-time public comments, in compliance with AB 361. In compliance with Alameda County public health orders, everyone who is unvaccinated inside the Council Chamber is required to wear a mask or other face-covering. All City commissions, task forces, and Council committees continue meeting entirely virtually over the Zoom platform.

Based on the above, staff recommends that the Council adopts the attached resolution making the necessary findings to allow the Council and the appointed boards and commissions identified in Exhibit A to the resolution to continue holding teleconferenced meetings pursuant to AB 361.

FISCAL IMPACT

There is no fiscal impact associated with this action.

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to any of the projects outlined in the Council's Strategic Roadmap.

NEXT STEPS

Adoption of the resolution will allow the Council and specified appointed boards and commissions to hold a subsequent teleconferenced meeting pursuant to the provisions of AB 361. Additional resolutions must be adopted every thirty days during the existence of the state of emergency in order to continue holding teleconferenced meetings.

Prepared by: Kelly McAdoo, City Manager
Miriam Lens, City Clerk

Approved by:

_____
Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-___

Introduced by Council Member _____

RESOLUTION MAKING THE REQUIRED FINDINGS PURSUANT TO AB 361 TO CONTINUE TO HOLD TELECONFERENCED PUBLIC MEETINGS DURING THE COVID 19 STATE OF EMERGENCY

WHEREAS, the Brown Act (Government Code section 54950 et seq.) allows for public meetings of a legislative body to occur via teleconferencing subject to certain requirements, particularly that the legislative body notice each teleconference location of each member that will be participating in the public meeting, that each teleconference location be accessible to the public, that members of the public be allowed to address the legislative body at each teleconference location, that the legislative body post an agenda at each teleconference location, and that at least a quorum of the legislative body participate from locations within the boundaries of the local agency's jurisdiction; and

WHEREAS, in response to the COVID-19 state of emergency, the Governor temporarily suspended the rules described above when he issued Executive Order N-29-20 on March 17, 2020 and authorized local legislative bodies to hold virtual public meetings subject to specific public accessibility and noticing requirements; and

WHEREAS, the Governor signed AB 361 prior to the expiration of Order N-29-20; and

WHEREAS, AB 361 amends the Brown Act to the legislative body of a local agency to hold a teleconferenced meeting during a state of emergency without complying with the normal teleconferencing requirements described above if it meets requirements related to providing notice of the meeting, public access and participation via call-in or internet-based service options, real-time public comments, and conduct of the meeting in a manner that protects statutory and constitutional rights of any parties and the public appearing before the legislative body; and

WHEREAS, AB 361 does not require legislative bodies to take any specific action prior to holding an initial teleconferenced meeting during a state of emergency, however, to hold a subsequent teleconferenced meeting a legislative body must act no later than 30 days after the initial teleconferenced meeting, and every 30 days thereafter, by making findings specified in the statute justifying the continued use of teleconferenced public meetings; and

WHEREAS, it shall be the policy of the City that the appointed boards and commissions of the City will hold teleconferenced public meetings in compliance with the provisions of AB 361 during the COVID-19 state of emergency; and

WHEREAS, the COVID-19 state of emergency declared by the Governor remains active; and

WHEREAS, public meetings involve many people in shared indoors spaces for hours, when the number of people present does not always allow for a minimum six foot distance between persons, and close contacts raise the risk of the spread of COVID-19; and

WHEREAS, the California Department of Public Health has mandated that everyone in California wear a mask in indoor public spaces and workplaces through February 15, 2022; and

WHEREAS, the Alameda County Health Officer has issued Order No. 20-05g (originally issued April 3, 2020 and most recently amended on January 10, 2022) imposing a mandate that all individuals diagnosed or likely to have COVID-19 must isolate themselves and follow requirements further specified in the Order; and

WHEREAS, the Alameda County Health Officer has issued Order No. 20-06q (originally issued April 3, 2020 and most recently amended on May 9, 2022)requires individuals to comply with California Department of Public Health Guidance on Isolation and Quarantine of the General Public except in the specific circumstances described in the order, including, persons who are not fully vaccinated must quarantine for at least 5 days after close contact with an individual infected with COVID-19. ; and

WHEREAS, the Alameda County Health Officer has issued Order No. 22-01 (effective on February 16, 2022), which rescinded Order No. 21-06 (effective on December 8, 2021) which mandated face coverings be worn in indoor public spaces; and

WHEREAS, pursuant to a February 28, 2022 advisory from the California Department of Public Health, effective March 1, 2022 the requirement that unvaccinated individuals mask in indoor public settings will move to a strong recommendation that all persons, regardless of vaccination status, continue to mask while in indoor public settings and businesses; and

WHEREAS, the Alameda County Public Health Department requires face coverings in the following situations:

- Indoors at businesses, government offices, youth-serving facilities, and workplace settings that choose to require everyone to mask.
- On trains, buses, ferries, taxis and rideshare that choose to require everyone to mask.
- In transportation hubs like bus terminals, train stations, marines, seaports or other ports, subway stations, or any other area that provides transportation that choose to require everyone to mask.
- Healthcare settings.
- State and local correctional facilities and detention centers.
- Shelters and cooling centers; and

WHEREAS, the Alameda County Public Health Department strongly recommends everyone wear a mask in indoor public settings, outdoor crowded settings, and in non-public indoor settings, like a private residence, when they are around people who may be unvaccinated, elderly, or immunocompromised; and

WHEREAS, workplaces must comply with Cal/OSHA safety standards; and

WHEREAS, the California Department of Public Health has issued the following current guidance:

- The Department strongly recommends that all persons, regardless of vaccination status, continue to mask while in indoor public settings and businesses, on public transit, and in transportation hubs.
- Face coverings are required for all individuals in the following indoor settings, regardless of vaccination status: homeless shelters, emergency shelters, cooling and heating centers, healthcare settings, state and local correctional facilities and detention centers, long term care settings and adult and senior care facilities.
- Fully vaccinated individuals are recommended to continue indoor masking when the risk may be high.
- Persons with COVID-19 symptoms or who test positive for COVID-19 are required to isolate.
- Persons working or housed in specified high-risk settings are required to isolate and quarantine in the event of an exposure to someone infected with COVID-19.
- Members of the general public, regardless of vaccination status, are not required to isolate if they are asymptomatic after exposure to a person infected with COVID-19. Testing and masking are recommended and vaccination/boosting is strongly encouraged; and

WHEREAS, Alameda County Health Order No. 21- 04 (effective November 1, 2021), which allows a stable group of fully vaccinated individuals to remove masks in certain indoor situations, is not applicable to the City's public meetings because they do not necessarily involve a stable group of vaccinated individuals.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward makes the following findings pursuant to AB 361 to continue holding teleconferenced public meetings during the COVID-19 state of emergency:

- The City Council has reconsidered the circumstances of the state of emergency.
- The COVID 19 state of emergency declared by the Governor remains active and continues to directly impact the ability of Councilmembers to meet safely in-person.
- State and local officials continue to recommend or impose measures to promote social distancing.

- The Alameda County Health Officer has issued orders imposing measures to promote social distancing via isolation and quarantine of individuals infected or likely infected with COVID-19 and individuals with close contact to persons infected with COVID-19.

- The Alameda County Health Officer strongly recommends that everyone wear a mask in indoor public settings, outdoor crowded settings, and in non-public indoor settings, like a private residence, when they are around people who may be unvaccinated, elderly, or immunocompromised.

- The Alameda County Health Officer requires face coverings to be worn in the following settings:
    - Indoors at businesses, government offices, youth-serving facilities, and workplace settings that choose to require everyone to mask.
    - On trains, buses, ferries, taxis and rideshare that choose to require everyone to mask.
    - In transportation hubs like bus terminals, train stations, marines, seaports or other ports, subway stations, or any other area that provides transportation that choose to require everyone to mask.
    - Healthcare settings.
    - State and local correctional facilities and detention centers.
    - Shelters and cooling centers.

- The California Department of Public Health strongly recommends that all persons, regardless of vaccination status, continue to mask while in indoor public settings and businesses, on public transit and in transportation hubs.

- Workplaces must comply with Cal/OSHA safety standards.

BE IT FURTHER RESOLVED that in the interest of public health and safety, based on the findings contained herein, the City Council of the City of Hayward and the appointed boards and commissions identified in Exhibit A of this Resolution shall continue to hold teleconferenced public meetings pursuant to AB 361.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

EXHIBIT A

- Community Services Commission
- Keep Hayward Clean and Green Task Force
- Library Commission
- Personnel Commission
- Planning Commission
- Council Airport Committee
- Council Budget and Finance Committee
- Council Economic Development Committee
- Council Infrastructure Committee
- Council Homelessness-Housing Task Force
- Council Sustainability Committee
- Hayward Youth Commission
- Hayward Police Department Community Advisory Panel

File #: CONS 22-296

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Chief of Police

SUBJECT

Adopt a Resolution Authorizing the City Manager to Appropriate $8,394.29 in Asset Forfeiture Fund Balance and to Transfer the Appropriation from the Asset Forfeiture Fund (265) to the General Fund (100)

RECOMMENDATION

That the City Council adopts a resolution (Attachment II) authorizing the City Manager to appropriate $8,394.29 in asset forfeiture fund balance and to transfer the appropriation from the Asset Forfeiture Fund (265) to the General Fund (100).

SUMMARY

The Hayward Police Department intends to utilize asset forfeiture funds currently in fund balance to offset the cost of sending two Crime Analysts to the 2021 Bay Area Crime and Intelligence Analyst Association Conference, and five members of the Special Duty Unit to the California Narcotics Officers Association conference.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	esolution

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Chief of Police

SUBJECT: Adopt a Resolution Authorizing the City Manager to Appropriate $8,394.29 in Asset Forfeiture Fund Balance and to Transfer the Appropriation from the Asset Forfeiture Fund (265) to the General Fund (100)

RECOMMENDATION

That the City Council adopts a resolution (Attachment II) authorizing the City Manager to appropriate $8,394.29 in asset forfeiture fund balance and to transfer the appropriation from the Asset Forfeiture Fund (265) to the General Fund (100).

SUMMARY

The Hayward Police Department intends to utilize asset forfeiture funds currently in fund balance to offset the cost of sending two Crime Analysts to the 2021 Bay Area Crime and Intelligence Analyst Association Conference, and five members of the Special Duty Unit to the California Narcotics Officers Association conference.

BACKGROUND AND DISCUSSION

The Hayward Police Department sent two Crime Analysts to the 2021 Bay Area Crime and Intelligence Analyst Association Conference, and five members of the Special Duty Unit to the California Narcotics Officers Association conference. The Personnel and Training Unit paid for the costs associated with these conferences and training courses and the Hayward Police Department requests reimbursement to the Personnel and Training Unit from the Asset Forfeiture Fund**.**

The Bay Area Crime and Intelligence Analyst Association conference is a four-day training course consisting of multiple breakout sessions covering various topics such as open-source and digital investigations, intelligence-led policing, cell phone and data analysis, and Microsoft Excel for law enforcement.

The California Narcotic Officers Association conference is a four-day training course consisting of multiple breakout sessions covering various topics such as human trafficking,

social media investigations, fentanyl investigations, informant management, and use of force/de-escalation.

Providing up-to-date training for analysts and officers is imperative for keeping the Hayward community safe and keeping Police Department staff up to date on the latest trends and best practices.

FISCAL IMPACT

Funding the cost of training through asset forfeiture funds will allow the Police Department to enhance officer safety and increase analyst and officer training without impacting the City's general fund budget.

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to the any specific projects in the Strategic Roadmap.

NEXT STEPS

Upon City Council approval, the above-described funds would be appropriated and transferred from the Asset Forfeiture Fund to the Hayward Police Department's Personnel and Training General Fund account.

Prepared by: David Dorn, Lieutenant

Recommended by: Toney Chaplin, Chief of Police

Approved by:

Kelly McAdoo, City Manager

HAYWARD CITYCOUNCIL

RESOLUTION NO. 22-

Introduced by Council Member_____

ADOPT A RESOLUTION AUTHORIZING THE CITY MANAGER TO APPROPRIATE $8,394.29 IN ASSET FORFEITURE FUND BALANCE AND TRANSFER THE APPROPRIATION FROM THE ASSET FORFEITURE FUND (265) TO THE GENERAL FUND (100)

WHEREAS, the Bay Area Crime and Intelligence Analyst Association conference is a four-day training course consisting of multiple breakout sessions covering various topics such as open-source and digital investigations, intelligence-led policing, cell phone and data analysis, and Microsoft Excel for law enforcement.

WHEREAS, the California Narcotic Officers Association conference is a four-day training course consisting of multiple breakout sessions covering various topics such as human trafficking, social media investigations, fentanyl investigations, informant management, and use of force/de-escalation.

WHEREAS, the total amount being requested to cover the cost of both courses is $8,394.29.

WHEREAS, funding these two courses with Asset Forfeiture Funds will continue the training and development of both Crime Analysts and members of the Special Duty Unit.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward hereby authorizes the City Manager to transfer and appropriate $8,394.29 from the Asset Forfeiture Fund to the General Fund.

IN COUNCIL, HAYWARD, CALIFORNIA_____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES:	COUNCIL MEMBERS: MAYOR:
NOES:	COUNCIL MEMBERS:
ABSTAIN:	COUNCIL MEMBERS:
ABSENT:	COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

File #: CONS 22-297

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT

Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 8 to the Professional Services Agreement with CSG Consultants, Inc., for Private Development Review Services in the Amount of $400,000 for a Total Not-To-Exceed Amount of $2.1 Million and Extending the Date of the Agreement to June 30, 2023

RECOMMENDATION

That Council adopts a resolution (Attachment II) authorizing the City Manager to execute Amendment No. 8 to the Professional Services Agreement (PSA) with CSG Consultants, Inc., (CSG) for private development plan check review and related services, increasing the amount by $400,000 for a total not-to-exceed contract amount of $2.1 million and extending the date of the agreement to June 30, 2023.

SUMMARY

The City entered into a PSA with CSG on November 18, 2016 to assist with development review. CSG has extensive experience in providing professional services for private development projects in the Bay Area. CGS has provided these services for large scale projects in the City such as SoHay, Lincoln Landing, and Parcel Groups 3 and 5, specifically in the planning and entitlement stages of projects. Due to staff vacancies and continued significant private development workload, staff is requesting an additional amendment to continue receiving these services.

ATTACHMENTS

Attachment I Staff Report
Attachment II Resolution

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 8 to the Professional Services Agreement with CSG Consultants, Inc., for Private Development Review Services in the Amount of $400,000 for a Total Not-To-Exceed Amount of $2.1 Million and Extending the Date of the Agreement to June 30, 2023

RECOMMENDATION

That Council adopts a resolution (Attachment II) authorizing the City Manager to execute Amendment No. 8 to the Professional Services Agreement (PSA) with CSG Consultants, Inc., (CSG) for private development plan check review and related services, increasing the amount by $400,000 for a total not-to-exceed contract amount of $2.1 million and extending the date of the agreement to June 30, 2023.

SUMMARY

The City entered into a PSA with CSG on November 18, 2016 to assist with development review. CSG has extensive experience in providing professional services for private development projects in the Bay Area. CGS has provided these services for large scale projects in the City such as SoHay, Lincoln Landing, and Parcel Groups 3 and 5, specifically in the planning and entitlement stages of projects. Due to staff vacancies and continued significant private development workload, staff is requesting an additional amendment to continue receiving these services.

BACKGROUND

Public Works & Utilities staff is responsible for reviewing grading plans, subdivision maps, improvement plans, and soils and geological reports for private development projects. Due to staff vacancies and significant private development workload, the City entered into a PSA with CSG on November 18, 2016, to provide these plan review services. Council approved the following amendments:

Amendment No.	Date	Amendment Change
1	September 19, 2017	Increase total PSA to $500,000 Extend term to June 30, 2018
2	May 22, 2018	Increase total PSA to $680,000 Extend term to December 31, 2018
3	January 8, 2019	Extend term to June 30, 2019
4	June 25, 2019	Increase total PSA to $880,000 Extend term to June 30, 2020
5	September 22, 2020	Increase total PSA to $1,200,000 Extend term to June 30, 2021
6	July 6, 2021	Increase total PSA to $1,570,000 Extend term to June 30, 2022
7	February 1, 2022	Increase total PSA to $1,700,000

On September 19, 2017[1], Council approved Amendment No. 1, increasing the original PSA amount by an additional $425,000, for a total amount of $500,000, and extending the term to June 30, 2018. Amendment No. 2, approved on May 22, 2018[2], increased the total of the PSA to $680,000 and extended the PSA to December 31, 2018. Amendment No. 3, was approved on January 8, 2019, extended the PSA to June 30, 2019. On June 25, 2019[3], Council approved Amendment No. 4, for a total PSA amount of $880,000 and extended the PSA to June 30, 2020. On September 22, 2020[4], following Amendment No. 5 approval, the agreement was extended to June 30, 2021 for a total PSA amount of $1.2 million. On July 06, 2021[5], Council approved Amendment No. 6 for a total PSA amount of $1,570,000 and extended the PSA to June 30, 2022. On February 01, 2022[6], Council approved Amendment No. 7 for a total PSA amount of $1.7 million.

DISCUSSION

The current PSA with CSG for development plan check and review services expires on June 30, 2022 but because of the extended need for CSG services, the PSA amount of $400,000 will fund efforts through June 30, 2023. Due to staff vacancies in Public Works & Utilities and Development Services Departments, and significant private development workload, staff anticipates that these services will continue to be required through the end of FY23. CSG's advanced knowledge and experience in private development projects along with their familiarity with City Municipal Code and development requirements have assisted City staff in processing development projects.

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=3155400&GUID=B285B522-BC04-49A5-BED3-E8F380898713&Options=&Search=
[2] https://hayward.legistar.com/LegislationDetail.aspx?ID=3508589&GUID=F517F5A6-7470-4B64-BE2A-26D7C5726EAC&Options=&Search=
[3] https://hayward.legistar.com/LegislationDetail.aspx?ID=3993701&GUID=84297268-7A43-4F53-8674-B64A2D980093&Options=&Search=
[4] https://hayward.legistar.com/LegislationDetail.aspx?ID=4646744&GUID=BEF0434E-91CC-40BB-8BBB-AE2E500B3CE1&Options=&Search=
[5] https://hayward.legistar.com/LegislationDetail.aspx?ID=5018122&GUID=65E9EA51-514A-43E0-A1E4-3BF3177C01A2&Options=&Search=
[6] https://hayward.legistar.com/LegislationDetail.aspx?ID=5397458&GUID=3874735D-E3D4-4D72-8965-49518BF8B439&Options=&Search=

As such, staff requests approval of Amendment No. 8 to increase the contract amount by $400,000 for a not-to-exceed amount of $2.1 million to fund the required services through the end of the fiscal year.

ECONOMIC IMPACT

This PSA facilitates timely development in the City, which impacts and improves the local economy.

FISCAL IMPACT

This item will have almost no impact to the General Fund. Given that the private consultant's hourly rates are typically much higher than City staff's rates in comparable positions, the consultant's fees are not currently fully recovered through charges to projects. However, staff anticipates that most of these expenses will be offset by charges to developers, which replenish the General Fund.

Staff will be evaluating the approach taken in current charging practices for development review and will adjust accordingly in order to reduce the impact on the General Fund.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority to Grow the Economy by providing professional services to the Development Services and Public Works & Utilities Departments by assisting in finalizing planning on redevelopment of six remaining parcel groups. Specifically, this item relates to the implementation of the following:

Project 5, Part 5a: Finalize planning on redevelopment of six remaining parcel groups

This agenda item also supports the Strategic Priority to Improve Infrastructure. Specifically, this item relates to the implementation of the following:

Project 10: Investigate major municipal building upgrade needs

By receiving professional services from CSG, the City is taking steps to improve infrastructure within the City. This achievement is through reviewing and conditioning large developments projects to improve Hayward's utilities and street improvements including but not limited to traffic calming initiatives.

PUBLIC CONTACT

No public contact has been made related to this amendment.

NEXT STEPS

If Council approves this request, the City Manager will execute Amendment No. 8 to the PSA with CSG to increase the PSA amount to $2.1 million and extending the agreement to June 30, 2023.

Prepared by: Kathy Garcia, Deputy Director of Public Works

Recommended by: Alex Ameri, Director of Public Works

Approved by:

_____

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-____

Introduced by Council Member _____

RESOLUTION AUTHORIZING THE CITY MANAGER TO EXECUTE AMENDMENT N0. 8 TO THE PROFESSOIONAL SERVICES AGREEMENT WITH CSG CONSULTANTS, INC., FOR PRIVATE DEVELOPMENT REVIEW SERVICES IN THE AMOUNT OF $400,000 FOR A NOT-TO-EXCEED AMOUNT OF $2.1 MILLION AND EXTENDING THE DATE OF THE AGREEMENT TO JUNE 30, 2023

WHEREAS, the aforesaid parties have entered into that certain Agreement dated the 18th day of November 2016, entitled "Agreement for Professional Services between the City of Hayward and CSG CONSULTANTS, INC.,", for temporary Development Review Services; and

WHEREAS, the City and Consultant amended that certain Agreement on September 19, 2017 with Amendment No. 1 increasing that Agreement to $500,000 and extending the termination date to June 30, 2018; and

WHEREAS, the City and Consultant amended that certain Agreement on May 22, 2018 with Amendment No. 2 increasing the Agreement to $680,000 and extending the termination date to December 31, 2018; and

WHEREAS, the City and Consultant amended that certain Agreement on January 8, 2019 with Amendment No. 3 extending the termination date to June30, 2019; and

WHEREAS, the City and Consultant amended that certain Agreement on June 25, 2019 with Amendment No. 4 increasing that Agreement to $880,000 and extending the termination date to June 30, 2020; and

WHEREAS, the City and Consultant amended that certain Agreement with Amendment No. 5 on September 22, 2020 increasing the Agreement to $1.2 million and extended it to June 30, 2021; and

WHEREAS, the City and Consultant amended that certain Agreement with Amendment No. 6 on July 6, 2021 increasing the Agreement to $1,570,000 and extending the termination date to June 30, 2022; and

WHEREAS, the City and Consultant amended that certain Agreement with Amendment No. 7 on February 1, 2022 increasing the Agreement to $1.7 million; and

WHEREAS, the City and the Consultant desire to further amend the Agreement in certain respects.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward that the City Manager is hereby authorized and directed to negotiate and execute, on behalf of the City of Hayward, an amendment to the agreement with CSG CONSULTANTS, INC., for additional services in the amount of $400,000, resulting in an increase of the total contract, inclusive of all prior amendments, to an amount not-to-exceed $2.1 million and extend it through June 30, 2023 associated with the City of Hayward temporary development plan check review services.

IN COUNCIL, HAYWARD, CALIFORNIA_____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

File #: CONS 22-313

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT

Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 2 to the Professional Services Agreement with EKI Environment & Water for As-Needed Technical Support Related to Implementation of a Groundwater Management Plan Increasing the Contract Amount by $35,000 for a Total Not-to-Exceed Amount of $95,000

RECOMMENDATION

That the Council adopts a resolution (Attachment II) authorizing the City Manager to amend the Professional Services Agreement (PSA) with EKI Environment & Water (EKI) for as-needed technical support related to sustainable groundwater management at a cost of $35,000, increasing the total agreement not-to-exceed amount to $95,000.

SUMMARY

Independent groundwater review and technical expertise are needed to prepare the Groundwater Sustainability Plan (GSP) and to assist with implementation activities, as well as Sustainable Groundwater Management Act compliance. To assist with these activities, the City entered into a PSA with EKI in January 2021 to provide technical services related to sustainable groundwater management. In July 2021, the agreement was amended to provide funds for additional work activities. A second amendment is recommended to allow for additional support for continuing GSP implementation and SGMA compliance. Staff recommends an increase in the agreement amount by $35,000. If approved, the additional will increase the total agreement amount to $95,000 for the period of May 2022 - April 2023.

ATTACHMENTS

Attachment I Staff Report
Attachment II Resolution

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 2 to the Professional Services Agreement with EKI Environment & Water for As-Needed Technical Support Related to Implementation of a Groundwater Management Plan Increasing the Contract Amount by $35,000 for a Total Not-to-Exceed Amount of $95,000

RECOMMENDATION

That the Council adopts a resolution (Attachment II) authorizing the City Manager to amend the Professional Services Agreement (PSA) with EKI Environment & Water (EKI) for as-needed technical support related to sustainable groundwater management at a cost of $35,000, increasing the total agreement not-to-exceed amount to $95,000.

SUMMARY

Independent groundwater review and technical expertise are needed to prepare the Groundwater Sustainability Plan (GSP) and to assist with implementation activities, as well as Sustainable Groundwater Management Act compliance. To assist with these activities, the City entered into a PSA with EKI in January 2021 to provide technical services related to sustainable groundwater management. In July 2021, the agreement was amended to provide funds for additional work activities. A second amendment is recommended to allow for additional support for continuing GSP implementation and SGMA compliance. Staff recommends an increase in the agreement amount by $35,000. If approved, the additional will increase the total agreement amount to $95,000 for the period of May 2022 – April 2023.

BACKGROUND

SGMA was signed into law in 2014 to provide for comprehensive and sustainable management of groundwater resources within the State. The legislation provides a framework for groundwater management at the local level through formation of Groundwater Sustainability Agencies (GSAs). As part of SGMA, local agencies in Medium and High-priority basins are required to form GSAs that have the authority and responsibility to develop, adopt, and implement a GSP. Under SGMA

guidelines, the City and East Bay Municipal Utility District (EBMUD) each formed GSAs for the portions of the East Bay Plain Groundwater Subbasin (Medium-priority basin) that underlay the City and EBMUD boundaries. As GSAs for the East Bay Plain Subbasin, the City and EBMUD are responsible for developing and implementing a GSP to sustainably manage and utilize groundwater within its management area without causing adverse results.

Upon approval from Council in June 2018, the City entered into an agreement with EBMUD to jointly prepare a single GSP for the entire East Bay Plain Subbasin. Working collaboratively with EBMUD reduced duplication of technical work and thus the cost of preparing a GSP for both agencies. The Cooperating Agreement anticipated the use of outside consultants to assist with the preparation of the GSP, and thus included a preliminary scope of work, project schedule, and budget. Subsequently, the City and EBMUD jointly selected Luhdorff & Scalmanini Consulting Engineers (LSCE) to provide technical consultant assistance. The initial agreement was dated June 25, 2018, and has been amended three times (March 29, 2019, December 22, 2020, and November 16, 2021).

Additionally, the City solely retained EKI to assist with technical groundwater support services to provide independent review and technical expertise to ensure its interests were being protected as the City currently does not have staff with extensive groundwater knowledge and experience.

As the GSAs for the East Bay Plain Subbasin, the City and EBMUD, with technical consulting assistance, completed the GSP. In accordance with SGMA guidelines, both GSAs held public hearings and adopted the GSP in December 2021. The GSAs jointly submitted the GSP to DWR by the required January 31, 2022 deadline. In addition, annual GSP reports are required to be submitted by April 30th of each year. The GSAs prepared and submitted the first GSP annual report in March 2022.

DISCUSSION

Under SGMA, GSAs have specific responsibilities and authorities, including development, implementation, and monitoring of sustainable management actions, and ensuring the management actions are commensurate with sustainability. EBMUD and Hayward retained the services of LSCE to prepare the GSP and to assist with some of the implementation activities, as well as SGMA compliance. Because the City does not have staff with extensive groundwater experience and knowledge, City staff had previously relied on EBMUD staff and the consulting team for assistance. City staff determined that independent review and technical expertise were needed to ensure the City's interests were being protected.

In January 2021, the City entered into a PSA with EKI to provide as-needed groundwater technical support services. In July 2021[1], the City amended the PSA for an additional funds to continue technical support services. Because GSP- and SGMA-related activities are continuing, staff recommends the agreement with EKI be amended to include an additional $35,000 in funding for a total agreement not-to-exceed amount of $95,000 for ongoing sustainable groundwater management activities for the period of May 2022 – April 2023 to

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=5018122&GUID=65E9EA51-514A-43E0-A1E4-3BF3177C01A2&Options=&Search=

assist in Hayward's compliance with SGMA. Implementation activities will continue over the upcoming years.

ECONOMIC IMPACT

Costs for implementing the GSP and other SGMA-related activities have been estimated and are not expected to significantly impact customer water rates. The community could benefit from groundwater management actions to achieve sustainability goals resulting in greater diversity and reliability of water supplies, especially during water emergency periods.

FISCAL IMPACT

The Water Improvement Fund in the Capital Improvement Program (CIP) includes funds for groundwater-related activities such as sustainable groundwater management. The amendment to the PSA with EKI will increase the contract amount by $35,000. Staff anticipates this amount will be sufficient for the period of May 2022 through June 2023. There is potential for additional costs as SGMA work progresses; however, none are anticipated at this time.

The following is the Scope for Work for Ongoing SGMA Support:

- Attend Regular Meetings of East Bay Plain Subbasin GSAs
- Support Known GSP Implementation Activities
  - Perform GSP-related Groundwater Monitoring (i.e., fall 2022 and spring 2023 events)
  - Support for responses to GSP-related inquiries/comments
  - Support for WY 2022 Annual Report preparation (report is due April 1, 2023)
- As-needed Technical Support (budget to be used only per specific direction from City, for specific technical issues)
- Support monitoring network expansion efforts
- Support analysis/review of new SGMA-related legislation/regulations/executive orders/etc.
- Support review of GSP materials prepared by other basins, relevant to City (e.g., Niles Cone or other)
- Support Stakeholder Outreach efforts (e.g., prepare materials for and attend as-yet-unscheduled stakeholder meeting(s))

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to one of the Council's six Strategic Priorities.

SUSTAINABILITY FEATURES

As a GSA, the City is responsible for the development of the GSP (approved in December 2022), ongoing GSP implementation activities, as well as preparation of an annual GSP update to ensure the groundwater beneath the City is protected and sustainably managed for the future. A long-term commitment to groundwater sustainability increases the City's overall water supply reliability, maximizes local sources, and diversifies the City's water supplies, which will help the

City to respond to future water supply uncertainties and the effects of climate change.

PUBLIC CONTACT

This item does not require public contact.

NEXT STEPS

If Council approves this item, the City Manager will execute an amendment to the Professional Services Agreement with EKI increasing the amount by $35,000 for a not-to-exceed amount of $95,000.

Prepared by: Cheryl Muñoz, Water Resources Manager

Recommended by: Alex Ameri, Director of Public Works

Approved by:

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-

Introduced by Council Member _____

RESOLUTION AUTHORIZING THE CITY MANAGER TO EXECUTE AMENDMENT NO. 2 TO THE AGREEMENT WITH EKI ENVIRONMENT & WATER FOR AS-NEEDED TECHNICAL SUPPORT RELATED TO GROUNDWATER MANAGEMENTAT AT A COST OF $35,000 FOR A TOTAL NOT-TO-EXCEED AMOUNT OF $95,000

WHEREAS, the City and EKI Environment & Water (EKI) and City of Hayward entered into an Agreement dated the 22nd day of January, 2021, entitled "Agreement for Professional Services Between the City of Hayward and EKI Environment & Water for As-Needed Technical Support Related to Sustainable Groundwater Management" in the amount of $25,000; and

WHEREAS, the parties subsequently amended the contract on the 12th day of July, 2021, entitled "Amendment No. 1 Agreement for Professional Services Between the City of Hayward and EKI Environment & Water" in the amount of $35,000; and

WHEREAS, the City and EKI Environment & Water desire to amend the Agreement to provide additional as-needed technical sustainable groundwater management support in the amount of $35,000.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward that the City Manager is hereby authorized to execute, on behalf of the City of Hayward, Amendment No. 2 to the agreement with EKI Environment & Water, in a form approved by the City Attorney, for additional as-needed technical sustainable groundwater management support at a cost of $35,000, increasing the total agreement not-to-exceed amount to $95,000.

IN COUNCIL, HAYWARD, CALIFORNIA_____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

File #: CONS 22-335

DATE: June 7, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT

Adopt a Resolution Adopting the Traffic Impact Fee, Setting Initial Fee Rates for FY23, and Amending the FY23 Master Fee Schedule

RECOMMENDATION

That Council adopts a resolution (Attachment II) adopting the Traffic Impact Fee (TIF) at the maximum allowable amount, setting the initial FY23 TIF rates, and amending the FY23 Master Fee Schedule to include the TIF and associated administrative appeal fee.

SUMMARY

On May 17, 2022, Council adopted the Multimodal Improvement Plan and TIF Nexus Study (Nexus Study) in support of the proposed TIF. Council also introduced an ordinance amending the Hayward Municipal Code to add Article 30 to Chapter 10 of the Code. The ordinance would become effective 30 days after adoption by Council. The ordinance provides the implementing provisions for administration of the TIF program. This item involves formal action by Council to adopt the TIF at the maximum allowable amounts, setting the initial FY23 TIF rates, and amending the FY23 Master Fee Schedule to include the initial TIF rates and the administrative appeal fee contained in the TIF ordinance.

ATTACHMENTS

Attachment I Staff Report
Attachment II Resolution

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT Adopt a Resolution Adopting the Traffic Impact Fee, Setting Initial Fee Rates for FY23, and Amending the FY23 Master Fee Schedule

RECOMMENDATION

That Council adopts a resolution (Attachment II) adopting the Traffic Impact Fee (TIF) at the maximum allowable amount, setting the initial FY23 TIF rates, and amending the FY23 Master Fee Schedule to include the TIF and associated administrative appeal fee.

SUMMARY

On May 17, 2022, Council adopted the Multimodal Improvement Plan and TIF Nexus Study (Nexus Study) in support of the proposed TIF. Council also introduced an ordinance amending the Hayward Municipal Code to add Article 30 to Chapter 10 of the Code. The ordinance would become effective 30 days after adoption by Council. The ordinance provides the implementing provisions for administration of the TIF program. This item involves formal action by Council to adopt the TIF at the maximum allowable amounts, setting the initial FY23 TIF rates, and amending the FY23 Master Fee Schedule to include the initial TIF rates and the administrative appeal fee contained in the TIF ordinance.

BACKGROUND

The Mitigation Fee Act authorizes a local agency to establish, increase, or impose various fees as a condition of approval of a development project, if specified requirements are met. A TIF is a one-time fee imposed on new development projects to help mitigate the cumulative transportation impacts of development growth. As importantly, a TIF will bring much-needed certainty to the City's development process at the onset of the application process.

In compliance with the Mitigation Fee Act, Council has adopted a Nexus Study supporting the TIF prior to adoption of the TIF and applicable TIF rates. Pursuant to the Mitigation Fee Act, an impact fee may be adopted by resolution or ordinance of a legislative body.

DISCUSSION

The TIF Nexus Study prepared by traffic consultants, TJKM, identifies locations of future traffic deficiencies generated by future development, develops mitigations to these deficiencies, calculates total cost of capital improvements required to implement the mitigations, and provides a calculated maximum allowable traffic fee that would be legally defensible based on

projected cumulative traffic impact from different development types. As a result of the feedback received during the outreach process and the May 17, 2022 Council meeting, staff recommends that Council adopts the TIF at the maximum allowable rates identified in the Nexus Study as shown in Table 1 below, but set the initial fee rates for FY23 according to Table 2 below.

Table 1
Maximum Allowable Traffic Impact Fees

Land Use Category	Maximum Allowable
Single Family Residence / Unit	**$11,584**
Townhome / Unit	**$7,761**
Multi-Family Residence / Unit	**$7,761**
Office / KSF*	**$16,449**
Retail/ KSF*	**$19,460**
General Industrial / KSF*	**$4,633**
Distribution or e-commerce / KSF*	**$8,224**

*ksf is one thousand square feet

Table 2
FY23 Traffic Impact Fees

Land Use Category	FY23 Fees
Single Family Residence / Unit	**$3,475**
Townhome / Unit	**$3,475**
Multi-Family Residence / Unit	**$0**
Retail/ KSF*	**$0**
Office / KSF*	**$0**
General Industrial / KSF*	**$3,243**
Distribution or e-commerce / KSF*	**$5,757**

*ksf is one thousand square feet

The provisions of the TIF ordinance include an automatic annual construction inflation index adjustment, which will be referenced in the Master Fee Schedule. The cost of construction materials normally increases annually due to inflation – an issue that contractors faced even prior to the pandemic. Building material supply chains have been interrupted and labor has become scarce, increasing the magnitude of construction inflation costs due to the pandemic. It is typical practice for local jurisdictions to adjust fees annually based on the California Construction Cost Index for the San Francisco Bay Area published by the Engineering News Record.

Additionally, the Master Fee Schedule will be amended to include a $400 administrative appeal fee as specified in the TIF ordinance. The level of the appeal fee is consistent with other previously adopted administrative appeal fees by the City.

Staff will return to Council after three years to revisit the TIF program and evaluate whether the fee amounts set below the maximum allowable levels should be extended or modified. The reductions may be adjusted due to changes in proposed improvements and traffic patterns that are expected to change in the upcoming years from employers allowing employees to telecommute. In the event the Council decides to increase the TIF above the maximum adopted amounts, a new nexus study must be prepared, and the increased fee must be adopted pursuant to the noticing and public hearing requirements of the Mitigation Fee Act.

FISCAL IMPACT

A total budget of $700,000 from the Transportation System Improvement Fund (Fund 460) has been allocated for the traffic consultant TJKM for the nexus study of the City's first TIF. The project breakdown is as follows:

Project No.	Project Name	Project Total
05705	Citywide Multi Modal Improvement Study	$400,000
05711	Multi Modal Level of Service Study	$100,000
05274	Traffic Impact Fee Study	$200,000

Approximately $27,500 is remaining of the $700,000 contract.

A total budget of $36,000 has been allocated for economic consultant CAI for TIF policy recommendations that align with current economic and development activities within Hayward.

ECONOMIC IMPACT

A TIF will be valuable to the City in ensuring that future developers pay their fair share of needed mitigation measures to minimize future traffic impacts, such as addition of bicycle and pedestrian facilities, installation of traffic signals, efficient re-timing of signals, and the increase of traffic capacity.

Evaluations and studies have consistently shown that this type of funding mechanism increases job growth and revenues in the City. The fee acts as an investment in the community, by spurring economic growth through the timely provision of sustainable infrastructure and the expansion of buildable land. Developments bring more jobs, sales tax revenue, and/or property tax revenue.

Without a TIF, developers must hire a traffic engineering consultant to prepare a study which includes predicting future traffic impacts, developing mitigations, and estimating costs of constructing the mitigations. The City reviews, comments, and uses the study to determine which mitigation projects will be conditions of approval for the development. TIFs streamline the development process by saving time and effort for both developers and City staff.

As cities continue to grapple with the problems of traffic congestion and limited public resources, cities will continue to view impact fees as another source of funds for needed improvements and are commonly viewed in terms of their revenue potential. Because several of the mitigation projects identified in the Multimodal Improvement Plan and Traffic Impact Fee Nexus Study are additions or enhancements of bicycle and pedestrian facilities, the City will become a more pedestrian- and bicycle-friendly community, thus creating positive economic benefits.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority of Improving Infrastructure. Specifically, this item relates to the implementation of the following project(s):

Project 3. Develop and Submit a Traffic Impact Fee

SUSTAINABILITY FEATURES

The TIF will align improvements consistent with the City's 2040 General Plan, Complete Streets Strategic Initiative, Pedestrian and Bicycle Master Plan, Neighborhood Traffic Calming Program, and major regional improvements.

