NOTICE
Time Change

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The City Council
Work Study Session on Monday,
September 8, 2026
has been rescheduled
to
5:45 p.m.

Council Chambers – City Hall
21 South Elm
Zeeland, Michigan

CITY OF ZEELAND
City Council Work-Study Session
Agenda
City Hall – Council Chambers, 2nd Floor, 21 South Elm
September 8, 2026, 5:45 p.m.

DISCUSSION ITEMS:

1. BS&A Cloud Contract Award
2. IRP Plan Acceptance Resolution
3. Utility Ordinance Amendment – Establish PFAS Local Limit
4. Community Enhancement Framework Update
5. Project Clarity Funding Request
6. Initiative Funding Budget Amendment
7. Downtown Parking Lot Snowplowing Contract Award
8. FY27 Asphalt Paving Contract Award
9. Match on Main Grant Agreement – State of Michigan
10. Match on Main Grant Agreement – Mandu Escapes

UPCOMING BUSINESS:

OLD BUSINESS:

Vacancies on Boards/Commissions:
- Board of Construction Appeals (1)
- Brownfield Redevelopment Authority (1)
- Nominating Commission (5)

ANNOUNCEMENTS:

CITY OF ZEELAND
City Council Regular Meeting
Agenda
City Hall – Council Chambers, 2nd Floor, 21 South Elm
September 8, 2026, 7:00 p.m.

CALL TO ORDER:

Invocation – Councilmember Phung Lam
Pledge of Allegiance to the Flag
Excuse absent members (by motion and reason)
Approve additions/deletions to the Agenda
Consent Agenda (page 2)
Public Comment/Visitors
Communications
City Manager's Report

ACTION ITEMS:

1. Match on Main Grant Agreement – State of Michigan
2. Match on Main Grant Agreement – Mandu Escapes
3. BS&A Cloud Contract Award
4. IRP Plan Acceptance Resolution
5. Initiative Funding Budget Amendment
6. Downtown Parking Lot Snowplowing Contract Award
7. FY27 Asphalt Paving Contract Award

REPORTS FROM CITY COUNCIL MEMBERS

ANNOUNCEMENTS

CONSENT AGENDA

All items listed on the consent agenda are considered to be routine and will be enacted by one motion with a roll call vote. There will be no separate discussion of these matters unless a council member, a member of the administrative staff or a citizen so requests, in which event the item will be removed from the consent agenda and considered separately in its normal sequence on the regular agenda.

1. Approve minutes of the City Council Work Study of August 17, 2026.
2. Approve minutes of the Regular City Council meeting of August 17, 2026.
3. Receive for information draft minutes of August 12, 2026, Cemetery Parks meeting,
4. Receive for information draft minutes of August 13, 2026, Shopping Area Redevelopment Board meeting.
5. Receive for information draft minutes of August 18, 2026, Board of Public Works meeting.
6. Ratify BPW Action #26.047 – Approve Cash Disbursements and Recommended Cash Transfers.
7. Ratify BPW Action #26.048 – Approve Bid Recommendation: 750MCM Aluminum Cable Purchase.
8. Ratify BPW Action #26.049 – Approve Bid Recommendations: Distribution and Transmission Pole Testing.
9. Ratify BPW Action #26.050 – Approve Resolution: Adopt the 2026 Integrated Resource Plan.
10. Ratify BPW Action #26.051 – Accept Ottawa County Community Action Agency Community Energy Management Grant.

Council Meeting
Common Council
August 17, 2026

The regular meeting of the Common Council was held at 21 S. Elm Street, Zeeland, MI 49464 on Monday, August 17, 2026. Mayor VanDorp called the meeting to order at 7:03 P.M.

PRESENT: Councilmembers - Mayor VanDorp, Mayor Pro-Tern Gruppen, Timmer, Perkins, Bult
ABSENT: Lam, Langeland

Staff Present: City Attorney Jim Donkersloot, Interim City Manager/Finance Director Kevin Plockmeyer, Community Development Director Tim Maday, and City Clerk Kristi DeVerney

The Invocation was offered by Pastor Jeremy Cobb from First Baptist Church.
The Pledge of Allegiance to the Flag

Motion by Mayor Pro-Tem Gruppen and Supported by Councilmember Perkins to excuse Councilmember Lam and Councilmember Langeland's absences.

Consent Agenda

Motion was made by Councilmember Timmer and Supported by Councilmember Bult to approve the Consent Agenda.

1. Approve minutes of the City Council Work Study of August 3, 2026.
2. Approve minutes of the Regular City Council meeting of August 3, 2026.
3. Receive for information draft minutes of July 9, 2026, Planning Commission meeting.

Motion carried. All present voting aye.

Public Comment
Missi Potter (Adorned Home owner) and Sue VanderHeide (Lorna Lou owner) expressed concern about the construction project affecting their businesses as they have noticed a decrease in foot traffic since the project began which has impacted profitability.

Communications
None

Interim City Managers Report

ICM Plockmeyer reported:

Church Street Construction Project – Work continues on the project, and the contractors continue to stay on schedule. Tentatively, on Monday, crews will begin pouring concrete in the Church Street intersection and along the southern portion of the project. The base course of asphalt is tentatively scheduled for August 24, with the final course of asphalt scheduled for August 31.

In the northern portion of the project, north of Central Avenue, sanitary sewer work will continue over the next couple of weeks. This work will require the intersection of Main Avenue and Church

Street to be closed for approximately two days; however, the intersection will then reopen, albeit with a gravel surface, until a full closure of the intersection is necessary. At this time, that full closure is likely to occur in the middle of September. We remain on track to complete the project this fall.

Cemetery and Parks Commission – The Cemetery and Parks Commission continue to work on the City's five-year Parks and Recreation Master Plan. The Commission reviewed the goals and objectives section of the plan and heard from Zeeland Recreation regarding current recreation programming, participation trends, facility needs, and what they are seeing in the recreation area more broadly. This discussion provided helpful context as the Commission continues to evaluate how the City's parks can support both organized recreation and informal community use.

As part of the ongoing master planning process, the Commission also decided to use its September 9 meeting to take a bus trip to each of the City's parks. This will allow Commission members to evaluate park conditions in person and better understand potential capital improvement needs as they begin working through the capital improvement schedule. City Council members are also interested in taking a bus trip to each of the City's parks.

The Commission also discussed the large BBQ grill at Lawrence Park and, due to lack of use and the need for repair, determined that the grill can be removed.

Andy Boatright Retirement Open House – After 43 years of dedicated service to Public Power, including the past seven years at Zeeland BPW, Andy Boatright will be retiring. A retirement open house honoring Andy and his legacy of service is scheduled for Friday, September 18, from 3:00 PM to 5:00 PM at Zeeland BPW, 350 E. Washington Avenue. Council is invited to attend and help thank Andy for his many years of service to Zeeland BPW and the broader public power community.

Events this Week – Thank you to the staff, volunteers, sponsors, downtown businesses, and community partners who helped with Sweet Summer Night this week. August events continue with Music on Main Street returning downtown on Thursday, August 20, from 6:00 PM to 9:00 PM.

Action Items

26.128 Washington Avenue Concept/Traffic Study Award

Motion was made by Mayor Pro-Tem Gruppen and Supported by Councilmember Timmer to approve the Eberle Traffic Solutions proposal for both the intersection traffic analysis and the mid-block pedestrian analysis for a total contract amount not to exceed $17,568, inclusive of reimbursable expenses.

Ayes: Mayor Pro-Tem Gruppen, Timmer, Perkins, Bult, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.129 Downtown Mural Contract Award

Motion was made by Councilmember Timmer and Supported by Councilmember Perkins to approve the 2026 Artwork Agreement between the City of Zeeland and Marissa Tawney Thaler.

Ayes: Timmer, Perkins, Bult, Mayor Pro-Tem Gruppen, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.130 139 East Main Hold Harmless Agreement

Motion was made by Councilmember Perkins and Supported by Councilmember Bult to approve the 2026 VQuest Artwork License Agreement between the City of Zeeland and VQuest, LLC.

Ayes: Perkins, Bult, Mayor Pro-Tem Gruppen, Timmer, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.131 Downtown Mural Budget Amendment

Motion was made by Councilmember Bult and Supported by Councilmember Perkins to approve a budget amendment for the mural project, transferring $25,000 budgeted amount from the 2025-2026 budget to the 2026-2027 fiscal year budget.

Ayes: Bult, Mayor Pro-Tem Gruppen, Timmer, Perkins, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.132 Skyline Lighting Contract Award

Motion was made by Mayor Pro-Tem Gruppen and Supported by Councilmember Perkins to approve the proposal from Chip's Groundcover, LLC and authorize a five-year agreement for Downtown Skyline, Tree and Patio Lighting services covering 2026 through 2030. The agreement includes an initial 2026 cost of $37,800 and an annual cost of $24,340 for each year from 2027 through 2030. The agreement would remain subject to annual budget appropriation, satisfactory performance, and a cancellation clause permitting the City to terminate after any contract year upon payment of the applicable contract terms.

Ayes: Mayor Pro-Tem Gruppen, Timmer, Perkins, Bult, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.133 Designated Assessor Designation

Motion was made by Councilmember Timmer and Supported by Mayor Pro-Tem Gruppen to approve the Interlocal Agreement with Ottawa County designating Brian Busscher as the City's Designated Assessor beginning January 1, 2027.

Ayes: Timmer, Perkins, Bult, Mayor Pro-Tem Gruppen, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.134 Alice Avenue Drain Jurisdictional Agreement

The purpose of the proposed agreement is to formally document the respective jurisdiction and responsibilities of the City and the Alice Avenue Drain Drainage District for this infrastructure.

Under the proposed agreement, the portions of the storm sewer system, including both the open channel and enclosed portions of the drain and their associated structures and appurtenances, will be placed under the jurisdiction of the Alice Avenue Drain Drainage District and administered as a county drain under the Michigan Drain Code.

The Drainage District will be responsible for the Alice Avenue Drain in accordance with the Drain Code. The City will have no responsibility or liability for that portion of the system except as specifically provided in the agreement.

Portions of the system, along with other storm sewer infrastructure constructed by the City that is not part of the Alice Avenue Drain, will remain under City ownership and jurisdiction. The City will continue to be responsible for the operation, maintenance, repair, and replacement of this infrastructure.

The proposed agreement confirms that the storm sewer system has been fully constructed and paid for and that the Drainage District has no additional obligation to reimburse the City for the design, engineering, or construction of the system. Construction reimbursement associated with the county drain improvements was addressed as part of the 2021 Alice Avenue reconstruction project.

Motion was made by Councilmember Perkins and Supported by Councilmember Bult to approve the Agreement Regarding Jurisdiction of the Alice Avenue Drain Storm Sewer Infrastructure between the City of Zeeland and the Alice Avenue Drain Drainage District.

Ayes: Perkins, Bult, Mayor Pro-Tem Gruppen, Timmer, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.135 Street Department Pickup Bid Award

Included in the FY27 budget is the replacement of the 2017 ½-ton pickup truck used by the Streets Department. Because the department was regularly hauling heavier loads, this continues the direction, since 2023, to move from purchasing a ½-ton pickup to a ¾-ton pickup.

Motion was made by Councilmember Bult and Supported by Councilmember Timmer to approve the purchase of a Ford F 250 ¾-ton pickup truck from Barber Ford, Inc. in the amount of $45,285.

Ayes: Bult, Mayor Pro-Tem Gruppen, Timmer, Perkins, Mayor VanDorp
No Vote: None
Absent: Lam, Langeland

26.136 MML Voting Delegate Designation

The Michigan Municipal League requests that City Council designate, by action, one official who will attend the MML Annual Convention as the City of Zeeland's official representative to cast the City's vote at the Annual Meeting.

Motion was made by Mayor Pro-Tem Gruppen and Supported by Councilmember Perkins to designate Mayor Pro-Tem Gruppen as the City's official representative to cast the vote of the City at the Michigan Municipal League Annual Meeting.

Ayes: Timmer, Perkins, Bult, Mayor VanDorp
No Vote: None
Abstain: Mayor Pro-Tem Gruppen
Absent: Lam, Langeland

Community Development Director Tim Maday stated he is a member of Neighborhood Connections which treats the community with dignity during difficult times, while telling their stories. The Neighborhood Connections group was recently able to help prepare a resident's home for resale, which was appreciated by the family.

Councilmember Bult inquired about rental properties and whether there was a cap for them. Community Development Director Tim Maday noted that this would be a great item to discuss at Strategic Planning & Goal Setting.

The Labor Day Parade will include the Fire Department and the Police Department.

Councilmembers said thank you to the Employee Appreciation Committee for organizing the Whitecaps Event.

There being no further business, motion was made by Councilmember Timmer and Supported by Mayor Pro-Tem Gruppen to adjourn the meeting at 7:50 P.M. Motion carried. All voting aye.

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Mayor Richard VanDorp III

_____
City Clerk Kristi DeVerney

MEMORANDUM OF-STUDY SESSION
Zeeland City Hall Council Chambers Monday, August 17, 2026
5:45 P.M.

Mayor VanDorp called the Study Session to order at 5:45 P.M.

PRESENT: Councilmembers - Mayor VanDorp, Mayor Pro-Tern Gruppen, Timmer, Perkins, Bult

ABSENT: Lam, Langeland

Staff Present: City Attorney Jim Donkersloot, Interim City Manager/Finance Director Kevin Plockmeyer, Community Development Director Tim Maday, Marketing Director Abby deRoo, and City Clerk Kristi DeVerney

Project Clarity Update

Project Clarity representatives, Travis Williams and Kelly Goward, gave an update on their recent progress and share what they are looking forward to in the future. Some of these goals are as follows:

- Goal 1 – Sustainable Funding – need to add membership fees
- Goal 2 – In-Lake Treatment - permitted through EGLE
- Goal 3 – Best Management Practices
- Goal 4 – Outreach and Education on how watersheds work
- Goal 5 – Maintenance and Monitoring - use a buoy to get data

In order to have a thriving ecosystem, flood resilience, clean water, smart growth, etc., Project Clarity would like to raise $7.65 million. They are asking Council to consider donating $20,000 per year for the next 5 years.

Initiative Funding Considerations

ICM Plockmeyer stated as part of the Fiscal Year 2027 budget development process completed in February, we projected that the General Fund would end Fiscal Year 2026 with approximately $5.9 million in fund balance. Based on our current year end projections, we now anticipate that the General Fund will finish Fiscal Year 2026 with more than $6.7 million in fund balance. This represents an improvement of approximately $800,000 compared with the estimate used during the budget process.

In addition, the City received approximately $1.95 million in unbudgeted Personal Property Tax reimbursement revenue in May. When combined with the approximately $800,000 improvement in projected General Fund fund balance, the City has approximately $2.75 million in additional resources that were not contemplated when the Fiscal Year 2027 budget was developed.

Staff have identified three potential uses for approximately $2.75 million in available funding. They are as follows:

- 84th Avenue Reconstruction with curb and gutter - $1.113 million.
    - Bonding was originally going to be used but cash would be available now.
    - This will be reimbursed through the Brownfield Redevelopment Authority in 13-30 years.
    - Proposed initiative funding allocation: $1,200,000.
- Facilities Implementation Plan, Series 1 - $10.17 million.
    - Improvements to the Howard Miller Library and Community Center and City Hall.
    - Proposed initiative funding allocation: $750,000.
    - Combined with $250,000 from the Facilities Maintenance Fund, this would provide approximately $1 million for Series 1 design and construction administration services.

- Lawrence Park Reconstruction - $1.08 million.
    - Next priority park project identified.
    - Proposed initiative funding allocation: $800,000.
    - Combined with approximately $500,000 in the City Park Improvement Fund, this would provide approximately $1.3 million for Lawrence Park reconstruction and future park improvement projects.

Staff requested City Council's feedback regarding the proposed projects, funding amounts, and overall approach.

Washington Avenue Concept / Traffic Study Award

The City's 2026 Strategic Action Plan identifies Washington Avenue development and redevelopment as a priority. The action steps established by City Council include:

1. Identifying right-of-way constraints throughout the corridor.
2. Working with corridor stakeholders to better understand future plans, access needs, utility concerns, and related issues.
3. Developing a traffic-flow plan based on the identified right-of-way constraints and information gathered from corridor stakeholders.

The overall objective is to develop a vision for the future reconstruction of Washington Avenue that improves traffic flow and accessibility, supports adjacent property owners, and creates opportunities for downtown vibrancy and future economic development.

Staff recommended that City Council provide direction regarding whether the removal of the center left-turn lane should continue to be evaluated as part of the Washington Avenue corridor-planning process.

If City Council is supportive of further consideration, staff recommended approval of the Eberle Traffic Solutions proposal for both the intersection traffic analysis and the mid-block pedestrian analysis for a total contract amount not to exceed $17,568, inclusive of reimbursable expenses.

Downtown Mural Contract Award

Marketing Director deRoo stated as a continuation of the 2026 Mural Project recommendation presented to City Council in May, the Marketing Department has chosen Marissa Tawney Thaler, a professional artist from the Lansing area with ties to Grand Rapids

Her proposed artwork has been designed specifically for the west wall of 139 E. Main Avenue, within the downtown passageway. The artwork will be painted on removable wood panels that will be mounted within three distinct inset sections of the passageway wall.

Thaler has designed a coordinated piece for each of the three sections, collectively representing the seasons of Zeeland. The largest panel combines spring and summer, while the remaining panels feature fall and winter as individual works. Together, the three pieces will create a cohesive seasonal collection tailored to the broader downtown environment.

The targeted timeline is to complete and install the artwork by the end of September so the collection can be enjoyed during Pumpkinfest in the first week of October. Although the custom display will be removable, the City intends to enjoy and celebrate the collection for several years. The panel installation also provides flexibility for the City to explore new exhibits in the passageway in the future.

Staff recommended that City Council approve the 2026 Artwork Agreement between the City of Zeeland and Marissa Tawney Thaler.

139 East Main Hold Harmless Agreement

Marketing Director deRoo noted this agreement is for a 2026 Property Owner License Agreement between the City of Zeeland and VQuest LLC, property owner of 139 E. Main Avenue.

Staff recommended that City Council approve the 2026 VQuest Artwork License Agreement between the City of Zeeland and VQuest., LLC.

Downtown Mural Budget Amendment

Marketing Director deRoo stated The City of Zeeland budgeted $25,000 in the 2025-2026 FY budget for this round of downtown murals. The proposal from Krista Arendsen/Art by Krista (approved in May) will use approximately $14,500. The enclosed proposal from Marissa Tawney Thaler is estimated at $5000. The City of Zeeland will have some cost into the site preparation and installation of the murals and contingency for unforeseen expenses. The Marketing Department projects this project will stay within budget. However, given that the mural projects were not completed within the 2025-2026 fiscal year, we are requesting a budget amendment for this project.

Staff requests a budget amendment for the mural project, transferring the $25,000 budgeted amount from the 2025-2026 budget to the 2026-2027 fiscal year budget.

Skyline Lighting Contract Award

Marketing Director deRoo noted the City of Zeeland issued a Request for Proposals for the updated supply, installation, maintenance and removal of downtown skyline, tree and patio lighting. The program combines year-round architectural lighting with seasonal tree and landscape lighting to create a coordinated display throughout the downtown district and at key City gateways.

Chip's Groundcover, LLC proposed a fixed annual price of $24,340 for each consecutive year from 2027 through 2030, consisting of $16,895 for skyline lighting, $1,650 for patio lighting and $5,795 for tree lighting. The lower consecutive-year pricing is anticipated to reflect efficiencies associated with the City's ownership of the lighting materials, the year-round installation of the skyline system and reduced setup or installation needs following the initial year. The total proposed cost for the five-year period is $135,160.

Staff recommended that City Council accept the proposal from Chip's Groundcover, LLC and authorize a five-year agreement for Downtown Skyline, Tree and Patio Lighting services covering 2026 through 2030. The agreement includes an initial 2026 cost of $37,800 and an annual cost of $24,340 for each year from 2027 through 2030. The agreement would remain subject to annual budget appropriation, satisfactory performance, a cancellation clause permitting the City to terminate after any contract year upon payment of the applicable contract terms.

Designated Assessor Designation

Assessor Maday stated following changes to Michigan law under Public Act 660 of 2018, the City joined with other assessing jurisdictions in Ottawa County, in 2020, to approve an interlocal agreement naming Brian Busscher, of the Ottawa County Equalization Department, as the City’s Designated Assessor.

Public Act 660 established a process for the State Tax Commission to periodically audit local assessing practices. If a local unit is found to be out of substantial compliance, it is provided an opportunity to

complete a corrective action plan and undergo a follow-up review. If the unit remains noncompliant, additional corrective action is required and the unit may ultimately need to utilize its Designated Assessor or pursue another remedy permitted by the State.

The City's current Designated Assessor agreement expires December 31, 2026. Ottawa County has prepared an updated interlocal agreement naming Brian Busscher, Ottawa County Equalization Director, as the Designated Assessor beginning January 1, 2027.

The proposed agreement is substantially similar to the agreement previously approved by the City. The primary substantive change is that, rather than expiring on a fixed date, the new agreement will remain in effect until Brian Busscher's employment with Ottawa County ends. There is no annual cost to participate; costs would only be incurred if the City were required to activate Designated Assessor services.

Staff recommended approving the Interlocal Agreement with Ottawa County designating Brian Busscher as the City's Designated Assessor beginning January 1, 2027.

There being no further items to discuss, Work Study was adjourned at 7:00 P.M.

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Kristi DeVerney, City Clerk

MEETING MINUTES

DATE: Wednesday, August 12, 2026

COMMISSION MEMBERS: Sally Gruppen, Mayor Pro Tem
John Query, Commission Chair
Thom Parker, Commissioner
Lynette Lam, Commissioner
Sue Lucas, Commissioner
Sabina Otteman, Commissioner

ABSENT: Ashley Kiekintveld, Commissioner

CITY STAFF: Kevin Plockmeyer, Assistant City Manager/Finance Director
Susan Moore, Administrative Assistant

GUEST: Tiffany Smith, MCSA Group
Melinda Whitten, MCSA Group
Brett Geertsma, Director, Zeeland Recreation

I. Approval of June 10, 2026, Meeting Minutes
Motion: Lynette Lam
Support: Sabina Otteman
All in favor, minutes approved.

II. Parks Master Plan – Section Reviews
Tiffany Smith & Melinda Whitten from MCSA Group presented the Goals & Objectives outlined in the new draft Master Plan. Zeeland Recreation Director Brett Geertsma also addressed the commission about the plan with his initial thoughts and his desire for continued proactive cooperation & collaboration with the city; would love to help brainstorm best uses of park spaces; he will continue to review the survey more thoroughly and share any additional thoughts with Commission Chair Query and Kevin Plockmeyer.

Melinda also presented an updated Capital Improvement Schedule snapshot:

- Vande Luyster Gazebo (repairs)
- Lawrence Park Phase I (playground)
- Huizenga Park (pathway, fishing access)
- Huizenga Park (shade sails in playground)
- Michigan Street Tot Lot (barrier free access)
- Paw Paw Footbridge (more viewing platforms, trail meet barrier free guidelines)
- Huizenga Park (skate park)
- Vande Luyster Gazebo (full renovation)
- Huizenga Park (basketball court)

Commissioners were asked to "dream big" and to think about other projects to add as they consider what to prioritize. Kevin Plockmeyer suggested revisiting sand volleyball courts & lighting at the pickleball courts at Huizenga Park. Commissioner Lucas stated that everyone looking at Huizenga Park together would be very helpful; staff will coordinate a bus tour of all city parks for their next meeting in September.

Mayor Pro Tem Gruppen asked if the schools would be open to the opinions of this group regarding their recreation projects; would love to enhance that spirit of collaboration, share more on both sides. Kevin Plockmeyer suggested that large, shared resource projects (i.e., something like a community pool or community center) could be opportunities to do that; continue to build on these relationships.

III. Lawrence Park Grill

The grill structure at Lawrence Park is in disrepair, has not been used in many years and staff would like the commission's thoughts on removing it. There is a plaque on the grill that staff would endeavor to return to next of kin of the family involved with the installation of the grill. Failing that, staff would offer it to the Zeeland Historical Society or store at the street garage. Commissioners did not oppose its removal.

VIII. Burial Report: (from packet since June 3, 2026)

Burials
13 at Lincoln – 1 Residents and 12 Non-Residents
2 at Felch – 2 Residents and 0 Non-Residents
Sales
1 at Lincoln – 1 Resident and 0 Non-Residents
1 at Felch – 0 Residents and 1 Non-Residents
Columbarium – 0 Residents and 2 Non-Residents
Transfers – 2 (Lincoln to Felch)
Sale Back to City – 1 at Felch

Other Items:

- **Church Street Project:** Kevin Plockmeyer informed the commission that due to this ongoing project, the Veteran's Section (at Lincoln Cemetery) still has no irrigation. The white flowers in the cross area have been removed and will be replanted next spring.

The meeting was adjourned @ 6:15 PM.

NEXT MEETING: Next regularly scheduled meeting is Wednesday, September 9, 2026, at 5:00 PM.

RECORDED BY:

_____

Susan Moore, Administrative Assistant

MEMORANDUM OF MEETING
Shopping Area Redevelopment Board (SARB)
Thursday, August 13, 2026, at 9:00 A.M.

PRESENT:	Board members: Barnes, Gentry, VanHoven, VanKampen
ABSENT:	Bult, Dick, Vos
Staff:	Marketing Director deRoo, City Clerk DeVerney
Guest:	None

The meeting was called to order at 9:00 A.M. by Board Member Barnes.

1. **APPROVE MEETING MINUTES**

A motion was made by VanHoven and supported by Gentry to approve the June 11, 2026, meeting minutes. All present voting aye. Motion Carried.

2. **Parking Updates**

deRoo noted the City of Zeeland had reached an agreement with North Street CRC for parking. Signs have been installed for the City of Zeeland parking and North Street CRC have also installed signage in their part of the parking lot.

3. **PUBLIC HEARING – 17 E MAIN AVE – INSTALL PROJECTING SIGN**

Board Member Barnes opened the public hearing at 9:06 A.M.

deRoo gave an overview of the request, by D-Sign LLC, to install one projecting sign.

deRoo noted the sign meets zoning requirements. Board members did not have any issues with the sign.

A motion was made by VanHoven and supported by VanKampen to close the public hearing at 9:04 A.M.

Motion was made by Gentry and supported by VanHoven to approve the sign. All voting aye. Motion carried.

Ayes:	Barnes, Gentry, VanHoven, VanKampen
Nayes:	None
Absent:	Bult, Dick, Vos

4. **Sidewalk Sales**

deRoo stated that, on August 20, businesses will be participating in sidewalk sales which will be combined with Music on Main.

5. **Peddler's Market**

deRoo noted that, due to the construction project on Church Street, the Peddler's Market will be relocated to the South parking lot this year.

6. **Pumpkinfest**

deRoo stated that Pumpkinfest will be held on October 1-3 this year.

7. **OTHER**

Main St Auto – Three proposals were received from the following:

- Dave Wilson
- Midwest Construction Group, Inc.
- Monday Impact

All three proposals include residential and commercial spaces. One of the proposals would like to have all residential space but that would only be considered if the ordinance made a change. Another proposal would like to acquire more adjacent properties in order to have a larger structure.

36 N Elm – The REMAX building is for sale.

17 E Main – No information on when El Rancho will receive their liquor license.

43 E Main – This building is currently a rental. The new owner foresees moving his practice (on State St) to this location.

123 E Main – Koele Godfrey project should be completed by the end of this year.

144 E Main – Owner is working on remodeling project.

156 E Main – Owner is gutting this building.

Taft St & Main Ave – Discussed mixed use and C-2.

A motion was made by VanHoven and supported by VanKampen to close the meeting at 9:30 A.M. All present voting aye, Motion Carried.

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Kristi DeVerney, City Clerk

Regular Meeting
Board of Public Works
BPW Conference Room
August 18, 2026

The regular meeting of the Board of Public Works Commission was held at the BPW Water Warehouse, 350 E. Washington, Tuesday, August 18, 2026. Chairperson Boerman called the meeting to order at 3:30 p.m.

PRESENT: Commissioners – Chairperson Boerman, Vice Chair Cooney, Query, VanAst, Walters

ABSENT: Commissioners - None

Staff Present: BPW General Manager Boatright; Water Operations Manager Postma, Electrical Transmission & Distribution Manager Coots, City of Zeeland ICM/Finance Director Plockmeyer, City of Zeeland IT Director Maloney, City of Zeeland Attorney Donkersloot, City of Zeeland Clerk DeVerney

Motion was made by Commissioner Cooney and seconded by Commissioner Query to approve the minutes of July 14, 2026, Regular Meeting. Motion carried. All voting aye.

Public Comment
None.

Safety Minute
Lightning Safety: When Thunder Roars, Go Indoors!

26.047 Approve Cash Disbursements and Recommended Cash Transfers

Motion was made by Commissioner Query and seconded by Commissioner VanAst to approve the June 2026 cash disbursements and the regular monthly transfers for the month of June 2026 as follows:

Cash and Investments as of: June 30, 2026

	Electric	Water
Receiving	$ 4,465,125	$ 773,498
Accumulated Debt Service (In Receiving Fund)	-	-
Plant Improvements and Contingencies	12,682,363	11,432,036
Bond and Interest Payment Reserve*	-	-
Totals	**$ 17,147,487**	**$ 12,205,534**

*Reserve required per electric and water revenue bond ordinances.

Recommended Transfers for the Month: June-26

	Electric	Water
Receiving	(722,745)	(301,300)
Accumulated Debt Service	-	-
Plant Improvements and Contingency	665,100	301,300
General Fund (per charter provision)	57,645	-

Notes on Recommended Transfers:

1. The annual operating transfer for FY 25-26 from the Electric Fund to the General Fund is a combination of 1% of net fixed assets as of June 30, 2024, and 1% of gross sales, less sales tax, for the year ended June 30, 2024, less any franchise payments. The annual operating transfer is divided into twelve monthly payments.

2. Assumed carrying amounts (minimum) in Receiving accounts are established at approximately 10% of budgeted operating expenses, before depreciation.

   Electric = 10% of $ 37,423,451 or approximately $ 3,742,345
   Water = 10% of $ 4,721,757 or approximately $ 472,176

3. Further surpluses of $665,100 in the Electric Fund and $301,300 in the Water Fund is recommended for transfer to the Plant Improvements and Contingencies Reserve.

Motion carried. All voting aye.

Accounting, Finance & Customer Service Report

ICM/Finance Director Plockmeyer updated the Board on current operations status, activities and projects which include:

June 2026 Customer Metrics

- Overdue/Disconnect Notices = 216
- Active Accounts = 8,072
- Total Bills Sent = 8,133
- Paperless Bills = 2,570
- Pre-Authorized Payment Customers = 2,270
- Invoice Cloud = 3,110
  - Credit Card = 2,338
  - EFT = 772

May 2026 Customer Metrics

- Overdue/Disconnect Notices = 187
- Active Accounts = 8,054
- Total Bills Sent = 8,087
- Paperless Bills = 2,797
- Pre-Authorized Payment Customers = 2,239
- Invoice Cloud = 3,150
  - Credit Card = 2,368
  - EFT = 782

Fiscal Year End

June 30 marked the end of the fiscal year and based on the preliminary financial statements, Fiscal Year 2026 is expected to finish better than anticipated. Staff will now transition to preparations for the annual audit, which is scheduled for the week of September 28. Auditing services will again be provided by Brickley DeLong, now in the fourth year of its five-year contract with the City.