PUBLIC CONTACT

Stakeholder Meeting #1. On February 9, 2022, Staff held Stakeholder Meeting #1 to introduce the proposed recommended TIF and solicit feedback from the public. An article publicizing the event was published in The Stack and distributed to its subscribers. Additionally, a targeted email with information on how to attend the event was sent to a distribution list of 420 recipients who are involved in some way to Hayward's development process.

Council Infrastructure Committee
On February 23, 2022, staff presented the TIF recommendations to the CIC for review and feedback. The CIC expressed support for staff's recommendation but suggested additional public outreach and coordination with transit agency partners. In response to CIC guidance, staff scheduled two outreach meetings with the Chamber of Commerce and conducted one additional stakeholder meeting, which was held on March 31, 2022. Staff also met with representatives from AC Transit to discuss the inclusion of transit projects to the list that could be funded by the TIF. Many of the projects identified by AC Transit and City staff have been included in the approved project list, which resulted in a nominal increase in the amount of the TIFs.

Stakeholder Meeting #2
On March 31, 2022, Staff held Stakeholder Meeting #2 to discuss the proposed recommended TIF and solicit feedback from the public. Feedback received from the Bay Area Building Industry Association (BIA) Director of Governmental Affairs – East Bay, Lisa Vorderbrueggen asked questions about whether the new fee will be imposed on the development applications currently in process and about grandfather provisions.

Planning Commission Review
On April 14, 2022, staff presented the TIF recommendations to the Planning Commission for review and feedback. The Commission expressed support for staff's recommendation and asked questions about the proposed reduction of single-family residential TIF and whether it should be increased. Additionally, Planning Commission expressed interest in whether the TIF ordinance includes provisions regarding credits to developers for grandfathered changes or for developers who opt to pay to build improvements rather than paying the TIF.

City Council Work Session
On May 3, 2022, staff presented the TIF recommendations to Council in a Work Session for review and feedback. The Council expressed support for staff's recommendation, discussed the single-family residential TIF, and the type of modifications to the TIF program that can be made after the initial three-year period. Council also inquired about the intended use of the TIF revenues and discussed the potential of subjecting large retail to TIF. Council appreciated the comprehensive multimodal project list, the thorough financial feasibility comparisons to other local jurisdictions, and the extensive outreach to the development community.

Although the presence of a development TIF is not uncommon for local jurisdictions, staff is prioritizing a seamless integration into the existing traffic requirements process for entitlement applications. With the goal of minimizing uncertainty, staff prepared a flow chart for determining which traffic analyses will be required, responses to Frequently Asked Questions (FAQs), and resources to traffic analysis guidelines to be posted on the transportation webpage for the public to access at any time. Developers seek to identify all expenses early as they develop a business pro forma for the development. Identifying TIFs and analysis requirements at the time of permit application will provide a baseline expectation and reduce administrative effort for both the City and developer, and establish a best practice where developers know what to expect up front rather than waiting after the entitlement process.

City Council Public Hearing
On May 17, 2022, two weeks after the Council Work Session, staff presented the TIF recommendations at a Council Public Hearing to recommend adoption of the Nexus Study in support of the TIF and to introduce an ordinance adding Article 30 to Chapter 10 of the Hayward Municipal Code regarding Traffic Impact Fees for Developers. Council had some clarifying remarks to verify that similar fees for single-family and townhome residential land uses are proposed to best reflect the traffic patterns experienced in Hayward. Additionally, Council praised staff for the extensive public outreach and the time and effort dedicated to preparing easily accessible resources for the development community to eliminate uncertainty in the development process. The following is summary of the meetings held related to the TIF:

1. February 9, 2022: Stakeholder Meeting #1 to introduce the proposed TIF and solicit feedback from the business/broker/development communities.
2. February 23, 2022: Council Infrastructure Committee review and comment.
3. March 3, 2022: Chamber of Commerce's Government Relations Council
4. March 31, 2022: Stakeholder Meeting #2 to solicit feedback from the business/broker/development communities.
5. April 14, 2022: Planning Commission
6. May 3, 2022: City Council Work Session

7. May 17, 2022: City Council Public Hearing
8. May 24, 2022: City Council Second Reading/Establishment of Maximum Fees

NEXT STEPS

If Council adopts the attached resolution, pursuant to the Mitigation Fee Act the TIF will become effective sixty (60) days after adoption.

Prepared by: Charmine Solla, Senior Transportation Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:

_____

Kelly McAdoo, City Manager

ATTACHMENT II

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-___

Introduced by Council Member _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HAYWARD ADOPTING THE TRAFFIC IMPACT FEE, SETTING THE INTIAL FEE RATES, AND AMENDING THE FY23 MASTER FEE SCHEDULE

WHEREAS, California Government Code Section 66000 et seq, known as the Mitigation Fee Act, authorizes local agencies to impose fees in connection with approval of development projects for the purpose of defraying all or a portion of the cost of public facilities related to the development project; and

WHEREAS, the Mitigation Fee Act requires a nexus study to be adopted prior to establishment of an associated development fee; and

WHEREAS, TJKM prepared the Final Report Multimodal Intersection Improvement Plan and Nexus Study (Nexus Study) dated March 2022 in support of the proposed Traffic Impact Fee (TIF); and

WHEREAS, the Nexus Study identifies locations of future traffic deficiencies as a result of future development, develops mitigations to these deficiencies, calculates total cost of capital improvements required to implement the mitigations, and provides a calculated maximum allowable traffic fee that would be legally defensible based on projected cumulative traffic impact from different development types; and

WHEREAS, the City Council adopted the Nexus Study during the City Council meeting of May 17, 2022, after conducting a public hearing pursuant to the Mitigation Fee Act; and

WHEREAS, the City Council intends to adopt the TIF at the maximum allowable amounts identified in the Nexus Study but set the initial rates below the adopted maximum allowable amounts, as shown more specifically in Exhibit A, attached hereto; and

WHEREAS, concurrent with the adoption of the TIF, the City Council has adopted an ordinance adding Article 30 to Chapter 10 of the Hayward Municipal Code (TIF Ordinance) which provides the implementing provisions for administration of the TIF program, including an administrative appeal process; and

WHEREAS, FY23 Master Fee Schedule must be amended to include the TIF and the administrative appeal fee contained in the TIF Ordinance; and

WHEREAS, notice of the adoption of the TIF was published in compliance with the Mitigation Fee Act.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Hayward that a TIF is hereby adopted at the maximum allowable amounts as shown in Exhibit A to this Resolution.

BE IT FURTHER RESOVLED, that the initial rates for FY23 shall be set below the adopted maximum allowable amounts, also as shown in Exhibit A to this Resolution.

BE IT FURTHER RESOLVED, that the Fiscal Year 2023 Master Fee Schedule is amended to include the TIF and the administrative appeal fee contained in the TIF Ordinance, as reflected in attached Exhibit B.

BE IT RESOLVED, that pursuant to the Mitigation Fe Act the Traffic Impact Fee adopted herein shall become effective sixty (60) days after adoption of this Resolution.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Exhibit A

Maximum Allowable Traffic Impact Fees

Land Use Category	Maximum Allowable
Single Family Residence / Unit	$11,584
Townhome / Unit	$7,761
Multi-Family Residence / Unit	$7,761
Office / KSF*	$16,449
Retail/ KSF*	$19,460
General Industrial / KSF*	$4,633
Distribution or e-commerce / KSF*	$8,224

*ksf is one thousand square feet

FY23 Traffic Impact Fees

Land Use Category	FY23 Fees
Single Family Residence / Unit	$3,475
Townhome / Unit	$3,475
Multi-Family Residence / Unit	$0
Office / KSF*	$0
Retail/ KSF*	$0
General Industrial / KSF*	$3,243
Distribution or e-commerce / KSF*	$5,757

*ksf is one thousand square feet

Exhibit B

Engineering and Transportation Services

B. ENGINEERING

11. **Traffic Impact Fee**

a. Residential

(1) Single-Family Residence/Unit	$3,475/unit
(2) Townhome/Unit	$3,492/unit
(3) Multi-Family/Unit	$0/unit

b. Non-Residential

(1) Retail/KSF	$0/KSF
(2) Office/KSF	$0/KSF
(3) General Industrial/KSF	$3,243/KSF
(4) Distribution or e-commerce/KSF	$5,757/KSF

c. Appeal Fee $400

d. Annual Adjustment

The traffic impact fees listed above shall be automatically adjusted on the first of the fiscal year based on the preceding calendar year average California Construction Cost Index (CCCI) for the San Francisco Bay Area as produced by the Engineering News Record (ENR).

File #: WS 22-019

DATE: May 24, 2022

TO: Mayor and City Council

FROM: City Manager
Fire Chief

SUBJECT

Presentation Regarding 2021 Explosion at Russell City Energy Center and Follow Up Investigation and Actions

RECOMMENDATION

That the City Council receives the presentation and provides comments.

SUMMARY

The Russell City Energy Center (RCEC) is a 600 megawatt powerplant located in the Hayward industrial area . The plant is owned and operated by the Calpine Corporation and began commercial operations in 2013. On May 27, 2021, RCEC experienced a mechanical failure of the steam turbine generator that resulted in an explosion and fire (incident). The steam turbine generator experienced extensive damage and debris from the explosion flew from the site to surrounding areas, including the City's Water Pollution Control Facility (WPCF) and the City's Homeless Navigation Center. No damage occurred at the WPCF but a large piece of debris fell through the roof of the Navigation Center trailer that serves as the common area and kitchen. Thankfully, the trailer was unoccupied at the time and there were no significant injuries resulting from the explosion.

On July 15, 2021, the California Energy Commission (CEC) voted to approve Calpine's petition for modifications to allow the facility to temporarily operate in simple-cycle mode, subject to certain limitations in the CEC's order. The CEC order found it was appropriate for the CEC to "exercise enhanced scrutiny over the facility" in light of the May 27, 2021 incident and that "it is reasonable for the public to have access to safety audits conducted pertaining to the operation of the facility, including the circumstances that gave rise to the petition." Additionally, the order directed the project owner to meet with CEC staff and the Hayward City Fire Department within 30 days of the order "to discuss any needed modifications of [RCEC's] standard operating procedures for first responders to implement when responding to incidents on site, including establishing a process for reimbursement of reasonable expenses."

CEC, California Public Utilities Commission (CPUC), and City staff have been meeting bi-weekly as part of a Joint Agency Working Group for the past year as the investigation and follow up actions have occurred. After any major incident at a powerplant in the State, the operator must commission a Root Cause Analysis (RCA) report. Calpine commissioned this report and it is included as Attachment II to this report. Upon review of the RCA, CEC and CPUC staff determined there were deficiencies in the report and commissioned a secondary gap analysis and investigation. That report was recently completed and is included as Attachment III to this report. CEC and CPUC staff presented this report and corrective actions to the CEC Business Meeting on April 26, 2022 (staff report included as Attachment I). The City Manager and Fire Chief also participated in that meeting and presented the collaborative work that has been done with the Calpine team to enhance first responder training and response to the plant.

Staff from the CEC and the City will be sharing that presentation (Attachment IV) again this evening with the City Council and Hayward community so that information about the 2021 explosion and corrective actions can be shared and discussed.

ATTACHMENTS

Attachment I	April 26, 2022 CEC Staff Report and Order
Attachment II	Calpine Redacted Root Cause Analysis
Attachment III	CEC Gap Analysis
Attachment IV	PowerPoint Presentation

DOCKETED	
Docket Number:	01-AFC-07C
Project Title:	01-AFC-7C Russell City Energy Company
TN #:	242924
Document Title:	Order Adopting Staff Recommended Corrective Actions and Delegating Authority to the Executive Director
Description:	Order No: 22-0426-3
Filer:	Liza Lopez
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/4/2022 7:16:11 AM
Docketed Date:	5/4/2022

ORDER NO: 22-0426-3

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

IN THE MATTER OF:	**Docket No. 01-AFC-07C**
RUSSELL CITY ENERGY CENTER	**ORDER ADOPTING STAFF RECOMMEDED CORRECTIVE ACTIONS AND DELEGATING AUTHORITY TO THE EXECUTIVE DIRECTOR**

I. BACKGROUND

The Russell City Energy Center (RCEC) is a nominal 600 megawatt (MW) natural gas-fired, wet-cooled, combined-cycle electric generating facility that was initially certified by the California Energy Commission (CEC) in September 2002 and began commercial operation in August 2013.

On May 27, 2021, RCEC experienced a mechanical failure of the steam turbine generator that resulted in an explosion and fire (incident). The steam turbine generator experienced extensive damage. As a result, Russell City Energy Company, LLC (project owner) temporarily shut down RCEC and estimated that the time required for repairs necessary to resume combined-cycle mode operations would be approximately one year.

On June 3, 2021, the project owner filed a post-certification petition with the CEC to modify RCEC's license to allow the facility to temporarily operate in simple-cycle mode.

On July 15, 2021, the CEC voted to approve the project owner's petition for modifications to allow the facility to temporarily operate in simple-cycle mode, subject to certain limitations in the CEC's order. The CEC order found it was appropriate for the CEC to "exercise enhanced scrutiny over the facility" in light of the May 27, 2021 incident and that "it is reasonable for the public to have access to safety audits conducted pertaining to the operation of the facility, including the circumstances that gave rise to the petition."

Additionally, the order directed the project owner to meet with CEC staff and the Hayward City Fire Department within 30 days of the order "to discuss any needed modifications of [RCEC's] standard operating procedures for first responders to implement when responding to incidents on site, including establishing a process for reimbursement of reasonable expenses."

Finally, the CEC's order found that RCEC will "return to combined cycle operations when repairs and testing are completed." The order did not specify a schedule for completion of repairs and testing nor did it set a date by which modifications to the facility must be completed to resume combined-cycle operations. On June 7, 2021, the CEC staff conducted an initial inspection of the explosion and fire site and interviewed RCEC employees, first responders, and witnesses. In collaboration with the California Public Utilities Commission (CPUC), the CEC staff conducted an additional eleven site visits.

On November 24, 2021, the project owner submitted its Root Cause Analysis (RCA) of the May 27, 2021 turbine overspeed incident to the CEC staff and the CPUC. The project owner's RCA, completed by Structural Integrity Associates, found that the systems' inability to detect and drain excess water under pressure and at high temperature within the reheater system was the root cause of the Steam Turbine Generator (STG) drivetrain event at RCEC.

In January 2022, the CEC and the CPUC staff notified the project owner that they would be conducting a Joint Agency Investigation (JAI) and on-site inspection of RCEC on February 7 through 11, 2022. The purpose of the JAI was to investigate questions that were not answered in the project owner's RCA and evaluate the need for additional corrective actions. The on-site inspection was performed as planned, and the project owner provided requested documents prior to the on-site inspection and made employees available to be interviewed by the CEC and the CPUC staff.

On February 18, 2022, the CEC and the CPUC staff transmitted to the project owner a list of preliminary corrective actions necessary for the facility to safely return to combined-cycle operations. The list of corrective actions prepared by the JAI was intended to supplement the corrective actions identified in the project owner's RCA as necessary to resume combined-cycle operations. The project owner acknowledged receipt and provided responses indicating it would implement all of the CEC and the CPUC staffs' preliminary corrective actions before resuming combined-cycle operations.

On April 22, 2022, the CEC staff filed its investigation report, titled *Russell City Energy Center May 2021 Incident: Root Cause Gap Analysis* (Staff's Investigation Report), to the RCEC compliance docket. Staff's Investigation Report lists the activities and safety audits undertaken as part of the JAI since May 27, 2021, presents their independent determination of the root cause of the turbine overspeed event, and presents the nine remaining corrective actions that the JAI team determined must be implemented at RCEC for the facility to safely return to combined-cycle operations with a minimal risk of future turbine overspeed events due to water induction.

II. STAFF RECOMMENDATION

The CEC staff has concluded that, with the CEC's adoption of, and the project owner's completion of, all corrective actions identified in Chapter 4 of Staff's Investigation Report, the project owner can safely resume operating in combined-cycle mode while ensuring that the risk of a similar water induction incident occurring in the future is eliminated to the degree feasible by deploying robust redundant systems of prevention and detection.

Based on the foregoing, CEC staff recommends that the CEC specify that RCEC may return to combined-cycle operations only after all corrective actions identified in Chapter 4 of Staff's Root Cause Gap Analysis Report are completed and verified by CEC staff.

Consistent with the CEC's compliance verification regulations (Cal. Code Regs., tit. 20, § 1770), the CEC staff also recommends that the CEC delegate to the CEC's Executive Director authority to verify completion of all corrective actions identified in Chapter 4 of the CEC staff's Root Cause Gap Analysis Report prior to resuming combined-cycle operations. If this delegation is approved, the CEC's Executive Director will verify that all required repairs, testing, and corrective actions are completed before notifying RCEC that they may return to combined-cycle operations.

At this time, the CEC staff is not recommending changes to any conditions of certification for RCEC, as the facility will be operating within its existing license.

III. ENERGY COMMISSION FINDINGS

Based on the record, including CEC staff's Root Cause Gap Analysis Report and the April 21, 2022 Basis for CEQA Findings Memorandum, all required corrective actions, repairs, and testing must be completed by the project owner to ensure RCEC can safely return to combined-cycle operations. Upon verified completion of the stated corrections, repairs and testing, the temporary modifications to allow for operation in simple-cycle mode will no longer be necessary. As such, the CEC finds that:

- The corrective actions identified in Chapter 4 of Staff's Root Cause Gap Analysis Report are sufficient to enable RCEC to safely return to operations in combined-cycle mode. Implementation of the corrective actions will eliminate risk of recurrence of a similar water induction incident to the degree feasible, by deploying robust redundant systems of prevention and detection.

- The project owner will file status reports documenting implementation of the corrective actions and will provide verification of completion to the Executive Director prior to RCEC restarting combined-cycle commercial operations.

- The facility's operation in combined-cycle mode is within the existing license.

- Adoption of the corrective actions and delegation to the Executive Director are not projects under CEQA because they will not result in a direct or reasonably foreseeable indirect physical change in the environment. (Cal. Code Regs., tit. 14, §§ 15060(c)(2)-(3) and 15378(a) & (b)(5).) In addition, the Class 1, Class 2, and Class 21 exemptions (Cal. Code Regs., tit. 14, §§ 15301, 15302 and 15321; see also 15061(b)(2)), and the common-sense exemption also apply. (Cal. Code Regs., tit. 14, § 15061(b)(3).)

IV. CONCLUSION AND ORDER

The CEC hereby adopts the corrective actions identified in Chapter 4 of CEC Staff's Root Cause Gap Analysis Report and orders their completion by RCEC's project owner prior to returning to combined-cycle operations.

The CEC hereby orders the project owner to file via the CEC docket system, bi-weekly compliance reports outlining the progress made towards completion of the identified corrective actions. Compliance reports shall be filed by close of business starting on Friday, May 6, 2022, and continuing every two weeks thereafter until combined-cycle operations resume.

The CEC hereby delegates the authority and directs the CEC's Executive Director to verify that the corrective actions have been completed at RCEC and to issue notice to RCEC when the facility may resume combined-cycle operations.

IT IS SO ORDERED.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the CEC held on April 26, 2022.

AYE: Hochschild, Gunda, McAllister, Monahan, Vaccaro
NAY:
ABSENT:
ABSTAIN:

Liza Lopez
Secretariat

DOCKETED	
Docket Number:	01-AFC-07C
Project Title:	01-AFC-7C Russell City Energy Company
TN #:	242911
Document Title:	Calpine Russell City Steam Turbine Generator Event Investigation Report - Redacted
Description:	N/A
Filer:	Amanda Cooey
Organization:	Ellison Schneider Harris & Donlan LLP
Submitter Role:	Applicant Representative
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Docketed Date:	5/2/2022

Structural Integrity Associates, Inc.

[redacted]
11515 Vanstory Drive #125, Huntersville, NC 28078 | 704-597-5554

REPORT NO. 2100556.401
REVISION: 1
PROJECT NO. 2100556.00
November 2021

Investigation Report
Calpine Russell City Steam Turbine/Generator Event
May 27, 2021

Calpine Corporation - Russell City Energy Center

Prepared For:

[redacted]
Calpine Corporation
Walnut Creek, CA

C1070-2000000013

Prepared by:	[redacted]	**Date:** 11/16/21
Reviewed by:	[redacted]	**Date:** 11/16/21
Reviewed by:	[redacted]	**Date:** 11/16/21

REVISION CONTROL SHEET				
Report Number: 2100556.401				
Title:	Investigation Report Calpine Russell City Steam Turbine/Generator Event May 27, 2021			
Client: Calpine Corporation				
SI Project Number: 2100556.00				
SECTION	PAGES	REVISION	DATE	COMMENTS
All	All	0	11/5/2021	Initial Release
All	All	1	11/16/21	Typographical corrections. Disclaimer revision.

1 SUMMARY

The Russell City Energy Center steam turbine and generator (STG) experienced a mechanical failure as a result of an overspeed event late in the evening on May 27, 2021.

Calpine contracted with Structural Integrity Associates, Inc. (SI) to perform an independent investigation with a focus on determining the root cause of the event. SI performed an initial onsite investigation from May 30th to June 4th, which included reviewing the condition of the STG and its support auxiliaries, examining rotor train fracture surfaces and the reheat system piping, as well as performing an initial review of the unit's operating data. At the closure of the initial onsite investigation, SI indicated that an additional inspection would be planned to take place once the STG and valves were exposed. This second onsite investigation occurred on July 26th after the steam turbine and main steam system valves were exposed.

Through review of the STG operational data, it was determined that immediately prior to the mechanical failure, the STG reached speeds equal to or greater than 146% of its rated speed. These rotor speeds are far in excess of the controller's overspeed protection settings and component mechanical failure would be expected. The radial vibration levels, as the unit accelerated from 1,950 RPM to near the rotor's ultimate speed of greater than 5,250 RPM, remained at acceptable operation levels. This lack of elevated vibration levels indicates that the rotor and bearings were in mechanically sound condition even under excessive speeds. Consistent with this conclusion, the shaft fractures lacked indications of pre-existing flaws or fractures. Therefore, no additional effort was expended to determine the exact nature of how the rotor fractures occurred as this was not required to carry out the causal analysis of the overspeed event.

The overspeed was the final event in a cascade of events that led to the mechanical overload of the STG rotor. Prior to the overspeed, a water induction event resulted in thermal seizure of the intermediate pressure steam turbine #2 intercept and stop valves, preventing their closure. The water induction event also caused an increase in the rotor axial load and position, tripping the steam turbine. Leading up to the water induction event, heat recovery steam generator (HRSG) #1 was shut down (but available) for approximately two days while the plant operated in 1x1 configuration. During this time, HSRG #1 condensed an excessive volume of water at saturation temperature and was pressurized to near operating levels. This was an undetected, abnormal condition for an out-of-service HRSG.

As combustion turbine #2 was reducing load through its normal shutdown procedure, the two HRSGs equalized in pressure, initiating the induction of water from the out-of-service HRSG #1. As water passed through the #2 intercept and stop valves, the valve components were thermally distorted preventing their closure. The valve seizure was thermally induced and was not associated with a lack of periodic maintenance. Further, the valves operated as expected in the days preceding this event. The STG's primary and emergency overspeed protection triggered properly, however, were unable to prevent the overspeed due to the thermal seizure of the valves. Additionally, the water induction resulted in the trip command that led to the automated opening of the STG line breakers. With the line breakers no longer maintaining rotor speed, the continued flow through the seized valves provided the energy source to accelerate the STG into the overspeed event.

In the hours prior to the event, a small number of alarms re-occurred[1], all during operating load transition periods. These alarms provided no new event-related information to the operator and would not have prompted operator action based on the common occurrence of these alarms during transient conditions within normal operation. The first non-recurrent alarms related to the event were triggered starting at 29 seconds prior to the trip, documenting the rapid fall of the HRH steam temperature. Operator intervention at this point would not have prevented the event from occurring as the intercept valve seizure had occurred.

Based on the operation data, the accumulation of excessive quantities of water at near operating pressure within the out-of-service HRSG was primarily driven by flow and pressure supplied by the cold reheat piping across the HRSG #1 Cold Reheat stop valve. Investigation of this valve at a valve service center identified degradation of the gearbox that was observed once the gearbox was disconnected, fully disassembled, and cleaned. Testing at the service center revealed that the degradation reduced the valve stroke, which would not have been apparent during operation as the actuator attained its full stroke. With the actuator's full stroke, both open and closed actuator limit switch positions were met such that no alarms were triggered.

Since some steam valve leakage should be expected during the operation of a combined cycle plant, limited amounts of condensation within an out-of-serve HRSG are not uncommon. This water does not specifically put a unit at risk for a water induction event as HRSG heating and drain operation during a normal startup will boil off or purge a reasonable quantity of water.

Prior to the event on May 27th, the out-of-service HRSG #1 reheat system maintained elevated pressure levels and condensed excessive quantities of high temperature water within its harps. The reheat systems were not equipped by design to reliably detect the presence of water in all circumstances. Additionally, the distributed control system was not configured by design to mitigate the presence of excessive water under near operating pressure and elevated temperatures within an out-of-service HRSG. The systems' inability to detect and drain excess water under pressure and at high temperature within the reheater system is the root cause of the STG drivetrain event at Russell City Energy Center.

[1] The site recorded alarms during turning gear operation (07:30:00 5/23/21) up to the trip (23:45:03 5/27/21). The vast majority of these alarms occurred while on turning gear up through the shutdown (22:40:15 5/25/21) of block 1 (combustion turbine, generator and HRSG). The alarms that entered during this time period all occurred during normal, transient operating conditions and prior to the accumulation of water in the offline HRSG.

2 INTRODUCTION

The Calpine Russell City Energy Center is a natural gas-fired combined-cycle electric generating facility with two blocks, each comprised of one combustion turbine (CT) (nominally 200 MW each), one generator manufactured by Siemens Westinghouse, and one heat recovery steam generator (HRSG) manufactured by Nooter Eriksen, as well as a single condensing steam turbine and hydrogen cooled generator (combined drivetrain referred to as STG) manufactured by General Electric (nominally 235 MW). The net baseload rating for the facility is 572 MW and the nameplate capacity is 635 MW. The facility treats effluent water from the local sanitation district for use as cooling water and operates as a zero liquid discharge plant. The combined cycle site began commercial operation in August 2013.

At 11:47 pm PDT on May 27, 2021, a STG event occurred during a shutdown at the Russell City facility. At the time of the failure, the steam turbine had [redacted] operating hours and [redacted] starts. As a result of the event, extensive damage was incurred by the steam turbine (including both stationary and rotating members), bearings, seals, sensors, and casing components. Damage was also incurred by the generator, collector, hydrogen cooling system, and other peripheral and auxiliary systems. The common rotor between the steam turbine and generator was also fractured into multiple sections, at least two of which were found at ground level subsequent to the event.

Immediately following the event on May 27th, operators at the plant confirmed there were no injuries to on-site personnel and called emergency personnel to the site to extinguish the ensuing fire. After the fire was extinguished, and over the course of the next several days, the extent of damage was assessed by Calpine personnel. Structural Integrity Associates (SI) was contracted by Calpine to conduct an independent failure investigation and to perform a root cause assessment. SI initiated site work on May 30, 2021, and substantially completed site work on June 4, 2021. A follow-up site visit was completed on July 26, 2021. On-site personnel included:

[redacted]

Additional (remote) support for the investigation was provided by:

[redacted]

3 EVENT BACKGROUND

3.1 Steam Turbine Generator Description

An overall view of the Russell City Energy Center is provided in **Figure 3-1**; the STG is located to the west side of the two blocks. The General Electric (GE) model D11 steam turbine (ST) includes a high pressure (HP) section, an intermediate pressure (IP) section, and a low pressure (LP) section; the generator is a hydrogen-cooled, two-pole, 60 Hz machine that operates at 3,600 rpm. A schematic of the steam turbine is provided in **Figure 3-2**. The HP and IP sections share a common rotor arranged in a double-flow configuration in which the steam enters each section near the center of the rotor and flows outward towards each end (one flowing away from the generator end through the HP section and the other flowing towards the generator end through the IP section). The dual flow LP section of the steam turbine is similarly arranged, on a common shaft with steam flow from the center towards each end.

The overall design is such that main steam from the HRSGs flows into the north end of the HP turbine section and flows south, away from the generator (steam flows are shown as red arrows in **Figure 3-2**). Main steam design (nameplate) pressure and temperature are [redacted] psi and [redacted] F, respectively. The cold reheat (CRH) steam from the HP turbine exhaust flows back to the HRSGs' reheater (RH) systems, and hot reheat (HRH) steam flows back to the IP turbine section, where it flows towards the generator. Steam from the IP turbine casing (exhaust) flows through the crossover pipe and into the center of the LP turbine, where it is joined by LP steam from the HRSGs and flows in opposite directions through each set of LP blade rows, then down to the condenser (located beneath the LP turbine). When looking from the HP front standard towards the hydrogen-cooled generator, rotation of the turbine and generator rotors is counter-clockwise (also indicated in **Figure 3-2**).

3.2 May 27th Event Timeline

On the night of the event, the STG had been running in [redacted] at the time of the failure, block 2 was in operation and block 1 was offline. At approximately [redacted], the operator in the control room received a communication from PG&E Dispatch to [redacted]. At [redacted] pm, he initiated the process to shut down power production. Three additional personnel were on-site but were not in the control room at the time of the event. The operator in the control room reported spending several minutes going through a number of procedural steps that included reducing the combustion gas turbine load to [redacted] MW, changing the setpoints of the LP, HRH, and HP steam bypass systems, and verifying that the bypass valves were opening and beginning to control pressure. During the shutdown process and concurrent with the STG trip, the operator reportedly noticed that some settings and valve positions were already in the appropriate positions for shutting down. The operator stated that at this point he looked out of the [redacted] where he saw a fire emerging from the turbine deck.

[2] The facility has two combustion turbines blocks. Either or both blocks can provide steam to the STG. Based on this layout, 1x1 operating mode corresponds to one block providing steam to the STG, and 2x1 operating mode corresponds to generation with both blocks providing steam to the STG.

A separate operator was working on shutting down auxiliary systems and was located in the [redacted] area of the plant ([redacted] of the control room, and [redacted] of the turbine deck). This operator reported hearing a loud, persistent sound that resembled a small airplane. He stated that he heard two loud sounds that occurred close together, and for an instant thought that a small plane had struck the turbine deck.

Emergency personnel reportedly responded to the scene in a timely manner and executed fire suppression activities in areas near the generator. The operator located northwest of the turbine deck at the time of the event reported seeing what he believed was steam continue to emit from the turbine area for an extended period of time subsequent to suppression of the fire, but was not entirely sure whether he was observing steam or residual smoke. During and after the emergency response, other (offsite) Calpine personnel were contacted and notified of the event in order to initiate an investigation of the event as well as an assessment of the extent of damage.

3.3 Calpine's Initial Review of Operating Data

Following the event, Calpine personnel reportedly began to review operating data for the steam turbine and generator. When SI was retained, Calpine reported that their initial review of the operating data had found that a combined reheat valve (CRV)[3], which controls steam flow to the IP turbine inlet, appeared to have failed to close, and that during the attempted shutdown event, the STG rotational speed had initially decreased from [redacted] immediately prior to the failure. Calpine also reported that abnormal drops in HRH steam temperature(s) were identified in steam feeding the IP turbine. Based on Calpine's preliminary review of operating data, an important aspect of SI's failure investigation was to fully review a broader set of operating data in order to identify and evaluate potential causes of the event.

[3] The CRVs are located [redacted] These are used to control HRH steam flow to the IP turbine. When standing at the [redacted] the CRV #1 is located on the [redacted] and the CRV #2 is located on the [redacted]. Note that the CRV #'s do *not* correspond to the reheat piping lines feeding the valves from the HRSGs #1 and #2. Within this document, CRV # will be used to refer to both valves and the common body and RSV # or IV # will be used to refer to specific valves.

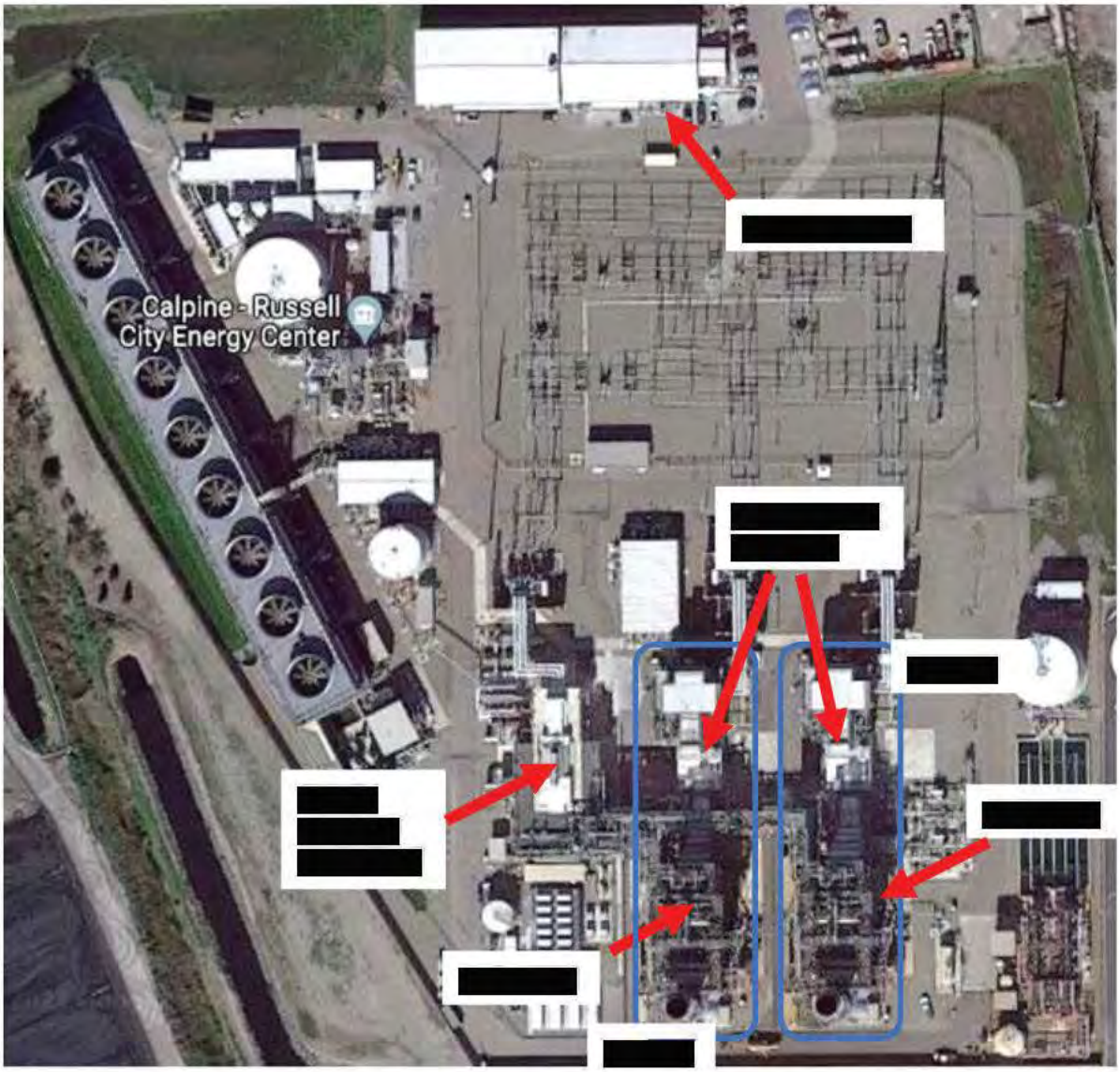

Figure 3-1. Satellite Image Showing the General Layout of the Russell City Generating Station

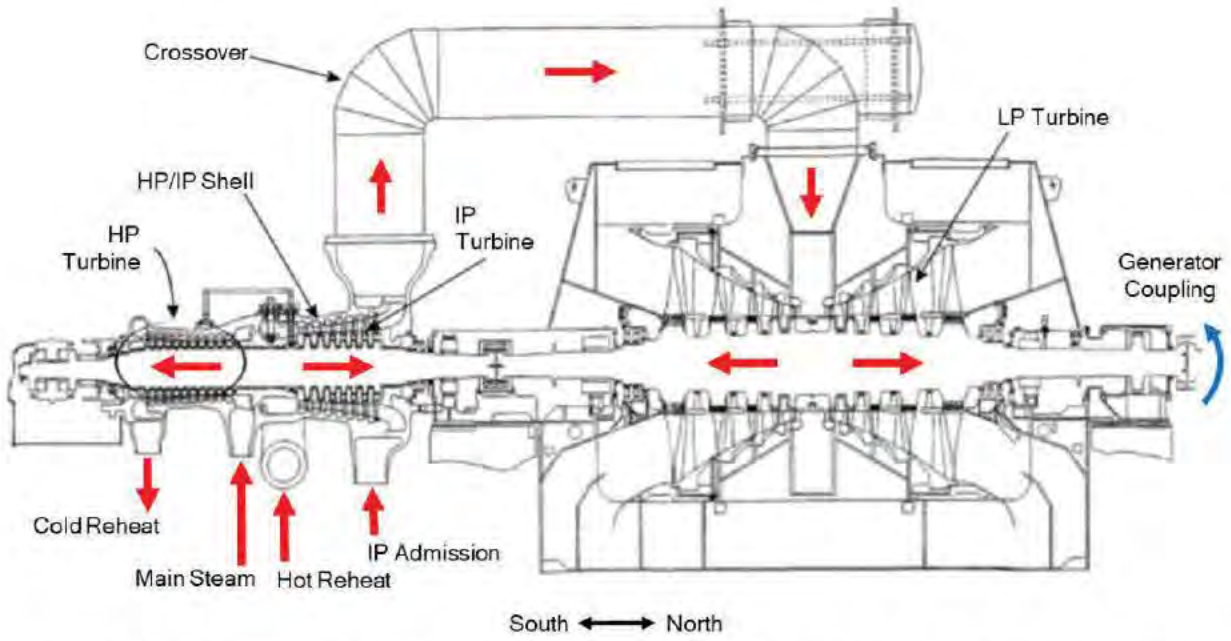

Figure 3-2. Schematic of the General Electric D11 Steam Turbine (Steam Flow Indicated in Red, Rotation in Blue)

4 POST-EVENT SITE ACTIVITIES

SI's investigation of the event was initiated at the plant site, and during the on-site effort, a number of preliminary tasks were accomplished. As discussed in the following sections, the onsite activities were partially directed by preliminary reviews of operating data and observations of visible damage and components in the initial days of the investigation.

4.1 Visual Examinations and Documentation of Damage

During the course of the event, extensive damage was incurred by the steam turbine stationary and rotating components, bearings, seals, sensors, couplings, etc. Damage also occurred to the hydrogen cooling system, the generator, the condenser, localized regions of the turbine support footing and bolting, and other peripheral and auxiliary systems. Photographs of the turbine, generator, and surrounding areas are provided in Attachment A. The turbine and generator rotor assembly fractured into multiple pieces, and several pieces, including the collector shaft, were found at ground level at various locations within the plant. Visual examination of exposed fracture surfaces on rotor sections revealed no indications of pre-existing cracks. Initial disassembly and removal of turbine components occurred while SI was on-site, but most of the deconstruction process was undertaken after SI had departed the plant site.