As staff continue to complete final year-end entries and prepare for the audit, the figures presented in the financial statements should be considered preliminary. While additional adjustment entries will be made, the final results are not expected to change materially.

Following completion of the audit, staff anticipate providing the Board with an overview of Fiscal Year 2026 financial performance at the October Board meeting.

Water Department Report

Water Operations Manager Postma updated the Board on activities, current operations status, and projects which include:

- Meter replacement program
- Galvanized Service Line Replacement Program
- Other work projects
- Water Administration Projects

Transmission & Distribution Department Projects Update

Electrical Transmission & Distribution Manager Coots updated the Board on current activities including:

- Near Term Projects
- Long Term Projects
- Outage Statistics

26.048 Approve Bid Recommendation: 750MCM Aluminum Cable Purchase

Underground 750MCM Aluminum cable is used as primary conductor for our distribution system backbone. Traditionally copper cables have been used on our system, but due to material lead times and overall cost, aluminum cable was selected to construct new distribution circuit backbone. Aluminum cable is roughly half the cost of copper cable to purchase the material, with installation cost being equal. Electrically, ampacity between 500 Cu and 750 Al is negligible, with the larger aluminum cable being lighter and more flexible for training conductor into pad mounted equipment.

This project will underground the RY-1 and RY-2 distribution circuits along Riley Street between 88th and 84th Streets, establish a new feed from the NS-4 substation, and remove the existing overhead pole line. The additional substation feed will provide greater operational flexibility for paralleling circuits in the field and help balance substation loading, reducing equipment wear and extending asset life. By eliminating this overhead infrastructure, the project will reduce system exposure, improve reliability and resiliency, and advance our ongoing goal of hardening and modernizing the distribution system.

The items listed above are included in the FY2027 Capital Improvement Plan for Riley Street Undergrounding Project.

Motion was made by Commissioner Query and seconded by Commissioner VanAst to award purchase of 18,000 ft of Underground 750MCM Aluminum Cable to Irby with LS Cable for $218,880 with the potential for appropriate added cost due to the escalation clause on material costs. Motion carried. All voting aye.

26.049 Approve Bid Recommendation: Distribution and Transmission Pole Testing

Zeeland BPW's distribution wood pole system was last tested in 2016 and is due for retesting in 2026, consistent with the recommended maximum ten-year testing interval. Additionally, the utility's transmission wood poles have not previously undergone system-wide testing, leaving no documented baseline of their condition. Although Zeeland BPW is actively pursuing undergrounding of its electric system, existing overhead poles will remain in service until individual segments are retired and must continue to safely support energized equipment. A qualified contractor would evaluate and document the condition of both distribution and transmission poles, identify needed corrective actions, and help staff prioritize maintenance and replacement work. This program would establish a transmission-system baseline and support an ongoing testing cycle, helping protect public safety and maintain reliable electric service throughout the transition to a more underground system.

This project is currently budgeted in the FY2027 Operations and Maintenance budget for both transmission and distribution system maintenance. American Energy Services is a Michigan based company with very good recommendations.

Motion was made by Commissioner Cooney and seconded by Commissioner Walters to approve the awarding of the contract to American Energy Services to conduct transmission and distribution pole testing for the Zeeland BPW electric system. The system includes approximately 1,445 poles. Assuming all testing services are required, the estimated project cost is $24,565.

Staff requests authorization to award the contract to American Energy Services for an amount not to exceed $30,000, allowing for any additional testing that may be necessary during the project. Motion carried. All voting aye.

Power Production and Buildings & Grounds Department Report

Power Supply & Market Operations Manager/Utilities Manager Designee Mulder updated the Board on activities, current operations status, and projects which include:

- Operations & Power Supply – June 2026
- Renewable Energy Credits (RECS): June 2026
- Projects & Department Updates
    - New Generation & MPPA BTMG / Resources Adequacy Project Update
    - Lead Electric System Operator Position Posting
    - Power Supply & Market Operations Manager Posting
- Buildings & Grounds
    - BPW Office Remodel & Expansion Project
    - BPW Facilities Services & Supplies RFP
    - Buildings & Grounds Responsibility Transition

26.050 Approve Resolution: Adopt the 2026 Integrated Resource Plan

Staff requests that the Board of Commissioners recommend that the Zeeland City Council formally adopt the Zeeland Board of Public Works 2026 Integrated Resource Plan (IRP) prepared by nFront Consulting LLC.

The IRP was developed to evaluate long-term resource options for meeting customer electric needs while balancing reliability, economics, regulatory compliance, and sustainability objectives. It evaluated alternative resource strategies under both Business-as-Usual and Public Act 235 (PA 235) scenarios and identifies near term actions intended to preserve flexibility while addressing future capacity needs.

Among its principal conclusions, the IRP identifies participation in larger shared thermal generating resources as an important source of economic value, finds that portfolios relying exclusively on local generation typically result in higher costs, delaying an aggressive near-term buildout of renewable resources to meet the requirements of PA 235 results in lower incremental cost exposure, and emphasizes maintaining flexibility as regulatory requirements, market conditions, and resource availability continue to evolve.

The proposed resolution would adopt the IRP as the City's and BPW's current long-term electric resource planning framework. Adoption would not authorize any specific generation project, ownership structure, financing, procurement, or contractual commitment. Those matters would be brought forward separately as appropriate.

Motion was made by Commissioner Query and seconded by Commissioner Walters to adopt the Zeeland Board of Public Works 2026 Integrated Resource Plan and forward the accompanying resolution to City Council for consideration at its September 8, 2026, meeting. Motion carried. All voting aye.

Informational Update – New Generation Capacity Implementation Plan

At its July 10, 2026, meeting, staff updated the Board on the Michigan Public Power Agency's (MPPA) Resource Adequacy Project and efforts to preserve the option of developing behind-the-meter generation (BTMG) on the BPW's system. The BPW's Integrated Resource Plan identified additional resource adequacy needs beginning in the 2030/31 MISO Planning Year as demand grows, existing capacity contracts expire, and generation resources retire.

Since then, MPPA has provided preliminary project economics, vendor information, and a recommended portfolio and BPW staff have continued environmental, interconnection, siting, ownership, and procurement reviews. Discussions with equipment vendors, contractors, and consultants indicate that independent procurement would be difficult and likely more costly. Staff therefore believe participation in the MPPA initiative, in some form, remains the BPW's best available path to address its projected capacity shortfall in 2030/31.

MPPA is advancing final due diligence for a portfolio of up to 150 MW of natural-gas generation across several participating Member communities, including Zeeland. The portfolio is expected to provide approximately 126 MW of accredited capacity, with allowance for project attrition, site limitations, and other uncertainties. The multi-site approach is intended to provide economies of scale, geographic and operational diversification, and coordinated project development.

MPPA's Request for Information (RFI) evaluation includes project economics and vendor-specific information. Because the evaluation and related negotiations remain active, bidder identities and pricing have not been disclosed. Final vendor and technology recommendations will depend on best-and-final pricing, vendor support, and completion of technical, environmental, fuel, interconnection, and operational reviews.

MPPA recommends continued evaluation of a 50 MW natural gas project in Zeeland as part of the proposed 150 MW portfolio. Zeeland's proposed 28.1% entitlement equals 42.2 MW of project offtake and approximately 35.4 MW of accredited capacity which is forecast to meet approximately 33.6% of Zeeland’s PY 34/35 resource adequacy need. Because entitlements apply to the entire portfolio, the project hosted in Zeeland would be larger than Zeeland's individual share. It is currently the largest proposed host project, reflecting favorable utility infrastructure availability, interconnection requirements, and other site-specific construction factors.

The projects must achieve commercial operation by the fall of 2029 to ensure participation in the 2030/31 MISO Planning Year. The schedule is driven by equipment availability, engineering, permitting, interconnection, fuel infrastructure, and timely Member decisions. Delays in due diligence or procurement could reduce available options and increase schedule risk.

The regulatory schedule creates earlier decision points; due diligence and the applicable operating and power sales agreements must be substantially completed by year-end 2026. Project plans and supporting documentation must then be finalized by the end of the first quarter of 2027 in preparation for the BPW's capacity demonstration filing with the Michigan Public Service Commission (MPSC) under Michigan Public Act 341 of 2016. The filing will address the BPW's load obligations and capacity resources over the applicable four-year planning horizon, including the 2030/31 projected capacity shortfall.

BPW staff are working with environmental consultants to complete Phase II evaluations of potential generation sites, including air dispersion modeling, to define site-specific environmental and permitting requirements.

Staff are also working with Power System Engineering (PSE) to evaluate interconnection capability, potential Bulk Electric System (BES) and North American Electric Reliability Corporation (NERC) implications and thresholds, and estimated interconnection capital costs. Staff continue evaluating additional sites to preserve development flexibility.

Given the schedule, staff do not recommend contracting an owner's engineer at this stage to duplicate MPPA's evaluation or fully assess a self-build alternative. Staff have instead engaged nFront Consulting, which prepared BPW’s Integrated Resource Plan, to discuss an independent reasonableness review of MPPA's cost projections against current market benchmarks.

BPW staff have met with Key Accounts to discuss the Integrated Resource Plan and plans for new natural-gas fired, reciprocating, on-system, behind-the-meter generation. Feedback has been supportive, emphasizing reliability and rates while recognizing sustainability and environmental goals.

MPPA and participating Members anticipate the following schedule:

- August: Conduct vendor site visits, advance Phase II environmental assessments, and update distribution system models and mapping.
- September-October: Obtain best-and-final pricing; complete Phase II environmental work and distribution system impact studies; and verify natural gas availability, interconnection costs, contract requirements, and timing.
- November: Develop final recommendations for Member and MPPA Board consideration in the fourth quarter of 2026.
- By year-end: Substantially complete due diligence and applicable operating and power sales agreements so project plans and supporting documentation can be finalized during the first quarter of 2027 for the BPW's PA 341 capacity demonstration filing with the MPSC.

Zeeland is working with MPPA to evaluate the various project ownership models and coordinated procurement alternatives. MPPA is also assessing the effects of each ownership model on financing, Member step-up provisions, and the like. A timely decision will be required to preserve flexibility for ownership, procurement, construction, and long-term operations.

Staff expect to return to the Board in September with a resolution authorizing continued participation in the MPPA BTMG / Resource Adequacy Project. The authorization may involve an ownership model under evaluation or a coordinated procurement path, subject to the ongoing legal, commercial, and technical review.

No formal action is requested at this time. Staff recommend continuing project due diligence and coordination with MPPA and participating Members. Staff will return to the Board in September with a proposed resolution to preserve BPW’s ability to advance this capacity resource.

Other BPW Business

26.051 Accept Ottawa County Community Action Agency Community Energy Management Grant

The Ottawa County Community Action Agency (OCCAA), in partnership with Zeeland Board of Public Works (BPW), submitted an application to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Community Energy Management Program and has secured grant funding to bring a Home Energy 101-style program to customers within the ZBPW service area. The program will supplement the virtual energy education currently available to ZBPW customers with personalized, in-home energy education and practical energy-efficiency improvements.

Under the proposed program, approximately 50 participating households would receive an in-home consultation conducted by a trained energy educator, including a walk-through assessment of household energy use and identification of cost-effective efficiency opportunities. Each participating household would also receive up to $300 in energy-saving materials, which may include LED lighting, low-flow showerheads, faucet aerators, weatherization materials, programmable thermostats and other efficiency products. Participants would also receive information about available BPW rebates and referrals to OCCAA programs, including weatherization and utility assistance. OCCAA would review pre- and post-visit energy usage to estimate program savings and provide each participant with a summary of results.

The program is modeled after Holland's Home Energy 101 initiative. First-year results from that program indicate that 72% of participating homes reduced electricity use, 76% reduced natural gas use and 83% experienced utility cost savings. The program materials also report typical savings of approximately 600 kWh

and 75 therms per participating household, translating to approximately $200 in annual household savings. Additionally, Home Energy 101 participants demonstrated substantially greater participation in utility rebate programs following their visit, with an 18% rebate participation rate compared with 1.5% among other customers.

The grant-funded program anticipates approximately 50 education and engagement sessions and projects aggregate annual savings of approximately $10,000, 30,000 kWh of electricity and 3,750 ccf of natural gas. The application requested $45,515.73 in grant funding, with a project period extending through August 31, 2027. Grant-funded expenses include OCCAA personnel and fringe benefits, assembly and delivery of 50 Home Energy 101 kits, BPW program marketing and promotion, outreach materials, mileage and allowable indirect costs.

Securing this grant provides an opportunity for BPW and OCCAA to offer customers a more accessible, hands-on approach to energy education while increasing awareness and use of existing BPW efficiency and rebate programs. It also creates a pathway to connect qualifying households with OCCAA's Weatherization Assistance Program and other assistance resources that can provide additional long-term energy savings.

Motion was made by Commissioner Cooney and seconded by Commissioner Query to accept the $45,516.00 Michigan Department of Environment, Great Lakes, and Energy Community Energy Management Program grant and authorize the appropriate City/BPW officials to execute related agreements and documents, administer the Home Energy 101 Program in partnership with the Ottawa County Community Action Agency, and expend grant funds in accordance with the approved grant agreement, budget, and applicable purchasing, financial, and grant-administration requirements. Motion carried. All voting aye.

Informational – New Digger Truck on Display

The new digger truck will be on display in the parking lot at this Board of Commissioners meeting. This truck has a particularly noteworthy procurement history. In July 2019, staff recommended and the Board approved the purchase of this unit for $230,244 as part of the FY2020 Capital Improvement Plan. At the time, the purchase was intended to replace the 2011 digger truck and maintain the BPW's planned 10-year replacement cycle for large electric distribution vehicles. After an extraordinary delay between approval and final delivery, the truck has now arrived in 2026 - approximately seven years after the original purchase authorization.

Upcoming Events

- **Next Regular ZBPW Board Meeting, Tuesday, September 8, 2026, at 3:30 pm., BPW Conference Room**
- Retirement Luncheon, Wednesday, September 16, 11:30 a.m. - 1:30 p.m., BPW Boardroom
- Retirement Open House, Friday, September 18, 3:00 – 5:00 p.m., BPW Boardroom
- Community Foundation Holland Zeeland Celebration of Philanthropy, Thursday, September 10, 5:30 p.m., ME Yacht Restoration, Holland (information included)
- West Coast Chamber Annual Awards Celebration, Thursday, September 24, 6:00 p.m., The Venues at Third Coast, 6069 Blue Star Hwy, Saugatuck, MI (information included)
- MMEA 2026 Fall Conference, Tuesday, September 29 – Thursday, October 1, Firekeepers Casino Hotel, Battle Creek, MI (information included)
- Public Power Week Open House and New Office Building Ribbon-Cutting, Thursday, October 8, 4:00 – 7:00 p.m., BPW Administrative Offices, 350 E. Washington Ave.

Closed Session

Motion was made by Commissioner Walters and seconded by Commissioner Query to enter into Closed Session at 5:07 pm. for purposes to consider the purchase of real property. Motion carried by all voting aye.

Board of Public Works Commission reconvened from Closed Session at 5:36 pm. with a motion made by Commissioner Walters and seconded by Commissioner Query.

Motion was made and seconded that the regular meeting adjourn at 5:37 pm. Motion carried. All voting aye.