4.2 Preliminary Review of Operating Data

Concomitant with examinations performed prior to initiating the steam turbine and generator disassembly process, a review of operating data and the [redacted] trip log from the shutdown and event was initiated. Data related to turbine rotational speed, valve positions, bearing conditions, lube oil conditions, vibration levels, hydrogen cooling, and numerous other variables were reviewed. Collectively, the available operating data showed that during initial shutdown steps, after decreasing load on the operating CT 2 and while the plant shutdown checklist was being implemented by the control room operator, the steam turbine tripped due to the failure of the axial thrust bearing probes. This steam turbine trip initiated an automatic response of the control system that was taking place as the operator was following the standard shutdown process.

During the steam turbine trip, the IV #2 and RSV #2 failed to fully close, and as a result, the IP turbine continued to receive high pressure steam thru the partially open valves. During the initial stages of the event, the generator breaker stayed in a closed position, maintaining synchronization between the STG and the power grid ([redacted]). However, approximately [redacted] after the steam turbine trip was initiated, and with the IV #2 and RSV #2 in a partially open position, the STG line breakers opened. When the line breakers

[4] When the STG is synchronized to the power grid, the steam turbine rotor must continue to rotate at 3,600 rpm. If there is insufficient torque from the steam turbine to drive the generator and produce power, power from the grid will be consumed by the generator (reverse power or "motoring") in order to maintain the synchronized rotational speed. Note that this is an undesirable operating condition for more than a relatively short period of time.

opened, the turbine immediately began to slow at a faster than normal rate. After approximately one additional minute, the turbine rotational speed began to increase. The turbine rotational speed increased for approximately [redacted], passing the overspeed trip value setting of 3,960 rpm[5] and [redacted]; shortly thereafter the STG mechanical failure occurred.

4.2.1 *Indications of Water Induction into the Steam Turbine*

Preliminary review of the operation data identified multiple indicators that a water induction event, wherein water entered through one or both CRVs at the IP turbine inlet, had occurred. The first indicator, rapid reduction in HRH steam temperature below the normal operating temperature of approximately [redacted], indicated the presence of water in the HRH piping as it entered the IP steam turbine. Accompanying this, the second key indicator, the rapid reduction in rotor speed upon opening of the STG line breakers, provided a consistent indication that water had been inducted into the HRH steam flow path resulting in rotor deceleration much faster than during a typical shutdown. Additional indications of water in the flow path [redacted] in conjunction with a step change in the rotor axial position. Failure of the IV #2 and RSV #2 to close upon command and later closing as HRH steam temperature returned to near normal operating temperatures indicated that temporary valve thermal seizure resulted from the water induction. Review of [redacted] alarm logs also indicated alarms[6] were present indicating water detection in the RH bowl feeding the IP steam turbine based on bowl thermocouple temperature spreads.

4.2.2 *Nature of Steam Turbine Overspeed*

Steam turbine overspeed events occur for a variety of reasons and require specific investigations to determine the nature of the event. Many of these events such as a load rejection, failure of steam stop valves to close, or steam over pressure events have specific precursors visible in the operating data prior to the overspeed of the turbine. Review of the operating data in this case showed key observations that directed the nature of the forensic inspection on site:

- HRH IV #2 and RSV #2 remained partially open following the steam turbine trip while HRSG #1 and #2 RH sections were supplying pressure to the IP steam turbine after the generator breaker was opened.

- Radial vibrations remained low, even as the rotor speed exceeded overspeed (110% speed) condition. This indicated that the rotor had not experienced any significant losses of material.

As a result of these key observations, the event investigation was focused on IV #2 and RSV #2 failure to close, the source of water inducted into the IP turbine, and control logic leading to the STG line breakers opening while pressurized HRH steam was accessible to the turbine. The

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[5] At the time which the rotor speed began accelerating and passed the overspeed trip setting, the unit was already in a tripped condition.

[6] The initial [redacted] alarm indirectly indicating the presence of water, based on differential temperatures, within the ST occurred approximately [redacted] prior to the trip command. The [redacted] corresponds approximately to [redacted] as the [redacted] clock is approximately [redacted] off in synchronization to site local time.

on-site operating data review provided substantial evidence that any mechanical failures within the STG drivetrain were a result of the overspeed event and not contributors to the overspeed event.

4.3 Onsite Examination of Hot Reheat Piping

Based on the initial reviews of control system alarms and associated operating data that suggested water induction into the IP steam turbine, the HRH piping providing steam to the IP turbine (through the CRVs located on each side of the IP turbine inlet) was examined during multiple walkdowns. A schematic of the HRH piping near the STG is provided in **Figure 4-1**. Each of the two HRSGs has a HRH pipe that carries steam from the RH section of each HRSG to the IP steam turbine. For discussion purposes, the HRH piping from HRSG #1 is referred to as the HRH #1, and the HRH piping from HRSG #2 is the HRH #2. Because HRSG #2 was online and operating normally prior to the shutdown and failure event, HRH #1 was of interest as a potential source of water.

As the two HRH pipes approach the IP steam turbine, the pipes run essentially [redacted]. Near the downstream end of each HRH pipe there is a manually operated combined stop valve/check valve with a drain located just upstream of each stop/check valve. The outlet from each stop/check valve flows to a HRH header (or balancing pipe) that connects both HRH pipes, and from the header are parallel pipes that flow to the two CRVs.

While at the plant site, SI personnel requested that the drains on each HRH pipe upstream of the stop/check valves be opened to check for residual water in the system. The drain valve on HRH #2 was opened and a few drops of water emitted from the drain. The drain valve on HRH #1 was opened and flowed water steadily for approximately [redacted] minutes. Based on this observation, an additional drain located at a low point in HRH #1 pipe (situated in a [redacted] of HRSG #1 and HRSG #2) was opened; this drain emitted a strong flow of water (through a 1 inch opening) for approximately [redacted] minutes.

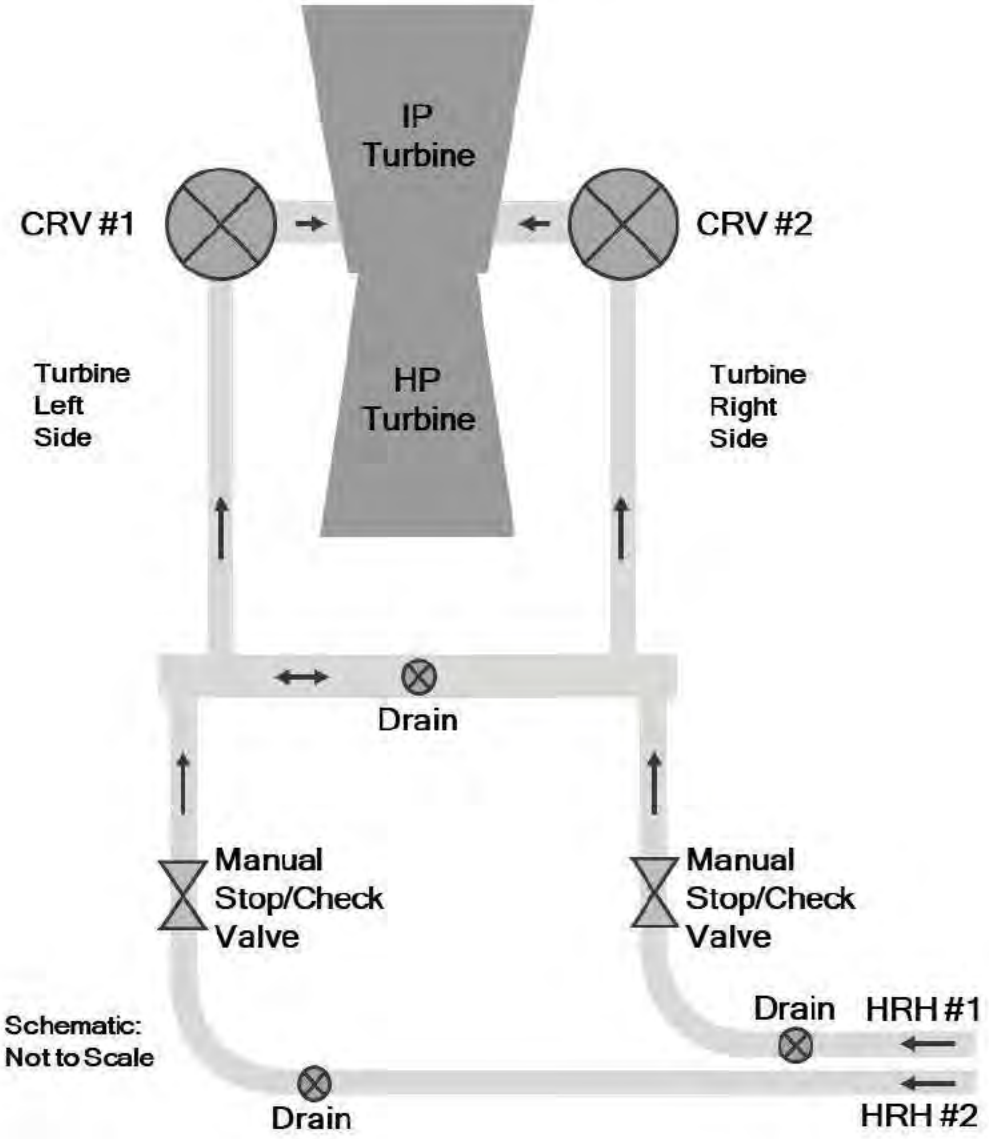

Figure 4-1. Arrangement of HRH Piping and Valves Upstream from the IP Turbine

These drain valve tests confirmed that a significant amount of water remained in the HRH #1 piping after the event. The possibility of checking for water in the HRSG #1 RH harps was discussed with plant personnel, but an appropriate drain was not present and testing was not feasible without destructively cutting into the system.

Further evaluation of water in HRH #1 was performed based on a detailed review of additional operating data obtained subsequent to the site visit. The analysis of this data is discussed later in this report.

4.4 Onsite Investigation of Steam Turbine CRVs

Operation data indicated that IV #2 and RSV #2 failed to fully close prior to the STG line breakers opening, thus allowing steam to continue to flow and resulting in the overspeed event. The CRVs were not readily accessible while the investigation team was onsite in early June. However, limited inspections were performed to support the overall investigation.

According to operation data, the IV #2 initially began throttling steam flow in coordination with IV #1. Both valves were commanded by the [redacted] controller to re-open to [redacted], IV #1 responded where IV #2 held at [redacted] open. The IVs were signaled to throttle flow a second time; IV #1 followed the command, however, IV #2 held at [redacted] open. Approximately [redacted] later the ST trip command (Axial Probe Failure) was issued from the [redacted] controller and all steam inlet valves (HP, IP and LP) closed with the exception of IV #2, which remained at [redacted] open, and RSV #2 which responded but failed to fully close, only reaching [redacted] open and remaining at that position through the event. RSV #2 and IV #2 closed on their own approximately [redacted], respectively, after the overspeed event.

While SI was at the plant site, an independent vendor performed a borescope inspection of the horizontal HRH pipe sections below the CRVs and the inlet of the CRVs, to the extent possible, via the upstream piping. The goal was to determine if foreign material was present that could have prevented IV #2 and RSV #2 from closing. No notable findings were made with the exception that the CRV #2 valve body showed indication of a greater degree of interior surface oxide exfoliation than CRV #1.

Multiple factors previously discussed suggest quenching of CRV #2's components during the water induction led to transient thermal distortion and resulted in the failure of both valves to close upon command. Therefore, further valve inspection was planned when the internal components could be exposed.

4.5 Onsite Investigation of Exposed Valves

SI completed a walk-down inspection of the exposed steam valves listed below on a return trip to site on July 26, 2021.

- Combined Reheat Valves:
  - CRV #1 (CRV-1)
  - CRV #2 (CRV-2)
- Cold Reheat Stop Valve:
  - HRSG #1 ([redacted])
- Cold Reheat Balance Valves:
  - HRSG #1 ([redacted])
  - HRSG #2 ([redacted])

Additionally, inspection reports were reviewed for the following valves:

- Combined Reheat Valves:
  - CRV #2 (CRV-2)
- HRH Manual Stop/Check Valves
  - HRSG #1 ([redacted])
  - HRSG #2 ([redacted])

Inspection pictures are included in **Appendix A**.

4.5.1 CRV Inspection

Visual inspection of RSV #2 stem documented scoring and the vendor inspection report documented excessive runout values in the IV #2 and RSV #2 stems. Run out check markings on the RSV #1 shaft were noted on the shaft as shown in **Table 5-1** and were not excessive. The RSV #2 disk and pressure seal head, as well as the IV body and basket showed signs of surface oxide exfoliation greater than that of CRV #1.

Table 5-1: Comparison of CRV Stem Runout Values

Maximum Identified CRV Stem Runout Values		
	CRV #1	CRV #2
Intercept Valve	[redacted]	[redacted]
Stop Valve	[redacted]	[redacted]

Findings from the inspection of both CRVs are consistent with those anticipated from operational data review where IV #2 began throttling after [redacted] steam temperature drop as measured in the upstream right steam pipe and the RSV action occurring after a greater than [redacted] steam temperature drop. All IV #1 and RSV #1 operation occurred while exposed to [redacted] temperature drops, respectively, as measured in the upstream [redacted] steam pipe. Temperature measurements downstream of CRV #1 and CRV #2 indicate operation of the valves occurred with up to [redacted] temperature reductions respectively.

The scoring on RSV #2 stem, exfoliation of multiple components, as well as the stem plastic deformation (measured as runout) in both portions of CRV #2 are consistent with a steam valve

having experienced a large thermal transient and resulting distortion while both stems were in transient position. CRV #1 experienced a far less significant thermal transient and corresponding distortion when in operation and post event inspections had no notable findings.

4.5.2 CRH Stop Valve Inspection

Visual inspection of the HRSG #1 CRH stop valve was performed with the valve removed from the CRH pipe, in the closed position, and with the actuator removed. Visual inspection was performed as best as possible with the valve in the closed position. No significant deficiencies were observed. It appeared to be seated and no visual signs of seat or butterfly-disc damage could be observed in the as-examined position. The only item of potential significance was the appearance of a horizontal (in the installed orientation) line possibly indicating there had been an accumulation of liquid on the discharge side of the valve disk.

4.5.3 CRH Balance Valve Inspection

No notable findings were observed during visual inspection of the CRH balance valve.

5 DISCUSSION

Subsequent to the on-site work activities, the ongoing investigation involved requesting and reviewing more detailed operational data related to the failure event and prior shutdown events, and analysis of HRSG #1 operating data associated with the potential for water condensation during 1x1 operations. These are discussed in detail in the following sections.

Section 5.1 through **Section 5.8** include detailed evaluation of the site's operating data to characterize the events through documentation of their predecessors and causes. Each figure identifies points of interest within the operating data as a # and corresponding discussion for that item is identified with a corresponding (#) within the section.

5.1 Shutdown and Event Characterization

A review of basic operating parameters was performed to characterize the type and nature of the event and better direct further investigation efforts. **Figure 5-1** characterizes basic operation data prior to and during the failure event.

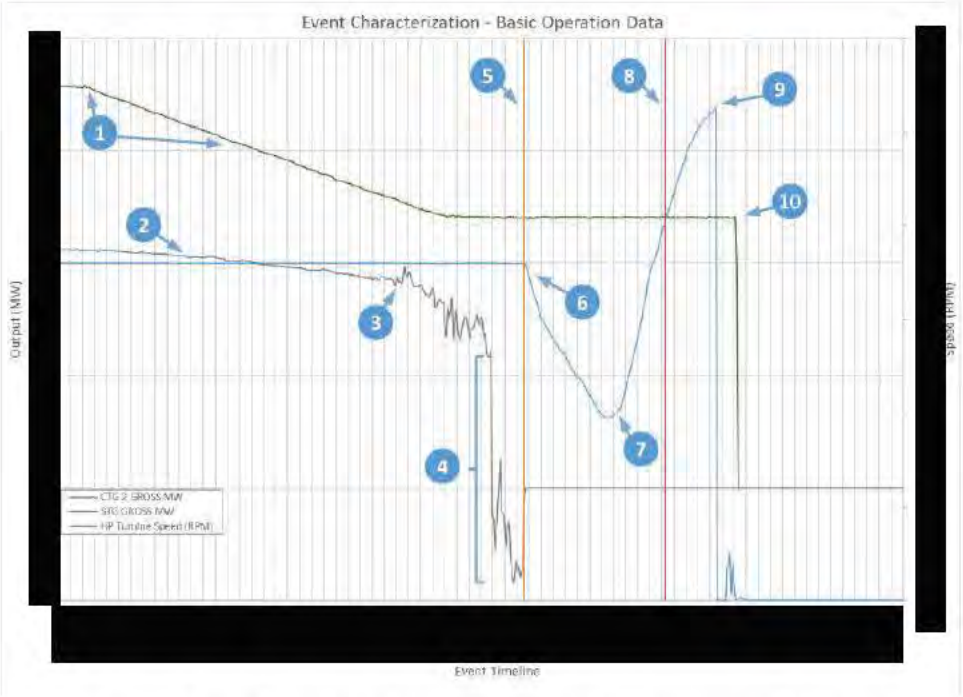

Figure 5-1 - Event Characterization - Basic Operation Data

Prior to the event and as part of the shutdown procedure, the operator initiated a (1) load reduction for CT 2 load to [redacted] MW at approximately [redacted]. As the reduction in CT output occurred, the (2) output of the STG began to decline accordingly. Both the CT and STG load reductions were smooth until approximately [redacted] when the (3) STG load began to fluctuate in an inconsistent manner with respect to the CT load reduction. At [redacted]

[redacted]
Throughout this operating period, the STG rotor speed remained at 3,600 RPM.

At approximately [redacted], the (5) STG line breakers [redacted]) opened, de-synchronizing the STG from the grid (indicated by the vertical orange line in this and future figures). The rotor speed immediately responded to the loss of synchronization by (6) dropping at a very high rate. The speed fell from [redacted] RPM to slightly below [redacted] as compared to a normal shutdown deceleration of approximately [redacted] per minute. After this rapid deceleration, the rotor began (7) accelerating rapidly, crossing the (8) overspeed limit of [redacted] (indicated by the vertical red line in this and future figures). The rotational speed registered a maximum of [redacted]. This acceleration of [redacted], which greatly exceeds typical controlled rotor acceleration of less than [redacted] per minute. The rotor speed (9) dropped to [redacted] and shortly after this, the control room operator (10) tripped CT 2 from load.

The (3) STG load fluctuation and subsequent (5) rapid rotor deceleration is indicative of a substantial change within the STG, and based on the steady load of CT 2, suggests the cause was not related to the running CT. [redacted]. This is also evident in the (6) rapid deceleration of the rotor upon (5) breaker opening. Based on this operating data, there is no indication of the cause or nature of the event, but it would indicate a significant driving force change associated with the rotating hardware within the STG.

Figure 5-2 overlays additional operating data to that presented in **Figure 5-1**. Further analysis of basic operating data adds vibration sensors to the trend to further characterize the nature of the event. It is common to review both radial and axial vibrations in the diagnosis of a turbine event as trends in this data provide primary indicators of physical changes to the rotating components. Some signals in **Figure 5-2** were multiplied as noted in the legend to enhance the visibility of changes.

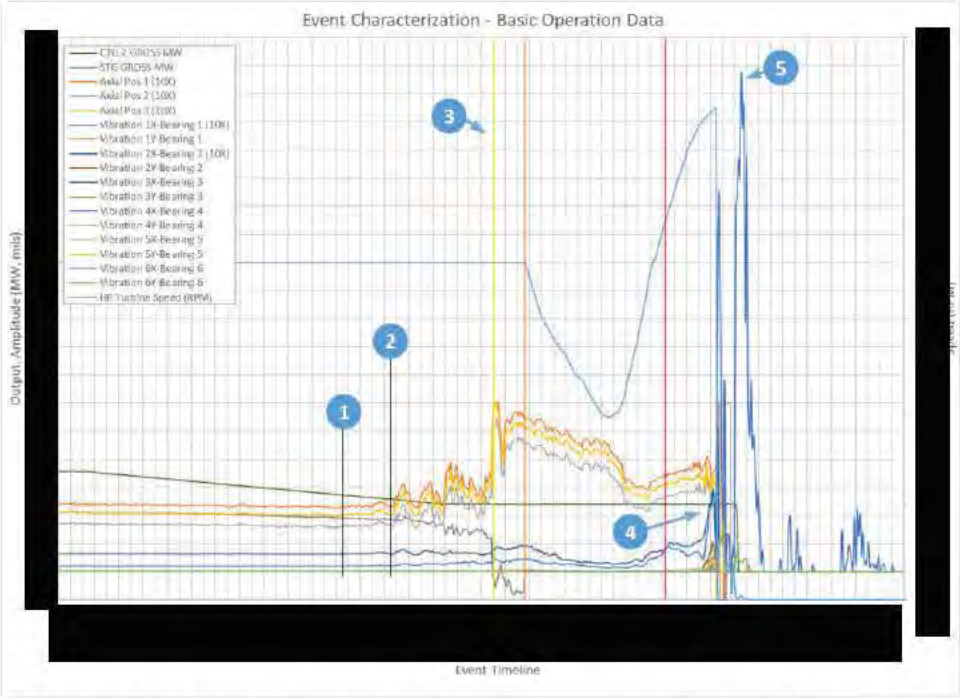

Figure 5-2 - Event Characterization - Basic Operation Data (Continued)

Minor trends (1) are visible beginning at [redacted] in **Figure 5-2** with the axial position probes and radial bearing 1X and 2X appearing inconsistent with prior operation, although these would likely not raise concern until a more significant (2) step change occurs at [redacted] within the axial position probes. The second (2) step change is consistent with STG load fluctuations identified in **Figure 5-1**.

Consistent with the load swing to reverse power, the most significant (3) axial position change occurs. At this point, a trip was initiated (indicated by the vertical yellow line in this and future figures) by the [redacted] controller. While there were minor trends within the radial vibration at this time, the magnitude of the axial change far exceeded the radial fluctuations. Pairing this axial position change with the load swing provides a strong indication that water was present within the flow path. The axial thrust of the rotor increased substantially due to the dramatic increase in the density of the ST operating fluid, [redacted]. The minimal changes in radial vibrations indicate that mass loss within the rotor train did not contribute to the event.

The first significant (4) radial vibration step change occurred after the STG exceeded 110% overspeed and (5) bearing 1X peaked approximately [redacted] after the rotor speed fell to [redacted]

[redacted]. The latter indicates that the speed sensors were likely damaged prior to recording the rotor's ultimate speed.

Review of STG basic operating data provided conclusive evidence that mechanical failures within the steam turbine and generator drivetrain are a result of and not contributors to the overspeed event. Further investigation of the sources and causes of the water induction and the rotor overspeed are discussed in subsequent sections.

5.2 Event Investigation - Vibration Predecessors

Figure 5-3 overlays key steam turbine temperature data to that presented in **Figure 5-1** and **Figure 5-2**.

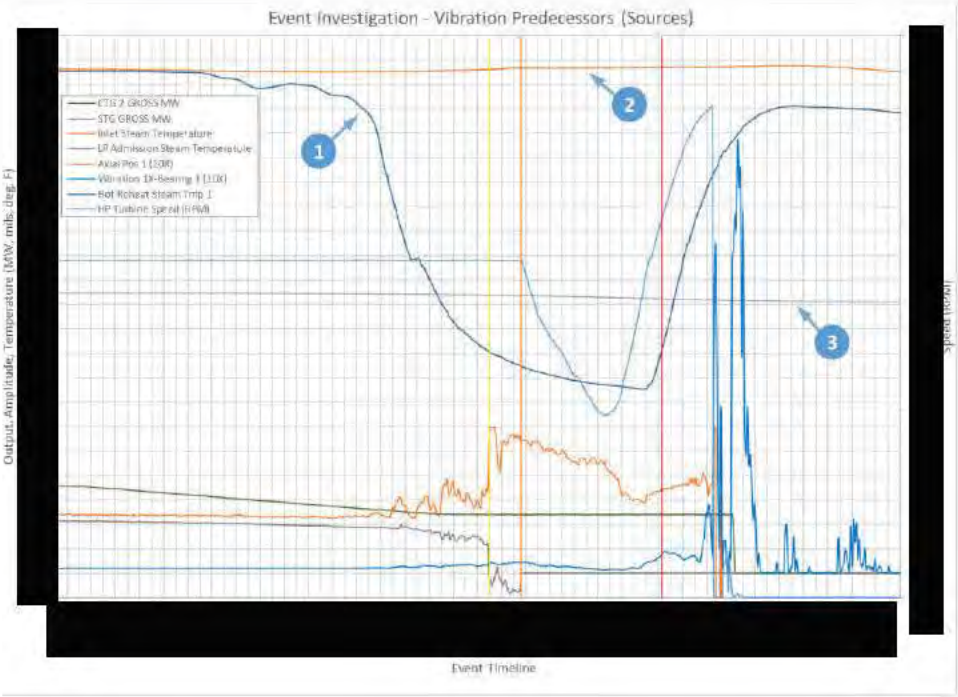

Figure 5-3 - Event Investigation - Vibration Predecessors

Based on the operational data review of STG speed, power output and vibrations, it has been identified that the overspeed event was substantially initiated by a water induction event. Review of HP, IP and LP inlet temperatures was utilized to isolate the turbine section that initially experienced this water induction. The IP section showed a significant reduction in temperature prior to the event and corresponding with the initial minor vibration trends identified in **Figure 5-2**. As shown in **Figure 5-3**, HP steam (2) inlet temperature and (3) LP admission steam temperature remained steady throughout the event, however, the (1) HRH steam entering through the right of the IP turbine showed a rapid reduction in temperature consistent with the induction of liquid water vs. steam.

5.3 Event Investigation - Overspeed Investigation

Sections 5.2 and **5.3** identified that the steam turbine trip, followed by reverse power and rapid rotor deceleration, was initiated by rotor axial position change due to a water induction event within the IP turbine section. This water induction event resulted in the rapid speed reduction of the rotor once the STG line breakers opened, however, cannot explain the following rapid acceleration and eventual overspeed of the rotor. **Figure 5.4** presents additional IP steam turbine temperatures prior to and during the failure event.

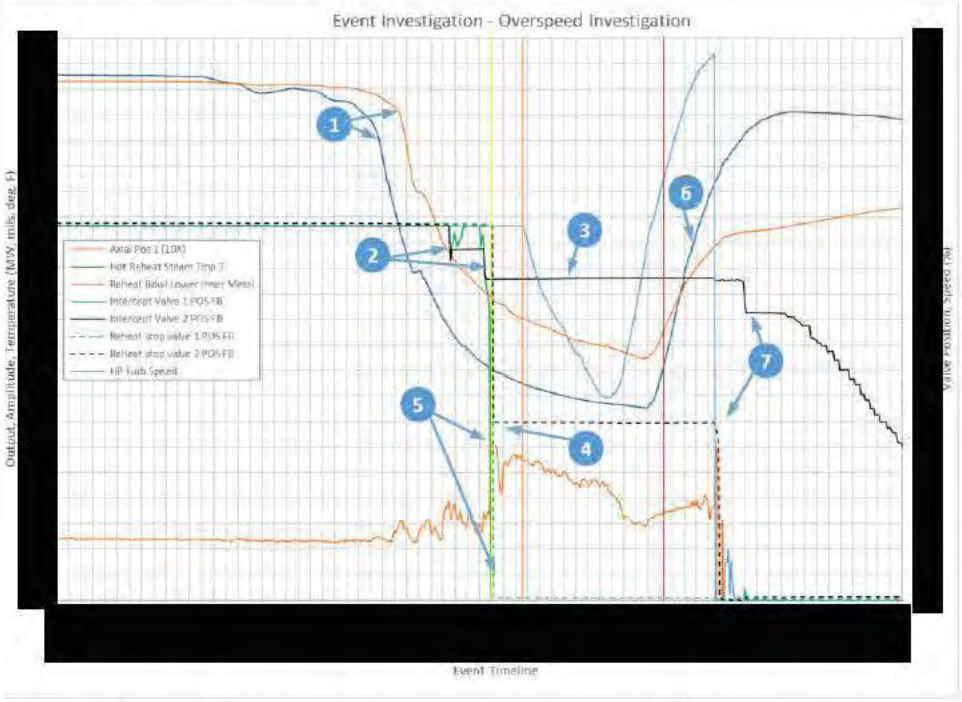

Figure 5-4 - Event Investigation - Overspeed Investigation

Figure 5-4 shows that (1) both the right HRH pipe beneath the STG and the right IP lower bowl temperatures were rapidly reduced from operating temperatures of approximately [redacted] to less than [redacted] when (2) both CRV IVs began to throttle in response to shutdown activities as described in **Section 4.4**. At this time, the right HRH pipe and IP lower bowl showed the presence of water versus the left HRH pipe and IP lower bowl, providing explanation as to why the IV #2 was (3) unable to close in response to flow throttling and RSV #2 in response to the trip command to (4) close all stop valves. At the time of the steam turbine trip, the left IP lower bowl temperature had begun to drop below [redacted] indicating a much smaller volume of water had entered through the left HRH pipe, allowing (5) IV #1 and RSV #1 to throttle and close as commanded.

As the unit over sped, the (6) steam flowing through CRV #2 returned to approximately [redacted] allowing the IV #2 and RSV #2 to close.

5.4 Event Investigation - HRH Investigation

Data from HRH thermocouples downstream of the pair of HRH stop/check valves is presented in **Figure 5-5**.

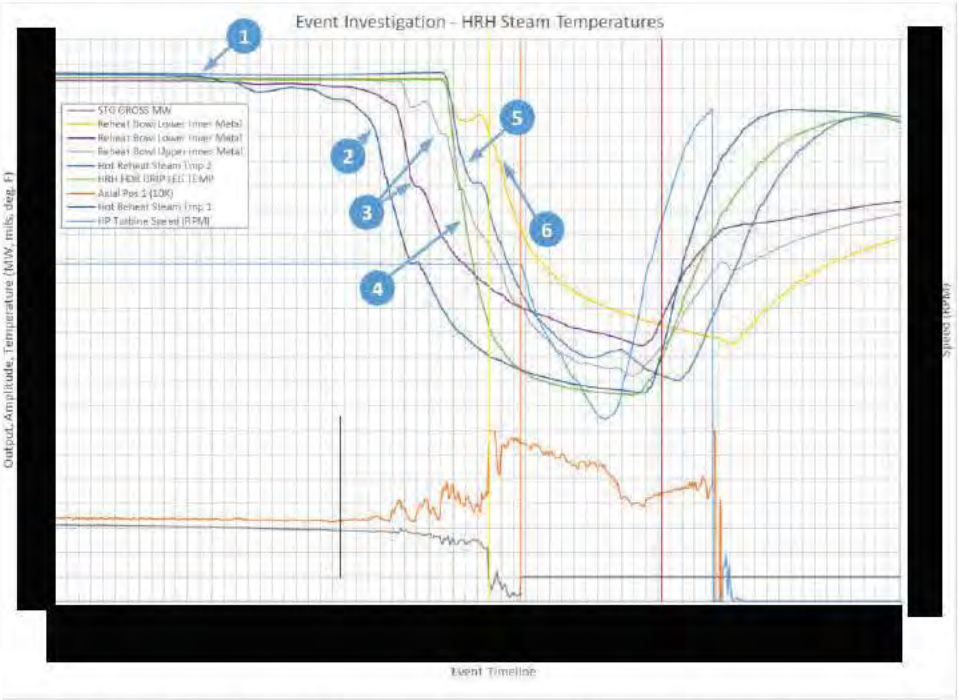

Figure 5-5 - Event Investigation - HRH Steam Temperatures

An (1) initial temperature disturbance occurred in the right HRH pipe beneath the STG prior to the initial vibration changes as previously highlighted in **Figure 5-2.** This disturbance was followed by a (2) significant drop in temperature in the same HRH pipe. Next, (3) the right, lower IP reheat bowl thermocouple, followed by the upper IP reheat bowl thermocouple, showed a sharp reduction in temperature, indicating that water was churning in the ST flow path. These significant temperature disturbances precede the axial vibration shift and the reverse power occurrence by less than one minute.

As of approximately [redacted], all noticeable activity occurred in the right side of the STG feeding up through the vertical piping leg and through CRV #2 into the IP steam bowls. The next indication of water within the steam piping is in the (4) HRH header drain between the right and left vertical CRV inlet piping. The drain temperature drop is followed quickly by a rapid temperature reduction in the (5) left vertical pipe leading to CRV #1. After there is an indication in both vertical pipes, (6) the left lower IP bowl thermocouple at CRV #1 sees a drop in temperature, indicating water mixing with steam at this location.

The HRH steam temperatures in **Figure 5-5** and the schematic in **Figure 4-1** indicate that initially water entered the right side of the HRH header and the IP turbine through the right vertical pipe and passed through CRV #2. As the right steam temperature dropped to saturation temperature (based on the HRH pressure), the header drain data showed that water spread from the right HRH pipe across the header and into the left HRH pipe. The schematic shows that HRH pipe

#1 from HRSG #1 aligns closely with the right vertical pipe leg leading to CRV #2 and that this side of the header would naturally pass water first if the HRH pipe #1 was the source of water. Further investigation of the HRH pipe #1 and #2 and HRSG #1 and #2 temperatures follow in subsequent sections to document the source of water involved in the induction event.

5.5 Event Investigation - Water Source Investigation

Figure 5-6 compares the HRSG outlet temperatures to thermocouples downstream of the pair of HRH stop/check valves shown in **Figure 5-5.**

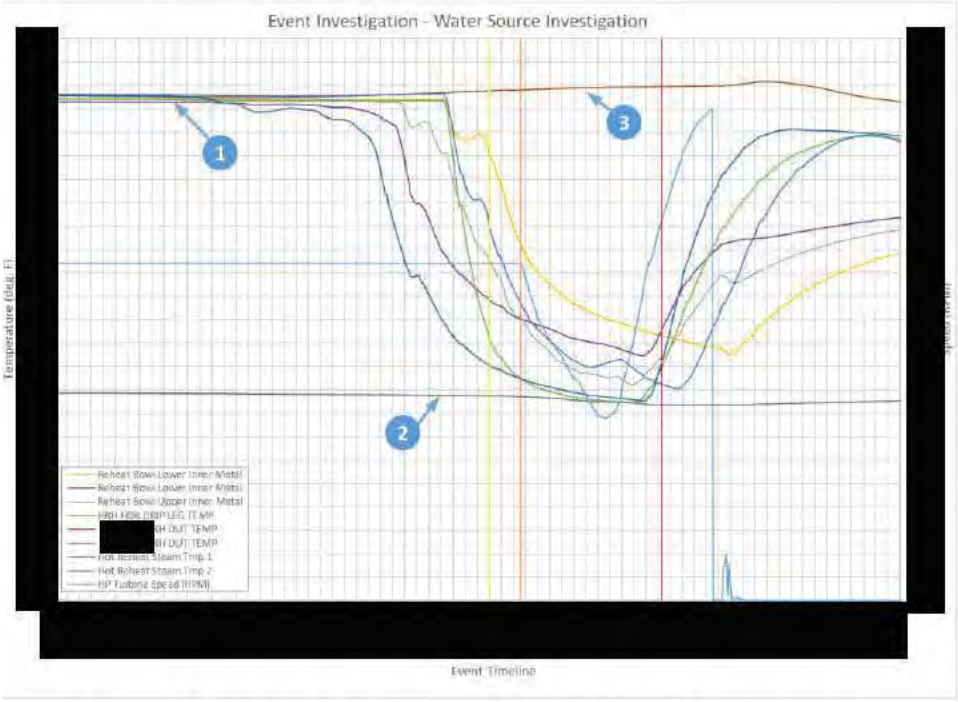

Figure 5-6 - Event Investigation - Water Source Investigation

During the initial shutdown of CT 2, (1) all left and right HRH pipe and reheat bowl thermocouple temperatures are aligned with the (3) output temperature of HRSG #2 RH, which was in service at the time. As the temperatures of the HRH pipe and IP bowls dropped, those temperatures became consistent with the (2) output temperature of HRSG #1 RH, which was out of service at the time. The HRSG #2 HRH outlet temperature remained at a (3) relatively consistent temperature throughout the event and only began to fall once CT 2 was tripped by the control room operator. This data gives a clear indication of the source of water in the water induction event is HRSG #1 RH and associated piping.

Since HRSG #1 was out of service at the time of the event, additional investigation into why water was present in HRSG #1, and what caused the induction of water into the active steam path, is detailed in the following sections.

5.6 Event Investigation - Water Induction Investigation

Figure 5-7 compares the inlet and outlet pressures HRSG #1 and #2 operating data as block 1 was reducing load.

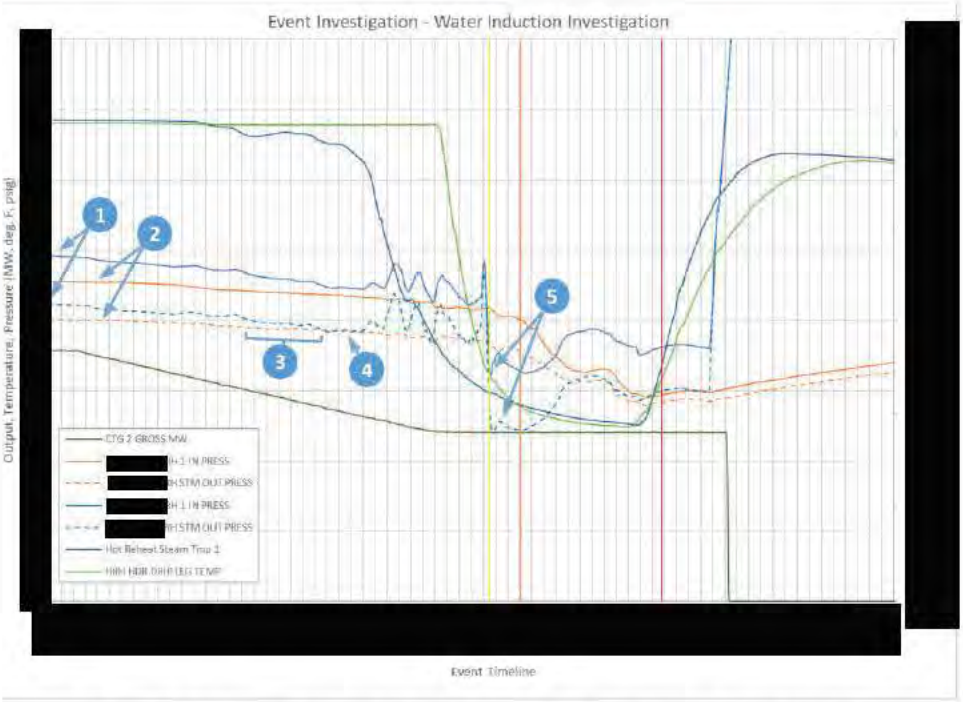

Figure 5-7 - Event Investigation - Water Induction Investigation

During normal operation prior to the event, (1) the inlet and exit pressures of HRSG #2 RH were greater than the (2) corresponding pressures of HRSG #1 which was out of service. As CT 2 load was reduced as part of the normal shutdown sequence, both (3) HRSG #2 RH inlet and outlet pressures declined with reduced CT output / exhaust temperatures, as expected. Later in the shutdown, the (4) outlet pressure of HRSG #2 RH drops below the outlet pressure of HRSG #1 RH, and the timing of this is consistent with the HRH #1 pipe showing the rapid temperature reduction. Immediately prior to the steam turbine trip, (5) both the inlet and outlet pressures of HRSG #2 RH drop below the corresponding pressures from HRSG #1 and remain below for approximately 1 minute.

As the HRSG RH outlet pressures close in (3) on each other and equalize (4), water is inducted into the IP ST. As the pressure of HRSG #1 is maintained above that of HRSG #2, flow from the out-of-service HRSG was permitted into the IP ST.

5.7 Event Investigation - Water Accumulation Investigation

To understand how water accumulated in HRSG #1 prior to the event, historical data for the plant was reviewed. Operating data is presented in **Figure 5-8** representing the 5 days prior to the event.

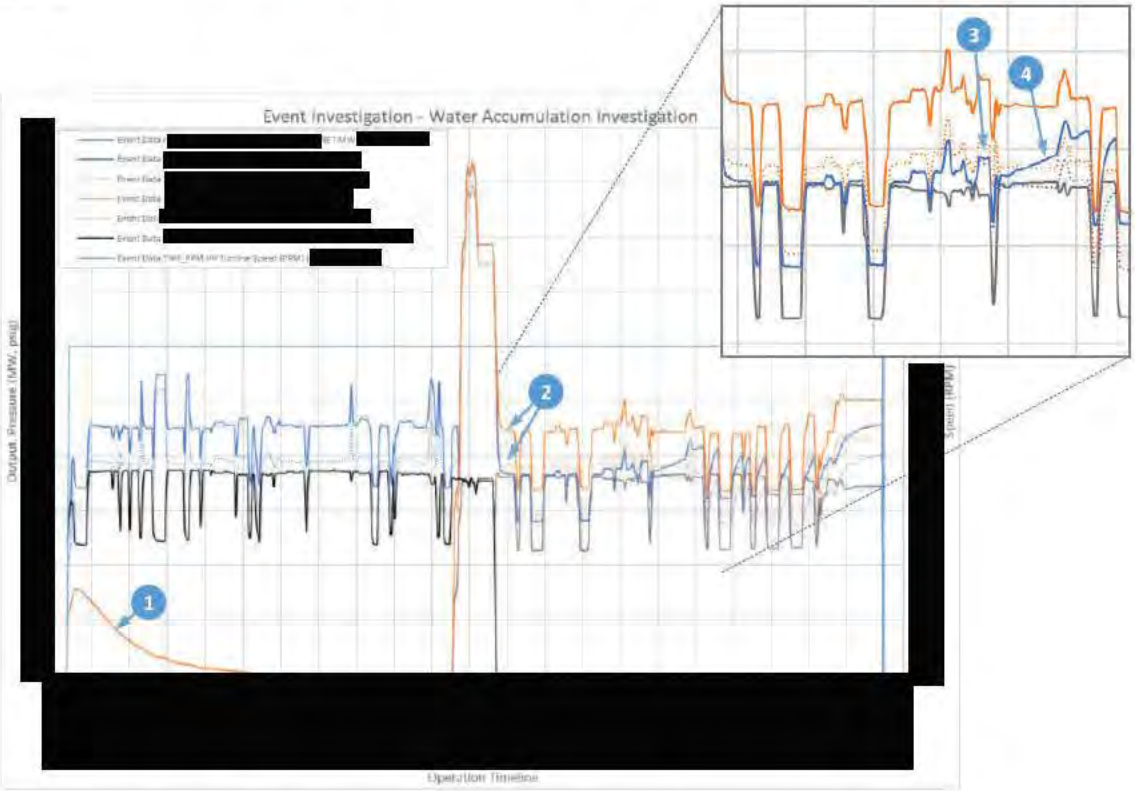

Figure 5-8 - Event Investigation - Water Accumulation Investigation

The plant operated in a [redacted]. During this time, block 1 provided [redacted] ranged between approximately [redacted] Also, during this time, HRSG #1 RH inlet pressure followed CRH outlet pressure with typical losses through piping and valves. HRSG #1 RH outlet pressure shows an average differential relative to inlet pressure of approximately [redacted], consistent with pressure losses through the reheat cycle.

Notable to the investigation, at the start of the 1x1 operation with block 1, (1) HRSG #2 RH inlet and outlet pressures increase upon startup of the STG to approximately [redacted], but this pressure decays off over the [redacted] Both HRSG #2 RH inlet and outlet pressures were equivalent throughout this time period, indicating that the RH circuit was pressurized and free of obstructions from inlet to exit.

The plant then operated a short time in 2x1 configuration with both block 1 and 2 in service for approximately [redacted]. At approximately [redacted], block 1 shut down while block 2 remained in operation until the event.

Unlike how HRSG #2 RH pressure levels decayed as HRSG #1 came online on 5/23/21, (2) HRSG #1 RH held pressure throughout the remaining operation of block 2. Initially, with block 1 offline, the differential pressure across HRSG #1 RH inlet and outlet locations remained very low [redacted], which indicates unobstructed flow of steam through the reheater circuit. However, at approximately [redacted], the (3) HRSG #1 RH inlet pressure began to rise, holding an increased level of pressure over the HRSG #1 RH exit. The (4) HRSG #1 RH inlet pressure continued to increase, driving towards the CRH pipe pressure through the remaining operation, with the exception of CT 2 load reductions, which also dropped the CRH pressure.

The RH sections of the HRSGs are comprised of 3 harps as depicted in the Nooter Eriksen P&ID drawing excerpt provided in **Figure 5-9**. While not in service, meaning no heat input to the HRSG, the inlet and outlet of the RH circuit should have no obstructions that could cause a differential pressure to develop across the circuit. When in operation, the temperature of steam flowing through the RH circuit increases from the inlet to the outlet as depicted in **Figure 5-9**, with the inlet pressure corresponding to the CRH pressure (HP turbine exhaust) and outlet pressure set by the CRV and IP turbine load. For a differential pressure to exist across the HRSG #1 RH circuit with block 1 out of service, there would have to be a source of pressure and a flow obstruction to prevent free flow through the harps.

Figure 5-9 - Nooter/Eriksen RH P&ID (Ref: [redacted])

Review of the same timeline with HRSG #1 RH temperatures, **Figure 5-10** provides the necessary details to identify how obstructions within the RH harps were created.

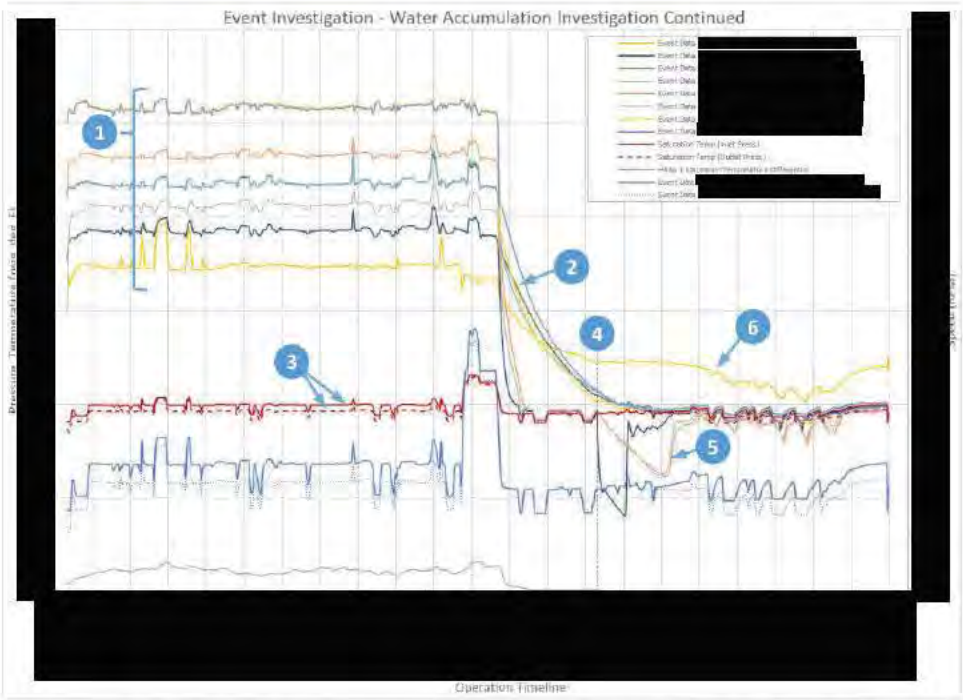

Figure 5-10 - Water Accumulation Investigation Temperature Plot

Temperature traces (1) show representative temperatures through the RH circuit including the inlet, 3 harps, and outlet; these traces show that the RH steam was steadily increasing in temperature when HRSG #1 was in service. These temperatures (2) decline after HRSG #1 is taken out of service. RH harp 1 drain ([redacted]) temperatures, followed by harp 3 drain ([redacted]) temperatures, decline first, followed by drops in temperature at the upper region thermocouples.

To aid in the investigation (3) the steam saturation temperature was calculated based on the HRSG #1 RH inlet and outlet pressures and trended through the operation period. The 3 drains identified above quickly dropped in temperature to the saturation temperature after the unit shut down. Approximately [redacted] after block 1 shut down, (4) RH harp 1 drain temperature dropped below the steam saturation temperature, quickly followed by the (5) RH harp 3 drains. This indicates that steam condensed within the HRSG. Approximately [redacted] later, the HRSG #1 RH inlet and outlet pressures began to separate, indicating that a sufficient amount of water had accumulated in the lower turns of the harps to form loop seals, as depicted in **Figure 5-11,** and was preventing free flow through the circuit.

The presence of small amounts of water within an offline HRSG is not necessarily intended, but on its own, is not capable of resulting in a significant water induction event. The warming through CT startup and startup drain will typically boil off and purge small levels of residual water within the HRSG. The HRSG #1 RH condensed water within the harps for greater than [redacted] prior to the event, as shown in **Figure 5-10**. The RH also maintained approximately [redacted] of its typical operating pressure prior to the formation of the loop seals, and the inlet pressure

reached [redacted] of typical operating pressure early on the morning of 5/27, followed by meeting typical operating pressures hours before the event.

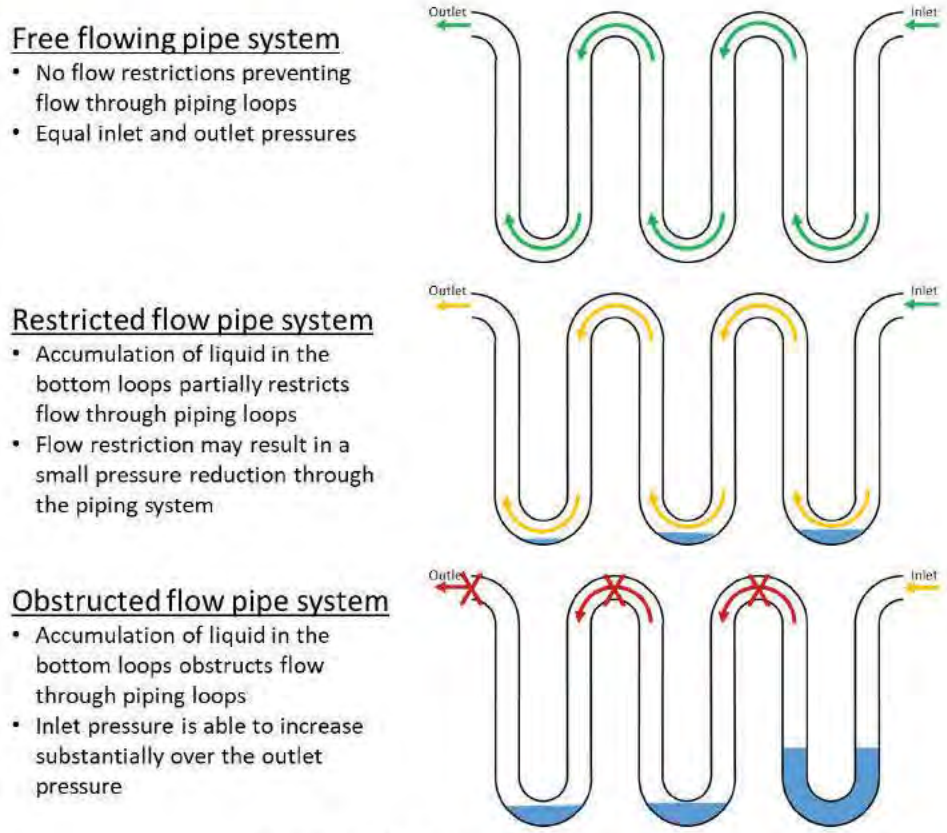

Figure 5-11 - Loop Seal Depiction

Along with this maintained pressure, the temperatures within the RH system were at or near saturation temperature. The maintained pressure acted as one force driving accumulated water into the IP ST via the HRH pipe when the exit pressure of HRSG #2 dropped. The second driving force was the additional pressure created as portions of the high temperature water boiled off (flashed) and expanded as the HRH header pressure dropped.

A significant source of steam was required to condense enough water within the RH harps to form loop seals. Additionally, this source maintained near operating levels of pressure within the out-of-service HRSG and near boiling temperatures at that eleveted pressure. Potential sources of steam are discussed in the next section.

5.8 Event Investigation - Water Accumulation Steam Source Investigation

Review of Russell City Energy Center Main Steam P&ID drawings [redacted] through [redacted] and the HRSG P&ID drawing [redacted] through

[redacted] for sources of steam flow to HRSG #1 RH identified the following potential sources (•) and flow monitoring devices(○) (listed in the order of steam flow from the HP ST):

- Flow from the CRH piping through HRSG #1 CRH SV
- Flow into CRH piping from the HP Bypass
  - ○ CRH Flow Balance Flowmeter
- Flow from the HRSG #1 CRH Blowdown Tank[7]
- Flow into HRSG #1 RH from the IP Superheater
  - ○ IP Superheater to CRH Flowmeter
- Drain piping and vents within HRSG #1[7]
- Reverse flow into HRH pipe from HRSG #1 Bypass to Condenser[7]
- Reverse flow into HRH pipe from HRSG #1 Vent Stack[7]
- Reverse flow into HRH pipe from HRSG #1 Blowdown Tank[7]
- Reverse flow from the HRH header through the HRH stop/check valve

5.8.1 Forward flow into HRSG #1 RH

Figure 5-12 provides a view of flow into both HRSGs during the operation time period prior to the event.

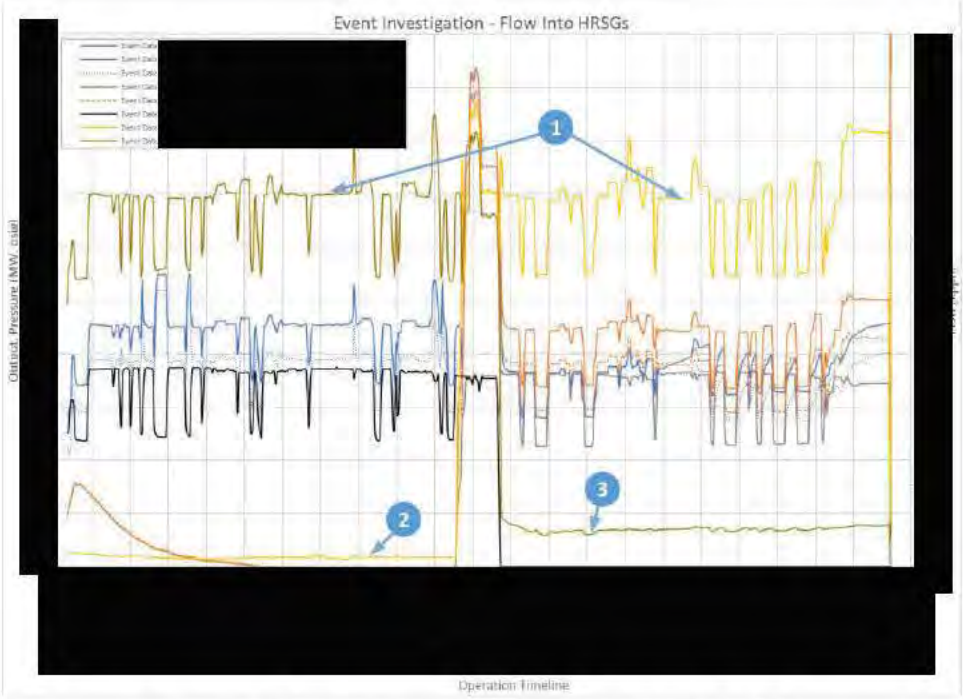

Figure 5-12 - Event Investigation Flow into HRSGs

The CRH Flow Balance Flowmeter is in-line downstream of the HRSG CRH SV, CRH flow balance valve and HP bypass piping. As shown in **Figure 5-12**, (1) both HRSG #1 and HRSG

[7] Vent stacks, drains, condenser and blowdown tanks were reviewed and excluded due to an inability to support pressure and temperature documented in **Figure 5-8** and **Figure 5-10**.

#2 recorded approximately [redacted] of steam flow during steady, full load operation. While low levels of flow through the flowmeters are unlikely to provide accurate readings, a relative comparison can be drawn between the offline CRH flow into the HRSGs. While offline, (2) HRSG #2 showed approximately [redacted] where (3) HRSG #1 recorded [redacted].

Plotted in **Figure 5-13**, the pressures upstream of HRSG #1 are shown for the (1) CRH pipe upstream of the CRH SV, (2) HP bypass system (plotted on the secondary Y scale), (3) CRH flow meter, (4) IP superheater, and both the (5) RH inlet and outlet. Initially, after the shutdown of block 1, the HP bypass system remained at approximately [redacted]. However, after approximately [redacted], the (6) pressure bleeds off to less than [redacted]. Throughout the majority of block 2's operation, both CRH pipes remain at approximately [redacted] sig with the exception of the [redacted] prior to the event where the pressure (7) increases to approximately [redacted] without a load increase on CT 2.

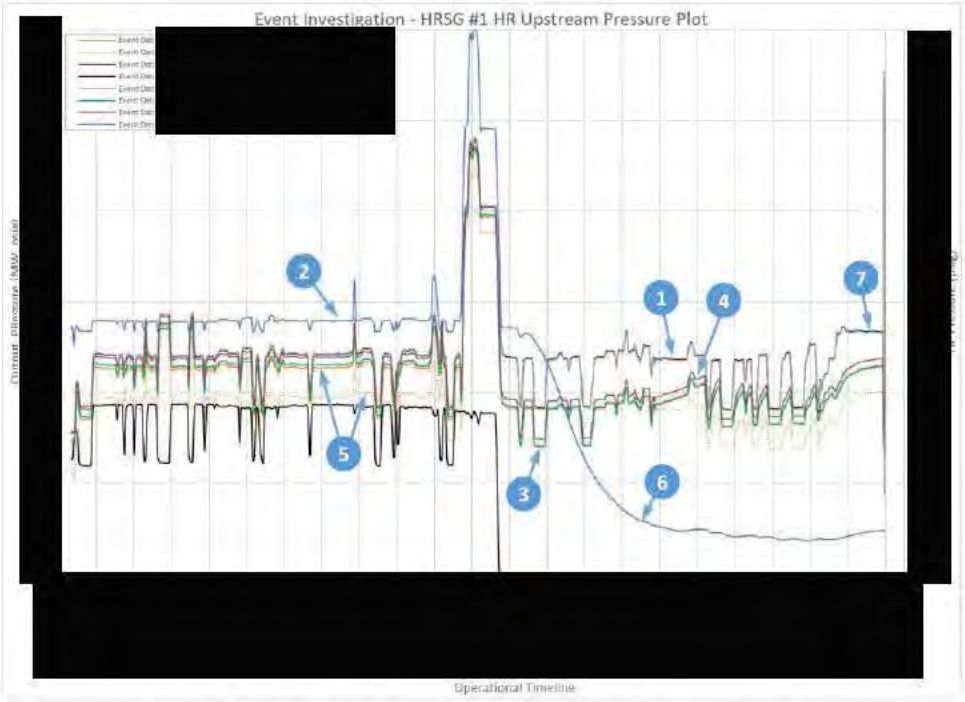

Figure 5-13 - HRSG #1 HR Upstream Pressure Plot

Flow into HRSG #1 RH from the CRH pipe was documented to remain at approximately [redacted] greater than flow into HRSG #2 when similarly offline. The 3 potential sources were assessed as follows:

- Flow from the CRH piping through HRSG #1 CRH SV
  - The (1) CRH pipe upstream of the CRH SV remains at a higher pressure than the (3) CRH pipe leading to the RH system throughout the duration of operation.
  - The CRH upstream pressure fluctuates with operation of block 2 and pressures downstream of the CRH SV follow these fluctuations. This pressure association appears to indicate flow across the CRH SV.

- The CRH SV supplies both the needed pressure and temperature to condense water in HRSG #1 RH and maintain the pressurization and temperature {**Figure 5-14** (1) and (2)} from the inlet side of the RH.

- Flow from the CRH piping from the HP Bypass
  - Initial equalization of the (2) HP bypass system is likely to have provided flow into the CRH piping upstream of the CRH valve for up to approximately 16 hours through the HP bypass control valve or its warming line.
  - After this timeframe, however, the system (6) pressure dropped below the CRH pipe pressure, at which point the direction of flow would have reversed back into the HP bypass system.
  - The HP bypass flow enters downstream of the CRH SV but upstream of the CRH balance flow meter. The temperatures of the HP bypass {**Figure 5-14** (4)} are cooler than both of these temperature readings for the majority of the block 2 operation. This indicates the HP bypass is not contributing significant flow for the duration HRSG #1 is out of service, otherwise, the CRH balance flow meter would have recorded a temperature at or below the HP bypass temperature.
  - While the HP bypass initially provides steam flow and pressure to the CRH pipe, that flow reverses backwards into the HP bypass system early in the HRSG #1 offline period.
  - It should be noted that the bypass warmup lines are expected to be similar for both units, and operation of HRSG #1 with HRSG #2 offline did not result in a significant pressurization of the HRSG #2 RH.

- Flow into the HRSG #1 RH from the IP Superheater
  - The IP superheater feeds into the CRH pipe downstream of the CRH flowmeter and has a flowmeter of its own.
  - The (4) pressure within the IP superheater (measured upstream of the flow meter) remains slightly above the CRH pipe pressure, however, the pressure of the IP superheater itself is approximately 150 psig lower than CRH pressure.
  - Based on the low supply pressure from the IP superheater and the {**Figure 5-14** (3)} temperatures within the IP superheater piping, it is unlikely that this contributes any significant steam flow or pressurization of the HRSG #1 RH.

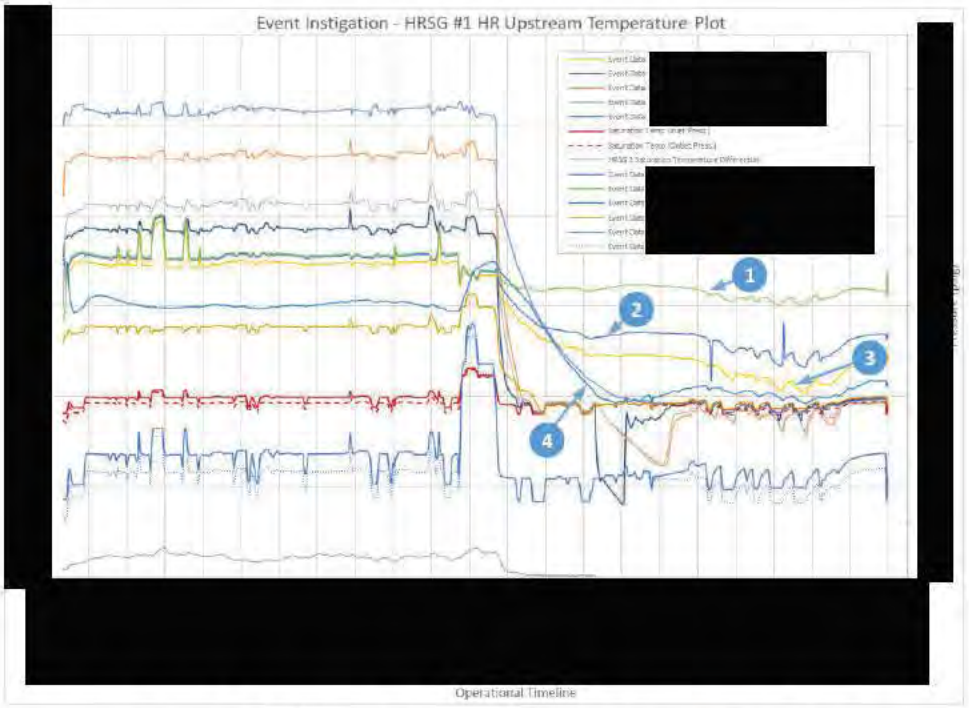

Figure 5-14 - HRSG #1 HR Upstream Temperature Plot

5.8.2 Reverse flow into HRSG #1 RH

Pressures within the HRH and CRH piping, as presented in **Figure 5-15**, further document steam flow direction within these systems.

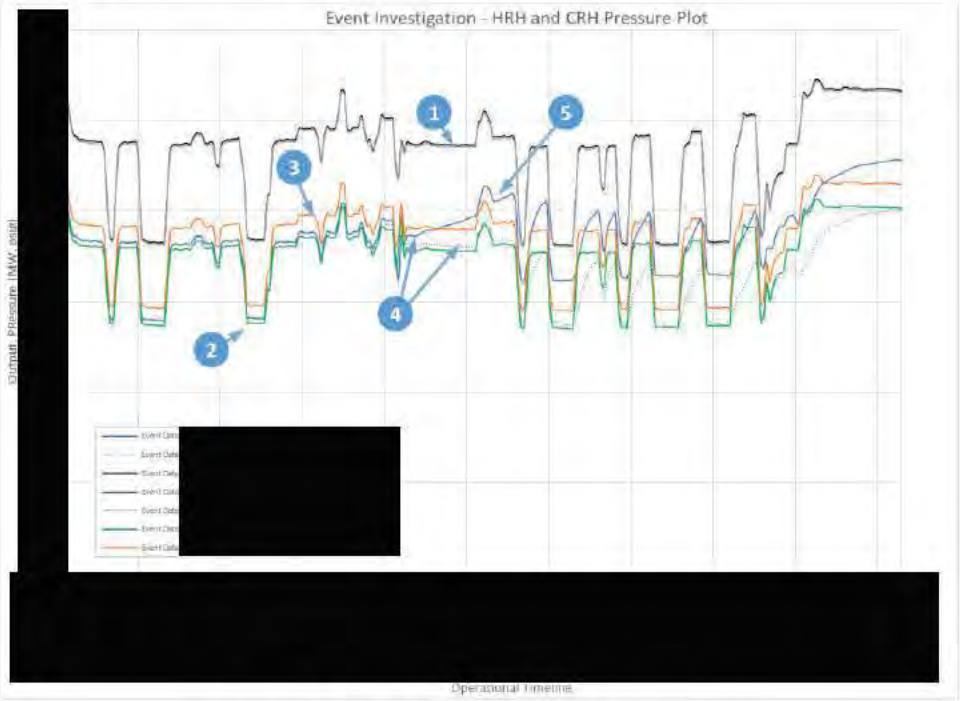

Figure 5-15- CHR and HRH Pressure

The (1) CRH pipes to HRSG #1 and #2 remain the highest pressure within the CRH and HRH piping systems throughout the approximately [redacted] of operation prior to the event. Due to flow losses in the piping and valves, (2) the inlet pressure of the IP ST downstream of the CRVs is the lowest pressure. The (3) outlet pressure of HRSG #2 RH, which is in service, is initially greater than both the (4) inlet and outlet pressure of HRSG #1 RH. However, as the loop seals form within HRSG #1, (5) the inlet pressure of the HRSG #1 RH begins to exceed the outlet pressure of the HRSG #2 RH.

Both HRSGs meet at the HRH header downstream of the HRH stop/check valves. In the event that HRH #1 stop/check valve was providing significant reverse steam flow to HRSG #1, the outlet pressure of the RH would exceed in the inlet pressure. Additionally, the inlet temperature of HRSG #1 exceeds the outlet temperature, which indicates the source of steam flow to the out-of-service HRSG is on the inlet side of the RH. This is consistent with flow recorded through the HRSG #1 CRH flowmeter as well. For these reasons, reverse flow through the HRH #1 stop/check valve was not considered as a substantial source of steam for the water accumulation within the HRSG #1 RH.

5.9 Cold Reheat Stop Valve Investigation

The HRSG #1 CRH stop valve [redacted] was removed for investigation based on continued supply of steam to the offline HRSG #1. The valve, gearbox and actuator were tested, disassembled, and inspected at a local valve service center.

5.9.1 *Cold Reheat Stop Valve Shop Investigation*

The HRSG #1 CRH stop valve [redacted]) was removed from the CRH piping for investigation and the actuator was separated while on site. Initially, the valve and gearbox were sent to Bay Valve Service center; subsequently the actuator was shipped to the service center for a complete system evaluation. Bay Valve performed inspection and testing under SI's direction.

Initial observations from the shop confirmed that the valve was capable of manual actuation from the fully opened to fully closed position. Additionally, the valve was noted to hold water in an atmospheric pressure, static water test. Externally, the valve and gearbox had no significant findings.

Upon arrival of the actuator to the shop, a visual inspection was completed with no notable findings. The actuator's controller was configured to open and close based on limit switch positions. The actuator was stroked in the stand alone configuration. During this test, the electrical current draw slightly exceeded the typical operating range.

The actuator, gear box and valve were reassembled for testing purposes. When attempting to align the three components, it was identified that the configuration prior to removal could not be recreated. When assembled, only [redacted] of stroke was achieved by the valve through the full stroke of the actuator. Due to this limited valve stroke, the assembly could be internally aligned such that the valve either fully closed, fully opened or partially stroked achieving neither full opening nor closure. Depiction of an ideal alignment as well as the former two potential alignments are shown in **Figure 5-16**.

Both the actuator and valve were disassembled with no notable findings impacting the stroke of the valve. The valve stem and yoke bearing were identified with galling damage which was noted to potentially increase actuator load but would not significantly impact the range of stroke. Disassembly of the gearbox identified a heavily damaged gear box shaft roller bearing. The bearing components had been trapped within the worm and quarter gear further damaging the gearbox. This damage increased the gearbox backlash and resulted in reduced valve stroke.

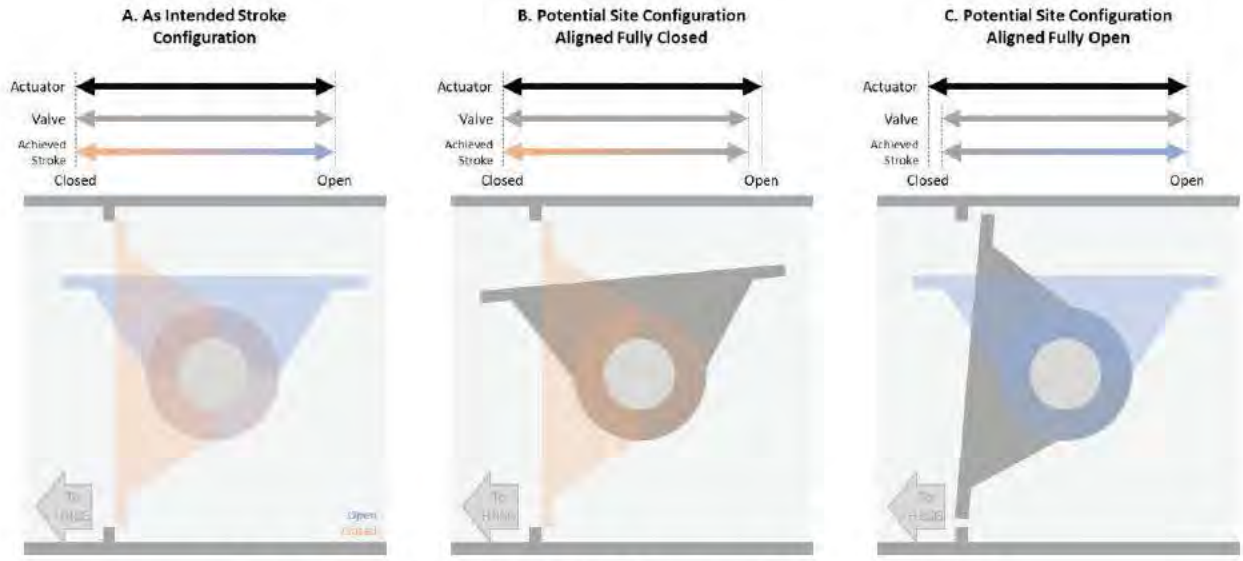

Figure 5-16 - CRH Stop Valve Component Stroke Depiction

Had the gearbox been able to efficiently translate the full actuator motion to the valve, both positions in **Figure 5-16**A. could have been achieved. The fully opened position is depicted in blue and the fully closed position is shown in orange. Intermediate positions are shown as grey in depictions B and C.

As the gearbox was unable to efficiently translate the actuator motion to the valve, Figure 5-15 depictions B and C represent possible alignments of the valve while in service. If the three components were aligned based off a fully closed position, the resulting partially opened position would have been as depicted in **Figure 5-16B**. If the three components were aligned based off a fully open position, the resulting partially closed position would have been as depicted in **Figure 5-16C**. More likely, the valve was unable to reach either the fully opened or fully closed position through the full stroke of the actuator.

The assembly actuation was tested both at shop temperatures and heated to [redacted] to simulate operating conditions. The valve was found to move smoothly throughout the actuator stroke in both tests. When configured to fully close, as shown in **Figure 5-16B**, the valve passed a graphite seat contact test and feeler gage inspection.

To perform a static pressure test, the valve was manually actuated to the closed position and tested at 250 PSI. The valve experienced significant leakage (8 oz. / minute) at 250 PSI and was unable to achieve pressurization to 500 PSI due to the leakage level. Per American Petroleum Institute (API) Standard 598 - Valve Inspection and Testing, the maximum allowable leakage for this size valve is 28 drops per minute (0.06 oz. per min) at 1,625 PSI. The test leakage equates to approximately 135 times the acceptable leakage at 15% of the API Standard test pressure.

5.9.2 *Cold Reheat Stop Valve Operation Investigation*

The HRSG CRH SV is positioned upstream of the CRH balance valve ([redacted]), the HP bypass tie-in, and the CRH Flow Balance flowmeter, all of which feed the HRSG RH. The CRH SV is intended to isolate the offline HRSG from the common CRH piping, which is active when either block is operational.

The CRH SV is configured to operate either fully opened or fully closed. The valve is configured to report to the distributed control system (DCS) when in the open limit position, closed limit position, in-motion, or when the actuator fails to actuate properly. As identified in the shop inspection, the actuator was able to stroke throughout its entire range and reach both limit positions. Therefore, prior to the event, the actuator reported to the DCS that it successfully reached both the fully opened and fully closed positions during operation. Based on the degradation of the gearbox, while the actuator reached both positions it was commanded to reach, the valve likely never fully reached either position. Since the actuator reached its limit position, no valve alarms were triggered.

5.10 [redacted] Controller Alarm Log Review

SI completed a review of the complete, historical process alarm log from the [redacted] controller including turning gear operation[8] prior to the startup on 5/23/21 through the event on the evening of 5/27/21. From the time the STG began turning gear operation to the event trip, the [redacted] controller registered 5,391 alarms. Review of operational data indicated that 39 of these alarms were raised after the accumulation of water within the offline HRSG. Relevant alarms are discussed relative to the plant operation and plotted on the operation timeline within **Figure 5-17**.

Of the 5,391 alarms experienced from turning gear operation (beginning [redacted]) up to the trip ([redacted]), the first non-recurrent alarms relevant to the event entered 29 seconds prior to the trip documenting the rapid fall of the HRH steam temperature. Operator intervention at this point would not have prevented the event from occurring.

Based on the configuration of the STG HRH #1 and #2 pipes feeding the HRH header, shown in **Figure 4-1**, flow, temperature, and pressure changes from either HRSG will affect both CRVs and the STG. However, since the individual HRH pipes are closely aligned to the right and left vertical pipe legs, temperature and pressure differences downstream of the header would be expected during transient[9] conditions as flow balances through the header. During review of the alarm log, it was not uncommon for transient conditions to result in temperature differences that triggered alarms.

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[8] STG are put on turning gear operation when offline to aid in cooling the turbine after shutdown, prevent rotor bowing when offline or on standby, and to evenly heat the rotor during startup warming. It is common for STGs with cyclic or peaker operating profiles to operate on turning gear to reduce the start time unless the unit is not planned to start for longer durations of time (typically weeks or longer). Turning gear is an electric motor rotating the STG rotor at low RPMs typically in the 4-20 RPM range, and RCEC operates at 6-7 RPM.

[9] Transient conditions are conditions where parameters (pressure, temperature and flow) within the STG, HRSG and steam piping are changing. These conditions typically occur during start-up or shutdown and load changes.

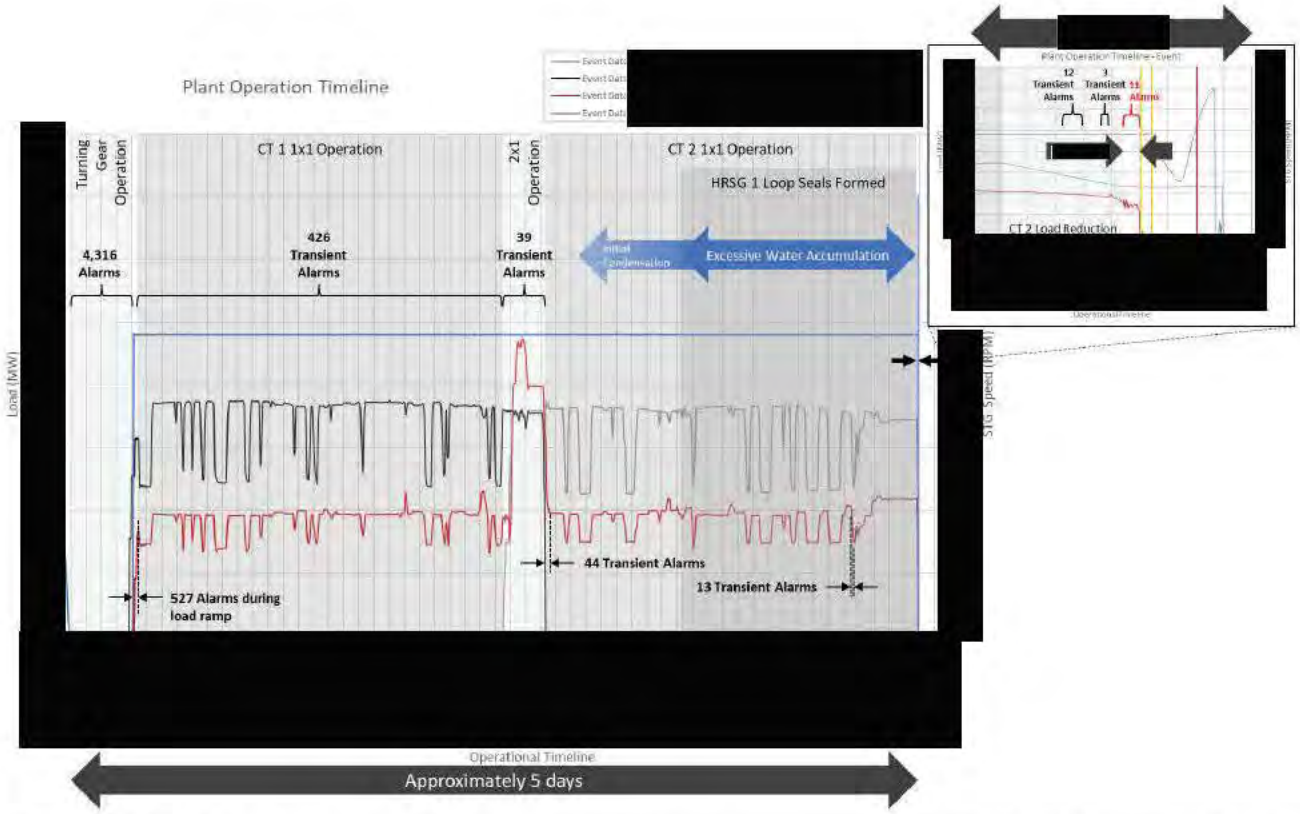

Figure 5-17 - Plant Operation Timeline ([redacted]) with [redacted] Alarm Overlay

Of the 5,391 alarms, 5,352 occurred from the start of turning gear operation up to [redacted] prior [redacted]) to the event. The 5,352 alarms occurred prior to water accumulation in offline and transient conditions and do not present abnormal operating conditions. Of these alarms, 5,308 occurred on turning gear or with HRSG 1 online in conditions that would not condense or accumulate water within the HRSG. The remaining 44 alarms occurred in 1x1 operation as block 1 was shutting down with HRSG 1 still at operating temperature. Based on the CT and HRSG operation time periods, these alarms would not have been associated with large amounts of water accumulating within the offline HRSG. These alarms are not related to the event or its precursors.