_____

Kristi DeVerney, City Clerk

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

CITY COUNCIL MEMORANDUM

TO: Mayor VanDorp and City Councilmembers

FROM: Kevin Plockmeyer, Interim City Manager

SUBJECT: Interim City Manager's Report

DATE: September 4, 2026

Church Street Reconstruction Project – Work continues to move forward on the Church Street reconstruction project. South of Central Avenue, the project is beginning to wrap up, with final restoration work now underway. The remaining work in this area will conclude in the cemetery, and we are hopeful that the contractor will be able to complete this portion of the project within the next week or so. As this work wraps up, City crews will begin working to reinstall the veterans monument at the entrance to the cemetery.

On the northern portion of the project, crews have completed the sanitary sewer installation up to Washington Avenue. The contractor will now shift its focus to the reconstruction of the Main Avenue intersection and restoration work between Main Avenue and Central Avenue. Our hope is that, through this process, Main Avenue will only need to be closed on an intermittent basis. We appreciate the continued patience and cooperation of residents, businesses, cemetery visitors, and the broader community as this important project continues to move toward completion.

Cemetery and Parks Commission Meeting – The Cemetery and Parks Commission will meet on Wednesday, September 9. The primary focus of the meeting will be continued discussion of the City's five-year parks and recreation master plan. Representatives from MCSA are expected to walk the Commission through portions of the proposed action program and capital-improvement schedule. As part of this process, the Commission will also be going on a bus tour to visit each of the City's parks. This tour is intended to help Commission members evaluate existing park conditions and better inform the development of the capital-improvement plan.

Planning Commission Meeting – The Planning Commission will hold its rescheduled September meeting on Thursday, September 10. At the meeting, the Commission will hold a public hearing regarding a proposed 600-square-foot accessory building at the Consumers Energy Zeeland

Generating Station and continue its work on the City's Master Plan with a review and discussion of draft Chapter 4 – Community Facilities & Services.

CSX/84th Street Crossing – The City continues to work through the process of reopening a railroad crossing with CSX. After a lengthy delay, the City is now able to begin moving forward with the next steps needed to evaluate and design the crossing improvements. That process started this past week with a request for engineering fees to begin the design phase. At this point, we do not yet have a timeline for completion of design or construction, but we are thankful that the process has started and that the City can begin moving this effort forward again.

Holland/Zeeland Labor Day Truck Parade – As we head into Labor Day weekend, the Holland/Zeeland Labor Day Truck Parade will once again take place on Monday morning. This annual event is a great reminder of the many companies, industries, employees, and families that help make Zeeland and the greater lakeshore community special. The parade provides an opportunity to celebrate not only the businesses that participate, but also the workforce, manufacturing base, transportation network, and community partnerships that continue to support our local economy. We appreciate the many employers, employees, volunteers, and organizers who help make this event possible each year.

Attachments – Monthly Fire/Rescue Report; Howard Miller Library Director's Report.

I hope everyone has a safe and enjoyable Labor Day weekend. If something comes up over the weekend that needs attention, please do not hesitate to contact me at kplocmkeyer@cityofzeeland.com or 616-368-7370.

_____
Kevin Plockmeyer, Interim City Manager

Zeeland Fire Rescue

July 2026

Monthly Report

Mission Statement

Zeeland Fire Rescue is a team committed to protect against loss of life and property from the effects of fires, medical emergencies, and other hazards.

Core Values

Integrity
Teamwork
Honor
Professionalism
Dedicated
Compassionate

Statistics

Number of Calls 2026	
Year to Date:	521
July:	74

Number of Calls 2025	
Year to Date:	512
July:	56

Training

Zeeland Fire Rescue participated in the following trainings during the month of July:

- July 13, 2026: Department training topics: Personal Protective Equipment, SCBA's, and Equipment Locations/Inventory.
- July 27, 2026: Department training topics: Aerial Operations, Fire Pump Operations, and Fire Attack.
- In the month the Daytime crew trained on the following topics:
    - Vehicle Extrication
    - Hose Deployment/Advancement
    - Incident Command Systems
    - District Familiarization
    - Fire Pump Operations
    - Respiratory Protection
    - Hand and Power tool Safety
    - Building Construction
    - Fire Investigation
    - Ladder Operations
    - Driver Training
    - Pediatric Airway
    - Medical Ethical & Legal
    - Patient Assessment
    - Trauma Assessment

Additional Department Information

The following are additional activities that Zeeland Fire Rescue participated in.

- Zeeland Car Cruise.
- Zeeland community waterslide.
- Fire system testing.
- Yearly ladder testing was conducted.
- Community event at Upwardbound.
- Conducted the final in-plant fire truck inspection for our new fire engine.
- West Michigan Fire Prevention Council Meeting.
- Posted flag downtown Zeeland for 4th of July.
- Zeelmania downtown Zeeland.
- Post flags at the Flag Man event in Allendale.
- Zeeland Fire Rescue Pig out Event.

Howard Miller Library and Community Center Director's Report

Reporting Period

August 2026

Library Events and Programming Highlights

Summer Reading Program Statistics

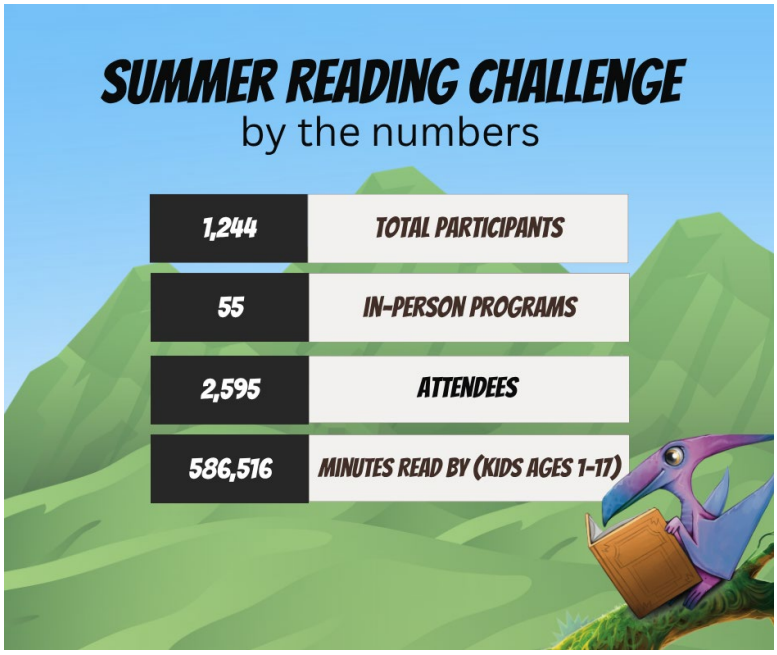

Figure 1: Summer Reading Challenge Numbers

Unearth a Story Summer Reading Challenge	Readers Count	Completions	Redeemed Rewards	Logged Minutes
Early Literacy Summer Reading 2026: Ages Birth-5	256	166	158	162,142
Children's Summer Reading 2026: Ages 6-11	452	308	300	304,047
Teen Summer Reading 2026: Ages 12-17	166	118	111	120,327
Adult Summer Reading 2026: Ages 18+	370	230	176	-
Totals:	**1,244**	**822**	**745**	**586,516**

Figure 2: Table showing Summer Reading Challenge Numbers by Age Group

Youth and Family Programs

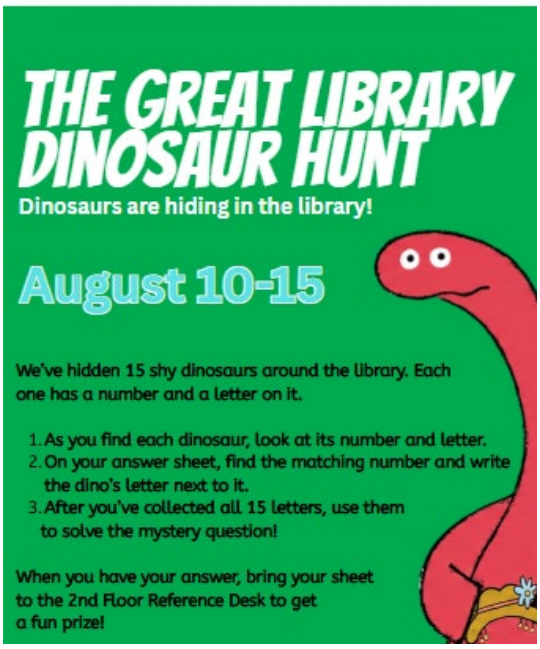

Figure 3: All ages Dino Hunt Passive Program

- Passive program: The Great Library Dinosaur Hunt had 133 total participants for the week
- This year's Big Read Lakeshore theme was officially announced. This year highlights the works of local author Gary Schmidt, with special attention given to his award-winning title, The Wednesday Wars. 50 copies of this title will be given away to patrons, first come, first served. An evening meet and greet with Gary Schmidt will be presented at the library on October 8 where the author will answer questions from and engage with the audience.

Staff Highlights

- New Library Page, Abigail Wenger, began her regular evening hours on August 4.
- Seasonal staff and Librarian I Ella Kraak left for college as of August 7.
- Summer hours for Librarian I Abby Machiela ended as of August 10. She returns to her 10 hour/week schedule for the school year.
- Library leadership staff are beginning the task of updating the goals for the Library Strategic Plan to be adopted by the Board for 2027-2029.

Strategic Plan and Support Goals Update - 2026

City of Zeeland Strategic Action Plan – Proposed Library Support Goals

Goal 1: Train staff in the use of Library IQ, an online collection management tool that integrates with our current Integrated Library System (ILS) to provide real time circulation and cataloging information.

- Status: Complete
- Outcome Indicator:
    - 12 of 12 training modules completed by purchasing staff.

Goal 2: Complete sound-absorption installation project for library to treat acoustic issues.

- Status: Ongoing
- Outcome Indicators:
    - RFP was reposted on the City website as of August 11, 2026.
    - 4 contractors attended the mandatory pre-bid meeting on August 28, 2026.

Goal 3: Digitize library registration cards and Library of Things waivers.

- Status: Complete
- Outcome Indicators:
    - All current library card registration forms have been digitized.
- It has been determined that digitization of the Library of Things waivers is not necessary since notations in Sierra are made for each patron who signs and they are valid for only 12 months.

Goal 4: Work toward meeting website compliance with WCAG 2.2 AA accessibility standards mandated for April 2028.

- Status: Ongoing – Audit activities have begun. Remediation efforts have begun.
- Outcome Indicators:
    - The deadline for compliance has been postponed until April 2028 for communities the size of Zeeland.
    - Still working through possible remediation options.

Update on HML Strategic Plan Goals

Goal 1: Strengthen community engagement through robust core services

- Outcome Indictors:
    - 8 new Early Literacy Kits circulated 21 times since their release on July 1, 2026.
    - 21 total kit circulations as of 8/27/26.
    - 6 completed and returned User Survey forms reflected highly satisfied patron response to the kits and their contents.
    - Blendon Township's 12-year library millage passed on August 4, 2026, ensuring residents will continue to receive full library services from either Howard Miller Library or Gary Byker Memorial Library, based on their school district.

Goal 2: Enhance library spaces and operations for maximized usage

- Outcome Indicators:
    - Acoustic testing by ABD Engineering completed in January 2026.
    - RFP for acoustical remediation project posted May 26, 2026.
    - RFP to be re-posted for bids in early Fall 2026.
    - Pre-bid contractor meeting hosted 4 contractors on August 28, 2026.

Goal Area 3: Prioritize organizational culture and staff development

- Outcome Indicators:
    - In August, 3 staff members participated in 2 separate webinars for professional development.

Looking Forward

- Fall programming
- Gary Schmidt book give-away and author visit
- Selection of sound abatement contractor

By the Numbers

HML By the Numbers – August 2026

	August		
	2026	2025	% Change
Visitors	9,207	9,004	2%
Curbside Delivery	4	11	-64%
Digital Downloads	6,685	6,752	-1%
Physical Items *(Circulation)*	30,370	30,352	0%
Computer Sessions	522	571	-9%

Figure 4: Table showing an increase in visitors and physical items in circulation and decrease in curbside deliveries, digital downloads, and computer sessions

Program Attendance Summary *(August is a reset month for programming)*

Children's Programs:

- 0 Programs – 0 Participants

Teen Programs:

- 0 Programs – 0 Participants

Adult Programs:

- 0 Programs – 0 Participants

Fieldtrip Programs:

- 0 Programs – 0 Participants

Outreach Programs:

- 0 Program – 0 Participants

Passive Programs:

- 6 Programs – 687 Participants

Howard Miller Community Center Usage Statistics – August 2026

Number of events:

- 24 Events

Fee-exempt events:

- 1 Events with fee-exempt room usage

Estimated attendees:

- 1,172 Attendees
    - Estimate based on what event organizers reported – some events do not report attendees

Community Center Events/Updates:

- East Activity room was refitted for rental use by Facilities staff
- 2 ClickShare devices have been purchased for use in the West Activity room and Banquet room to wirelessly connect laptops to the projectors in each room. If these operations go smoothly, we will consider adding the devices to the other rental rooms as well.

CITY COUNCIL MEMORANDUM

TO: Mayor VanDorp and City Council Members

FROM: Tim Maloney, IT Director

SUBJECT: BS&A Cloud Migration

DATE: August 28, 2026

CC: City Council Work Study and Action Items September 8, 2026

Background:

The City of Zeeland (City) has used BS&A Software for many years to support core municipal functions including financial management, payroll, assessing, tax, and community development. The current BS&A .NET environment is hosted on City-managed infrastructure and relies on a locally maintained virtual server, Windows Server, SQL Server, backups, endpoint security, monitoring, and other supporting infrastructure.

The existing environment requires IT staff to maintain and periodically upgrade the server operating system, SQL Server, security software, and supporting infrastructure. The server is also accessed from outside the City network to support business operations, which increases the security exposure and places responsibility on City IT for securing, patching, monitoring, backing up, and eventually replacing the underlying infrastructure.

As part of the City's long-term technology planning, staff reviewed the option of continuing to maintain the existing on-premises environment versus migrating to BS&A's current cloud platform. Although the cloud solution has a higher recurring software cost, it eliminates the need for the City to host and maintain the BS&A application and database servers and reduces the City's responsibility for the associated Windows, SQL Server, hardware, backup, patching, and server-security lifecycle.

Proposal:

BS&A has provided a proposal dated July 24, 2026, to migrate the City's existing BS&A .NET applications to BS&A Cloud. The proposal includes data conversion and validation, migration of existing configurations and key custom reports, conversion of users, security roles and approval workflows, implementation services, training, and post-go-live support. The proposal also adds the BS&A Purchase Order module.

The current proposal totals $94,125, consisting of:

- $53,425 in one-time migration, implementation, setup, project management, and training costs
- $40,700 in annual cloud subscription fees

The annual subscription consists of $38,565 for the City's existing BS&A modules and $2,135 for the new Purchase Order module. BS&A indicates that the annual module fees include unlimited support.

The City's current Capital Improvement Plan includes $115,500 for the BS&A project. This leaves $21,375 available for implementation contingency. Maintaining this contingency is recommended because BS&A bills certain training based on actual days used and separately invoices applicable travel expenses. It also provides flexibility for unforeseen requirements identified during implementation.

Recommendation:
Staff recommends proceeding with the migration from the existing locally hosted BS&A .NET environment to BS&A Cloud.

The cloud migration should not be viewed primarily as a cost-savings initiative. Its primary benefits are modernization, improved supportability, reduced infrastructure dependency, and reduced infrastructure maintenance and security responsibilities for City IT. Moving to BS&A Cloud shifts application hosting from City-managed infrastructure to BS&A's cloud platform and removes the BS&A application and database server from the City's locally managed environment.