The remaining 39 alarms of the 5,391 occurred later in the 1x1 block 2 operation and after water was forensically determined as part of this investigation to have accumulated in HRSG 1. 13 of these occurred during transient operation between [redacted] hours prior to the trip. These "REHEAT STEAM TC PROBLEM" alarms indicate a temperature spread was identified in the HRH pipes downstream of the HRH header. This alarm had been experienced 304 times previously while on turning gear and in both 2x1 and 1x1 transient operation. Providing no new information to the operator on the afternoon of 5/25/21, these alarms would not have prompted operator action.

After the operator initiated the load reduction of CT 2, the same alarm repeated 12 times between [redacted] minutes prior to the trip. 3 additional alarms (1 - REHEAT BOWL LOWER TC

PROBLEM, 2 - WATER DETECT RH BOWL TEMP SPREAD EXCEEDED[10]) entered between [redacted] minutes prior to the trip. Combined, these three alarms occurred 969 times since the unit was on turning gear, and when triggered within[redacted] minutes of the event, did not present new information to the operator. Based on the transient operation and the repetitive nature of the alarms, they would not have prompted operator action.

A total of 11 non-recurrent alarms triggered within 29 seconds of the trip, including the HRH steam temperature downward trend, IV failure to respond, and axial position alarms. The HRH steam temperature alarms entered at [redacted] documenting the rapid HRH temperature fall. The next relevant alarms occurred at approximately [redacted] and were related to failure of the IV #2 to respond appropriately and the axial position trip command from the [redacted]. The axial probes failed trip alarm occurred at [redacted] Operator intervention was no longer possible to impact the event during this timeframe. IV #2 and SV #2 were seized, allowing continued flow into the IP ST, the manual HRH #1 stop / check could not have been closed, and no operator interaction could have maintained the STG line breakers in a closed position.

[10] "Water detect" alarms are based off differential temperature measurements between thermocouple pairs verses a physical detection of the presence of water. These alarms typically trigger based off differential temperature between thermocouples in the upper and lower halves of the turbine shell.

5.11 Root Cause and Contributing Factors

The Russell City Energy Center STG experienced an overspeed event including liberation of portions of the drivetrain shaft, on the evening of May 27, 2021. This mechanical failure of the STG has been determined to be a result of a rotor overspeed event where the rotor exceeded [redacted] or [redacted] of rated speed, when the speed sensors were destroyed. Review of the rotor fracture surfaces and operation data indicate, as noted in **Sections 4.1** and **5.1**, that the failure occurred as a result of the overspeed event with no indication of pre-existing flaws or mass loss prior to the overspeed event. Therefore, no additional effort was expended to determine the exact nature of how the rotor fractures occurred as understanding this failure sequence was not required to carry out the causal analysis of the overspeed event.

The rotor overspeed event occurred due to the continued flow of pressurized operating fluid to the IP ST and subsequently the LP from both the in- and out-of-service HRSGs after the control system initiated a trip and commanded all steam valves to close. The IP ST continued to receive flow due to the failure of the IV #2 and RSV #2 to close, which has been attributed to the binding of the valves' components. [redacted] Contributing to the overspeed event, the STG line breakers opened prior to the closure of IV #2 and RSV #2 based on delay logic within the protection system. With the generator no longer maintaining rotor speed of 3,600 RPM, the fluid pressure from both HRSGs could freely accelerate the rotor beyond its intended operating speed and into the uncontrolled overspeed condition. Based on feedback from Calpine, there is no indication that the STG control system failed to execute commands per the existing protection logic.

The IV #2 and RSV #2 binding occurred as a result of thermal distortion due to a water induction event from pressurized, high temperature water condensed in the out-of-service HRSG #1. HRSG #1 RH was charged to near operation pressures and maintained elevated temperatures while out of service for approximately [redacted]. Water was inducted from HRSG #1 as the RH outlet pressure of HRSG #2 decreased to a level below that of HRSG #1 RH during the normal shutdown of CT 2. Identified as a secondary factor impacting this RCA, Russell City Energy Center's main steam system was not designed with an effective means of isolating the out-of-service HRSG during routine operation[11].

The RH circuit within HRSG #1 maintained an elevated pressure and condensed high temperature water within RH harps as a result of continued flow of steam into the circuit when offline. Initially, HRSG #1 RH was supplied with steam from both the HP Bypass and the CRH SV as verified by the CRH Bypass flow meter. After the decay of the HP bypass pressure below the HRSG #1 RH inlet pressure, the CRH SV continued to supply steam to the HRSG #1 RH and maintain its pressurization. The pressures and temperatures of the CRH pipe downstream of the CRH SV remained above corresponding values at the inlet to the first RH harp. HRSG #1 condensed and accumulated water within the RH harps for approximately [redacted] while offline. Typical 1x1 operation prior to the event was less than [redacted], which is less than the duration in which the harp loop seals formed prior to the event.

[11] Manual operation of the HRH stop/check valve to isolate either out-of-service HRSG is not practical for a plant that operates in cyclic and peaking operation. Manual operation of the HRH stop/check valve could not be performed in timely manner to prevent the event from occurring upon [redacted] alarms identifying the presence of water within the IP ST.

Investigation of the HRSG #1 CRH SV at a valve service center identified degradation of the gearbox, which resulted in increased gear backlash. This increased backlash reduced the valve's effective stroke to approximately [redacted], where a [redacted] stroke is required to move from the fully opened to fully closed position. It is likely that the increased backlash within the gearbox resulted in the valve failing to meet either position while the actuator's stroke met its programmed range indicating to the DCS the limits were met.

Due to the potential for steam valves to leak, this causal analysis focused primarily on detecting and mitigating the consequences of valve leaks that increased the site's risk of a water induction event. The HRSGs are equipped to monitor temperatures and pressures within the RH system but are not equipped by design to reliably detect the presence of water within the RH harps in all circumstances. The presence of water was forensically determined through the evaluation of historian data from multiple sensors, however there is no direct indication of the presence of water (e.g. via liquid level switch) within the DCS. In addition to the lack of capability to detect water, the DCS was not configured to mitigate, through actuation of the RH drains, the presence of excessive water under near operating pressure and elevated temperatures within an out-of-service HRSG. Respectively, the design and configuration of the HRSG and DCS failed to adequately detect and mitigate the presence of excess water under pressure and temperature within the RH system; this is the root cause of the STG drivetrain event at Russell City Energy Center.

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STAFF REPORT

Russell City Energy Center May 2021 Incident: Root Cause Gap Analysis

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GLOSSARY

AIR CONTAMINENTS — Dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof.

BLACK START — The process of restoring an electric power station or part of an electric grid to operation without relying on the external electric transmission network to recover from a total or partial shutdown.

BUSHING — A metal lining for a round hole, especially one in which an axle revolves.

CENTRIFUGAL — Moving or tending to move away from a center.

COMBUSTION TURBINE (CT) — A turbine driven by expanding hot gases produced by burning fuel, such as natural gas.

DISTRIBUTED CONTROL SYSTEM — A computerized control system for a process or plant usually with many control loops, in which autonomous controllers are distributed throughout the system, but there is no central operator supervisory control.

GALLING — A form of wear caused by adhesion between sliding surfaces.

GENERATOR — A dynamo or similar machine for converting mechanical energy into electricity.

HEAT RECOVERY STEAM GENERATOR (HRSG) — An energy recovery heat exchanger that recovers heat from a hot gas stream, such as combustion turbine or other waste gas stream. It produces steam that can be used to drive a steam turbine.

ISOLATION VALVE — Stops the flow of process media to a given location, usually for maintenance or safety purposes.

LOCKOUT TAGOUT (LOTO) — A safety procedure used in industry to ensure that dangerous machines are properly shut off and not able to be started up again prior to the completion of maintenance or repair work.

MOTORING — A process when the steam turbine generator (STG) is connected to the electric grid but instead of outputting power to the grid, it is taking power from the electric grid.

PRIMARY CONTAINMENT — A tank, vessel, pipe, transport vessel or equipment intended to serve as the main container for or used for the transfer of a material.

REHEAT — The process by which additional energy is added to steam to increase the efficiency of the steam cycle.

SECONDARY CONTAINMENT — A control measure placed or built around a storage vessel to prevent its contents from corroding or polluting the adjacent environment.

STEAM ATTEMPERATOR — Located in the steam pipe work upstream of the steam turbine that allows very fine control of the final steam temperature by spraying precise amounts of water into the steam flow.

STEAM TURBINE (ST) — A machine that extracts thermal energy from pressurized steam and uses it to do mechanical work on a rotating output shaft.

STEAM TURBINE GENERATOR (STG) — A device that uses steam, produced from a heat recovery steam generator, to drive the blades of a turbine to produce mechanical energy that can then be used to produce electricity by causing rotation of the central shaft of a mechanically connected generator.

STOP/CHECK VALVE — A valve with override control to stop flow regardless of flow direction or pressure.

THRUST BEARING — A bearing designed to absorb thrusts parallel to the axis of rotation.

WATER INDUCTION — The process by which water finds itself entering the steam turbine.

WORM GEAR — A gear consisting of a shaft with a spiral thread that engages and drives a toothed wheel and changes the rotational movement by 90 degrees.

ZERO LIQUID DISCHARGE (ZLD) — A strategic wastewater management system that ensures that there will be no discharge of industrial wastewater into the environment.

ABSTRACT

On Friday, May 28, 2021, at 2:27 p.m., the California Energy Commission (CEC) was informed by Russell City Energy Center that it was in a forced outage because of a serious steam turbine generator incident at 11:47 p.m. on May 27, 2021. During Russell City Energy Center night shift's normal shutdown procedures for taking the power plant offline, an incident in the steam turbine generator occurred causing an onsite explosion and fire.

The CEC's Siting, Transmission and Environmental Protection Division maintains a comprehensive compliance monitoring and enforcement program to ensure that permitted thermal power plants are constructed, operated, and decommissioned in accordance with their conditions of certification and all applicable laws, ordinances, regulations, and standards. The CEC's post-certification compliance monitoring and enforcement authority can be found in Public Resources Code sections 25532 to 25534.2 and Title 20, California Code of Regulations, sections 1751 to 1770, as well as in conditions of certification within facility licenses.

Under this authority, the *Russell City Energy Center May 2021 Incident: Root Cause Gap Analysis* was developed to summarize the CEC's investigation into the factors that contributed to the May 27, 2021, incident and to determine what corrective actions would be required for the Russell City Energy Center to safely restart operations. In addition to determining the causal factors of the May 27, 2021, events, the CEC focused its investigation on worker safety, fire safety, hazardous materials, onsite physical security, and other conditions of certification as warranted.

Keywords: combined cycle, combustion turbine, control valve, explosion, fire, forced outage, incident, steam turbine generator, water induction, heat recovery steam generator, steam, lube oil, Hayward, Russell City Energy Center

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EXECUTIVE SUMMARY

On May 27, 2021, around 11:47 p.m., the Russell City Energy Center experienced a mechanical failure of the steam turbine generator that resulted in an explosion that threw dozens of metal pieces off the project site and resulted in an onsite fire requiring response by the Hayward, Alameda County, and Fremont Fire Departments. The steam turbine generator was severely damaged. In addition to the immediate public health and safety threat, this incident resulted in a loss of 600 megawatts (MW) of generating capacity from the grid. Fortunately, there were no injuries and the lube oil mixed with fire suppression water was contained with no adverse impact to nearby waterways.

Structural Integrity Associates, an independent consultant retained by the project owner, Russell City Energy Center, LLC, a subsidiary of Calpine Corporation, performed a root cause analysis of the incident. The consultant's root cause analysis was released to CEC staff on November 24, 2021. The root cause analysis concluded that there was only one cause of the incident: "The systems' inability to detect and drain excess water under pressure and at high temperature within the reheater system is the root cause of the STG drivetrain event at RCEC."

To independently investigate the incident, both the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) inspection units established a Joint State Agency Investigation Team (JAIT). The investigation team conducted an examination and review of the power plant and associated documents, independently assessed the findings from the root cause analysis, and investigated gaps identified in that report.

The investigation team found that Structural Integrity Associates' root cause analysis was limited in the scope of its analysis and restoration recommendations. Both the CPUC and the CEC concluded that further investigation to more broadly capture the causal factors to the incident was needed. The investigation team focused its site inspections not only on the power train involved in the incident, the steam turbine and electrical generator and associated heat recovery steam generator, but also examined facility operations, maintenance, and management practices that may have contributed to the causation of this incident.

The investigation team determined that there were three causal factors to the incident. The factors included: deficiencies in maintenance for some critical equipment, deficiencies in control room operator interface and training, and inadequate protection from water induction. These factors led the investigation team to develop corrective actions to address the deficiencies that contributed to the incident, which are contained in Chapter 4 of this report. Successful completion of the required corrective actions would directly address the causes of the May 27, 2021, incident and provide protective measures to further reduce the likelihood of future steam turbine overspeed due to water induction.

The activities of the JAIT were strengthened through collaboration between the agencies' complementary approaches to execution of their respective regulatory authorities which added

both depth and breadth of technical knowledge and investigative expertise. This allowed the team to quickly uncover the causal factors that contributed to the incident and to provide the required corrective actions needed to reduce the possibility of a reoccurrence of this type of incident. Successful completion of the corrective actions will enable the Russell City Energy Center to return to operation safely.

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CHAPTER 1:
Russell City Energy Center

Introduction

The California Energy Commission (CEC) has jurisdiction and permitting authority for thermal power plants 50 megawatts (MW) and greater in California. This jurisdiction also includes infrastructure associated with thermal power plants, including electric transmission lines, natural gas lines, and water pipelines. The CEC's permitting process ensures that proposed thermal power plants are designed, constructed, and operated in a manner that protects public health and safety, promotes the general welfare, and preserves environmental quality. As a certified regulatory program, the licensing process is the functional equivalent of a California Environmental Quality Act review and includes coordination with local, state, and federal agencies to ensure that these agencies' permit requirements are incorporated. There are 76 power plants operating under CEC licenses, totaling roughly 26,600 MW. Of these, 41 operate in gas-fired combined-cycle configuration.

Combined-Cycle Configuration

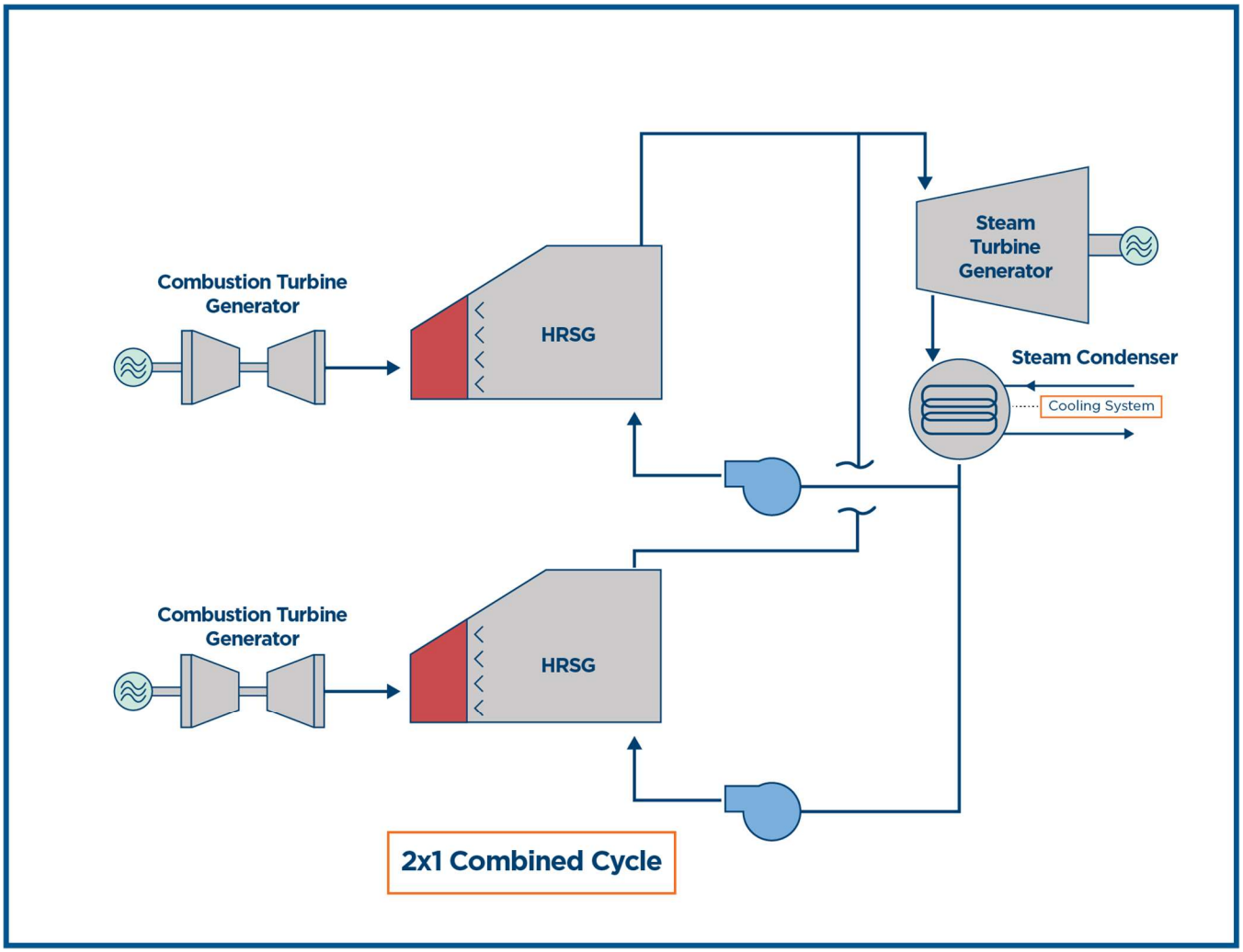
A combined-cycle power plant generates electrical power by the combination of a combustion turbine generator (CTG) burning fuel to operate its own electrical generator, and a steam turbine generator (STG) using the high temperature waste heat from the CTG exhaust to generate additional electrical power. Thermodynamically, the CTG operates on what is called a Brayton energy cycle, and the waste heat in its exhaust is captured by a heat recovery steam generator (HRSG) to make steam. The steam is then sent through pipes to the STG which operates on what is called a Rankine cycle. When both cycles operate simultaneously, the operation is called a combined-cycle configuration. Because the Rankine cycle makes electrical power from what would have been wasted heat in the CTG exhaust gas, the combined-cycle configuration is more efficient. It makes more electrical power from the same amount of fuel. The overall efficiency of a combined-cycle power plant can be up to 60 percent more efficient than other fossil-fueled generating sources. The high efficiency of a combined-cycle configuration also reduces the overall air emissions per megawatt-hour.

In the combined-cycle process, the CTG compresses air and mixes it with fuel that is heated to a very high temperature. The hot air-fuel mixture moves through the CTG blades, making them spin. The spinning CTG drives a generator that converts a portion of the spinning energy into electricity. The HRSG captures waste heat exhaust from the CTG that would otherwise escape through the exhaust stack. The HRSG creates steam from the CTG exhaust heat and delivers it to the STG. The STG turns the generator drive shaft, where it is converted into additional electricity.

There are many different configurations for combined-cycle power plants, but typically each combustion turbine has an associated HRSG, and one or more HRSGs supply steam to a single

steam turbine. For example, at a power plant in a 2x1 configuration, two combustion turbines/HRSGs supply steam to one STG; likewise, there can be 1x1 or 3x1 configurations. The STG is custom-made to match the number and capacity for any combustion turbine/HRSG configuration (Figure 1.1).

Figure 1.1: Combined-Cycle Configuration



Combined-cycle configuration showing a 2x1 operation
Credit: California Energy Commission

Russell City Energy Center

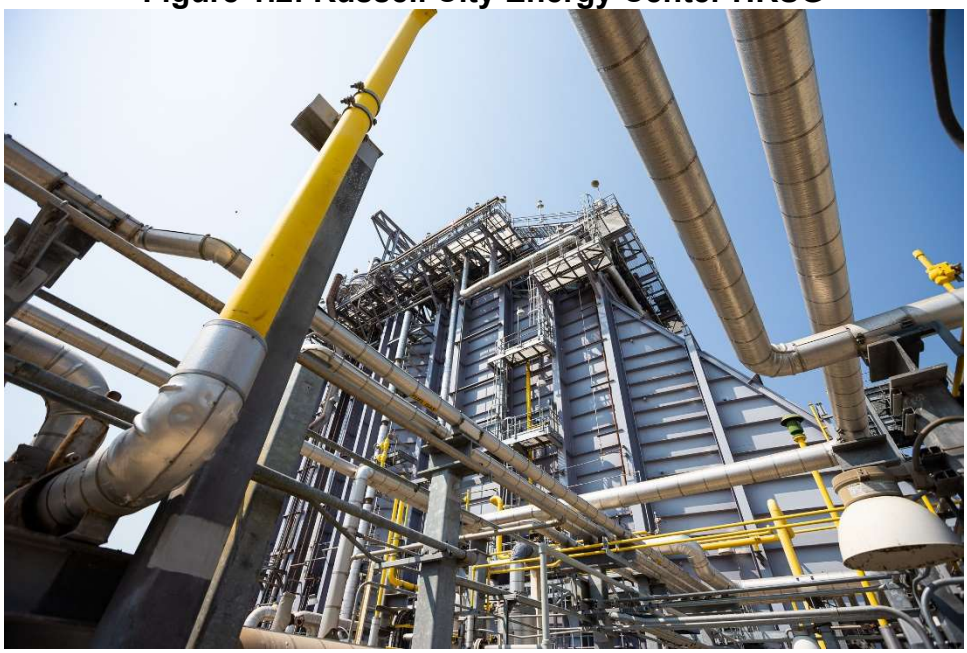
Background

The Russell City Energy Center (RCEC) is a 600 megawatt (MW) natural gas-fired, 2x1 design, combined-cycle power plant located in Hayward (Alameda County). The project was certified in September 2002 and began commercial operation in August 2013. In February 2019, the CEC approved a project amendment allowing RCEC to install a 10 MW battery energy storage

system in response to the California Independent System Operator's selection of the facility to provide black start battery energy storage capability should the grid go down and need a "jump start" to come back online.

The RCEC consists of two Siemens Westinghouse F-class CTGs; two HRSG's; a single condensing GE D11 STG; a de-aerating surface condenser; a mechanical draft hybrid wet/dry plume-abated cooling tower. To control emissions of air pollutants, RCEC has gas turbines with dry, low nitrogen oxide (NOx) burners. The units use the best available control technology including selective catalytic reduction for control of NOx.

Figure 1.2: Russell City Energy Center HRSG



View of heat recovery steam generator from ground level
Credit: California Energy Commission

Incident

Around 11:47 p.m. on May 27, 2021, RCEC experienced a mechanical failure of a STG that resulted in an explosion that threw dozens of metal pieces off the project site and resulted in an onsite fire requiring responses by the Hayward, Alameda County, and Fremont Fire Departments. The STG was severely damaged. In addition to the immediate public health and safety threat, this incident resulted in a loss of 600 MW of generating capacity from the grid.

Investigation

To investigate the RCEC incident, both the CEC and the California Public Utilities Commission (CPUC) inspection units established a Joint State Agency Investigation Team (JAIT). Along with the JAIT's engineering and subject matter experts, third-party independent consultants,

Aspen Environmental Group, and West Peak Energy, were hired to support the JAIT's 10-month investigation. The JAIT conducted:

- Comprehensive inspections of the site on 12 different occasions including a three-day onsite gap-audit.
- Weekly JAIT meetings.
- Site tours for the five CEC commissioners, the CEC executive director, and the CPUC President.
- Independent review and analysis of Structural Integrity Associates' (SIA) root cause analysis report commissioned by the project owner.
- Formal requests for information for more than 100 documents including maintenance reports, operation records, and other agency site visit reports such as from the Occupational Safety and Health Administration.
- In-depth assessment of the documents and reports.
- Interviews of several onsite witnesses and first responders.

The JAIT and the independent consultants conducted examinations and independent reviews of the facility and assessed the findings of the root cause analysis and supplemented gaps in the RCA Report. The JAIT's focus included the equipment involved in the incident, the HRSG system, and any facility operations, maintenance, and management practices that may have contributed to the potential for this incident to occur.

CHAPTER 2:
Incident Investigation

Introduction

Under Public Resources Code section 25532 and Title 20, California Code of Regulations, section 1770, and the conditions of certification of CEC-issued facility licenses, CEC staff oversees a compliance monitoring and enforcement program. This includes inspection and enforcement activities to ensure that all CEC-jurisdictional electric generating facilities are operating in compliance with air and water quality, public health and safety, and other applicable regulations, guidelines, and conditions adopted or established by the CEC or specified in the license's conditions of certification. Because of the seriousness of the RCEC incident, the CEC inspection team and multi-agency leadership visited the facility on several occasions, as summarized in Table 2.1.

Table 2.1: RCEC Investigation Timeline

Visit Date	Agencies Represented	Event
June 7, 2021	CEC and CPUC inspections team	Initial inspection of the explosion and fire site and interviewing employees, first responders, and witnesses
August 3, 2021	CEC and CPUC inspections teams	Establishing coordination with City of Hayward. Met with Hayward Fire Chief onsite to discuss the incident and future coordination
August 5, 2021	CEC, CPUC, Hayward Fire Department (they are the local Certified Unified Program Agency), and City of Hayward's City Manager's Office (COH)	Meeting to present the results of the CPUC's 2019 Audit, corrective actions identified and implemented, discuss RCA process and timeline, and site inspection
August 16, 2021	CEC Chair David Hochschild and former STEP Lead Commissioner Karen Douglas, Hayward Mayor and Fire Chief, and CEC, CPUC and COH staff	Overview of the CPUC 2019 Audit, tour of explosion and fire site. Also toured the Hayward's Navigation Center (transitional facility for the unhoused) where a metal piece of the STG penetrated the roof
August 19, 2021	CEC Commissioners Andrew McAllister and	Overview of the CPUC 2019 Audit, tour of explosion and fire site. Also

	Patricia Monahan, Hayward Mayor and Fire Chief, and CEC, CPUC and COH staff	toured the Hayward's Navigation Center (transitional facility for the unhoused) where a metal piece of the STG penetrated the roof
August 27, 2021	CEC Vice Chair Siva Gunda and former CPUC President Marybel Batjer, Hayward Mayor and Fire Chief, and CEC, CPUC and COH staff	Overview of the CPUC 2019 Audit, tour of explosion and fire site. Also toured the Hayward's Navigation Center (transitional facility for the unhoused) where a metal piece of the STG penetrated the roof
October 19, 2021	CEC inspection team	A compliance inspection of plant to review whether RCEC was in conformance with the Conditions of Certification
November 30, 2021	CEC, CPUC, CUPA, and COH staff	Presentation from Structural Integrity Associates on the Root Cause Analysis Report and recommended corrective actions, Q&A, and site inspection
January 3, 2022	CEC and CPUC leadership and staff, CUPA and COH staff	Briefing on Structural Integrity Associate's Root Cause Analysis Report and Corrective Actions, and site tour and inspection
February 7 – 9, 2022	CEC and CPUC inspections teams and expert consultants from Aspen Environmental Group and West Peak Energy	Comprehensive onsite investigation and gap-audit of the explosion and fire site
March 21, 2022	CEC and CPUC inspection teams	Corrective actions and timeline presentation to Calpine's RCEC management

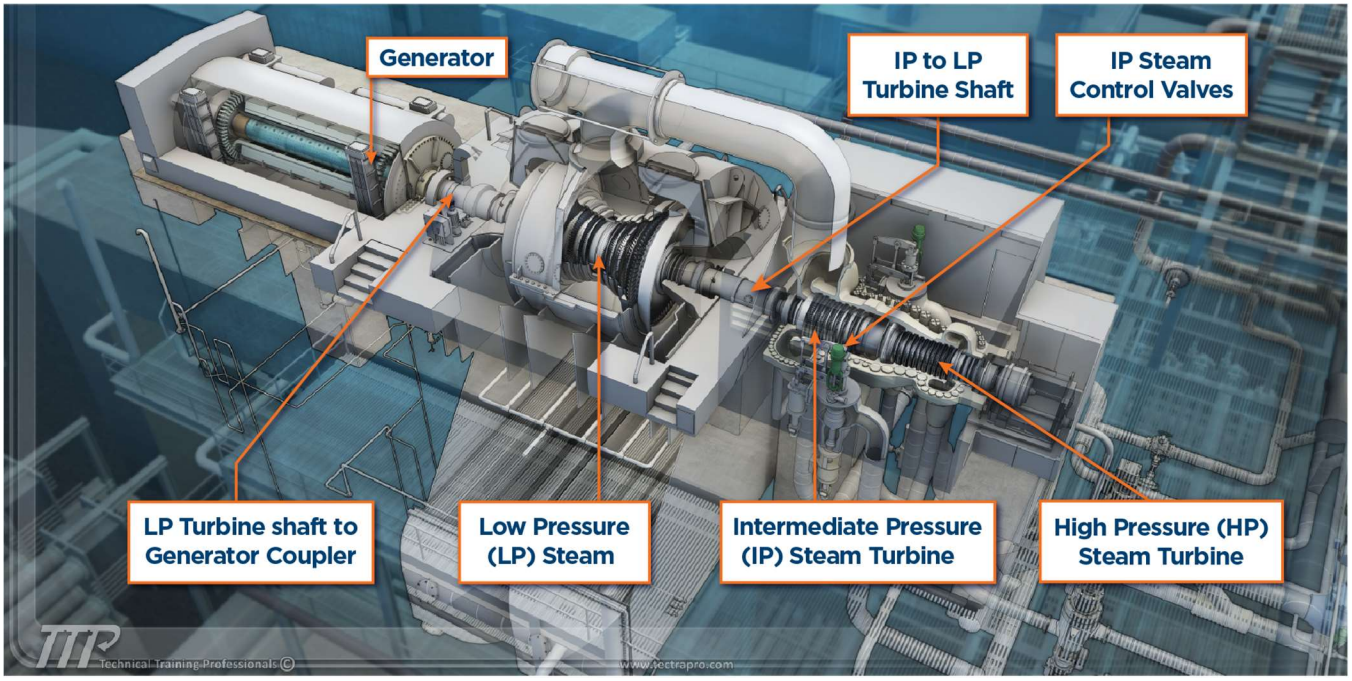
Source: California Energy Commission

Initial Site Inspection

In response to the May 2021 incident, the CEC staff initiated its investigation with an onsite inspection on June 7, 2021, to assess the damage from the STG failure and subsequent fire.

The CEC staff started at the STG structure deck and observed that the thrust bearings for the STG were exposed, and lube oil released.

Figure 2.1: Steam Turbine Generator



General Electric Model D11 Steam Turbine Generator Graphic
Credit: Technical Training Professionals

During the initial onsite inspection, the CEC staff observed that the STG shaft was fractured at the exit point of the intermediate pressure (IP) section to the low-pressure section, and the shaft was ejected from the STG. The CEC staff examined the turbine shaft that entered the low-pressure (LP) section and found that the shaft was twisted. The metal casing of the LP section had separated, breaking bolts in the process.

The black charring and soot in the area around the casing were clear evidence that there was a fire at the exit of the LP section to the steam turbine's generator. The LP section casing was severely damaged from the overspeed event. The drive shaft connecting the LP section to the generator was fractured at each end and had been thrown from the enclosure.

The various equipment on the STG structure deck also had extensive fire damage. The lube oil feed and return lines were severed and an estimated 4,000 gallons of lube oil was released which was contained by the secondary containment. The secondary containment was a concrete berm that surrounded the lube oil reservoir and the area beneath the STG. However, the water used by the Hayward Fire Department (HFD) to extinguish the STG fire collected in the secondary containment. Eventually the volume of water caused the secondary containment to overflow. The lube oil mixed with water made its way out to the stormwater retention pond of the site.

On the night of the incident, the HFD's initial response was to contain the lube oil on site. They deployed booms in the stormwater retention pond and in one of the drainage canals from where the lube oil mixed with water was coming. The day after the initial release of the lube oil mixed with water the RCEC hired Environmental Logistics to do the required remediation work. The RCEC also hired a third-party biologist to survey the stormwater retention pond and the channel that feeds out to the San Francisco Bay. The biologist confirmed that no lube oil had made it off site.

The CEC staff surveyed the extent of the lube oil spill by starting at the outflow of the stormwater retention pond. The CEC was able to conclude that there was no immediate danger of lube oil leaving the site since the retention pond had sufficient capacity. The CEC staff inspected the surrounding area rocks, plants, and water and found no evidence of a lube oil spill in the outflow. However, there was evidence that lube oil entered the retention pond from the drainage canal behind the cooling tower of the power plant. The CEC staff also inspected the remediation work that was being conducted by Environmental Logistics.

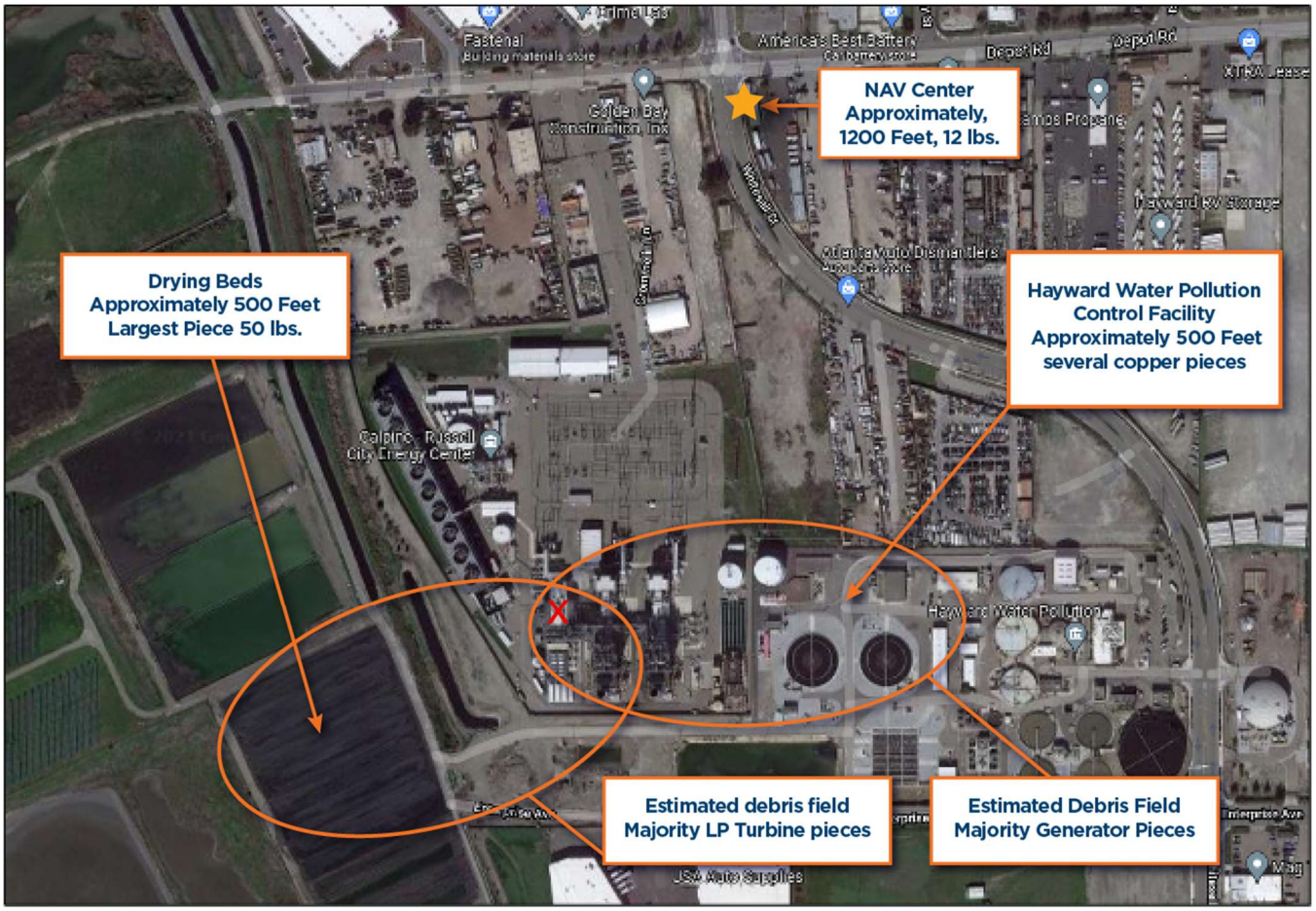
Follow-Up Site Inspection

Staff returned to the RCEC site August 3, 2021, to examine the locations where metal pieces from the STG had landed after the incident. Representatives from the CPUC and the HFD also accompanied the CEC staff on this inspection. The CEC staff visited the Hayward Pollution Water Control Facility (HPWCF) and the Hayward Navigation Center to investigate where metal pieces from the STG had landed.

The CEC staff met with the HPWCF plant manager to examine the metal pieces thrown onto the site and to inspect any damage to the HPWCF facility. CEC staff learned from the plant manager that:

- Some large metal pieces, weighing between 10 to 50 lbs., were found in the HPWCF drying beds southwest of RCEC. The pieces consisted of LP turbine blade parts and a large part of the LP turbine casing (Figure 2.2).
- Some smaller metal pieces were found within the HPWCF facility to the east of RCEC that consisted mostly of copper (Figure 2.2).
- Water treatment plant personnel sheltered in place during the fire with no injuries reported.
- No structural damage occurred to the HPWCF facility.

Figure 2.2: Debris Field



Steam turbine generator debris field
Credit: California Energy Commission

The CEC staff then inspected the Hayward Navigation Center complex and met with the Housing Care Coordinator for Bay Area Community Services, the organization that operates the Hayward Navigation Center. Using data from the inspections at the HPWCF facility and the Hayward Navigation Center complex, the CEC staff created a map of the metal pieces found (Figure 2.2). Most of the metal pieces were found to the west of RCEC. These steel metal pieces ranged up to 50 lbs. Most of the small copper pieces of metal were found toward the east side of the power plant. The locations of the metal pieces released during the overspeed event are consistent with having been thrown from a rotating shaft.

The outlier of the debris field is the 12-pound piece of the LP turbine blade root. The blade root was discovered in the Hayward Navigation Center complex (Figure 2.2). The Hayward Navigation Center complex has multiple trailers on site serving people experiencing homelessness. The trailer used for meal preparation and eating was damaged when the 12-

pound metal piece traveled 1,200 feet, penetrated through the trailer's roof, and landed on the floor (Figure 2.3). No individuals were in the trailer at the time since it was after operating hours. There was no damage to the floor of the trailer.

Figure 2.3: RCEC Metal Piece

The metal piece traveled approximately 1,200 feet and weighed 12 lbs.
Credit: Hayward Navigation Center Staff

Fire Department Response

The HFD was the first responder to the RCEC STG incident and requested back-up from the Alameda County Fire Department and the Fremont Fire Department. The CEC staff interviewed the HFD battalion chief who was the incident commander on the night of the STG incident. At the gate, RCEC personnel informed the battalion chief that 45 hydrogen cylinders could be exposed to the onsite fire. The battalion chief established fire engine teams in various locations around the site. The main emphasis was to contain the fire at the STG deck structure. Some of the fire engine teams were dispatched to help contain the lube oil/fire water that had escaped from secondary containment. CEC staff corroborated these events by reviewing the incident reports and radio recordings from the three responding fire departments.

During the fire department's response, four fire fighters suffered injuries. There was concern from the HFD that the fire fighters could have been exposed to toxic air contaminants. Because of this concern, the JAIT required that the RCEC conduct a separate analysis to determine if there was toxic exposure to the fire fighters. Jensen Hughes, a third-party consultant, analyzed the combustion byproducts from the incident fire. Their analysis determined that the fire did not produce environmental toxins that are untypical of an

industrial fire. Therefore, there is no reason to believe that the fire fighters were exposed to any unexpected environmental toxins by responding to the incident.

During one of the interviews with the HFD battalion chief, the CEC staff learned that there was a possible accident involving a vehicle hitting debris in the roadway on State Highway 92 near the toll plaza the night of the incident. The CEC staff reached out to the local California Highway Patrol (CHP) office for more information on the possible accident. The Hayward CHP office had no record of an accident that night matching that description in its jurisdiction. However, the Hayward CHP office mentioned that it could have occurred in the Redwood City CHP's jurisdiction. The CEC staff followed up in person October 19, 2021, at the Redwood City CHP office to ask if they had any records of a possible accident on the night of the RCEC incident. Redwood City CHP personnel reviewed the records and confirmed that there were no accidents matching the description the night of the incident. Therefore, the CEC staff concluded that there is no evidence of an accident on State Highway 92 from the STG debris from RCEC.

Compliance Inspection

The CEC maintains a compliance monitoring and enforcement program to ensure that permitted thermal power plants are constructed, operated, and decommissioned in accordance with the associated conditions of certification and all applicable laws, ordinances, regulations, and standards. The CEC's post-certification compliance monitoring and enforcement authority can be found in Public Resources Code sections 25532 to 25534.2 and Title 20, California Code of Regulations, sections 1751 to 1770, as well as in conditions of certification within facility licenses. Physical compliance inspections are one tool that the CEC uses to maintain the compliance monitoring and enforcement program. The RCEC compliance inspection conducted October 19, 2021, focused on the areas of security, worker safety, hazardous materials management, and fire protection systems and maintenance. The CEC staff requested and reviewed documentation from RCEC related to worker safety, hazardous materials management, and fire protection systems and maintenance.

The compliance inspection included visual observation of the fire protection systems, site security, hazardous materials management, chemical storage, STG, water treatment area and associated bulk chemicals, and the zero-liquid-discharge (ZLD) system of the facility. The ZLD system had several lock-out tag-out (LOTO) tags on the electrical supply and control panels to prevent the ZLD system from activating. The CEC staff witnessed LOTO's on several major systems throughout the plant. Material and equipment were also stored in various locations around the facility to prepare for the repair of the STG. The CEC staff observed that the plant appeared to be acceptably maintained.

Root Cause Analysis

The JAIT requested additional information regarding operations prior to the STG incident (Appendix A). Documentation related to the control system for the facility was reviewed along with piping and instrumentation diagrams for the STG and HRSG.

The root cause analysis was released to the CEC and the CPUC on November 24, 2021. The JAIT reviewed the root cause analysis and confirmed it by reviewing various reports, data, and documentation that the JAIT requested throughout the investigation. The JAIT determined that the root cause analysis was silent or did not go far enough in some areas, including maintenance, control room operator interface and training, and inadequate water induction protection. This determination required the JAIT to conduct a "gap" analysis to fill in the areas where the root cause analysis was lacking and address several unanswered "why" questions. RCEC was informed of the upcoming audit on January 13, 2022. The JAIT conducted the audit of RCEC from February 7 to February 9, 2022, in support of the gap analysis.

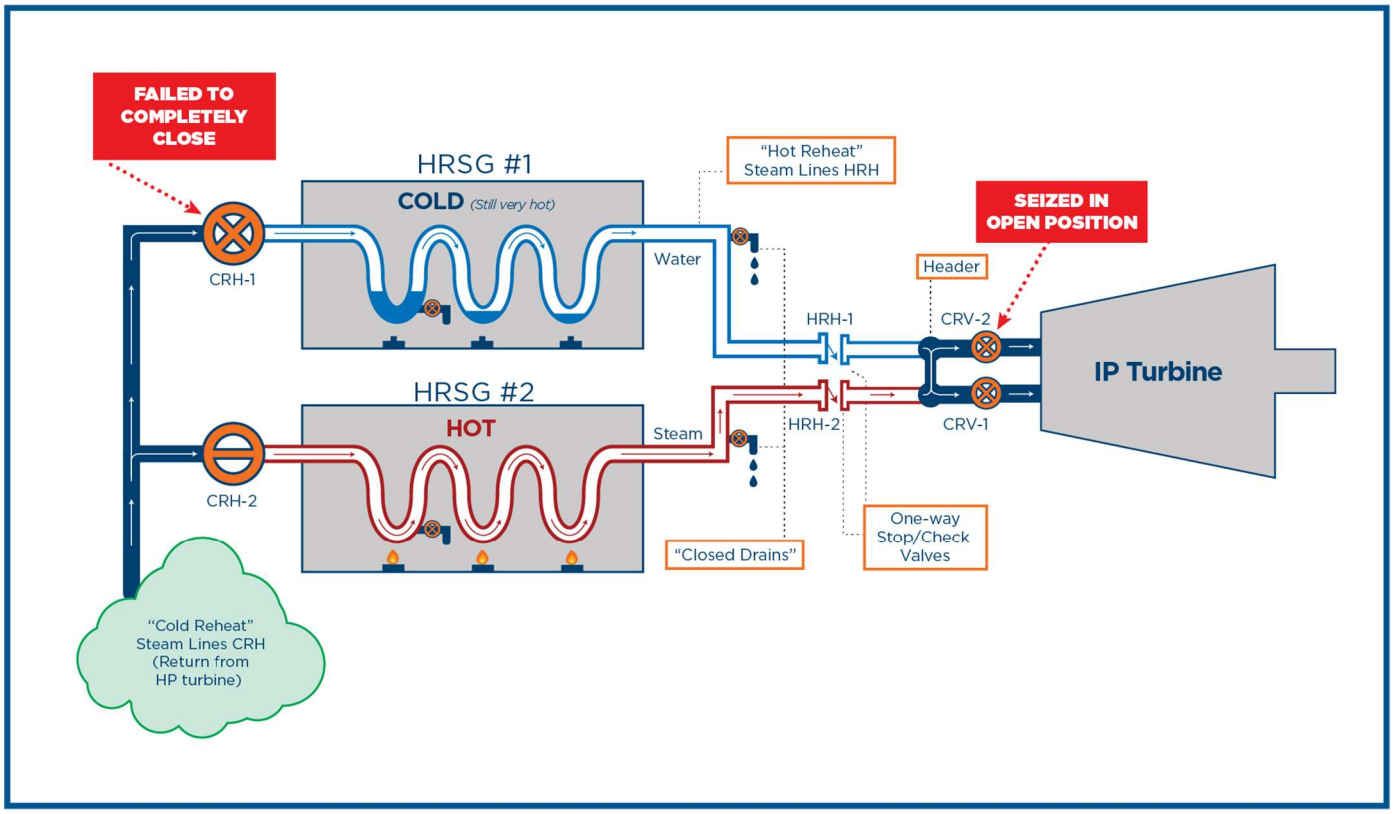
CHAPTER 3:
Technical Analysis

Incident Causation

As RCEC's night shift operating crew was going through its scheduled shutdown process on the evening of May 27, 2021, the facility suffered a serious incident that resulted in an explosion of the STG and subsequent fire involving released lubrication oil. Before the incident, the RCEC had been operating in a 1x1 configuration, with Combustion Turbine 2 (CT-2) and the associated HRSG-2 in operation. CT-2 was producing electricity, and HRSG-2 was producing steam to drive the STG. While the RCEC was operating in this 1x1 configuration, Combustion Turbine 1 (CT-1) and the associated HRSG-1 were offline and not operating. The RCEC had been in this operational configuration for about two days. Unknown to the power plant's control room operator and onsite crew, the on-line HRSG-1 cold reheat isolation valve (CRH-1), designed to prevent steam being produced by the operating HRSG-2 from entering the reheat section of the offline HRSG-1, failed to close completely and allowed steam to leak past it. The CRH-1 valve's actuator erroneously signaled to the control room operator that the valve had closed completely.

Over the two days operating in that 1x1 configuration, the steam produced in HRSG-2 continued to leak past the CRH-1 valve into the offline and much cooler HRSG-1 causing the steam to condense into water. Enough water condensed in the offline HRSG-1 to collect a substantial quantity of water in the section of the offline HRSG-1 known as the reheater (Figure 3.1). Because of the large quantity and high temperature of the condensing superheated steam, the condensed water remained near its boiling point and at an elevated pressure.

Figure 3.1: Russell City HRSG Reheater Schematic



Schematic of RCEC's HRSG reheater path to the IP section of the steam turbine
Credit: California Energy Commission

As is normal during a shutdown, the steam pressure being supplied by HRSG-2 began a gradual, but steady, decline. At a point during the shutdown, the pressure being supplied by the HRSG-2 to the STG, dropped to a lower level than the pressure in HRSG-1, which was being maintained at its saturation (i.e., boiling) temperature. This situation allowed the accumulated water in the HRSG-1 to enter the IP section of the STG supply piping and flow past the hot reheat stop/check valve (HRH-1) and control valve (CRV-2) of the STG. The introduction of the cooler condensed water to the CRV-2 valve, located at the entrance to the IP section of the STG, caused it to seize in the open position.

As water flowed into the IP section of the STG, the power output of the STG began to fluctuate, then dropped suddenly to below zero output. At this instant, the STG control system initiated "motoring" of the generator, which is a term used when the STG is connected to the grid but is absorbing rather than putting out power to the grid. When motoring, the STG uses grid power to maintain the required 3600-rpm rotational speed. After about 30 seconds of motoring, the STG had yet to recover outputting electrical power, the automatic controls ceased the motoring, and the controls opened the breakers to disconnect the STG's generator from the grid. Over the next few seconds, as the water cleared from the STG, with the CRV-2 valve of the STG still seized in the open position allowing steam to continue flowing, and with

no generator load to slow the rotation, the STG began to spin freely. From this point on, the STG increased rotational speed until it was torn apart by centrifugal forces.

Gap Audit Conclusions

A review of SIA's root cause analysis provided an understanding of how the conclusions in the root cause analysis were determined. The JAIT determined that a broader scope of investigation was needed. The JAIT conducted interviews and technical discussions with RCEC staff and reviewed technical documents and operational logs onsite at the RCEC for three days from February 7 through February 9, 2022.

Following the onsite investigations and review of collected data, the JAIT concluded that the root cause of the event included three essential causal factors:

1. Steam leakage past the not-completely closed CRH-1 steam isolation valve allowed water to condense and accumulate in the out-of-service HRSG-1 reheater section.
2. Accumulated water was not detected and drained from the HRSG-1.
3. The HRH-1 stop/check valve in the steam line between the HRSG-1 reheat section and the STG had not been closed into a blocked position which allowed the water to be drawn into the IP section of the STG as described above in "Incident Causation."

The JAIT also determined that the key contributing conditions associated with the factors were:

1. Maintenance failures were associated with critical components.
2. Critical control system alarm points at RCEC are not "aggregated" into one alarm point system (annunciator), and operators are expected to monitor several systems during critical events, leading to a loss of situational awareness so that they could not react to the fact that a substantial amount of water had accumulated in HRSG-1.
3. The operations staff failed to identify the manually operated stop/check valve as a potentially critical blocking valve should water collection occur in the offline reheat steam piping.

To address the identified causal factors and key contributing conditions, the JAIT identified a set of corrective actions for implementation at the RCEC that the JAIT determined were necessary to ensure that the risk of a similar water induction incident occurring in the future is eliminated to the degree feasible by deploying redundant systems of prevention and detection.

Equipment Maintenance and Monitoring Program

The failure of the CRH-1 valve to close properly was identified as one of the causal factors of the incident by both SIA and the JAIT. SIA's root cause analysis found that its actuator/gearbox assembly was degraded with severely worn internals of the gearbox. SIA's root cause analysis concluded that the damage to the gearbox was caused by a heavily damaged gear box worm shaft roller bearing. The bearing components had been trapped within the worm and quarter gear further damaging the gearbox. This damage increased the gearbox backlash and resulted in reduced valve stroke.

The JAIT also observed evidence of inadequate lubrication and water intrusion into the gearbox. The CRH-1 valve stem packing showed lack of lubrication and extreme wear of its bushings. The resulting surface galling (pitting wear) would have required higher-than-normal actuation forces. Broken and chipped quarter-gear teeth in the gearbox were evidence of the gearbox operating under higher than designed-for loads, consistent with higher-than-normal valve torque required to compensate for the worn valve stem bushings. Maintenance records for the valve actuator reviewed by the JAIT showed that the actuation torque had been increased multiple times, and the actuator required replacement during the previous period, spanning more than a year.

Regular service inspections and lubrication would have likely detected or prevented the extreme wear that contributed to the failure of the valve to close. The JAIT recommends that the RCEC implement a regular preventative maintenance plan for this critical component. The preventative maintenance program will include the valve, gearbox, and actuator assemblies including the frequency of inspections, scope of services, and lubrication requirements. The JAIT will review the new preventative maintenance program to be developed by the RCEC.

Control Room Operator Interface and Training

The Mark VI control system of the STG was not fully integrated into the overall distributed control system (DCS) for the power plant. Therefore, the RCEC control room operators were responsible for monitoring the outputs from both the Mark VI control system and the DCS. With multiple control systems operating in parallel, there is potential for operator confusion from nuisance alarms when the DCS system does not have all the power plant alarm points in a single system with levels of priority established for all of them. When alarm points are consolidated into one system, such as the DCS at the RCEC, the alarms can be organized into priority levels depending on importance and urgency.

The JAIT recommends that the Mark VI high priority alarm points be integrated into the DCS. The reasoning is that the RCEC operators "can only see one thing at a time," and in critical events the operator should have to view only one area for high-priority alarms which can be acted upon without confusion or delay. Furthermore, the integration of the Mark VI into the DCS allows for the application of a smart alarm logic system which can assist operators with nuisance alarms. Alarms in a repair state or nuisance depending on the order of importance can be suppressed so operators do not miss critical alarm notifications.

An additional complication for the control room operators identified from the gap audit was the lack of a unified clock for the control systems. The RCEC uses a DCS that controls the power plant that has a clock that stamps alarm times for various errors and conditions. The Mark VI also has its own clock that stamps STG alarms with times, but the times were not in agreement with there being a one-hour and 56-minute difference between the two control systems' clocks. With alarms and alerts being sent to the operator simultaneously by the two control systems, but having discrepant timestamps almost two hours apart, it is difficult to confirm their order of arrival and timeliness, both during and after critical events. The JAIT recommends that the RCEC consolidate the time and date stamp for the DCS and Mark VI control systems so that they remain synchronized.

The JAIT also identified a need for additional training for the control room operators and developed a corrective action to require that the RCEC implement new training procedures for water induction events. Over the two days of 1x1 operation preceding the event, the control room operator was unable to identify the accumulation of water or the higher-than-expected pressure in the offline HRSG-1. This lack of knowledge demonstrated a lack of operator training for water induction events. Therefore, the procedure will be targeted toward assuring that operators have the proper authority and are trained to immediately act when certain indications suggest the possibility of water induction either before or during an event. The damage to the STG could have been avoided had the operators been provided situational awareness and adequate training enabling them to take appropriate and timely action.

For completeness, the JAIT reviewed the trip alarm sequencing that occurred during the incident to confirm that the STG was motoring for almost 30 seconds before the steam turbine's generator primary protective relay device tripped the STG from the electrical grid. No evidence of noncompliance was found. Known as the "86-relay systems," their design, installation, and operations are governed by the North American Electric Reliability Corporation (NERC) regulations and the Institute of Electrical and Electronics Engineers (IEEE) design codes. The JAIT reviewed and verified that these advanced diagnostic systems were configured, calibrated, and operated as designed per the relevant industry codes and standard guidelines.

Inadequate Water Induction Protection

At the time that the RCEC submitted construction design plans to the CEC's Chief Building Official for approval, which established the applicable editions of building and engineering codes,[1] RCEC was required to comply with all applicable California Building Codes and engineering laws, ordinances, regulations, and standards. The primary standard that addressed water induction at the time of the RCEC's construction was the 2006 version of the American Society of Mechanical Engineers (ASME) TDP-1 titled TDP-1-2006, *Recommended Practices for the Prevention of Water Damage to Steam Turbines Used for Electric Power Generation: Fossil-Fueled Plants*. This standard was considered voluntary guidance containing suggestions for steam power plant design features that "should" be considered and addressed. However, Calpine's Application for Certification for RCEC indicated that the ASME TDP-1 was "applicable to the mechanical aspects of the power facility" and represented that ASME TDP-1

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[1] RCEC Condition of Certification GEN-1 states:

The project owner shall design, construct and inspect the project in accordance with the 2001 California Building Code (CBC) and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (**The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously**.) All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 2001 CBC is in effect, the 2001 CBC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. (Emphasis added.)

was among the codes and standards that would be "used in the design and construction of mechanical engineering systems for the Russell City Energy Center (RCEC)."[2]

The basic philosophy of ASME TDP-1 is to prevent water damage to steam turbines by providing three layers of protection wherever practical. The first layer of protection would be to prevent the intrusion of steam condensate into piping locations where it could be reasonably expected for the steam condensate to be driven into the operating steam turbine's inlets. Should the first layer fail, the second layer would be to detect and drain any substantial collections of water as they occur so that the steam condensate would not pose any subsequent risk to the STG. If the first *and* second layers fail, the third layer would prevent the release of any collected steam condensate to the STG by providing positive isolation via a blocking valve. Thus, by requiring three critical layers of protection, the possibility of a water induction event of this kind is reduced to a level of being extremely unlikely.

Typically, power plants' design elements are selected through contract negotiations between the owner and the major construction company and suppliers. Hence, the level of adoption of the recommended practices, in this case ASME TDP-1, was left to the owner's discretion. In the case of RCEC's design, there was not complete adoption of ASME TDP-1 into the design and construction with respect to its protection against steam turbine water induction events. Some practices that are recommended to be automated under ASME TDP-1 were left at the discretion of the operators to fulfill through manual procedures.

At the time of the incident, RCEC did not have adequate protection from all three ASME TDP-1 intended layers of protection. Interviews with Calpine staff verified that they did not trust the reliability of the temperature and pressure sensor network of the HRSGs to detect water accumulation when they were offline. Hence, the alarms coming from the offline HRSG (and reheater section) were not acted upon. SIA's root cause analysis also considered the water detection to be unreliable in the offline HRSG. Thus, there was no effective water detection (second layer of protection) that would have enabled the operators to open HRSG drains to dispose of accumulated condensed water.

Also, the manually operated stop/check valve (HRH-1) at the end of the offline reheater section of HRSG-1 was left in an "unblocked" configuration. This meant the HRH-1 valve operated as a one-way "check" valve, capable only of preventing steam from *entering* the reheater section from the STG direction. It was not capable of preventing the *exiting* of condensed water from the reheater to the STG. Therefore, the HRH-1 valve did not act as a blocking valve, meaning there was no effective capture of condensed water (third layer of protection).

With no functioning second or third layers of water induction prevention, RCEC was dependent solely on the CRH-1 valve (first layer of protection) to prevent any water accumulation from occurring in the first place. This allowed for a potential single point failure for a water induction event. In the operational period leading up to the incident, the valve leaked steam

[2] Russell City Energy Center AFC, Vol. II, at p. 10C-1.

past it, allowing substantial water accumulation in the HRSG-1 reheater. Without the functional protection from the second and third layers of protection, the accumulated water went undetected, undrained, and uncaptured, making its way into the steam turbine. A design goal of TDP-1's recommendations is to avoid potential "single point failures" that can lead to water induction. Each of the three causal factors identified in Gap Audit Conclusions, can be associated with one of the three critical layers of protection described above.

The JAIT proposes as a corrective action that the RCEC perform a conformance analysis of the existing power plant against ASME TDP-1-2013 to determine what additional modifications should be made to reduce the possibility of a future water induction event. The JAIT review of the conformance analysis will ensure that practical modifications would be identified and implemented. In addition, the CEC's Delegate Chief Building Official (DCBO) would ensure that these required modifications are implemented to required industry codes and standards. Therefore, the identified changes from the conformance analysis will bring the practices of the RCEC in alignment, to the extent feasible, with the current version of ASME TDP-1-2013, *Prevention of Water Damage to Steam Turbines Used for Electric Power Generation: Fossil-Fuel Plants*.

SIA's RCA provided a list of restoration recommendations based on their analysis of the incident. Their restoration recommendations included:

- Implement controls logic to utilize existing HRSG reheated system drains to discharge water from the HRSG harps when offline.
- Implement controls logic to utilize existing HRSG reheated system drains to alleviate undesirable pressure within the HRSG reheater system when offline.
- Re-configure the CRH stop valve to close based on its actuator torque value.
- Convert the HRH stop/check valve from manually operated to electrically actuated including the implementation of controls logic to positively isolate the offline HRH piping and HRSG Reheat.

In addition to the JAIT's corrective actions, the JAIT agrees that SIA's restoration recommendations are appropriate and should be implemented as corrective actions prior to RCEC resuming commercial operations. The first restoration recommendation would allow any accumulated water in the offline HRSG to be detected and drained in a timely manner. The second restoration recommendation would prevent the buildup of excess pressure while the HRSG is offline. The third restoration recommendation would improve the reliability of the CRH-1 valve in providing positive isolation and would reduce the likelihood of damage to its actuator and gearbox by preventing excess closing forces. The fourth restoration recommendation would prevent the HRH stop/check valves from remaining unblocked when the HRSG is offline, thus preventing any collected water from being drawn to the operating steam turbine. All these changes are consistent with assuring the three levels of protection discussed earlier as necessary for conformance with ASME TDP-1.

The SIA restoration recommendations will also require changes to the maintenance and operating procedures of the RCEC. Therefore, the JAIT has developed a corrective action to require that Calpine develop the necessary revised procedures needed for the implementation

of the SIA restoration recommendations and provide them for CEC review. This will ensure that the RCEC has correctly implemented the appropriate procedural updates based on the SIA restoration recommendations and that the CEC provides oversight appropriate to its licensing authority.

The JAIT examined other potential paths for water to get to the STG. One area of concern was the steam attemperators, devices that control the steam temperature. Steam attemperators and mixers spray high pressure feedwater or steam mixed with the feedwater into the main steam line and control final steam temperature to the turbine. Malfunctioning or leaking attemperators and mixers are known to be a potential source for water induction and are addressed in the 2013 version of the American Society of Mechanical Engineers (ASME) standard: ASME TDP-1, *Prevention of Water Damage to Steam Turbines Used for Electric Power Generation: Fossil-Fuel Plants*. Annual inspection procedures are recommended. The JAIT recommends that RCEC create an annual preventative maintenance program for the steam attemperators that will be reviewed and approved by the JAIT. This maintenance program would ensure that the steam attemperators are operating correctly and will further reduce the probability of water induction in the future.

Public Safety

The JAIT concluded that the STG overspeed and subsequent explosion was due to a water induction event. Water induction events are considered by the industry to be a low probability event with a potential high impact, including to the surrounding community, as confirmed by this STG failure. The JAIT recommends that the RCEC look at other systems on their facility that could present a similar low probability/high risk of impact on the surrounding community. Candidate systems for review include ammonia storage, fuel gas systems, hydrogen storage, and battery energy storage systems. The CEC has tasked the DCBO to review these systems for code compliance and produce a report detailing its findings. Any deficiencies would be corrected by the RCEC. This will ensure that the four identified systems do not present significant risks.

CHAPTER 4:
Conclusions

Corrective Actions

In response to the RCEC's May 2021 incident, the focus of this report has been to highlight the JAIT's investigative activities, provide an understanding of what occurred, and determine the appropriate corrective actions necessary to allow RCEC to return to operation safely.

After reviewing SIA's root cause analysis, the JAIT conducted an audit to address some perceived gaps. This gap audit was necessary to determine whether there were contributing factors to the event that were outside the scope of, or not addressed in, SIA's root cause analysis. After completing the gap audit, the JAIT determined that there were three overall casual factors to the water induction event: (1) deficiencies in maintenance for some critical equipment, such as the CRH-1 valve assembly, (2) deficiencies in control room operator interface and training, such as the inability to detect and respond to water accumulation in the offline HRSG, and (3) inadequate protection from water induction, such as reliance on a single valve to prevent accumulation in the offline HRSG. Corrective actions were developed to address these three casual factors.

The corrective actions for the equipment maintenance and monitoring program at the RCEC include:

- For each HRSG, implement a preventative maintenance and monitoring program for the cold reheat (CRH-1) valve, gearbox and actuator assemblies that includes frequency of inspections, services, and lubrication for review and approval.
- For each HRSG, implement an annual preventative maintenance program for the steam attemperators and mixers for review and approval.
- Revise operations procedures needed to accommodate implementation of SIA's restoration recommendations for review and approval.

The corrective actions for the control room operator interface and training include:

- Synchronize the internal clocks that generate the time and date stamps for alerts and alarms for both the Mark VI and the distributed control system. Review and evaluate the alarm and trip points of RCEC's programmable logic controllers making them more sensitive to alarm settings, where appropriate.
- Consolidate the alarms generated by the DCS and Mark VI control systems into a single control system to reduce the need for operations staff to monitor multiple systems simultaneously.
- Reduce the occurrence of nuisance/false alarms by providing "smart alarm" logic in the consolidated DCS and Mark VI control systems and provide an updated operator training that includes water induction events along with evidence of its completion.

The corrective actions for inadequate water induction protection include:

- Provide an ASME TDP-1-2013 conformance analysis for the RCEC.
- Provide the list of design modifications that are being implemented at RCEC based on the ASME TDP-1-2013 conformance analysis along with evidence of their completion.
- Implement the SIA restoration recommendations along with evidence of their completion.

These corrective actions contain a mix of operations and maintenance changes, improvements to operator notification systems to improve situational awareness, and upgrades to hardware and control system integration. These corrective actions would not expand the facility, change the performance of the facility, or require any changes to existing conditions of certification. These corrective actions are required to be implemented prior to the facility restarting combined-cycle operations. Verification that the corrective actions have been completed will be achieved through review of documentation provided by RCEC and by onsite inspection by the DCBO and JAIT staff or retained consultants.

In addition to the required corrective actions for the water induction event, the JAIT also conducted an audit of other aspects of the power plant. This included tasking the CEC's DCBO with reviewing several systems on site that could have potential for offsite consequences to the surrounding community and providing a report that will specify whether the systems are code compliant and will detail any deficiencies needing correction. Such inspections are periodically conducted to help ensure that the normal operation of the plant remains in compliance with applicable regulations and industry standards. Collectively, these nine corrective actions will address the three causal factors that were identified by the JAIT during the investigation. Completion of the above corrective actions by the RCEC would prevent, to the degree feasible, any future turbine overspeed events due to water induction by deploying redundant systems of prevention and detection.

APPENDIX A:
Joint State Agency Investigation Team Document Requests

Table A.1 details the requested additional information for the events surrounding the STG incident.

Table A.1: Document Request Timeline

Document Request Title	Due Date	Documents requested	Status
DR-RC20210528-01	Monday, June 7, 2021	Operator Logbooks from May 25, 2021 through May 30, 2021	Received
		Steam Turbine (ST) OEM Manuals for Lube Oil Bearing Seals	Received
		Lube Oil Analysis Past Three (3) Years	Received
		Work Orders for all ST Bearing Seals Past Three (3) Years	Received
		Failure and Root Cause Analysis of Failure and Fire (When available)	Received
DR-RC20210617-02	Wednesday, July 7, 2021	Digital Control System (DCS) Logs from 05/26/2021 at 00:01 hrs. to 05/28/2021 at 24:00 hrs.	Received
		DCS Instrument Calibration Records; most recent.	Received
		Overspeed Trip Tests; past three (3) years.	Received
		Plant Operators Training Records; past two (2) years.	Received
		Plant Organization Chart.	Received
		OSHA 300 Reports; past five (5) years.	Received
		Current Air Permits.	Received
		RATA Testing; past five (5) Years.	Received
		Shutdown Checklist.	Received
DR-RC20210617-03	Friday, July 30, 2021	Steam Turbine rotational speed records of any type from 05/26/2021: 00:01 hrs. through 05/27/2021: 24:00 hrs.	Received
		Work Orders for all DCS Alarms from 05/25/2021: 00:01 hrs. through 05/27/2021: 21:47 hrs.	Received

DR-RC20210617-04	Wednesday, August 11, 2021	Steam Turbine rotational speed records of any type from 05/26/2021: 00:01 hrs. through 05/28/2021: 24:00 hrs.	Received
		Steam Turbine P&ID's with all current and intended modifications to the steam system.	Received
		Operator Training Procedures	Received
		Operator Training Curriculum	Received
		Operator Qualifications	Received
		Operator Job Description	Received
		Calpine Technical Training Information	Received
DR-RC20210617-05	Friday, August 27, 2021	Completed Responses to the attached "Russell City Operator Questionnaire"	Received
DR-RC20210617-06	Friday, September 17, 2021	An unredacted copy of the full and final Root Cause Analysis of the incident	Delayed
DR-RC20211019-07	Tuesday, October 26, 2021	An unredacted copy of the full and final Root Cause Analysis of the incident	Received
DR-RC20211026-08	Tuesday, November 2, 2021	The Department of Toxic Substance Control hazardous waste compliance report approved by the Certified Unified Program Agency (CUPA) involved and corrective actions taken this year for all hazardous materials (Hazmat) accumulation storage areas (seven violations were indicated), fire suppression water clean-up, and other Hazmat waste at the Russell City Energy Center (RCEC).	Referred to City of Hayward
		All RCEC Hazmat Manifests for the current year.	Received
		Any photo evidence to substantiate EPA compliance.	Referred to City of Hayward
DR-RC20211112-09 City of Hayward	Completed April 14, 2022	The Department of Toxic Substance Control hazardous waste compliance approved by the Certified Unified Program Agency (CUPA) involved and corrective actions taken this year (2021) for all hazardous materials (Hazmat) accumulation storage areas.	Open

		Any photo evidence to substantiate EPA compliance.	Open
DR-RC20211026-10	Tuesday, December 7, 2021	OEM Manuals for the HRSG Cold Reheat Stop Valve (CRHSV#1)	Received
		All recent Preventative Maintenance Work Orders for the CRHSV#1prior to the overspeed event.	Received
DR-RC20211026-11	Friday, December 17, 2021	OEM Gear/Actuator Installation, Operating and Maintenance Instructions for the HRSG Cold Reheat Stop Valve (CRHSV#1).	Received
		Any post event Toxic Substance and Human Exposure evaluations performed	Received
DR-RC20211026-12	Tuesday, January 12, 2021	All attachments to and appendices and referenced photos in the RCA.	Received
		Power plant reconfiguration/startup checklist (starting in 1X1 mode, for changing from 2X1 operation to 1X1 operation, or from 1X1 to 2X1 operation)	Received
		Item 2 above, (completed) for the final configuration change prior to the incident	Received
		Shut down checklist (completed) for the incident	Received
		All manuals, presentations, and other documents regarding operator/employee trainings in effect at the time of the incident.	Received
		Training status of personnel performing the startup/operation/shutdown leading to the incident	Received
		"Additional operating data" referenced on pg. 14 of the RCA	Received
		Extended operating data of startups and shutdowns of HRSG#1 and HRSG#2 (extending 2 hours or more after startups, and beginning 2 hours or more before shutdowns)	Received
		A simplified schematic representation (similar to the figures shown in the presentation on November 30, 2021) of reheat loop/IP turbine including piping, drains, valves, sensors with labels as used in the RCA	Received
		The presentation that was given on November 30, 2021 .	Received
		Glossary of acronyms used in RCA	Received
		All earlier versions of RCA, or any portion thereof, including but not limited to the first version of the RCA summary.	Received
		Prior risk assessment done for the 1x1 operation configuration (e.g. FMEA, fault-tree, or other).	Received

		Report of evaluation and test results of the valve (HRSG #1 CRH stop valve); Please provide the maintenance records for the last two years for HRSG #1 and HRSG #2 CRH stop valves.	Received
		Manufacturer's HRSG #1 CRH stop valve specs and assembly drawings.	Received
		Report of investigation and test results of the IP-stop valve (IV#2 & RSV #2)	Received
		IP-stop valve (IV#2 & RSV #2) manufacturer's specs and assembly drawings.	Received
		The assessment report that determined the viability of reusing or repairing the HP/IP turbine post incident.	Received
		SIA and Calpine operator interviews for the personnel on site during the incident, including any transcripts, notes, or other recordings, including audio or video, of the interviews.	Received
		The borescope inspection report of the horizontal HRH pipe sections of the CRVs and the inlet of the CRVs.	Received
		A clarification of the statement in Section 5.11 of the RCA, "STG line breakers opening prior to the closure of IV #2 and RSV #2 based on delay logic within the protection system."	Received
		Any other reports generated by SIA concerning the facility or the incident, including but not limited to the recommendations made by SIA or any report regarding recommendations.	Received
		Contracts between Calpine and SIA relevant to the RCA, including but not limited to the second contract for recommendations.	Received
		All documents and information regarding the facility's alarm design and/or protocols, including documents and information regarding the alarm priority levels.	Received
		Agreements with PG&E (including power purchase agreements) that govern operation of the facility.	Received
		Any communications from or with PG&E (written or emailed) regarding this facility, including notes from calls or oral communications with PG&E, on May 27, 2021, or during the 10 days prior and after May 27, 2021.	Received
		A list of all documents SIA reviewed during preparation of the RCA and recommendation report.	Received

DR-RC20210527-13	Monday, January 17, 2022	All CAL-OSHA 300 reports for the current year (2021)	Received
		An Analysis or Testing of the Toxins released (airborne or otherwise) from the Incident	Received
		Evaluation of the Health and Physical Impact of the Toxins Released	Received
		Proof of Notification of all exposed or affected people and personnel	Received
DR-RC20220121-14	Friday, January 28, 2022	P&ID Symbol Legend sheet	Received
		P&ID 25483-000-V1A-MBPR-00011	Received
		P&ID's 103200-PID-002 through 103200-PID-012	Received
		P&ID 25483-000-M6-AB-00002	Received
		P&ID 25483-000-M6-AB-00005	Received
		P&ID 25483-000-M6-AB-00006	Received
		P&ID M6-BM-00001	Received
		P&ID M6-AE-00001	Received
		All post incident reports or debriefs from all operators that who were onsite during the incident.	Received
		Nooter-Eriksen HRSG drawings showing sectionals and side views with all drains and sizes.	Received
		OEM cold start procedure from Bechtel or others.	Received
		Operating procedures for total plant shutdown.	Received
		Operating history for changing from 2x1 to 1x1 operation for the past 3 years.	Received
		OEM recommendations operations changes from 2x1 to 1x1 operation.	Received
		Schematic of HRSG drainage valves on the steam pendant.	Received
		ALL DCS Alarms from 05/22/2021; 00:01 hrs. through 05/28/2021; 24:00 hrs.	Received
DR-RC20220201-15	Monday, February 7, 2022	Pursuant to section 11.2 of General Order 167-B, the California Public Utilities Commission's (CPUC) Electric Safety and Reliability Branch (ESRB), in cooperation with the California Energy Commission's (CEC) Siting, Transmission and Environmental Protection Division, requests that Calpine have all staff that were onsite during the May 27, 2021, incident be available for interviews one day during the joint agencies' on-site investigation taking place on February 7-11, 2022. Each staff member should be available at least one day during the on-site investigation including but not limited to Mr. Warren Mushatt and the control room operator who was on the shift just prior Mr.	Supervisor and Operator are no longer employed / available

		Warren Mushatt. Please confirm the availability of each staff member on or before February 4, 2022.	
DR-RC20220103-16	Sunday, February 13, 2022	SUPERCEEDED BY DR-RC20220802-17	
DR-RC20220802-17	Friday, February 11, 2022	Logic Scope for SIA Corrective Action Recommendations	Received
		Logic for Generator Lockout Protective Relays	Received
		Larger and Clearer Graphs of graph 5.2 & 5.10 from the SIA RCA	Received
		Unit Trip criteria for Vibration Parameters (i.e. graph 5-2)	Received
		List of Procedural Changes as a result of all Corrective Actions	Received
		Daily Rounds Sheets from 05/22/21: 00:01 through 05/28/22: 23:59	Received
		DCS Logs for a similar change in operation, 2X1 to HRSG 2: 1X1 Operation	Received
DR-RC202200223-18	Tuesday, March 1, 2022	Russell Energy Center Steam Turbine Generator (STG) Generator Protection Relay 86 (A&B) device alarm and trip history for the May 27, 2021, incident. There are two redundant devices, a Beckwith M-3425 86 Relay and an SEL Model 300G. Therefore, information from both devices should be included.	Open
		Bechtel logic drawings and instrumentation calibration history for the Beckwith and SEL relays previously noted showing how these devices were designed to work and what options were selected when they were installed.	Open
		Provide photographs or material inventory logs of the type of oil/grease used as lubrication for the CRH stop valve actuator assembly.	Open