The cloud platform also positions the City on BS&A's current product platform and reduces the need for future server and database replacement projects associated specifically with BS&A. The City will continue to be responsible for appropriate user access, account security, internal business processes, and integration with other City systems.

Because this project is an upgrade of the City's existing proprietary BS&A software environment to BS&A's cloud platform, BS&A Software is the sole-source provider for the software and associated migration services. Staff recommends that City Council waive the requirement to obtain three competitive quotes and award the BS&A Cloud Upgrade contract to BS&A Software in the amount of $94,125.

The quoted annual cloud subscription is $40,700 and will be incorporated into future operating budgets.

Suggested Motion:

Motion to waive the three-quote requirement, award the BS&A Cloud Upgrade contract to BS&A Software for $94,125, and authorize up to $21,375 in project contingency, for a total project amount not to exceed $115,500.

Tim Maloney, IT Director

Proposal for:

City of Zeeland, Ottawa County MI

July 24, 2026

Quoted by: Scott Duffy

Software and Services for BS&A Cloud Upgrade

Thank you for the opportunity to quote our software and services.

At BS&A, we are focused on delivering unparalleled service, solutions, support, and customer satisfaction. You'll see this in our literature, but it's not just a marketing strategy... it's a mindset deeply embedded in our DNA. Our goal is to provide such remarkable customer service that our customers feel compelled to remark about it.

We are extremely proud of the many long-term customer relationships we have built. Our success is directly correlated with putting the customer first and consistently choosing to ***listen****. Delivering unparalleled customer service is the foundation of our company.*

BS&A Software
14965 Abbey Lane Bath MI 48808
(855) BSA-SOFT
bsasoftware.com

Cost Summary

Software is licensed for use only by municipality identified on the cover page. If used for additional entities or agencies, please contact BS&A for appropriate pricing. Prices subject to change if the actual count is significantly different than the estimated count. Module fees are charged annually and include unlimited support.

Upgrade - Cloud Modules – *Annual Fee*

Financial Management		
GL-General Ledger		$3,815.00
AP-Account Payable		$3,110.00
CR-Cash Receipting		$3,460.00
AR-Account Receivables		$2,890.00
FA-Fixed Assets		$2,825.00
	Total	$16,100.00
Personnel Management		
PR-Payroll		$5,190.00
	Total	$5,190.00
Community Development		
BD-Building Department		$6,225.00
	Total	$6,225.00
Property		
ASG-Assessing		$5,870.00
TX-Tax		$4,110.00
DPP-Delinquent Personal Property		$1,070.00
	Total	$11,050.00
	Subtotal	**$38,565.00**

New Purchase - Cloud Modules - *Annual Fee*

Financial Management

PO-Purchase Order		$2,135.00
	Total	$2,135.00
	Subtotal	**$2,135.00**

Data Conversions/Database Setup

PO-Manual Database Setup Setup of Shipping, PO Types, Payment Terms, and Approvals		$2,450.00
	Total	**$2,450.00**

Upgrade Implementation

Services include:

- *Management of your upgrade by our dedicated upgrade team for a smooth shift from .NET to BS&A Cloud*
- *Assigned project coordinator works with you to create a project schedule aligned with your processes and needs*
- *How-to guides and select reference videos provided for your users to become familiar with relevant Cloud processes prior to your go-live.*
- *Preliminary conversion and validation performed by the Upgrade Team, validating data, balances, configurations, and related settings prior to your live upgrade.*
- *Final data extraction, upgrade and validation for your BS&A Cloud go-live.*
- *Module-specific data validation performed by domain experts in the dedicated Upgrade Team.*
- *Testing and implementation of existing customizations prior to go-live, preserving functionality and ensuring critical components are converted.*
- *Migration of key custom reports, enabling continuity in reporting for your municipality from .NET to Cloud.*
- *Automated configuration of users and security roles based on your prior setup in .NET.*
- *Conversion of approval workflows based on role-specific security, maintaining established processes.*
- *Training for all primary users on global functions of BS&A Cloud, such as navigation, searching, and reporting.*
- *Module-specific training for users of your municipality in their primary daily activities in BS&A Cloud.*
- *As applicable, configuration of existing hardware (barcode scanners, etc) for seamless integration with BS&A Cloud.*
- *As needed, transition from .NET Online Payments to cloud architecture configuration for uninterrupted payment processing.*
- *Prioritized support by the dedicated Upgrade Team for two weeks following your go-live, leveraging BS&A's best in class support system for case visibility and seamless transition to BS&A Customer Support following the hypercare period.*

$42,400.00

New Module Project Management and Implementation Planning

Services include:

- *Analyzing customer processes to ensure all critical components are addressed.*
- *Creating and managing the project schedule in accordance with the customer's existing processes and needs.*
- *Planning and scheduling training around any planned process changes included in the project plan.*
- *Modifying the project schedule as needed to accommodate any changes to the scope and requirements of the project that are discovered.*
- *Providing a central contact between the customer's project leaders, developers, trainers, IT staff, conversion staff, and other resources required throughout the transition period.*
- *Installing the software and providing IT consultation for network, server, and workstation configuration and requirements.*
- *Reviewing and addressing the specifications for needed customizations to meet customer needs (when applicable).*

Total **$3,675.00**

New Module Implementation and Training

- *$1,225/day*
- *Days quoted are estimates; you are billed for actual days used*
- *Training days quoted/billed in full day increments only*

Services include:

- *Setting up users and user security rights for each application*
- *Performing final process and procedure review*
- *Configuring custom settings in each application to fit the needs of the customer*
- *Setting up application integration and workflow methods*
- *Onsite verification of converted data for balancing and auditing purposes*
- *Training and Go-Live*

Setup Days

ITS Setup - FM	Setup Days: 1	$1,225.00
	Total Setup Days: 1	Subtotal: $1,225.00

Implementation and Training Days

ITS Training - FM	Training Days: 3	$3,675.00
	Total Training Days: 3	Subtotal: $3,675.00
	Total Days: 4	**Total: $4,900.00**

Cost Totals

Upgrade Modules – *Annual Fee*	Subtotal	$38,565.00
Cloud New Purchase – *Annual Fee*	Subtotal	$2,135.00
Data Conversions/Database Setup	Subtotal	$2,450.00
Upgrade Implementation	Subtotal	$42,400.00
Project Management and Implementation Planning	Subtotal	$3,675.00
Implementation and Training	Subtotal	$4,900.00

Total Proposed **$94,125.00**

The final invoice will reflect actual expenses following the completion of training activities based on the guidelines described below.

$160/$185/$225 per day hotel, varies by state
$90 per day car rental
$70 per day meals
$730 per trip airfare/related expenses
$0.725/mile round trip for drive distance

Payment Schedule

1st Payment: **$27,325** to be invoiced upon execution of this agreement.
2nd Payment: **$38,565** to be invoiced upon the subscription start date for upgrade modules.
3rd Payment: **$21,200** to be invoiced upon completion of upgrade implementation.
4th Payment: **$2,135** to be invoiced upon the subscription start date of new modules.
5th Payment: **$4,900** to be invoiced upon completion of new module training.

TO: Mayor Van Dorp and Members of City Council

FROM: Robert Mulder, Power Supply Manager / Utilities Manager Designee

CC: Andrew Boatright, General Manager

SUBJECT: 2026 Integrated Resource Plan Resolution – Recommendation for City Council Adoption

DATE: September 4, 2026

Staff requests that the Board of Commissioners recommend that the Zeeland City Council formally adopt the Zeeland Board of Public Works 2026 Integrated Resource Plan (IRP) prepared by nFront Consulting LLC. A summary of the IRP final report was presented at a joint meeting of the BPW Board of Commissioners and City Council on June 11, 2026.

The IRP was developed to evaluate long-term resource options for meeting customer electric needs while balancing reliability, economics, regulatory compliance, and sustainability objectives. It evaluated alternative resource strategies under both Business-as-Usual and Public Act 235 (PA 235) scenarios and identifies near-term actions intended to preserve flexibility while addressing future capacity needs.

Among its principal conclusions, the IRP identifies participation in larger shared thermal generating resources as an important source of economic value, finds that portfolios relying exclusively on local generation typically result in higher costs, delaying an aggressive near-term buildout of renewable resources to meet the requirements of PA 235 results in lower incremental cost exposure, and emphasizes maintaining flexibility as regulatory requirements, market conditions, and resource availability continue to evolve.

The proposed resolution would adopt the IRP as the City's and BPW's current long-term electric resource planning framework. Adoption would not authorize any specific generation project, ownership structure, financing, procurement, or contractual commitment. Those matters would be brought forward separately as appropriate.

Recommendation
Staff recommend City Council's adoption of the BPW's 2026 Integrated Resource Plan. The BPW Board of Commissioners approved that this action be recommended to City Council at their August 18, 2026 regular meeting.

Suggested Motion
Motion that the Zeeland City Council adopt the Zeeland Board of Public Works 2026 Integrated Resource Plan prepared by nFront Consulting, LLC and dated June 5, 2026, as the current long-term electric resource planning framework for the City of Zeeland and the Zeeland Board of Public Works.

Attachments: Resolution – Adoption of the Zeeland Board of Public Works 2026 Integrated Resource Plan

Zeeland Board of Public Works 2026 Integrated Resource Plan, prepared by nFront Consulting LLC, dated June 5, 2026

RESOLUTION

(Adoption of the Zeeland Board of Public Works 2026 Integrated Resource Plan)

City of Zeeland
County of Ottawa, Michigan

Portions of minutes of a Regular Meeting of the City Council of the City of Zeeland, County of Ottawa, Michigan, held in the City Hall in said City on September 8, 2026, at 7:00 o'clock p.m., Local Time.

PRESENT: Council Members _____

_____

ABSENT: Council Members _____

_____

The following preamble and ordinance were offered by Council Member _____ and supported by Council Member _____:

WHEREAS, the City of Zeeland owns and operates a municipal electric utility system managed by the Zeeland Board of Public Works ("BPW") for the purpose of providing reliable and economical electric service to customers within its service territory;

AND WHEREAS, the BPW engaged nFront Consulting LLC to prepare an update to the power supply portion of the BPW's Integrated Resource Plan ("IRP") and to facilitate a stakeholder engagement process for purposes of evaluating the BPW's long-term electric power supply needs and resource alternatives;

AND WHEREAS, the resulting Zeeland Board of Public Works 2026 Integrated Resource Plan, dated June 5, 2026, was developed to assist the BPW in evaluating resource options to meet customers' electric needs while balancing system reliability, economics, regulatory compliance, and the responsible implementation of sustainability initiatives;

AND WHEREAS, the IRP evaluates the BPW's future resource requirements under alternative regulatory scenarios, including a Business-as-Usual scenario and a scenario reflecting the renewable and clean energy requirements of Michigan Public Act 235 of 2023, and evaluates multiple portfolio strategies and sensitivities in recognition of uncertainty affecting future resource planning decisions;

AND WHEREAS, the IRP identifies projected future capacity needs associated with continued load growth, customer expansion, evolving capacity market conditions, and the eventual retirement or expiration of existing power supply resources;

AND WHEREAS, the IRP concludes that the BPW's current resource position provides flexibility to adapt to future conditions, while recognizing that near-term resource decisions may have significant long-term cost and portfolio implications depending upon future regulatory requirements;

AND WHEREAS, the IRP further concludes that participation in larger, shared thermal generating resources may provide significant economic value and that near-term planning decisions should preserve the BPW's ability to participate in such resources, while portfolios relying exclusively upon local generation were consistently identified as higher-cost alternatives notwithstanding the operational and siting advantages that local resources may provide;

AND WHEREAS, the IRP finds that portfolios designed to fully meet the renewable and clean energy requirements evaluated under the Public Act 235 scenario result in higher projected power supply costs than the Business-as-Usual portfolios and, because of uncertainty regarding future regulatory requirements and other factors, emphasizes maintaining flexibility and avoiding premature resource commitments that may become misaligned with future conditions;

AND WHEREAS, the IRP identifies a series of near-term planning actions, including advancing due diligence regarding potential local generation sites, reducing near-term exposure to the capacity market, evaluating both locally owned and jointly owned generation alternatives, and maintaining active participation in Michigan Public Power Agency resource development initiatives;

AND WHEREAS, electric utility resource planning is an ongoing process, and the IRP recognizes the importance of periodically revisiting the plan as market, regulatory, operational, load, technology, and other relevant conditions change;

AND WHEREAS, following its review of the 2026 Integrated Resource Plan, the Zeeland Board of Public Works has recommended that the City Council adopt the IRP as the City's current long-term electric resource planning framework;

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Zeeland Board of Public Works 2026 Integrated Resource Plan, prepared by nFront Consulting LLC and dated June 5, 2026, is hereby adopted and approved as the current long-term electric resource planning framework for the City of Zeeland and the Zeeland Board of Public Works. For a copy of such plan, see the attached Exhibit A.

2. The City Council acknowledges the conclusions and near-term actions identified in the IRP and supports the BPW's continued evaluation and advancement of electric resource alternatives consistent with the objectives of maintaining reliability, managing long-term power supply costs and risks, complying with applicable regulatory requirements, and preserving flexibility as future conditions evolve.

3. Adoption of the IRP is intended to provide strategic direction for continued resource planning and does not, by itself, authorize the acquisition, construction, ownership, financing, or contractual commitment to any specific generation resource, power purchase arrangement, capacity resource, or other capital project. Any such action requiring approval of the City Council shall be presented separately for consideration in accordance with applicable law and City requirements.

4. The BPW is encouraged to periodically review and update the Integrated Resource Plan as conditions warrant and to continue ongoing resource planning between formal IRP updates.

5. All resolutions and parts of resolutions insofar as they conflict with the provisions of this Resolution be and the same hereby are rescinded.

AYES: Council Members _____

_____

NAYS: Council Members _____

_____

ABSENT: Council Members _____

RESOLUTION DECLARED ADOPTED.

_____
Kristen R. DeVerney, City Clerk

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted by the City Council of the City of Zeeland, County of Ottawa, Michigan, at a Regular Meeting held on September 8, 2026, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, Public Acts of Michigan, 1976, as amended, and that the minutes of said meeting were kept and will be or have been made available as required by said Act.

_____
Kristen R. DeVerney, City Clerk

EXHIBIT A

Zeeland Board of Public Works Integrated Resource Plan Document

ZEELAND BOARD OF PUBLIC WORKS

2026 Integrated Resource Plan

Prepared by

nFront Consulting LLC

June 5, 2026

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

This report documents the 2026 Integrated Resource Plan ("IRP") developed for the Zeeland Board of Public Works ("BPW"). The IRP was developed to assist BPW to evaluate various resource options to meet its customer's electric needs while balancing critical objectives, including system reliability, economics, regulatory compliance, and responsibly executing sustainability initiatives. Electric utility resource planning is an ongoing practice, and BPW may want to consider formal IRP updates as frequently as every three years, or as conditions warrant, supplemented by ongoing resource planning in the interim.

1.1 IRP Approach

The IRP considers BPW's resource needs in order to reliably and economically meet the energy requirements of its customers under two different scenarios —one scenario that assumes that no state requirements pertaining to renewable or clean energy production are in effect throughout the Study Period ("Business-as-Usual" or "BAU"), and a second scenario that assumes the requirements of Michigan's Renewable Energy Standard ("RES") and Clean Energy Standard ("CES") remain in effect over the Study Period ("PA 235").[1] Within each scenario, multiple portfolio strategies were evaluated to reflect different approaches to meeting future resource need and reliability requirements. These portfolio strategies include: an economically optimized portfolio in which large-frame thermal resources are available beginning in 2030; a delayed large-frame portfolio in which large-frame resources are first available in 2035; and a local generation portfolio that limits resource additions to local generation and renewable PPA resources.