Source: California Energy Commission

ATTACHMENT IV

Russell City Energy Center May 2021 Incident: Gap Analysis Report

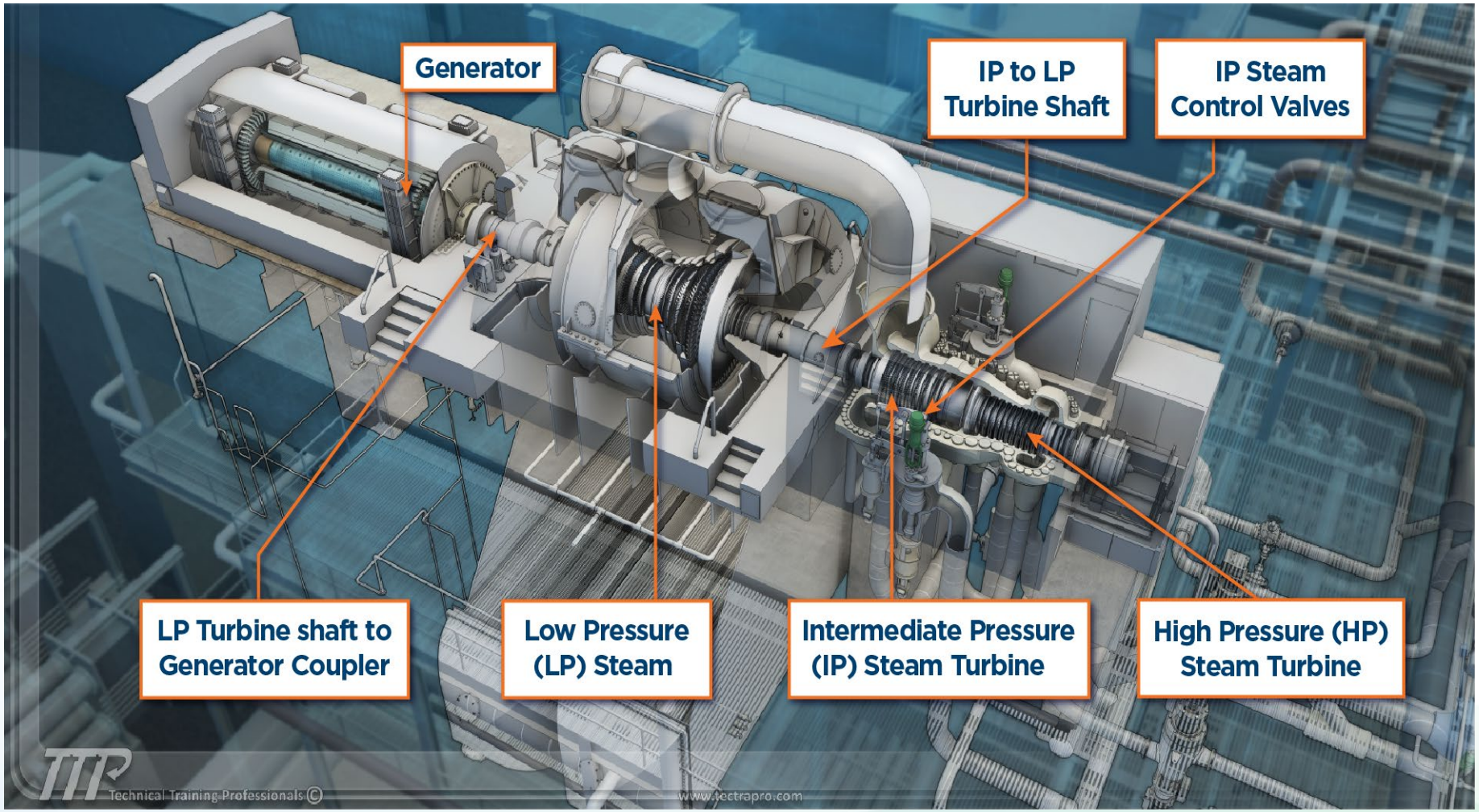
Hayward City Council - May 24, 2022

Presenting: Elizabeth Huber, Manager, Safety and Reliability Office and Geoff Lesh, Manager, Engineering Office
Siting, Transmission and Environmental Protection Division
California Energy Commission

Restarting Russell City Energy Center

Russell City Energy Center Investigation

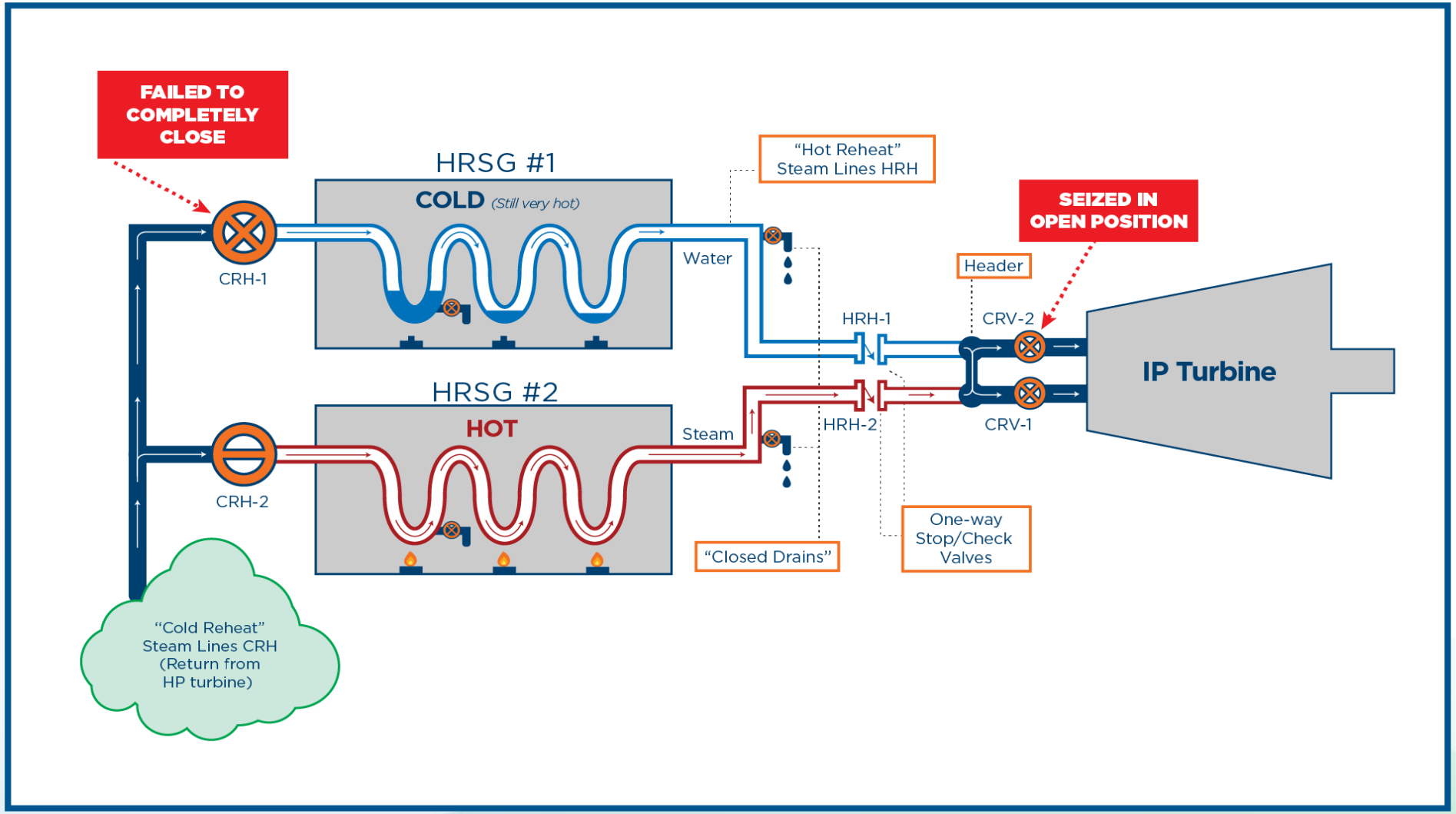
Steam Turbine Generator



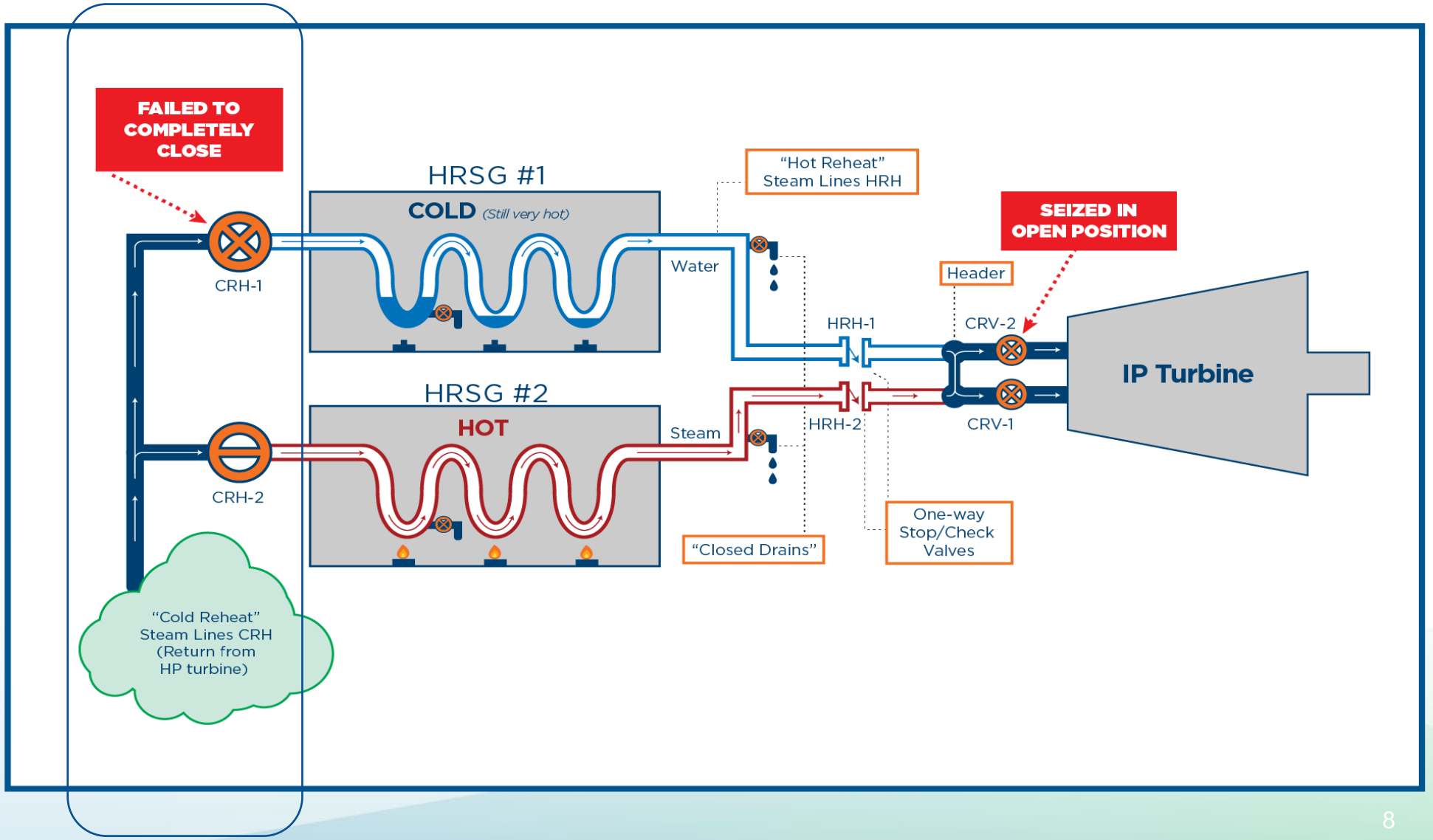
Steam Turbine Debris Field

Heat Recovery Steam Generator

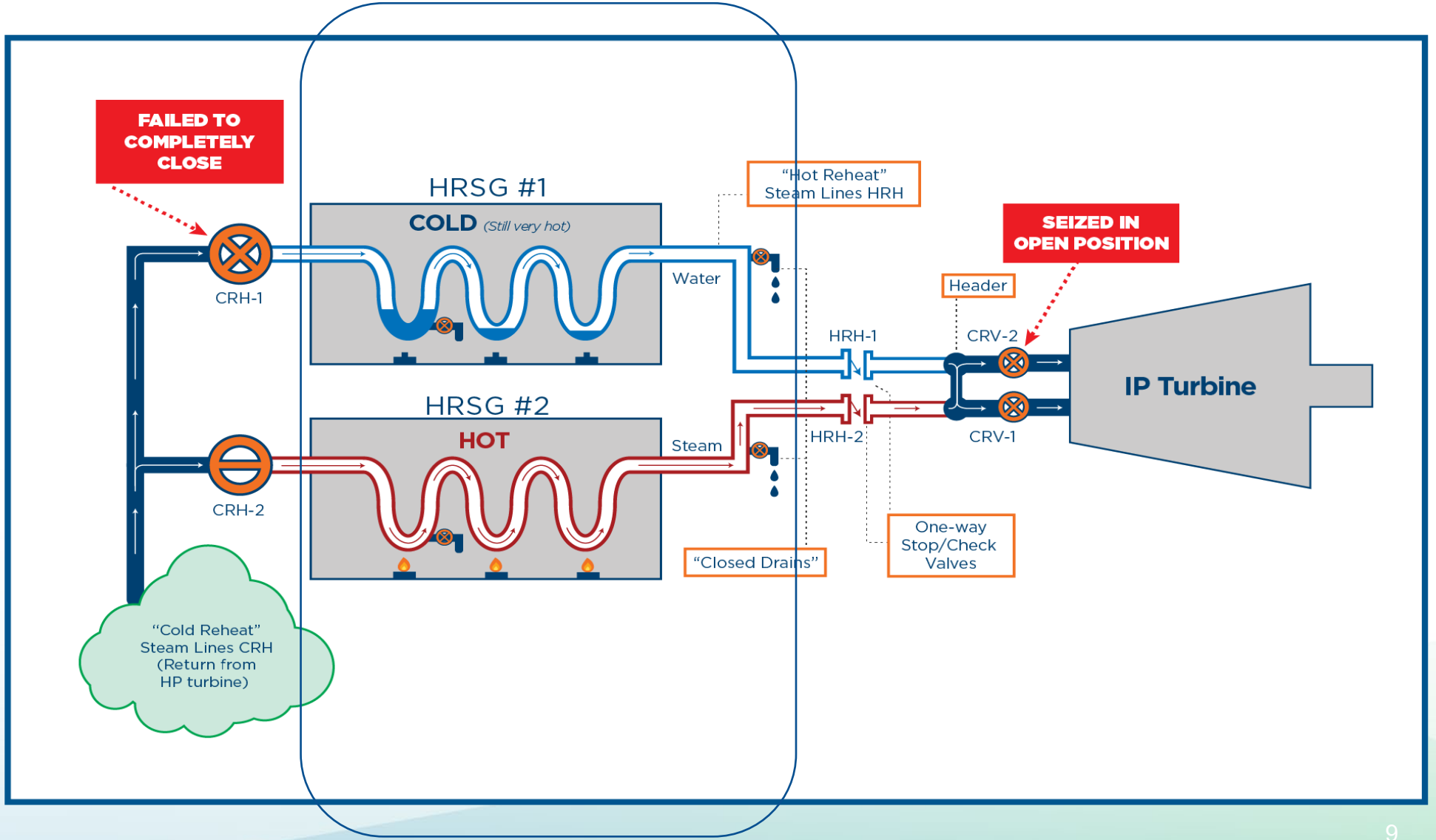
Russell City Energy Center's HRSG Reheater Schematic



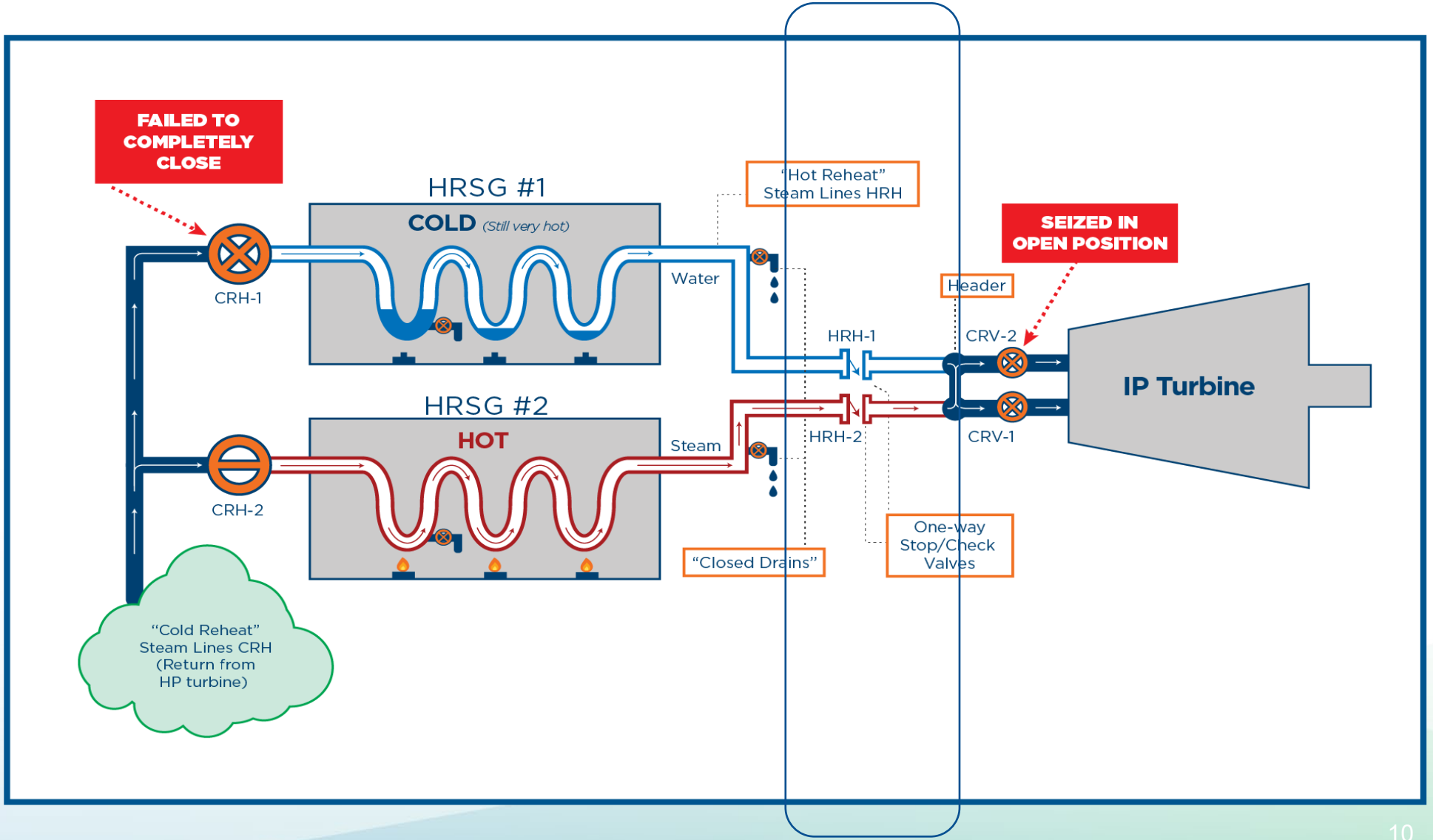
Causal Factor 1 – Equipment Maintenance and Monitoring



Causal Factor 2 – Deficiencies in Operator Interface and Training



Causal Factor 3 – Inadequate Water Induction Protection



JAIT Corrective Actions

- Modify preventative maintenance and monitoring programs
- Re-configure the CRH stop valve to close based on actuator torque value
- Implement an annual preventative maintenance program for the steam attemperators and mixers for review and approval.
- Synchronize control system clocks
- Consolidate the alarms generated by the control systems
- Implement control logic to alleviate pressure within offline HRSG
- Implement control logic to discharge water from offline HRSG
- Provide an ASME TDP-1-2013 conformance analysis
- Convert the HRH stop/check valve from manual to electrical actuation
- Revise operations procedures
- Reduce the occurrence of nuisance/false alarms

Commission Decision and Next Steps

- Revise operations CEC Commissioners adopted the corrective actions and delegated to the CEC Executive Director to verify that the corrective actions have been completed.
- The JAIT spent the third week of May at Russell City Energy Center verifying the implementation of each of the corrective actions.
- Russell City Energy Center begins testing and commissioning the last week of May and will be available for CAISO to dispatch on June 1, 2022.

City of Hayward

- City staff have been participating on Joint Agency Working Group with CEC and CPUC staff
- Consistent with the CEC Order to allow Calpine to restart operations at RCEC, City staff and Calpine staff have meeting “to discuss any needed modifications of [RCEC’s] standard operating procedures for first responders to implement when responding to incidents on site, including establishing a process for reimbursement of reasonable expenses.”
- Finalizing joint City/Calpine hazardous resiliency and action plan – this includes partial funding for a hazardous materials response vehicle
- Insurance claims for Homeless Navigation Center being processed
- Conversations with Russell City descendants/community action group underway – additional monetary contribution from Calpine proposed

Hayward First Responder Training Plan Enhancements

- Notified City of Hayward of Plant Management Changes on March 10.
- Schedule Annual HFD/City Manager/RCEC Meeting -TBD
- Knox Box Updated 12/14/2021
  - Updated MSDS's
  - Updated Plot Plan with Location of oil filled equipment and hazardous materials
- Met with Hayward Fire Department Training Battalion Chief on March 14, 2022
- Hazmat Table Top Drill – TBD
- Schedule Plant Tour for new Fire Company Officers – TBD
  - Identifying Hazardous Material locations
  - Review Emergency Action Plan
  - Identify possible Fire/Explosive areas
  - Identify areas of static Electricity potential for Aerial Ladder Trucks
  - Identify water supply locations and access points
- Rope Rescue Scenario Drill (incapacitated victim on platform or scaffolding) – TBD

Thank you

File #: WS 22-018

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT

Climate Action Plan and Environmental Justice: Considerations for New General Plan Policies and Programs

RECOMMENDATION

That Council reviews and comments on this report and provides direction to staff.

SUMMARY

The City is in the process of updating its Climate Action Plan (CAP) to establish policies and programs needed to meet greenhouse gas (GHG) reduction targets adopted by Council. The CAP, part of the Hayward 2040 General Plan, is being updated along with revisions to the Housing and Safety Elements of the General Plan. This report also presents a draft policy framework for a new Environmental Justice Element of the General Plan. This report provides an update on the project, community engagement strategies, and next steps. The City is working with Rincon Consultants to forecast GHG emissions and develop policies and programs that will help reduce community-wide emissions. Staff will continue engaging with community stakeholders to ensure that all policies in the CAP are equitable and align with community needs.

Council Sustainability Committee Review **-** On May 9, 2022, the Council Sustainability Committee (CSC) considered a report about the Climate Action Plan and Environmental Justice updates and outreach efforts. Committee members requested that staff:

- Engage with local organizations and nonprofits, including, Save the Bay, Hayward Promise Neighborhood, Hayward Unified School District, StopWaste, Green the Church, and Indigenous groups;
- Partner with the City's Library to reach different audiences through already existing programs like Storytime; and
- Ensure that Strategic Roadmap initiatives align with proposed CAP and EJ initiatives.

ATTACHMENTS

Attachment I Staff Report
Attachment II CAP Mural Board Responses
Attachment III EJ Workshop 1 Mural Board Responses
Attachment IV Hayward EJ Draft Policy Framework
Attachment V EJ Workshop 2 Mural Board Responses

DATE: May 24, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Climate Action Plan and Environmental Justice: Considerations for New General Plan Policies and Programs

RECOMMENDATION

That Council reviews and comments on this report and provides direction to staff.

SUMMARY

The City is in the process of updating its Climate Action Plan (CAP) to establish policies and programs needed to meet greenhouse gas (GHG) reduction targets adopted by Council. The CAP, part of the Hayward 2040 General Plan, is being updated along with revisions to the Housing and Safety Elements of the General Plan. This report also presents a draft policy framework for a new Environmental Justice Element of the General Plan. This report provides an update on the project, community engagement strategies, and next steps. The City is working with Rincon Consultants to forecast GHG emissions and develop policies and programs that will help reduce community-wide emissions. Staff will continue engaging with community stakeholders to ensure that all policies in the CAP are equitable and align with community needs.

Council Sustainability Committee Review – On May 9, 2022[1], the Council Sustainability Committee (CSC) considered a report about the Climate Action Plan and Environmental Justice updates and outreach efforts. Committee members requested that staff:

- Engage with local organizations and nonprofits, including, Save the Bay, Hayward Promise Neighborhood, Hayward Unified School District, StopWaste, Green the Church, and Indigenous groups;
- Partner with the City's Library to reach different audiences through already existing programs like Storytime; and
- Ensure that Strategic Roadmap initiatives align with proposed CAP and EJ initiatives.

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=5644445&GUID=18072FD1-2F1C-4355-91BE-CA6780C8961A&Options=&Search=

BACKGROUND

In July 2009, Hayward adopted its first CAP, which included aggressive goals for reducing GHG emissions. The CAP was amended and incorporated into the General Plan[2] in 2014 and includes actions necessary to meet Hayward's 2020 GHG reduction target (20% below 2005 levels by 2020). This target was achieved two years early, with Hayward's 2018 emissions inventory showing that community-wide emissions were reduced by 21.6% from 2005 to 2018. In January 2021, staff presented to the CSC Hayward's 2019 GHG inventory[3] showing that emissions had been reduced by 25.7% since 2005.

On June 16, 2020[4], Council introduced and on June 23, 2020[5], Council adopted an ordinance amending Hayward's CAP and General Plan to include the following goals:

- reduce emissions by 30% below 2005 levels by 2025
- reduce emissions by 55% below 2005 levels by 2030
- work with the community to develop a plan that may result in the reduction of community based GHG emissions to achieve carbon neutrality by 2045.

On July 20, 2021[6], Council adopted a resolution authorizing the City Manager to execute an agreement with Rincon Consultants to prepare General Plan amendments related to the Housing Element, CAP, Environmental Justice Element, and the Safety Element.

DISCUSSION

The CAP update is needed to identify the policies and programs necessary to achieve the 2030 GHG reduction target and put Hayward on a path to achieve carbon neutrality by 2045. The CAP update is being combined with the Housing Element update and Environmental Justice Element effort because issues of housing, environmental justice, safety and hazard planning, and climate change are inextricably linked. Conducting outreach, planning, and environmental review for all the General Plan amendments simultaneously will result in a more comprehensive and holistic approach to these issues and will result in cost and time efficiencies.

GHG Inventory and Forecast

Hayward's most recent inventory accounts for community GHG emissions through 2019. Rincon consultants evaluated the 2019 GHG inventory and provided a forecast of emissions through 2045. The 2020 inventory is currently in progress and will be presented to the CSC when all necessary data becomes available.

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[2] https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf

[3] https://hayward.legistar.com/LegislationDetail.aspx?ID=4747797&GUID=2B1F0C6F-B961-4AA3-9553-240ACE74B4B1&Options=&Search=

[4] Amending the 2040 General Plan and Adoption of Ordinance to Comply with State Law Changes to Establish Vehicle Miles Traveled (VMT) Thresholds & Updates Greenhouse Gas Emissions (GHG) Reduction Targets. June 16, 2020 City Council Meeting. https://hayward.legistar.com/LegislationDetail.aspx?ID=4568609&GUID=46FF5863-9294-4217-9119-9631D7A2BB6F&Options=&Search=

[5] Second Reading of VMT Thresholds and GHG Emission Reduction Targets Ordinance. June 23, 2020 City Council Meeting. https://hayward.legistar.com/LegislationDetail.aspx?ID=4576651&GUID=4E2F5527-D216-4472-BB79-5D9A37A41AE8&Options=&Search=

[6] https://hayward.legistar.com/LegislationDetail.aspx?ID=5034289&GUID=A1DD2D35-7B4A-42C8-9284-7DEB78AAD470&Options=&Search=

In the GHG inventory evaluation, the consultants recommended that the City include emissions from public buses (AC Transit), updated off-road emissions data, and calculate total transportation emissions using Google's Environmental Insights Explorer (EIE) data. Previous inventories have included vehicle miles traveled (VMT) data from the Metropolitan Transportation Commission (MTC), which includes passenger and commercial vehicles. The City supplemented these datasets with EMission FACtor (EMFAC)[7] data on motorcycles, motor homes, and buses. MTC uses a transportation model that estimates VMT using population and land use metrics. Google EIE accounts for all vehicle types that start or end within the City boundary. This data is advantageous because it uses anonymized and aggregated location history data that is a real time reflection of local changes in transportation use. After making these updates, the finalized inventory was used to project future emissions and calculate how much Hayward will have to reduce emissions through local initiatives and programs to meet long term targets.

Business As Usual Forecast

The first forecast provided is Hayward's business as usual (BAU) GHG emissions, shown below in Figure 1. The BAU forecast provides an estimate of how emissions are predicted to change from 2019 to 2045, given that existing actions continue as they were in 2019 with no new regulations or actions that reduce local GHG emissions. The forecast is based on projected trends in population growth and employment, consistent with local and regional projections.

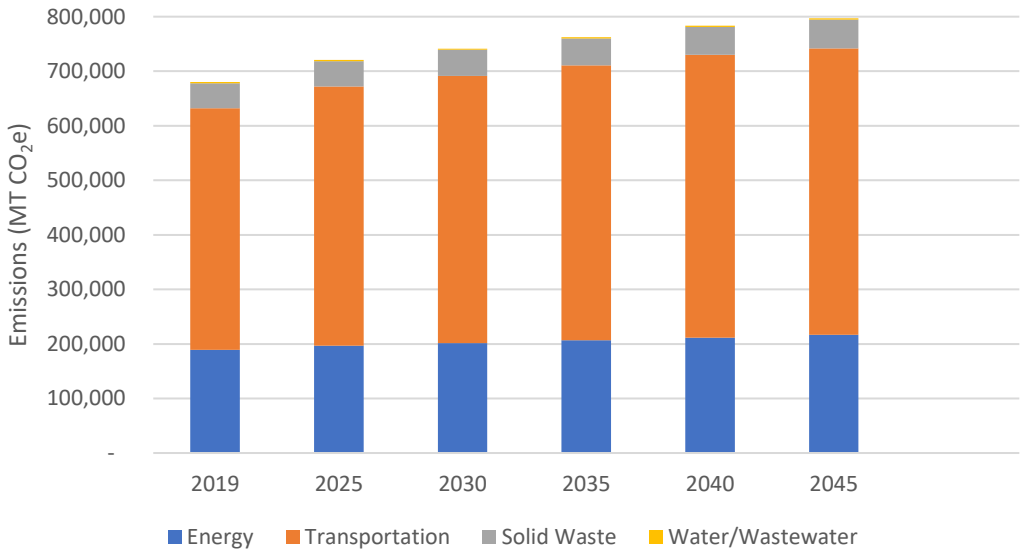

Figure 1. Hayward BAU GHG Emissions Forecast (MT CO2e) through 2045

[7] EMFAC is a model from the California Air Resources Board (CARB) that estimates the official emissions inventories of on-road mobile sources in California (https://arb.ca.gov/emfac/)

Adjusted Emissions – State + Federal Regulations
There are multiple federal and state regulations that have been enacted that are expected to reduce Hayward's GHG emissions in the coming years. The following State actions were applied to the Adjusted Forecast based on the unique sectors within Hayward:

- 2019 Title 24 Building Energy Efficiency Standards
  The 2019 Title 24 Energy Efficiency Standards have come into effect, creating significantly more efficient new building stock. Starting in 2020, new residential developments are required to include on-site solar generation and near-zero net energy use.

- Renewable Portfolio Standard (RPS) and Senate Bill 100
  The RPS program, accelerated in 2018 under SB 100, requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2026 and 60 percent of total procurement by 2030. The RPS program further requires these entities to increase procurement from GHG-free sources to 100 percent of total procurement by 2045.
- Transportation Legislation
  The Advanced Clean Cars program coordinates the goals the Low Emissions Vehicles, Zero Emissions Vehicles, and Clean Fuels Outlet programs into a single coordinated package of requirements for model years 2017 to 2025. The new standards are anticipated to reduce GHG emissions by 34 percent in 2025. Public transit GHG emissions will also be reduced in the future through the Innovative Clean Transit (ICT) regulation, adopted in December 2018, which requires all public transit agencies to gradually transition to a 100-percent zero-emission bus fleet by 2040.

Compliance with State legislation is expected to result in GHG emissions reductions from the BAU GHG Emissions Forecast in the transportation and energy sectors for residential and non-residential activities. The impact of these regulations was quantified by Rincon to create the adjusted forecast shown below in Figure 2.

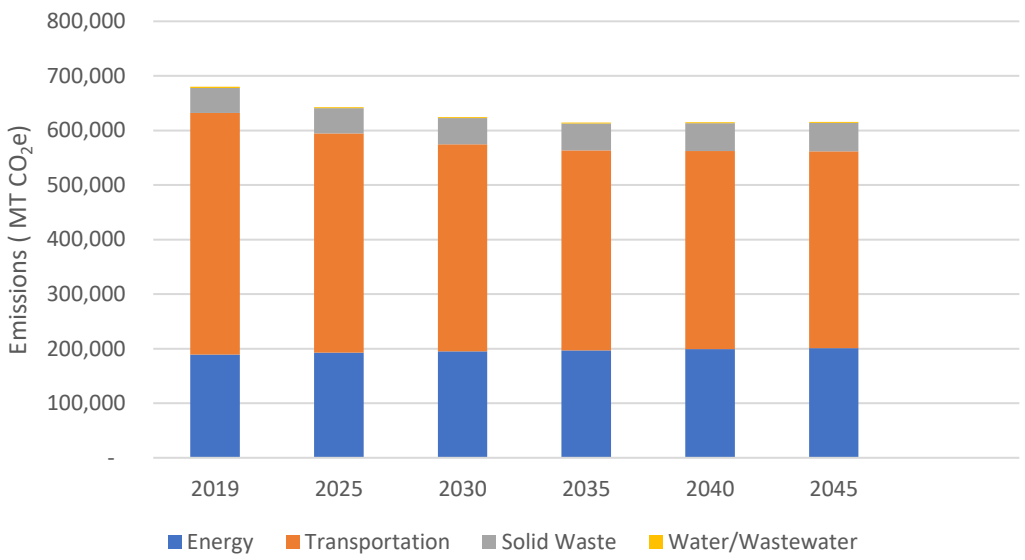

Figure 2. Hayward Adjusted GHG Emissions Forecast (MT CO2e) through 2045

Gap Analysis

The adjusted forecast was compared against the City's targets to establish the gap in emissions reductions that need to be tackled by the City to reach the GHG reduction goals stated previously. The CAP Update will assess the GHG emissions reductions needed based on the difference between the legislative adjusted GHG emissions forecast and the adopted Hayward GHG reduction targets. The targets and the emissions gap are shown in Figure 3.

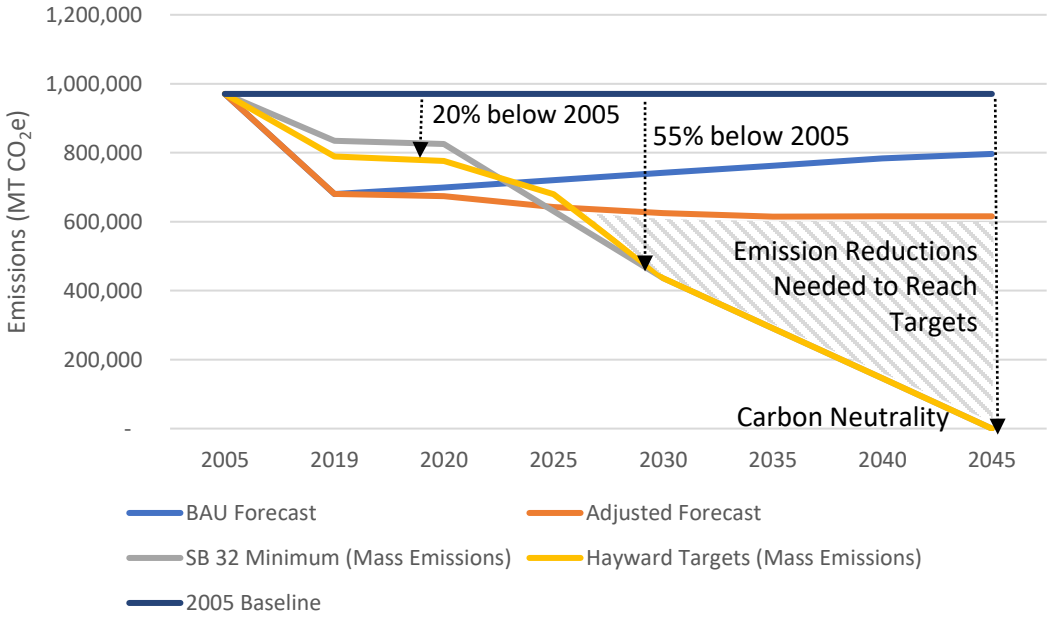

Figure 3. GHG Emissions Targets & Gap Analysis

First CAP Community Workshop
The above Figures were presented at a community workshop on April 13, 2022. There were 12 attendees, of which 5 represent a local organization. During the workshop, the attendees provided input on the following topics through a Mural Board interactive activity (see Attachment II):

1. *Concerns about climate change and GHG emissions*
Many community members in the meeting expressed their concern for the disproportionate impact of climate change on low-income, BIPOC (black, indigenous and people of color) communities. Additionally, there were concerns about health impacts, livability, and stability of the community over time, and resource scarcity.

2. *Potential opportunities to reduce GHG emissions in Hayward*
Attendees expressed a need for the CAP to emphasize reducing emissions from on-road transportation. Comments included making public transportation, biking, and electric vehicles more accessible, safe, and affordable. Other comments addressed reducing air pollution from factories and construction.

3. *Sectors to prioritize in the CAP*
Attendees voted on which sectors they believe should be included in the CAP Update, and of the 7 options provided[8], the top 4 choices were:
Increasing Public Transit Access;
Increasing Tree Count;
Electrifying New Buildings; and
Electrifying Existing Buildings

4. *Recommendations to make the CAP Update more equitable*
To make the CAP more equitable, the most common recommendation from participants was to involve all Hayward residents, especially the most impacted communities, by meeting people where they are and compensating them for their time. There were also recommendations to build capacity in frontline communities and ensure that any programs included in the CAP are accessible and equitable. Finally, a key theme throughout this activity was the concern for future generations and the suggestion to involve the school district and students who are passionate about climate change but don't know how to contribute.

Staff is seeking direction and ideas from Council regarding additional potential GHG-reducing measures to be considered for the draft CAP. Staff will work with Rincon to analyze potential measures to develop a suite of recommended measures that are in-line with the community input received in the CAP Public Workshop. Analysis will consider:

- Emissions reduction potential;
- Co-benefits such as cost savings or health benefits;
- Costs and challenges associated with implementation; and

[8] The 7 options provided were: (1) increase public transit access, (2) increase electric vehicle (EV) charging infrastructure, (3) increase car sharing options, (4) increase tree count, (5) electrify existing buildings (residential + commercial), (6) electrify new buildings (residential + commercial, (7) ban natural gas.

- Equity
    - Who would the action benefit?
    - Who would the action not benefit?
    - Who is currently implementing the action?
    - Who is not currently implementing the action and why?

Environmental Justice Public Forums
On February 23, 2022, the City hosted the first Environmental Justice Public Forum to discuss environmental justice issues, such as health, pollution exposure, parks access, food access, and community engagement outlined in an Environmental Justice Technical Report[9]. The 16 forum attendees recommended that the new Environmental Justice Element address issues detailed in Attachment III, which include:

- The disproportionate pollution burden impacting some multifamily and some affordable housing units and the health risks associated with it;
- The lack of public transit/biking/walking routes to grocery stores, and limited stores with affordable healthy food options;
- Inadequate programming and maintenance, and safety concerns at some parks;
- Multi-lingual outreach efforts that include underrepresented groups and bring meetings to residents to increase accessibility.

This community input was used to help create a draft policy framework (see Attachment IV). Once finalized, the framework will be used as an outline of key environmental justice topics specific to Hayward that will be addressed by the policies and programs identified in the Environmental Justice Element.

In the second Environmental Justice Public Forum on April 27, 2022, community members had an opportunity to provide direct feedback on the topics identified as policy focal points for the Environmental Justice Element. Key themes that emerged around the policy focal points from the 19 attendees of the second public forum (see Attachment V) included:

- Limiting pollution exposure as a result of traffic;
- Considering illegal dumping as pollution and addressing the issue;
- Increasing public transit, active transporation, and EV charging facilities;
- Increasing food rescue programs and locally grown food;
- Providing housing support, especially to non-English speakers and seniors;
- Creating more green space, and partnering with HARD and HUSD to do so.

Staff intends to use the community input from these forums and other outreach efforts, comments from the Planning Commission, and Council direction to create the draft Environmental Justice Element.

Safety Element
Along with the CAP update and new Environmental Justice Element, staff is also preparing an update to the Safety Element of the General Plan. As a part of the Safety Element update, staff and the consultant team have been working on evacuation scenario planning and

[9] https://haywardhousingandclimateupdate.com/wp-content/uploads/2022/02/Hayward-EJ-Background-Tech-Report.pdf

drafting a Climate Vulnerability Assessment. While the CAP will focus on efforts to minimize climate change, the Safety Element will contain policies and programs supporting community resilience and adaptation efforts. Staff will have more information about the Safety Element with the next report to Council.

ECONOMIC IMPACT

Climate change is expected to negatively impact national and local economies. The new Environmental Justice Element and the updated CAP will seek to help make Hayward's economy more resilient to climate change.

FISCAL IMPACT

Council approved a total budget of $720,000 for the General Plan updates. This project will not impact the City's General Fund. The project is funded by a Local Early Action Planning (LEAP) Grant from the California Department of Housing and Community Development (HCD), the Development Services Department's Planning Policy Fund, and the Public Works and Utilities Department's Recycling, Water, and Sewer Funds.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority to *Confront Climate Crisis & Champion Environmental Justice* as included in the Strategic Roadmap adopted May 3, 2022. Specifically, this item is related to implementation of the following project:

Project C5: Adopt & Implement 2030 GHG Goal & Roadmap along with other General Plan Elements

SUSTAINABILITY FEATURES

Meeting GHG reduction goals is the primary objective of the City's CAP. Meeting the goals will require reducing emissions in every sector of Hayward's economy and will entail improving energy efficiency in buildings, decarbonizing existing buildings, increasing the use of renewable energy, and reducing vehicle-related emissions. All these actions will result in cleaner air for Hayward residents and for the region.

PUBLIC CONTACT

Equitable Outreach Plan
There is considerable overlap between the issues addressed in the CAP, Housing Element and Environmental Justice Element. As a result, staff is conducting public outreach for all three projects simultaneously, with an emphasis on equity and extensive community involvement.

Prior to the Environmental Justice and CAP community workshops, staff reached out to over 100 community-based organizations and groups in Hayward to gauge interest in collaborating on the General Plan updates. Staff members have also visited various locations around Hayward (grocery stores, laundromats, farmers market, BART stations,

etc.) to pass out flyers with information on the General Plan Updates and how residents can be involved. Collectively, Environmental Services and Planning staff visited 19 different locations across the City. Housing outreach has included standard surveys and interviews and an interactive housing simulation that allows people to identify sites and areas for future development.

Additionally, staff organized a Gallery Walk Event, featuring large poster boards with information on the Climate Action Plan, Housing Element, Environmental Justice Element, Safety Element, and the History of Hayward. The posters were printed in both English and Spanish and were displayed in City Hall, the Downtown Hayward Library, BART, the Farmers Market and at Chabot and Hayward NAACP Branch offices in conjunction with outreach events. Additionally, staff offered the posters to various organizations and Alameda County Transit Authority requested the posters to display in their Hayward facility where approximately 400 Hayward residents are employed. Community members were invited to learn about the General Plan updates by walking through the gallery and engage with the posters through QR codes.

Another avenue of community engagement has been through surveys and interviews conducted by college students in Hayward. Chabot College students have helped the City by surveying residents about parks and housing. In Spring 2021, Chabot College students interviewed 252 residents about their experience, concerns, and ideas for parks in Hayward. Chabot students also interviewed approximately 550 residents online in Fall 2021 and Spring 2022 about housing, discrimination, pollution, and community amenities. Additionally, students in a public health capstone class at CSU East Bay (CSUEB) are conducting surveys around park access, pollution, access to healthy food, and safe and sanitary housing. They are currently in the process of collecting survey responses and will use the data to provide policy recommendations to the City to potentially include in the Environmental Justice Element or other parts of the General Plan Update. Survey results from both Chabot and CSUEB will be summarized in the presentation to Council.

NEXT STEPS

Staff will present the CAP and Environmental Justice community comments and potential policies to the Planning Commission on May 26, 2022. Based on community input, Council direction, and analysis by the consultant team, staff will recommend Environmental Justice and GHG reduction policies and programs which will be presented to the Council Sustainability Committee on July 11, 2022. Staff will continue to engage with the Hayward community to ensure that the Environmental Justice Element and CAP respond to community needs and does so in an equitable way.

Prepared by: Carolyn Weisman, Climate Corps Fellow
Nicole Grucky, Sustainability Specialist
Leigha Schmidt, Principal Planner
Erik Pearson, Environmental Services Manager

Recommended by: Alex Ameri, Director of Public Works

Approved by:

_____
Kelly McAdoo, City Manager

Hayward CAP Workshop - April 13, 2022

What concerns you most about climate change and GHG emissions? ¿Qué es lo que más te preocupa del cambio climático y de las emisiones de GEI?

1. how big companies will not be held accountable
2. Everything...passing 1.5C, breaking planetary boundaries, loss of ecosystems and biodiversity, fossil fuel industry lying about climate since the 60s
3. I'm concerned about how tthe next generation of adults will be involved
4. the wealthy will not change their consumption and capitalist practices which contribute to climate change
5. Not having a sustainable Earth for future generations
6. Poor health for community members
7. Concerned of the loss of ecosystems and family losing homes and having to rebuild
8. too many people loose hope that any action is improtant and that individuals behavior are not impactful on large scale climate change
9. Severe weather like
10. floods and intense storms
11. that people of color and low income communities will be impacted the most
12. We live in a society that values "things". We must change that in order to cut emissions to to our massive consumption of goods.
13. Disproportionate impact on our most vulnerable residents.
14. Climate change will dipraportionatly affect people of color and low sociioeconomic status
15. Concern that climate change adaptation and reduction strategies leave out vulnerable communities
16. Decisions & plans that don't take into account the habits/routines of residents, and unfairly place the burden on individual sacrifice. Unequal access to opportunities to reduce individual carbon-footprints while celebrating reductions that won't materialize.
17. How will citizens adapt to the imminant changes to come?
18. we are already kind of late to the game and that we need to do more now!
19. extincition of species
20. Disrupting critical supply chains for essential resources like food, water, energy
21. Uncertainty how will it affect my long-term stability (where to live, family planning, etc).
22. The potential for failure to reach goals is harmful to human life and the quality of life.
23. feels like no solution
24. livability of our community for generations to come. Especailly the abiltiy to adapt to climate change impacts divided by wealth and power

25. our societies have trouble envisioning a world that is not drivent by capitalism rather a sense of community and shared values
26. loss of nature and fresh water and clean air
27. Things will surely get worse. How to we help people adapt to these changes?
28. I am cooncerned the political will might not prioritize GHG for lower income communities

What do you believe are potential opportunities to reduce GHG emissions in Hayward? ¿Cuáles cree que son las oportunidades potenciales para reducir las emisiones de GEI en Hayward?

1. construction requirements become more stringent;
2. bike lanes, city shuttles, more community services so less car needs
3. Hold businees liable for their emmission
4. Reimagining transportation especially on Tennyson, Hesparian, Mission... Partnering with schools to advance climate literacy, justice and action
5. become a pollution free city (limit and decrease factories, manufacturs, warehouses that produce carbon dioxide)
6. Schools should be mandated to use electric school buses to transport students
7. Tax-breaks for people who commute less
8. Make Hayward a place that has everything. That way people won't have to travel to get what they need.
9. Create incentives for residents to switch out gas appliances for electric
10. More electric car charging stations
11. becoming a smoke-free city
12. big chain corporations should have a cap on carbon dioxade and audited on green house emissions
13. More bike lanes and electric cars for less GHG
14. Promote less energy usage
15. Reduce fossil fuel consumption
16. holistic approaches! ghg reduction should also align with creating healthier, safer, and more resilent communites to live!
17. Reduce resident depdency on cars (even if they're electric!) - supply chains for electric cars are very carbon intensive
18. Incentives for using public transportation and or creating more bike friendly streets
19. More frequent, reliable, and FREE buses and BART trains
20. *Safe* bike lanes allow other means of transportation other than cars. Also proximity to services & work. If people can't afford to live in Hayward, they will be commuting MUCH farther
21. Compost recycling aside from just yard waste
22. ghg reduction strategies should also reduce the inequality gap! we need a just transition

23. Mode shift!! Bike lanes and walkability! connections of different transportations! I want to bike and take public transit but I need to feel safe doing so!
24. 15 min cities! more places for social infrastructure which can improve our resileince and relationships in th community
25. Educate our students and explore alternative forms of energy that can produce electricity
26. ensuring neighboring cities are aware of action and see if they can get on board

Which sectors do you believe should be included in the CAP Update? ¿Qué sectores cree que deberían incluirse en la actualización del CAP?

Increase public transit access/ Aumentar el acceso al transporte público
9 votes
1. I would put 100 votes here. The majority of our GHG emissions come from vehicle travel
2. Public transit less congestion, faster commute, higher productivity and lower emissions

Increase electric vehicle (EV) charging infrastructure/ Aumentar las opciones de coche compartido en la ciudad
1 vote
1. if this is it then the city should have a program where low income people can trade in old cars for electric
2. As an electric car owner, I know it's hard to find a charge outside my garage!

Increase car-sharing options/ Aumentar la carga de vehículos eléctricos en la ciudad
2 votes

Increase tree count/ Aumentar el número de árboles
6 votes
1. I would tie this to improving parks across Hayward

Electrify existing buildings/ Electrificar los edificios existentes
5 votes
1. This is a public health issue as well! Folks are inhaling gases from their appliances

Electrify new buildings/ Electrificar los edificios nuevos
4 votes

Prohibit natural gas/ Prohibir el uso de gas natural
2 votes
1. Russell City natural gas plant

Other/ Otros
1 vote
1. Please involve all the Hayward schools in these issues. Our students will be inheriting these problems and they should learn HOW TO take action
2. i think CAP should include all of these and more!
3. RESILENCE to climate change imapcts and earthquakes!

Do you have any recommendations to make the CAP Update more equitable? ¿Tiene recomendaciones para que la actualización del CAP sea más equitativa?"?

1. talking to folks by directly engaging them in their neighborhoods in their lanugage
2. build capacity in the frontline communties so they can engage in these processes
3. paying BIPOC folks to participate in discussions like this
4. Partner w/ neighboring cities for shared resources and ideas
5. Involve the impacted communities and helping them to determine mitigation and equity. Don't decide for them. Get their version of what equity looks like
6. Make big effort to involve ALL citizens of Hayward.
7. equitable implementation with goals to reduce inequities
8. Community education & outreach re: projects during implementation
9. Ask students what they think would work to make this plan equitable
10. More community gardens
11. Outreach to solicit community ideas by visiting local parks, schools, grocery stores and including voices from unhoused residents
12. Prioritizing & implementing solutions that impact & benefit systemically disenfranchised residents FIRST
13. Working directly with front line communities in Hayward and bringing them in on this process. Working with the schools can help reach our most vulnerable community members
14. Changing agricultural practices and ending food waste
15. ensuring access to programs that come out of CAP through langauge and culturally aware outreach and ease of aceess
16. Taking into consideration who will be able to make said changes and how it will affect all incomes
17. Encourage markets to use LOCAL goods

18. help people see how climate change impacts their health and safety and the livabitiy in the future. Most people do not connect to ghg emissions at all
19. Just one example: If a grocery store is 3 miles round-trip, it's not walkable. Designing what someone said before "15 minute cities".
20. providing bikes, electric cars and free public transporation with those in low income
21. especially if more bike lanes and eletric charging stations are going to be built
22. Communicate to everyone that the City of Hayward is serious about supporting it's citizens
23. Encourage the idea that "Less is More"
24. Also: HOUSING. I can't stress this enough but a longer commute is not what we need right now. Affordable homes is diretly related to reducing GHG emissions.
25. yes!! understand that climate change ultimatly is about housing access and preventing displacement because of climate impacts

What else should be included in the CAP Update? ¿Qué más debería incluirse en la actualización del CAP?

1. Accountability
2. include resilency in the CAP. the ability to bounce back from climate induced hazards and disasters, and earthquakes go hand in hand with sustainability. Not to mention sea level rise adaptation work
3. More ambitious goals, community members' experiences and perspectives on climate, opportunities for community members to participate in the solutions, a community sustainability / justice committee (if one doesn't already exist), sequestration, adaptation, resilience
4. Incentives and rebates for public transportation use and electic vehicle purchases
5. Process education: Where should residents go to advocate for change? Which boards and elected officials have power over these decisions?
6. can we set more ambitious goals with the new IPCC report? Other cities are striving for 2030 carbon nuetrality. It is a far strech and we have a lot of work to get there but it is moonshot thinking and we have the technologies necessary, we need the behavior and systems change!
7. Encourage citizens to vote to reduce emissions
8. Youth involvement. Our students want to help, but don't know how
9. This is complicated because all the bills that attempt to support Climate solutions are difficult to understand.....some good and some not feasible
10. Preservation of natural, undeveloped land!!
11. Love this^
12. What GHG-reduction initiatives have potential for community involvement?
13. Protect our shoreline & parks

14. Hold politicians accountable for their responsibilities in rediucing the effect of Climate Change
15. Implementation strategy that identifies required resources and funding mechanisms
16. coordinate with regional efforts! things like transportation are across city jurisdiction
17. press for legislation to make GHG emissions study part of school curriculum starting in elementary school

Hayward EJ Workshop #1 Mural Board Activities

Health Demographics Mural Board - Tablero sobre aspectos de la salud

Overall Health - Salud General

1. Interested in how these health conditions are spread statistically across income and education levels
2. Few options for kids to participate in sports and get outside
3. there should be an equitable living standard
4. I'd like to understand whether the high rates of ER admissions indicate lack of access to preventive care.
5. Most of these are outcomes of poverty
6. unfortunate that people do not have control on the outcome of their health
7. Urban Greening in neighborhoods to protect from urban heat, pollution, flooding
8. I find a lot of cigarette butts while picking up litter in Hayward. We still have too high smoking rates
9. Long term chronic stress due to economic insecurity impacts overall health
10. Feels difficult to find medical care within the city of Hayward + rising cost of healthcare is constant concern
11. Interested in how these health conditions spread over age (i.e. children, young adults, and seniors)
12. It is very difficult to get into sports classes through HARD, which is the best option for kids in Hayward
13. more greenery, trees, parks, etc. goes so far to reduce daily stress.

14. My first thought regarding overall health is the extreme financial costs for basic medications, appointments, etc. even with insurance.

15. I've heard from a lot of parents who don't let kids play outside because it doesn't feel safe and there are no low cost activiies
16. accessibility to healh resources is limited bc of cost, resources and concerns around confidentality
17. Lots of overcrowding in Hayward housing due to high costs, which can impact health
18. Heard multiple stories about how others health is impacted by others or that it is generationla
19. I feel we have far more fast food options than other types of healthier restaurant choices.
20. Overall health is scary to think about because of costs of going to doctors
21. Green spaces must feel safe for people to access them
22. Diabetes, obesity, high blood pressure
23. My concern is the cost of healthcare and access

Asthma - Asma

1. would be good to have early and often Asthma screenings in schools

2. A friend (and former Hayward resident's) daughter had severe asthma which made wildfire season very difficult.
3. Poor housing conditions with mold or irritants

4. I have friends with Asthma, I wonder if there's a link between the prevalence of freeways in the Hayward lowlands and Asthma rates
5. I have asthma, many of my friends in Hayward do as well
6. people are more likely to develop asthma if they are exposed to secondhand smoke
7. Developed Childhood asthma playing in a park within the higher percentile areas
8. when people have asthma and have to breathe secondhand smoke it makes their asthma so much more worse
9. When I see the kids from local schools doing their cross-country running along Mission Blvd I wonder what effect all of that traffic emissions is bad for them

Cardiovascular Disease

1. Related to poor access to healthy food options and spaces to get physical activity
2. We also have demographic populations in Hayward that have higher incidence of cardiovascular disease. This is important to recognize that our population is already more vulnerable.
3. access to consistent health care for early preventative care is important

4. Hayward is too car-centric, would like more walkable, mixed-use neighborhoods + green spaces as an approach to public health
5. Chronic Stress increases cardio disease

Low Birth Weight

1. I don't have any experience with maternal health issues
2. It is unfortunate the Sleepy Hollow no longer has L&D. I had to drive to San Leandro to deliver my son, and almost ended up with an emergency delivery on I-880
3. Language barriers and immigration status can lead to moms not getting any first trimester care
4. Exposure to mercury in the air as a result of industrial activity
5. families exposed to secondhand smoke have low birth rate

Pollution Burden Mural Board - Tablero Sobre la Carga de Contaminación

Write Locations of Pollution Burden. - Escriba las Ubicaciones de Carga de Contaminación.

1. Traffic: The Loop
2. Traffic: Orchard & Jackson during commute
3. Traffic: Mission Boulevard
4. Traffic: Target/Costco and other large box store areas
5. Traffic: rush hour (general)
6. Traffic: Commuters avoiding Highway 880
7. Traffic: Going onto the San Mateo bridge; impacted traffic in this area near housing
8. Air travel
9. CO2 from airport
10. Increased traffic from COVID testing
11. Cigarette butts on sidewalks and other trash or debris
12. PG&E facility air pollution
13. Diesel Trucks: W. Winston & Hesperian
14. Diesel Trucks: Industrial Areas
15. Trucks: Heavy burden on road infrastucture
16. Diesel Trucks: Continuous thorugh the 92/Jackson Corridor and along Highway 880
17. Diesel Trucks: Mission Boulevard during main traffic areas; newly developed areas highly affected; affordable housing areas are highly polluted
18. Diesel Trucks: All along Winston/D Street Corridor

Or Use Sticky Notes to Explain Locations of Pollution Burden. - También puede usar las notas adhesivas para mostrar las ubicaciones con mayor carga de contaminación.

1. I see a lot of illegal dumping in various areas and also litter including items like smoking and even drug paraphernalia.
2. Our open spaces have a lot of food litter (e.g. shoreline, Garin park boundary) that attracts rodents and insects.
3. Now longer commute to and from Palo Alto but 92 Jackson corridor, on-ramps, and off-ramps from 880 are dry high congestion and high air pollution

Food Access Activity - Actividad sobre el Acceso a los Alimentos

What are the barriers to accessing healthy foods in Hayward? ¿Cuáles son los obstáculos para tener acceso a alimentos saludables en Hayward?

1. No access to fully functioning kitchen and kitchen supplies to cook
2. No time to cook when working multiple jobs
3. A lot of financial support available is based on outed information. Many income levels can be food insecure in the Bay Area especially if you support a family
4. Limited options to buy healthier prepared foods (e.g. salads)
5. Long lines at grocery stores can make shopping inconvenient
6. Limited organic produce access
7. People work long hours (multiple jobs) and don't have time to cook.
8. too many options for fast food chains. Seems like these are the only options when driving around.
9. Are we counting Food Maxx and Grocery Outlet as grocery stores? Because those aren't exactly promoting healthy food access
10. Streets leading to grocery stores need to be more pedestrian friendly
11. Communal living can make it hard to designate the space and time for everyone to equally prepare meals, have space for all the groceries, utensils, they want/need
12. My experience working in a low pay job is that people with lots of chronic stress often don't make healthy food choices, partially because of cost, but often because fast food is a comfort when you are stressed and tired
13. Most grocery options require driving (large grocery stores on busy roads, not walkable)
14. Housing insecurity can lead to limited access to kitchen, fridge, etc so can't store fresh food
15. it can be more
16. I was disappointed to see that Sprouts will also host another high calorie fried chicken place
17. Cooking/nutrition fundamentals would be useful (esp since it's not taught in k-12)
18. processed food costs less and lasts longer than produce
19. Many HUSD schools do not have kitchen facilities
20. HUSD meals include a lot of pre-prepared/fried foods
21. Enrollment in CalFresh/SNAP, especially for populations returning home from jail or prison
22. Odd/long working hours make it hard prepare healthy options at home, and there are not many "healthy" / quick options late at night or very early morning
23. Grocery stores that only provide fried foods in the cooked section instead of healthy options to-go.
24. No access to car
25. healthy food goes bad much faster then processed food

26. Transportation, income, food education
27. Too many fast food restaurants create convenience trade of costs for buying from grocery stores

28. when a grocery store closes, would be great to see local food vendors set-up a farmers market of sorts in those big empty parking lots
29. time and money
30. Not enough restaurants promoting farm-to-table dining experiences.
31. Difficult to make healthy choices when it's more convenient to go to the nearby fast-food joint then search for a grocer store.
32. Food Source on Mission Blvd leaving hit hard, there is a big void there now
33. people who work full time can have hardly any time to cook or shop fresh foods
34. Need frequent/FREE public transportation to assist people's trips. Groceries are heavy!!
35. not sure how to cook healthy food
36. Expand what foods SNAP covers
37. easier to go to liquor store thats around the corner then drive to a grocery store acorss the neighborhood

Hayward Parks Access - Acceso a los Parques de Hayward

What parks do you like to go to and why? ¿A qué parques le gusta ir y por qué?

1. The only play structure park in Fairway Park is the little park next to old Bidwell School. We use it a lot, and it could use some TLC, especially for a park that is actually used quite a bit by the neighborhood.
2. My daughter wants more parks with monkey bars, there are so few around.
3. Greenbelt trails, Don Castro, and Mt. Diablo. These areas are natural spaces as opposed to maky of the parks on the interior areas of Haywa
4. Garin Park and CSU open space.
5. Mia's Dream Come True Playground Park!
6. Don Castro, its not as popular so there are less people.
7. JA Lewis is beautiful, but parking is an issue.
8. The downtown park across from the new plaza.
9. Skatepark on Tennyson but sometimes feels a little sketchy.
10. Dog park off of Sleepy Hallow (has two dog enclosures, and outdoor work area).
11. East Ave., JA Lewis, Hayward Heritage - Well maintained with wide open spaces.
12. I use College Heights Park, one up on Hayward Boulevard across from the Fire Station and on Hesperian with the old train.

Which areas of Hayward have limited access to parks? ¿Qué áreas de Hayward tienen un acceso limitado a los parques?

1. In the individual buisiness areas, around Mission Boulevard, near most large apartments.
2. Many parks in Hayward don't feel safe so people don't use them.
3. Eden Greenway is nice but needs more resources for the surrounding communities.
4. Garin Park because there is a lot of hiking there and there is designated parking space.
5. Fairway Park has a surpirsing void of kids parks with play structures.
6. Smaller neighborhood parks can often feel more welcoming for small children.
7. Parks that are in poor condition can be more of a burden than asset because they attract illicit activity and trash.
8. I often see evidence of alcohol/drug use in parks which makes them unwelcoming for kids.
9. Would like more dog parks.
10. If there is no programming at parks, then they get used less - Hayward has very few sports leagues for kids - I have to go to Castro Valley.
11. Many underserved areas for green space/open space are correlated with DACs, this also includes green infrastructure being integrated on st
12. Areas with a lot of muh (?) because of the density.

How could parks located in central and south Hayward be improved? ¿Cómo se podrían mejorar los parques ubicados en el centro y en el sur de Hayward?

1. I don't know what all of the renovations will be, but before it closed Kennedy Park was often covered in trash by Sunday (need covered trash cans).
2. There are a lot of random greenways, I would love to see the space be utilized.
3. KHCG often attracts many more volunteers for beautification events - need to increase sense of investment in open space.
4. Dog poop receptacles and bags.
5. Not have parks under large power electrical towers.
6. Less focus on open empty lawns and more emphasis on physical activity, ecological biodiversity, beautification, etc. with the limited park space.
7. More pathways and activities such as outdoor exercise machines that people can use like the one in Chabot Lake. Right now many of the parks are just open grass greenery that are not well maintained and not inviting for the community. People just use the open greenery to walk the dogs.
8. If school campuses were open after hours, this would increase sports fields and courts.
9. Some parks are unsafe due to homeless encampment like the one at Weeks Park.
10. Natural infrastructure should be integrated in all areas - this provides protection against climate hazards - urban heat, air pollution, stormwater/SLR flooding.
11. More walking loops like the design at the downtown park near the new library.
12. Parks, open space, urban greening must be equitably disbursed in all neighborhoods.
13. Areas for large picnics and barbeques, like Cannery Park.
14. I think restrooms would help the grounds and seating area, trash cared for more diligently.
15. Regular maintenance & programming that employs local residents!
16. Maybe we need covered trash cans, since sometimes it seems trash just blows out of the receptacles.
17. More basketball courts and skatepark with lights!

Hayward Community Engagement - Participación de la Comunidad de Hayward

What are the common barriers to participating in Hayward's decision making process? ¿Cuáles son algunos c comunes para participar en el proceso de toma de decisiones de Hayward?

1	I think people often don't know that discussions are happening. Social media and email/listserv are common ways of commu many people don't know about them.
2	Barriers: knowledge of what's being discussed and often the impact for the person/family; translation services; location
3	People may be hesitant to sign up for listservs and accounts if they have negative experiences with government
4	Are meetings accessible to community members experiencing disabilities?
5	Knowledge of city topics being discussed/decisions being made that impact them
6	City staff, and staff of county agencies that can communicate in the languages that exist in the community would make it eas to access services
7	Feeling like their opinion does not matter
8	City Hall and downtown is far from South Hayward and can include long bus wait times
9	The Brown Act can sometimes be limiting, as non- or late-agendized discussions are not possible
10	length of evening meetings can be hard with people for families
11	I know that people who maybe hold more moderate views have expressed discomfort to me about sharing their thoughts
12	Tools like this not being available in languages like Chinese and Tagalog
13	Translation; door to door; burnout high already and language barriers totally disengage folks
14	Opposite of what's desired; glad to hear effort into horizon
15	Immigrants may not understand our government systems
16	I think zoom access to forums like these should continue post-pandemic, definitely easier for parents to participate this way, transportation issues, etc.
17	I've heard from neighbors that they don't feel like things get better, so it doesn't feel like it's worth participating - so maybe s successes more often would help
18	During the Community Safety workshops last year, community interviews indicated a lot of disillusionment that their voice
19	can be really difficult to wait hours for a item to speak on
20	Having to request translation at public meetings is a barrier with in itself for non English speakers
21	disillusionment/skepticism that their opinions will actually influence the end result. negative experiences with government
22	Transportation costs, scheduling conflict, mail/digital outreach, childcare, language barriers
23	not sure how to read agendas or know when to join to speak

Describe successful community engagement. Which strategies help reach key stakeholders? Describa como participación que sí funciona en la comunidad.

1 I am curious if virtual meetings have increased/decreased participation. It makes it easier for me, as I don't need to find child
2 reaching out to them for small group discussions
3 Having trusted community members reach out to talk to their network has been the most successful
4 The Mayor used to do coffees in various places which I think were nice.
5 Bringing city hall meetings to regions/ neighborhoods of the city
6 Compensation for transportation, time off, childcare
7 Offering childcare options for all city meetings
8 I invite people by email and Nextdoor app to send emails and join hearings
9 Pro-active engagement by decision makers to incorporate affected communities in decision making process
10 I think it's hard, people are caught up in every day routines, so multiple reminders good, and multiple sessions when possib
11 talking to city staff
12 Online meetings have made it easier to participate
13 Consult community groups/organizers, research forms of unconventional outreach (social media, flyers on telephone polls)
14 Face to Face connection in peoples homes. this was successful during the Hayward Promise Neighborhood Community Su
15 Going to schools where parents are already engaged, pta, etc. is a great way to find engaged families
16 door to door, schools and churches/worship sites

Who is missing from today's call? Who should we reach out to? ¿Quién falta en la llamada de hoy? ¿Con quién debemos comunicarnos?

1 People living in poor quality housing
2 I don't know the demographics of all attendees, but commissioners/appointees seem to be over-represented
3 more residents from the affected communities. Would be nice to hear from those who do not speak English
4 People who are food insecure
5 People who have chronic health conditions - since that is one of the indicators we are looking at
6 Children, who are most impacted by these issues
7 PEOPLE OF COLOR
8 Non-english speakers. It can be difficult but translation services are key in getting input from isolated populations
9 People who have been negatively impacted by specific environmental issues within the city.
10 unhoused community members and formerly incarcerated people
11 youth / promotoras

Key Themes

Use rule of 3 -- idea presented > 3 times, include it as a brief theme

Health Demographics: **Preventative Health Measures, Accessible and Low-Cost Healthcare, Recreational Opportunities**

Overall Health:

1) Accessible, Low-Cost Healthcare
2) Youth Recreational Opportunities

Asthma:

1) Traffic Induced Health Impacts

Cardiovascular Disease

1) Similar to above concerns

Pollution Burden: **Diesel Emissions Reduction, Traffic Reduction**

Location of burden:

1) Diesel Emissions
2) High traffic on main arterials

Food Access: **Healthy and Affordable Foods, Pedestrian and Transit Accessibility, Nutrition Education**

Barriers:

1) Lack of healthy, affordable options
2) Limited time to cook
3) Lack of kitchen facilities
4) Lack of nutritional education
5) Easier access to fast food
6) Lack of accessibility

Park Access: **Urban Greening, Improved Park Infrastructure, Increased Park Safety, Recreational Opportunities**

Overall:

1) Lack of playground facilities

2) Parks in need of improvements
3) Lack of youth recreational opportunities
4) Concerns about park safety
5) High-density areas lacking greenspace

Community Engagement: **Translation Services, Accessible Enagement Practices and Procedures, Administrative Community Involvement**

Barriers:

1) Need for translation services
2) Need for improved communication with community members
3) Generally, negative experiences interacting with City government
4) Feelings of disollusionment and unimportance; not thinking their voice matters
5) Accessibility issues (transport, time, physical disabilities, etc.)

Successful Tactics:

1) Meeting people where they are at (door-to-door, holding meetings in diff. neighborhoods, officials engaging with community members directly)
2) Childcare
3) Consultation with trusted community/local org. leaders

Cross-Topic Themes: **Recreational Opportunities, Urban Greening**

Hayward Environmental Justice Element

Policy Framework, Draft April 19, 2022

Summary:

The following is a list of targeted policy topics to be addressed within the Hayward Environmental Justice Element. These focused policy topics are organized under broad "Goal" themes that reflect the focus areas outlined within Senate Bill 1000. All policy topics are informed by the Environmental Justice Technical Background and/or the Environmental Justice Public Forum Workshop that took place on February 23, 2022.

Framework:

A. Pollution Exposure (Air Quality, Water Quality, Land Use Compatibility)

- Reducing Diesel Particulate Matter (SPM) for communities along the 880 and Mission Boulevard Corridor (Workshop 1 & Tech Report). Consider idling rules/enforcement
- Address elevated Cleanup Site percentile scores along western portion of City and other locations where there are proximally located residential neighborhoods (Tech Report)
- Reducing impacts from hazardous waste generators across entire City (Tech Report)
- Address the placement of polluting sources in western portion of City and other locations where there are proximally located residential neighborhoods (Tech Report)
- Develop public programs or seek out existing programs to increase accessibility and feasibility of household air purification devices and upgrades, especially in the western portion of the City (Tech Report)
- Increase public education and information regarding air quality hazards and options for increasing personal safety (Workshop 1 & Tech Report)
- Implement tree canopy, greening initiatives with priority for communities near major corridors, active transportation routes, and park access points

B. Public Facilities and Accessibility

- Work with Hayward Area Recreation and Park District (HARD) to ensure that new parks are accessible to pedestrians and bicyclists, and are connected with transit networks (Workshop 1)
- Work with HARD to improve the quality and safety of existing parks with a focus on areas with the lowest per capita access.
- Work with HARD to improve park access (including per capita) in central Hayward, consider development of pocket parks (Tech Report)
- Require future high-density development to incorporate green space to meet community need in central portion of City (Workshop 1 & Tech Report)

- Ensure that bus stops have necessary shelters and signage to support adequate access (Workshop 1)
- Expand opportunities for youth recreational activities to effectively meet the demand from the community (Workshop 1)
- Work with HARD to employ equity criteria for parks and facility investment decisions.
- Increase park safety by incorporating Crime Prevention Through Environmental Design (CPTED) strategies (Workshop 1)
- Continue to perform regular assessments of City parks to ensure that park facilities are adequately equipped and safe for resident use and equitably resourced (Workshop 1)

C. Food Access

- Increase accessibility and use of healthy food options for residents through existing and or new farmers markets and community gardens (Workshop 1 & Tech Report)
- Food equipment or cooking demonstrations through the library system or via community gardens or farmer's markets
- Bolster food access for low-income communities by partnering with local non-profits and food banks (Workshop 1 & Tech Report)
- Develop and/or identify existing organizations that provide nutritional education programs to inform residents about food-based strategies for leading a healthy life (Workshop 1)

D. Sanitary & Safe Homes

- Mitigate the prevalence of high housing burden across the City (Tech Report)
- Offer public programs (grants, loans) focused on financing home-based improvements for low-income residents (Workshop 1 & Tech Report)
- Consider development of a Community Tool Shed- free tool "rental" program, also potentially through the library system. (Workshop 1)
- Monitor and expand the rental housing inspection program and/or code enforcement inspection program to improve housing conditions for vulnerable renters.
- Hold ongoing workshops about landlord/tenant programs to protect vulnerable renters.

E. Physical Activity/Health

- City-funded programs to address elevated Asthma percentiles across the entirety of City, possibly coordinated through County Health, or existing health organizations. (Workshop 1 & Tech Report)
- Coordinate with County Health or existing health organizations to develop and disseminate educational programs focused on asthma awareness, monitoring, and prevention (Workshop 1 & Tech Report)
- Coordinate with public health care organizations to increase accessibility to low-cost, possibly mobile healthcare services (Workshop 1)
- Expand the Firehouse clinic model to additional locations in the City.
- Develop City-sponsored grant program to finance improved home air filtration systems for residents in areas with high levels of air pollution (Workshop 1 & Tech Report)

F. DACs - Prioritize the unique needs of underrepresented, disadvantaged and uniquely burdened communities.

- Establish a commitment to supporting improvements for census tracts close to DAC threshold 37101, 35500, 37300 (Tech Report)
- Limit the placement of future polluting sources, when feasible, within and surrounding census tract 370101 (75^{th}+ percentile for pollution burden) (Tech Report)
- Coordinate with major polluting industries within census tract 37101 to promote the use of best available technology and practices to mitigate human impact related to pollution exposure.
- Strategically engage the linguistically isolated in central hayward (Workshop 1 & Tech Report)
- Require translations of all public materials: Spanish, Chinese, Tagalog (Workshop 1 & Tech Report)
- Ensure community meetings are held at key times that are uniquely accessible for community members (Workshop 1)
- Provide childcare services to make community meetings more accessible to community members (Workshop 1)
- Partner with trusted community leaders to actively engage community on future projects (Workshop 1)
- Targeted strategy to bolster broader community awareness about City news and resources through social media and City webpage (Workshop 1)
- Require the participation in Diversity and Equity training for all City staff to prioritize positive interactions with the community (Workshop 1)

Hayward EJ Workshop #2 Mural Board Activities

Key Themes	
Pollution Burden:	Traffic, Limiting access in certain locations
Public Facilities & Accesiblity:	Public transit, active transportation, EV charging facilities, and park
Food Access:	Food diversion, education programming, local grown food
Safe & Sanitary Homes:	Older adults Safety, Housing support, Non-english speakers accessibility
Physical Activity& Health:	Green Space, Older Adults, schools
Disadvantaged Communities:	Food Access, Housing, Outerach, Funding, Pollution

Mural Activity: Pollution Exposure

1 Effects of illegal dumping needs to be further addressed
2 Visual Pollution
Reducing amount of car traffic in certain areas (restricting access), specific concern raised was cars passing
3 through Hayward
4 Limiting pollution exposure as a result of traffic

5 Particular attention to schools, multifamily housing, etc., people who are more vulnerable to pollution exposure
6 Planting more trees, landscape buffers for heavy traffic corridors

7 Public bicycle for rent close to the bus stop. I see some citites use them and it can help reduce pollution

Mural Activity: Public Facilities & Accessibility

1 Affordable or free summer programs for children/youth
2 HARD offers scholarships, but they are hard to get and fill up quickly
3 One thing that creates an unsafe environment is homeless people sleeping at the park. There was an officer that worked for HARD to enforce rules + maintain safety. (@ Kennedy Park)
4 Fencing for parks (could be a tree buffer)
5 Public bicycles for rent close to bus stops. I see some cities using them and it can help reduce pollution

6 Discuss HARD's relationship/partnership to park development/improvements/maintenance
7 Discuss EV charging stations and EV facilities development
8 Infrastructure for bicycle storage, partnerships with big businesses for storage options
9 Electric bicycle for public use, and electric charging stations
10 Also, public-private partnership for EV charging (i.e., Home Depot, other large businesses)
11 Need to address public transportation safety
12 Policies for student safety on public transit and affordability for public transit opportunities
13 Childcare for public meetings such as this one
14 Adding signage at public parks (recycling, waste, etc.)
15 Educate renters about new policies/their rights in their preperred language with various methods of outreach. Not all are aware of city meetings, but many residents could be reached through their childs school, door knocking, social media and so on

Mural Activity: Food Access

1 Authorization of fruit stands/local small businesses in the neighborhood in order to increase availability of fresh fruit and freshly prepared foods
2 Allow pop up markets
3 Healthy meal + nutrition programs for children
4 in addition to childcare
5 especially in areas of low food acccess
6 Many markets such as 99 Ranch markets have hot food to sell in a day. At the end of the day, they throw out anything not sold. Can we connect those markets to provide surplus food to low-income or houseless people?
7 Providing education on health/nutrition programs, food entrprenuerships
8 Celebrating diversity in Hayward through food
9 Discussing carbon footprint of different foods and diets and promoting local grown foods
10 Discussing growth of local gardens for community usage
11 Educating on environmental justice aspect of how food is sourced

Mural Activity: Food Access

1 Safety for senior residents and housing
2 Informing senior citizens on their options and can walk them through resources available to them
3 increasing information at senior centers
4 Providing workforce housing
5 stressed about the stability of their housing (i.e., rent increase)
6 Educate renters about new policies/their rights in preferred language + various methods of outreach. Not everyone is aware of City meetings but residents could be reached through schools (HUSD), door-to-door advocacy, social media, etc.
7 Working with schools/ school district (HUSD) to create and provide flyers in multiple languages regarding Affordable Housing Options for students to take home to families
8 Who can provide housing support? How do we support homeless, people with mental health issues, physical disabilities, etc.
Housing support comes from Housing Division + County; City funded Navigation Center
9 Helping seniors finance for housing i.e. further discussing bank loan options or ways to facilitate this

Mural Activity: Physical Activity & Health

1 Tree buffers could help lower asthma rates, increasing green spaces
2 Partnering with school district for early health screenings
3 Public programs (schools) and accessibility to green spaces
4 Facilitate access to green spaces
5 Discuss how green spaces affect mental health
6 Advertisement of new senior center

Mural Activity: Disadvantaged Communities

1 Discuss how public/mass transportation can affect disadvantaged communities such as an increase in noise pollution and what can be done to address this
2 Building better housing in lower income communities, nicer/desirable infrastructure
3 Lower income communities should have access to proper healthy foods
4 Partnership between City and industries (for example, campaigns/incentives for electrification); City could take the lead to approach industries
5 Adjusting disproportionate impact on lower impact communities
6 Some sort of fund or mechanism to encourage industrial buildings to update their technology to decrease pollution?
7 Who is applicable for housing support? What do we do with mental health disabilities or physical disabilities?