The resulting portfolios were simulated though a series of alternative assumptions for key variables to assess the sensitivity of portfolio power supply costs across the portfolio strategies. The scenarios, portfolio strategies, and sensitivities evaluated in this IRP are summarized as shown in Table 1-1. While the overall cost to serve BPW's projected system energy requirements will vary based on the underlying assumptions reflected in each scenario, the focus of this IRP is not on the comparative economics of each resource plan within each scenario, but rather is on how resource decisions vary between scenarios.

[1] https://www.legislature.mi.gov/documents/2023-2024/publicact/pdf/2023-PA-0235.pdf

Table 1-1: IRP Scenarios, Portfolios, and Sensitivities

Category	Case	Description
Scenario	Business As Usual (”BAU”)	No State Requirements for PA 235
	Public Act 235 (”PA 235”)	Compliance with PA 235
Porfolio Strategy	Economically Optimized	Large-frame thermal resource available as early as 2030
	Large Units Available 2035	Large-frame thermal resource available starting 2035
	Local Generation	Only local generation and renewable PPA resources available
Sensitivity	Low Load Growth	Assumes lower load growth
	High Load Growth	Assumes higher load growth
	Low Fuel Price	Assumes lower fuel prices
	High Fuel Price	Assumes higher fuel prices

1.2 Conclusions

The following presents a high-level summary of the conclusions based on the analysis and evaluations performed for and discussed throughout this IRP. Additional conclusions and supporting details related to the conclusions are included in Sections 11 and 13.

- BPW’s current open capacity position provides flexibility to adapt to future resource strategies; however, optimum capacity builds under the resulting portfolio strategies show limited alignment in near-term resource additions across these scenarios, indicating that early investment decisions may differ significantly depending on the assumed regulatory future. Importantly, these near-term resource decisions may introduce path dependencies that impact long-term cost and resource outcomes if future regulatory conditions differ from expectations.
- Participation in larger, shared thermal generating resources is a key driver of economic value. Near-term planning decisions should prioritize preserving the ability to participate in future large generating units, even if full commitment occurs at a later date. Results of the IRP that support this conclusion include the following.
- Reliance exclusively on local generation is consistently identified as the higher-cost portfolio strategy. While local resources can provide operational and siting advantages,

limiting the portfolio to these options reduces economic efficiency and increases overall system costs over the study period.

- Power supply portfolios designed to fully meet the requirements of PA 235 result in higher costs relative to the BAU portfolios.
- Delaying an aggressive near-term buildout of renewable resources to meet PA 235 requirements results in the lowest incremental cost exposure. Given the uncertainty surrounding the regulatory compliance and the considerations related to the phase-out of the Inflation Reduction Act tax credits, BPW should plan to remain compliant while avoiding higher costs associated with early commitments that may prove misaligned with future regulatory outcomes.

1.3 Near-Term Actions

Table 1-2 provides a summary of the near-term actions that BPW may want to consider based on the analysis and evaluations performed for and discussed throughout this IRP.

Table 1-2: Summary of Near-Term Actions

Action	Description
Advance Local Generation Site Due Diligence	Continue environmental, permitting, interconnection, fuel supply, and constructability evaluations of potential BPW-owned generation sites and identify additional strategic locations.
Reduce Near-Term Capacity Market Exposure	Pursue interim capacity procurement strategies to mitigate BPW's open capacity position while long-term solutions are evaluated.
Evaluate New Generation Alternatives	Evaluate both locally owned and jointly owned generation resources using lifecycle cost, performance, financing, risk, and portfolio optimization criteria.
Coordinate with Michigan Public Power Agency (“MPPA”) Resource Development Initiatives	Maintain active participation in MPPA planning efforts and evaluate opportunities for economies of scale and shared development risk.

2 STUDY OVERVIEW

This report documents the 2026 Integrated Resource Plan ("IRP") developed for the Zeeland Board of Public Works ("BPW"). The IRP was developed to assist BPW to evaluate various resource options to meet its customer's electric needs while balancing critical objectives, including system reliability, economics, regulatory compliance, and responsibly executing sustainability initiatives. Electric utility resource planning is an ongoing practice, and BPW may want to consider formal IRP updates as frequently as every three years, or as conditions warrant, supplemented by ongoing resource planning in the interim.

The IRP considers BPW's resource needs in order to reliably and economically meet the energy requirements of its customers under two different scenarios.

- **Business-as-Usual ("BAU") Case.** Scenario assuming that no state requirements pertaining to renewable or clean energy production are in effect throughout the study period
- **Public Act 235 ("PA 235") Case.** Scenario in which the requirements of the State of Michigan's Renewable Energy Standard ("RES") and Clean Energy Standard ("CES"), or "PA 235"[2] remain in effect over the study period

While the overall cost to serve BPW's projected system energy requirements will vary based on the underlying assumptions reflected in each scenario, the focus of this IRP is not on the comparative economics of each resource plan within each scenario, but rather on how resource decisions may vary between scenarios.

2.1 State of Michigan Renewable and Clean Energy Standard

Michigan Public Act No. 235 of 2023 ("PA 235"), effective February 27, 2024, amended Michigan's Clean and Renewable Energy and Energy Waste Reduction Act (Public Act 295 of 2008). The act sets forth requirements related to renewable and clean energy production, energy waste reduction, and development of utility-scale battery energy storage systems ("BESS") for electric utilities in the State of Michigan. Table 2-1 below summarizes the requirements of PA 235.

[2] https://www.legislature.mi.gov/documents/2023-2024/publicact/pdf/2023-PA-0235.pdf

Table 2-1: State of Michigan Public Act No. 235 Requirements

Renewable Energy Standard	Clean Energy Standard	Energy Storage Target
15% through 2029 50% by 2030 60% by 2035	80% by 2035 100% by 2040	2,500 MW by 2030[3]
Applicable Resources: o Biomass and Landfill Gas o Solar and Wind	Applicable Resources: o Biomass, Landfill Gas, and Hydro o Combined Cycle with Carbon and Capture Sequestration o Nuclear o Solar and Wind	Applicable Resources: o Battery Energy Storage

2.2 Outline of IRP

The relevant assumptions and methodologies utilized to develop the inputs considered throughout this IRP are discussed in more detail in subsequent sections of this IRP, along with the results of the economic analysis and corresponding conclusions. The remainder of this IRP is structured as follows:

- Section 3.0 provides a description of BPW's existing generating resources, including ownership entitlements and contractual purchase power resources.
- Section 4.0 discusses the economic parameters (escalation, inflation, and discount rates; interest during construction rate; and capital recovery factor) used throughout this IRP.
- Section 5.0 provides an overview of the BPW load forecast, including peak demand and annual net energy requirements forecasts.
- Section 6.0 discusses BPW's projected seasonal capacity requirements, which take into account BPW's existing capacity resources, seasonal peak demand forecasts, and the Midcontinent Independent System Operator ("MISO") planning reserve margin requirements.
- Section 7.0 discusses the supply-side resource options considered in this IRP, which include conventional generating units, utility-scale renewable and energy storage technologies, and emerging technologies (i.e. small modular reactor, or "SMR", and carbon capture and sequestration, or "CCS").
- Section 8.0 discusses the process and methodology used to develop the natural gas price projections reflected in this IRP.

[3] This is a requirement for Michigan rate-regulated utilities in aggregate, and is not applicable to BPW.

- Section 9.0 discusses the levelized cost of energy ("LCOE") analysis, that was performed to assess the economics of the supply-side options.
- Section 10.0 discusses the process and methodology used to develop the power market price projections reflected in this IRP.
- Section 11.0 discusses the resource portfolio optimization analysis performed for this IRP.
- Section 12.0 discusses the stakeholder engagement process performed for this IRP.
- Section 13.0 presents conclusions and near-term actions that BPW may want to consider based on the results of the analysis presented throughout the IRP.

3 DESCRIPTION OF THE BPW SYSTEM

BPW is a municipally owned and operated electric and water utility serving the City of Zeeland, Michigan, and neighboring communities. As of 2025, the BPW serves more than 7,000 electric meters and has an annual energy requirement of 464,587 MWh and a summer peak load of nearly 91.6 MW. The utility's energy and capacity requirements have consistently increased over the past few decades due to an increasing commercial and industrial customer base, a trend that is forecasted to continue. Although BPW's commercial and industrial customers represent a small percent of BPW's total electric customer accounts, they represent an overwhelming majority of demand on the system, accounting for over 85% of our annual energy requirements. The BPW participates in the wholesale market through the Michigan Public Power Agency ("MPPA"), operating in Local Resource Zone 7 of the Midcontinent Independent System Operator ("MISO").

3.1 BPW Existing Generating Resources

The BPW existing power supply portfolio consists of a combination of local generation, owned generation entitlements through MPPA, and Power Purchase Agreements through MPPA. The remaining balance of the BPW's power supply portfolio is filled through a series of bilateral contracts executed with counterparties through MPPA.

BPW Internal Generation Facilities

The BPW presently owns and operates a combined total of approximately 34.5 MW of behind-the-meter generating capacity located at three facilities within the BPW service territory. The Washington Ave units are dual fuel reciprocating internal combustion engines ("RICE") operating on natural gas ("NG") and distillate fuel oil ("DFO"), while the West Washington and Riley RICE units operate solely on NG. All units are typically dispatched only during peak demand periods.

A summary of these units is provided in Table 3-1 below.

Table 3-1: BPW Local Generating Facilities

Unit	Technology	Fuel	Commercial Operation Date	Nameplate Capacity (MW)
Washington Ave Generation Facility				
1	RICE	NG/DFO	1967	1.3
2	RICE	NG/DFO	1967	1.1
7	RICE	NG/DFO	1945/1985	2.0
8	RICE	NG/DFO	1963	1.6
9	RICE	NG/DFO	1971	4.5
10	RICE	NG/DFO	1974	5.6
11	RICE	NG/DFO	1980	6.0
West Washington Generating Facility				
1	RICE	NG	2002	1.0
2	RICE	NG	2002	1.0

Unit	Technology	Fuel	Commercial Operation Date	Nameplate Capacity (MW)
Riley Generating Facility				
1	RICE	NG	2005	2.0
2	RICE	NG	2005	2.0
3	RICE	NG	2005	2.0
4	RICE	NG	2005	2.0
5	RICE	NG	2005	2.0

BPW Ownership Entitlements

In addition to the local resources shown in Table 3-1, BPW receives ownership entitlements to two generation resources through MPPA.

- DTE Energy Company's ("DTE") coal-fired Belle River (Units 1 & 2)
- American Municipal Power's natural gas-fired combined cycle Fremont Energy Center

BPW's ownership entitlements in these resources are summarized in Table 3-2. Specific considerations related to BPW's ownership entitlements are outlined below.

- Belle River Units 1 and 2 are assumed to be converted from operating on coal to operating on natural gas by December 31, 2025 (Belle River Unit 1) and December 31, 2026 (Belle River Unit 2). For purposes of this IRP, these units will be modeled as operating on natural gas with no changes to the capacity shown in Table 3-2 and are assumed to be removed from service in May 2039.
- Fremont Energy Center is located in the PJM Regional Transmission Organization (outside of MISO) and is considered as a resource to contribute to BPW's energy needs, but not a capacity resource for BPW's MISO planning reserve margin purposes.

Table 3-2: BPW Ownership Entitlements

Resource	Technology Type	COD	Balancing Authority	Nameplate Capacity (MW)
Belle River	NG Steam	1984	MISO	11.6
Freemont Energy Center	NG Combined Cycle	2012	PJM*	7.1
*Fremont Energy Center is located in the PJM (outside of MISO) and is considered as a resource to contribute to BPW's energy needs, but not a capacity resource for BPW's MISO planning reserve margin purposes.				

Renewable Energy Purchases

In addition to the local resources and ownership entitlements shown in Tables 3-1 and 3-2, BPW has numerous renewable resources in its portfolio. These resources are made available through

Power Purchase Agreements ("PPA") managed through participation in MPPA projects. BPW's share of nameplate capacity and expiration dates for these resources are summarized in Table 3-3.

Table 3-3: BPW Renewable PPAs

Resource	Technology Type	PPA Expiration Date	Balancing Authority	Nameplate Capacity (MW)
Beebe	Wind	12/2034	MISO	2.3
Pegasus	Wind	12/2039	MISO	12.2
Assembly Ph1	Solar PV	12/2045	MISO	6.4
Assembly Ph2	Solar PV	12/2046	MISO	7.8
Invenergy Calhoun	Solar PV	4/2048	MISO	8.0
Brandt Woods	Solar PV	3/2045	MISO	2.9
White Tail	Solar PV	11/2045	MISO	2.8
Hart	Solar PV	12/2046	MISO	5.6

4 ECONOMIC AND FINANCIAL PARAMETERS

This section summarizes the economic and financial parameters used throughout this IRP. The economic and financial parameters were developed based on discussions between BPW and nFront Consulting LLC ("nFront" or "nFront Consulting") and are considered reasonable and appropriate for use in long-term planning activities such as this IRP. It should be noted that BPW may ultimately make financing decisions that differ from the parameters outlined below.

4.1 General Inflation and Escalation Rates

General Inflation Rate

The general inflation rate is used to convert from real dollars to nominal dollars and is assumed to be 2.5 percent.

Capital Cost Escalation Rate

The capital cost escalation rate used to escalate the capital cost estimates of new resource options from 2025 basis dollars to installed year dollars is assumed to be 2.5 percent.

Non-Fuel Variable Operations and Maintenance ("O&M") Escalation Rate

Non-fuel variable O&M costs represent costs of operating and maintaining generating units that vary based on how often the generating units are operating. Examples of non-fuel O&M costs include chemicals and lubricants, and other maintenance costs that vary based on the number of hours a unit is operated. The non-fuel variable O&M escalation rate is used for escalating non-fuel variable O&M costs for BPW's existing generating units as well as non-fuel variable O&M costs for new resource options from 2025 basis dollars to nominal dollars and is assumed to be 2.5 percent.

Fixed O&M Escalation Rate

Fixed O&M costs represent costs associated with generating units that do not vary based on how often the generating units are operated. Examples of fixed O&M costs include staffing and labor and other general and administrative costs. The fixed O&M escalation rate is used for escalating fixed O&M costs for BPW's existing generating units as well as fixed O&M costs for new resource options from 2025 basis dollars to nominal dollars and is assumed to be 2.5 percent.

4.2 Tax-Exempt Municipal Bond Interest Rate

The IRP assumes that BPW would issue tax-exempt municipal bonds to finance the capital cost associated with new resource options. The tax-exempt municipal bond interest rate is assumed to be 5.0 percent.

4.3 Present Worth Discount Rate

The present worth discount rate is assumed to be 5.0 percent and is used to discount future cash flows to current dollars (discounted to the year 2025 for purposes of this IRP). Assuming a present

worth discount rate equal to or similar to a utility's expected cost of financing is a standard practice for long-term resource planning studies such as IRPs.

4.4 Interest During Construction Rate

The interest during construction rate refers to the interest rate during the construction phase for new resources. For this IRP, the capital cost estimates developed for the new resource options reflect consideration of interest costs during construction. Since capital cost estimates were not developed using a "bottoms up" approach but instead based on review of relevant information (as discussed in Section 7 of this IRP), a specific interest during construction rate has not been utilized.

4.5 Capital Recovery Factor

The capital recovery factor ("CRF") is applied to the capital cost of the new resource options considered in this IRP to calculate a levelized amortization rate. When the CRF is applied to capital cost, the product equals the annual capital cost recovery, including interest costs, for new resources.

Although different generating technologies may have different economic lives, for purposes of this IRP, it has been assumed that if BPW were to finance new generating resources, the financing terms would be 20 years. Final financing decisions would be determined by BPW subsequent to the development of this IRP. The CRF utilized for the IRP reflects the 5.0 percent tax-exempt municipal bond interest rate, as discussed above, and is approximately 8.2 percent (i.e., the annual cost of new resources would then be 8.2 percent of the assumed capital cost at COD over the 20-year assumed cost recovery period).

5 LOAD FORECAST

The forecasts of annual energy and seasonal peak demands evaluated in this IRP were provided by BPW. This section presents the methodology used by BPW and the resulting load forecast and scenario forecasts used in this IRP.

5.1 Base Forecast

The Base Case Forecast incorporates both an Econometric Forecast and a projection of New Load Additions. The Econometric Forecast reflects organic growth within the BPW service territory, while the New Load Additions capture anticipated large commercial load expansions. Together, these projections are integrated and translated into a forecast of net system energy requirements and seasonal peak demands.

Econometric Forecast

The Econometric Forecast, which was developed by MPPA, relies primarily upon an econometric approach to produce projections of system peak demand and energy requirements over calendar year 2025 through 2054. Econometric forecasting makes use of regression analysis to establish historical relationships between energy and various explanatory factors, which are generally assumed to continue into the future. The selected forecast equation is then populated with projections of explanatory variables, resulting in projections of energy requirements.

The results of the Econometric Forecast reflect the following, before considering expected large load additions.

- BPW system energy requirements are expected to grow at a compound average growth rate ("CAGR") of 1.7 percent per year over 2025-2036 and 0.9 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 2.0 percent per year.
- The BPW winter peak demand is expected to grow at a CAGR of 1.9 percent per year over 2025-2036 and 0.8 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 1.6 percent per year.
- The BPW summer peak demand is expected to grow at a CAGR of 1.3 percent per year over 2025-2036 and 0.9 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 2.2 percent per year.

New Load Additions

A separate forecast of new load additions was developed by BPW to reflect the expansion activities of several large commercial customers that would not otherwise be captured in the Econometric Forecast. This forecast of new load additions is primarily based on information provided by the respective customers regarding planned facility upgrades, new construction, and operational changes.

By 2031, the forecast of new load additions reflects an additional 18 percent increase in system energy requirements, and an additional 15 percent to peak demand requirements. Importantly, while the New Load Additions reflect the best estimate based on current information, the timing and magnitude of these new load additions remain inherently uncertain as operational needs and development plans for these customers continue to evolve.

Base Case Forecast Results

The resulting forecasts of energy requirements and seasonal peak demands, combining the Econometric and New Load Addition Forecasts, are depicted in Figures 5-1 through 5-3, respectively.

- BPW system net energy requirements are expected to grow at a CAGR of 3.3 percent per year over 2025-2036 and 0.8 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 2.0 percent per year.
- The BPW winter peak demand is expected to grow at a CAGR of 3.1 percent per year over 2025-2036 and 0.7 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 1.6 percent per year.
- The BPW summer peak demand is expected to grow at CAGR of 2.5 percent per year over 2025-2036 and 0.8 percent per year over 2035-2044. This compares to historical average growth over the last decade of approximately 2.2 percent per year.

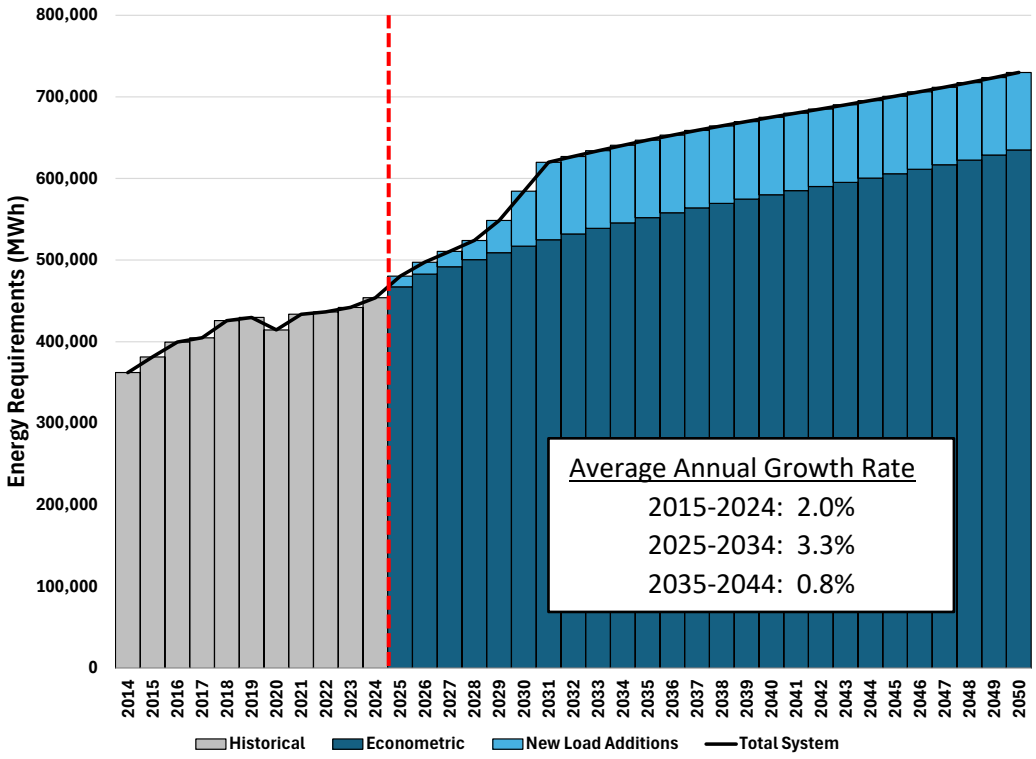

Figure 5-1: System Net Energy Requirements (MWh)

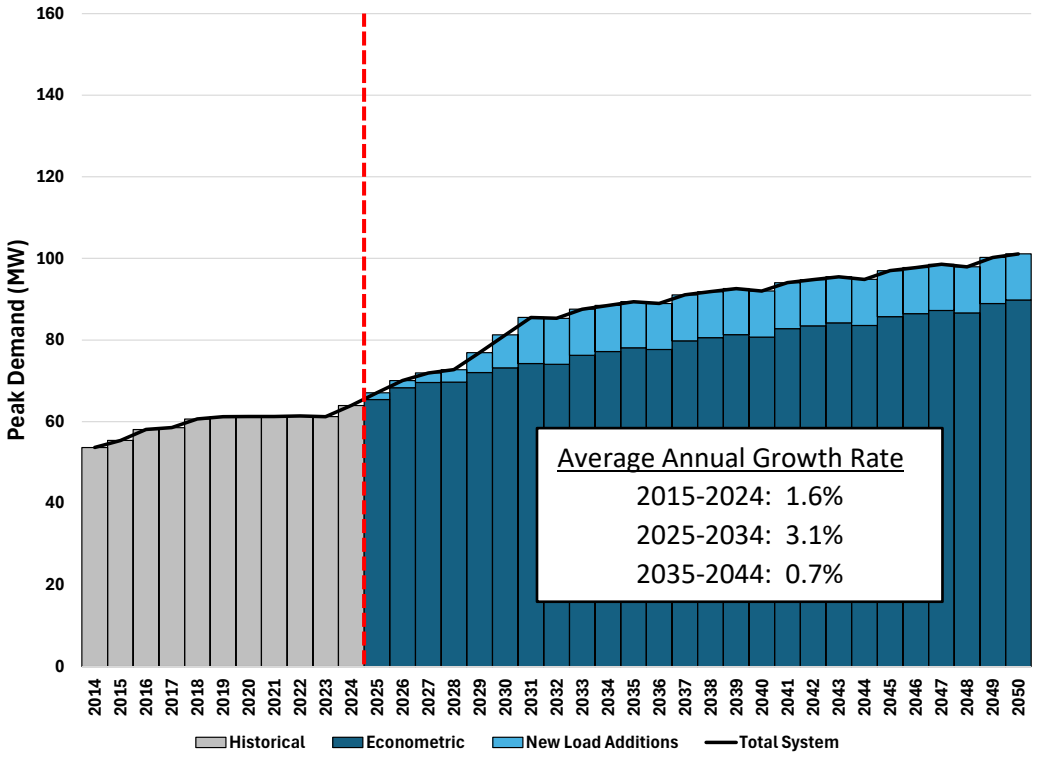

Figure 5-2: Winter Peak Demand (MW)

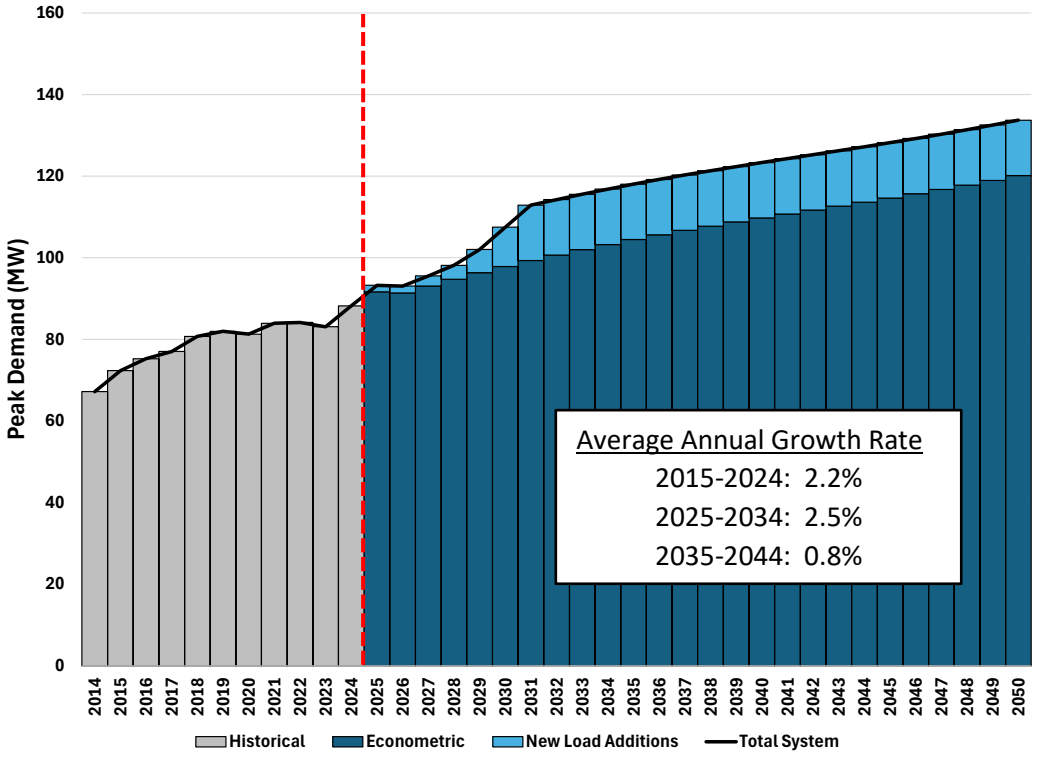

Figure 5-3: Summer Peak Demand (MW)

5.2 Scenario Forecasts

The High and Low Forecast scenarios were prepared to capture the uncertainty in the trend of economic activity in BPW's service area. In these scenarios, the projections of explanatory variables underpinning Econometric Forecast are varied from the base case assumptions based on statistics published by Woods & Poole regarding historical errors in their state-level forecasts across the United States, intended to encompass 90 percent of the uncertainty in the driving variables. The New Load Additions are assumed to be consistent with the Base Case. The resulting ranges of net energy requirements and seasonal peak demands are presented in Figures 5-4 and 5-5, respectively.

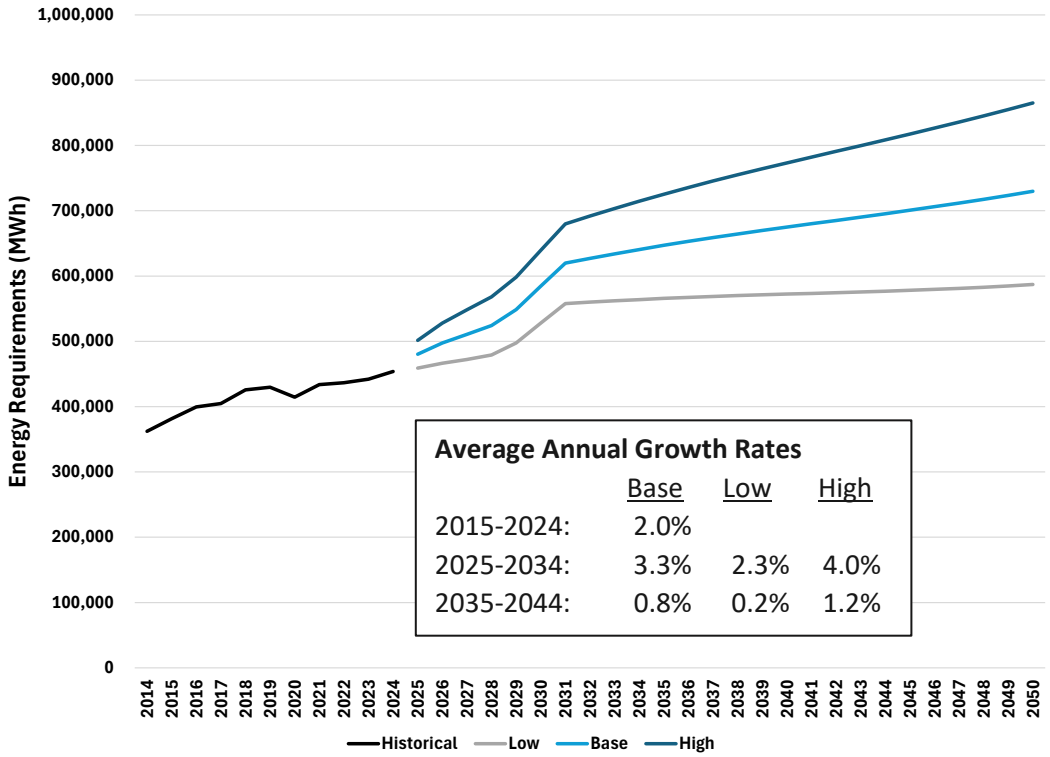

Figure 5-4: Scenario Forecasts – Net Energy Requirements

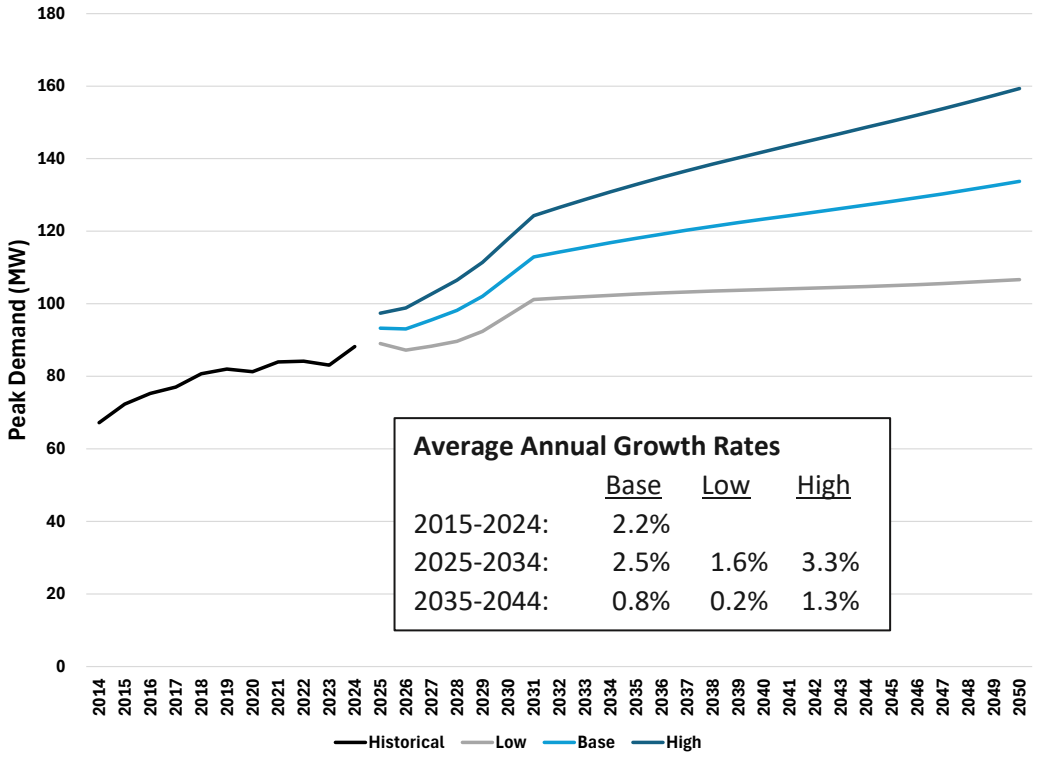

Figure 5-5: Scenario Forecasts – Summer Peak Demand (MW)

5.3 Demand-Side Management and Energy Efficiency

Michigan Public Act No. 229 of 2023 ("PA 229"), effective February 13, 2024, amended the energy waste reduction targets that were set forth under Michigan's Clean and Renewable Energy and Energy Waste Reduction Act (Public Act 295 of 2008). Under PA 229, beginning in 2026 the energy waste reduction programs of an electric provider in the State of Michigan "…shall collectively achieve incremental energy savings equivalent to 1.5% of total retail electric sales in megawatt hours in the preceding year…". The energy waste reduction requirements of PA 229 are applicable to BPW, as BPW is a municipal electric utility and qualifies as an "electric provider" under PA 229.

The load forecast discussed previously in this section and utilized for purposes of this IRP reflects the assumption that BPW will achieve the energy waste reduction requirements of PA 229 through customers participating in the *Energy Smart Programs* offered by BPW to its customers. The *Energy Smart Programs* and BPW's demand response program are summarized below; more information on these programs can be found at Zeeland - Energy Smart Programs[4].

[4] https://mienergysmart.com/zeeland

Rebates for Income-Qualified Residential Customers

This program assists income-qualified customers in making energy-efficient choices for their homes. Eligible customers can earn enhanced rebates (as compared to the rebates offered to non-income-qualified customers) for the purchase of ENERGY STAR® certified appliances and electronics, which help reduce participating customers' energy use and utility bills.

Eligible customers can receive rebates for the following:

- Whole home heating, ventilation, and air conditioning ("HVAC") equipment, including central air conditioning, heat pumps, mini-split heat pumps, and dehumidifiers.
- Heat pump water heaters.
- ENERGY STAR® certified refrigerators, freezers, smart thermostats, clothes washers and dryers, room air conditioning, portable dehumidifiers and air purifiers, personal computers, monitors, and TVs.
- Intelligent surge protectors.
- Building envelope measures including ceiling insulation, wall insulation, attic insulation, rim joist insulation, ENERGY STAR® certified windows and doors, and air sealing, weatherstripping, and duct repairs.

Rebates for Residential Customers

This program is similar to the program offered to income-qualified customers, but offers lower rebate amounts than offered to income-qualified customers. Participating customers can receive rebates for the following:

- Whole home HVAC, including central air conditioning, heat pumps, mini-split heat pumps, and dehumidifiers.
- Heat pump water heaters.
- ENERGY STAR® certified refrigerators, freezers, smart thermostats, clothes washers and dryers, room air conditioning, portable dehumidifiers and air purifiers, personal computers, monitors, and TVs.
- Intelligent surge protectors.
- Building envelope measures including ceiling insulation, wall insulation, attic insulation, rim joist insulation, ENERGY STAR® certified windows and doors, and air sealing, weatherstripping, and duct repairs.

Rebates for Business Customers

This program provides rebates to businesses to reduce their energy usage and lower their costs. Participating customers can receive rebates for the following:

- Lighting and lighting controls, including occupancy sensors.
- Indoor agricultural lighting.
- HVAC equipment and related controls equipment.
- Compressed air and industrial equipment.
- Refrigeration equipment.
- Food service and computer equipment.
- Demand response.

Appliance Recycling

Zeeland offers free pick-up as well as rebates to customers who have unwanted refrigerators, freezers, room air conditioners, and dehumidifiers. Participating customers receive a $50 rebate for refrigerators and freezers, and a $15 rebate for room air conditioners and humidifiers. This program is intended to incentive customers to dispose of older, often inefficient appliances that they may otherwise be using but do not necessarily need, thereby reducing electric consumption.

Demand Response

In late 2025, the BPW began offering a Commercial & Industrial ("C&I") demand response program, developed in partnership with a third-party demand response implementer. This program enables BPW's C&I customers to voluntarily reduce electric demand during grid capacity emergency events in exchange for compensation. Participation in the program provides BPW with a low-risk opportunity without direct cost to enhance system reliability, support sustainability goals, and strengthen the local economy by keeping performance payments within the community while positioning BPW competitively among other utilities.

5.4 BPW Historical Conservation and Energy Efficiency Reductions

As noted above, the conservation programs offered by BPW to its customers have focused primarily on rebates for upgrades for lighting, HVAC, appliances, and other equipment. Participation in BPW's conservation programs have resulted in the following:

- Cumulative reduction in energy usage over the 2012 through 2024 period of 8.5% (38,582 MWh) of BPW's 2024 total energy requirements (as illustrated in Figure 5-6).
    - Considering the energy reductions noted above, total energy requirements increased by 30.6% (2.25% annually) over the 2012 through 2024 period (as illustrated in Figure 5-6).

- Increase in peak demand from 2012 through 2025 averaged 2.3% annually, with an overall increase of 27% during that period, after accounting for demand reductions associated with BPW's conservation programs (as illustrated in Figure 5-7).

While BPW's historical energy efficiency initiatives have been effective in reducing both energy consumption and peak demand, these conservation efforts alone are not sufficient to mitigate BPW's incremental energy and capacity needs. The Base Case Load Forecast (discussed above in Section 5.1) incorporates the impacts of energy efficiency, moderating the level of future load growth and reducing the magnitude of new resource additions needed. However, even after accounting for the impacts of energy efficiency, the load forecast demonstrates that BPW will continue to experience additional energy and capacity needs over the planning horizon.

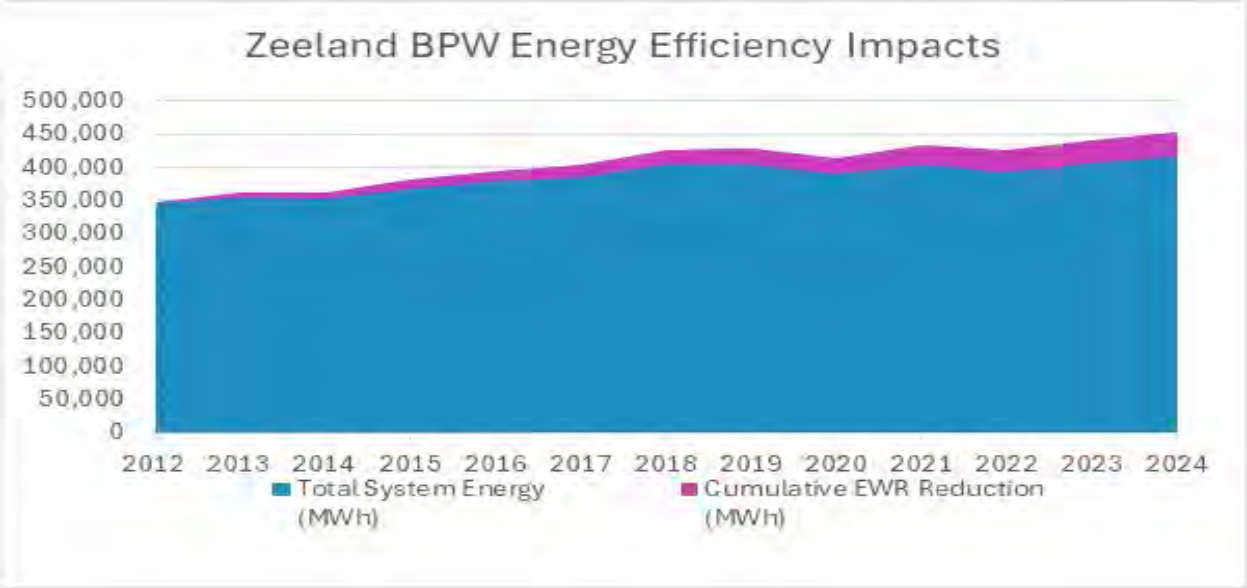

Figure 5-6: BPW Energy Efficiency Program Impacts

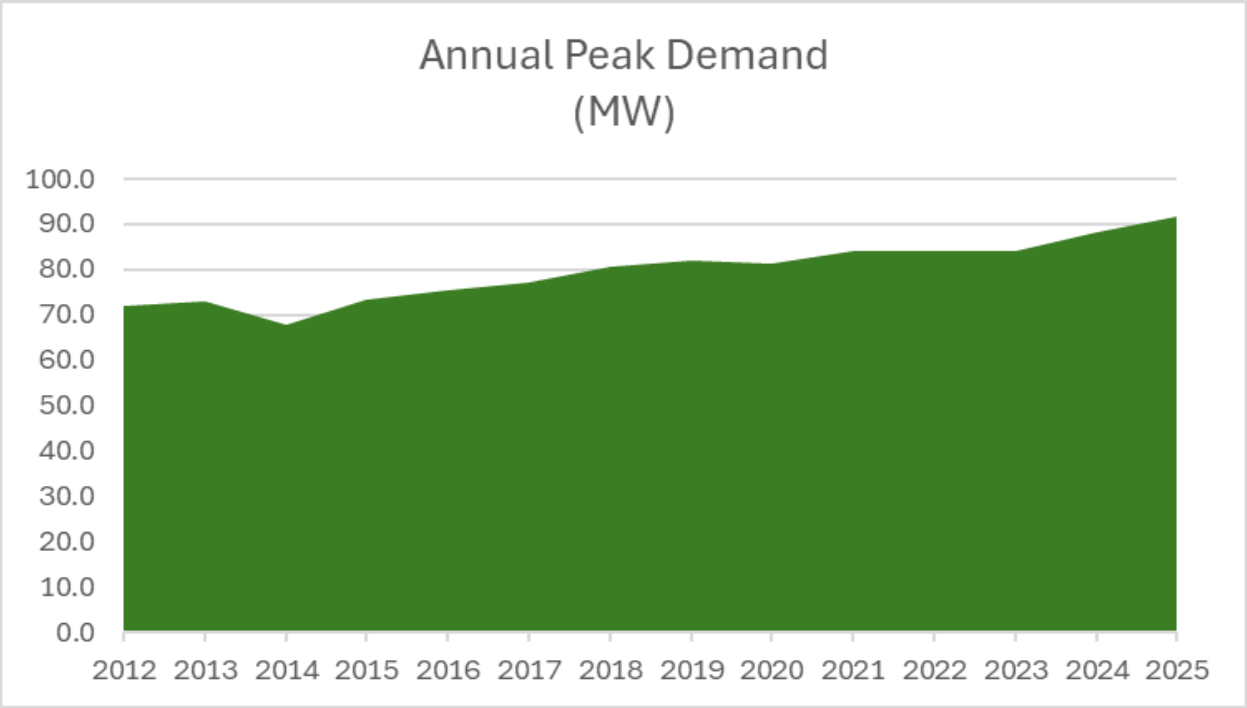

Figure 5-7: BPW Historical Peak Demand

6 PROJECTED CAPACITY REQUIREMENTS

Electric generating resource planning utilizing a reserve margin approach allows for determination of the amount of capacity required to meet projected annual peak demand while maintaining additional capacity (the reserve margin). The reserve margin is intended to allow the utility to meet the peak demand even during unexpected events, such as when actual peak demand exceeds the projected peak demand and in situations where generating resources are unexpectedly not available.

The MISO Planning Reserve Margin ("PRM") requirements are applied to BPW's seasonal peak demand projections (as discussed in Section 5 of this IRP) and the resulting total seasonal capacity requirements are compared to BPW's existing capacity resources (as summarized in Section 3 of this IRP) to determine the seasonal capacity requirements that must be satisfied through the addition of new resources.

6.1 Reserve Margin Considerations

BPW's resource planning includes consideration of planning reserve margins to comply with MISO's guidelines for unforced capacity. Importantly, beginning with Planning Year 2025/26, MISO has implemented the Reliability-Based Demand Curve ("RBDC") mechanism which will adjust the seasonal PRM based on auction results. The seasonal MISO PRM requirements assuming Unforced Capacity ("UCAP") and the assumed seasonal RBDC are presented in Table 6-1 below. It is important to note that in Planning Year 2028/29, the MISO PRM will be based on a Direct Loss of Load ("DLOL") methodology, resulting in a new set of seasonal PRM values.

Table 6-1: Seasonal MISO PRM

	PY 26/27			PY 28/29		
Season	**Base**	**RBDC**	**Total**	**Base**	**RBDC**	**Total**
Summer	7.9%	3.1%	11.0%	2.3%	3.1%	5.4%
Fall	11.6%	2.0%	13.6%	6.0%	2.0%	8.0%
Winter	18.9%	5.1%	24.0%	5.6%	5.1%	10.7%
Spring	23.4%	1.4%	24.8%	1.0%	1.4%	2.4%

6.2 MISO Zone 7 Coincidence Factors

BPW's resource planning includes consideration of the BPW peak coincidence with the MISO Zone 7 system wide peak hour within each season. The seasonal MISO Zone 7 peak coincidence factors that are applied to BPW's seasonal peak demand projections are shown below in Table 6-2.

Table 6-2: MISO Zone 7 Seasonal Coincidence Factors

Season	Coincidence Factor
Summer	92.4%
Fall	91.4%
Winter	88.2%
Spring	92.5%

6.3 Transmission Losses

BPW's resource planning includes consideration for the transmission losses incurred on the transmission system. The seasonal transmission loss factors that are applied to the BPW seasonal peak demand projections are shown below in Table 6-3.

Table 6-3: Transmission Loss Factors

Season	Transmission Losses
Winter	3.0%
Spring	2.6%
Summer	3.4%
Fall	3.3%

6.4 MISO Seasonal Capacity Accreditation

BPW currently relies on the historical performance as the basis of seasonal accreditation for its local generation facilities. In addition, BPW relies on the standard MISO Schedule 53 methodology for Belle River and renewable resources managed through MPPA. BPW will be able to continue this approach of seasonal accreditation through MISO Planning Year 2027/2028.

As mentioned previously, beginning in MISO Planning Year 2028/29, the MISO resource accreditation methodology will be based on a DLOL methodology. The DLOL seasonal accreditation values currently estimated by MISO are shown below in Table 6-4.

Table 6-4: DLOL Seasonal Capacity Accreditation Beginning Planning Year 2028/2029

Resource Class	Summer	Fall	Winter	Spring
Coal	89%	85%	76%	72%
Oil/Gas	87%	84%	79%	77%
Gas	88%	85%	64%	68%
Combined Cycle	95%	92%	77%	78%
Oil	77%	75%	74%	73%
Solar	45%	28%	19%	28%
Wind	8%	15%	23%	15%

6.5 Capacity Balance

Consideration of BPW's existing seasonal accredited capacity and applying MISO's seasonal PRM requirements to BPW's projected demand requirements indicates that projected capacity requirements will be highest during the summer season. Figure 6-1 below illustrates BPW's projected capacity needed to satisfy projected summer peak demand and associated PRM requirements.

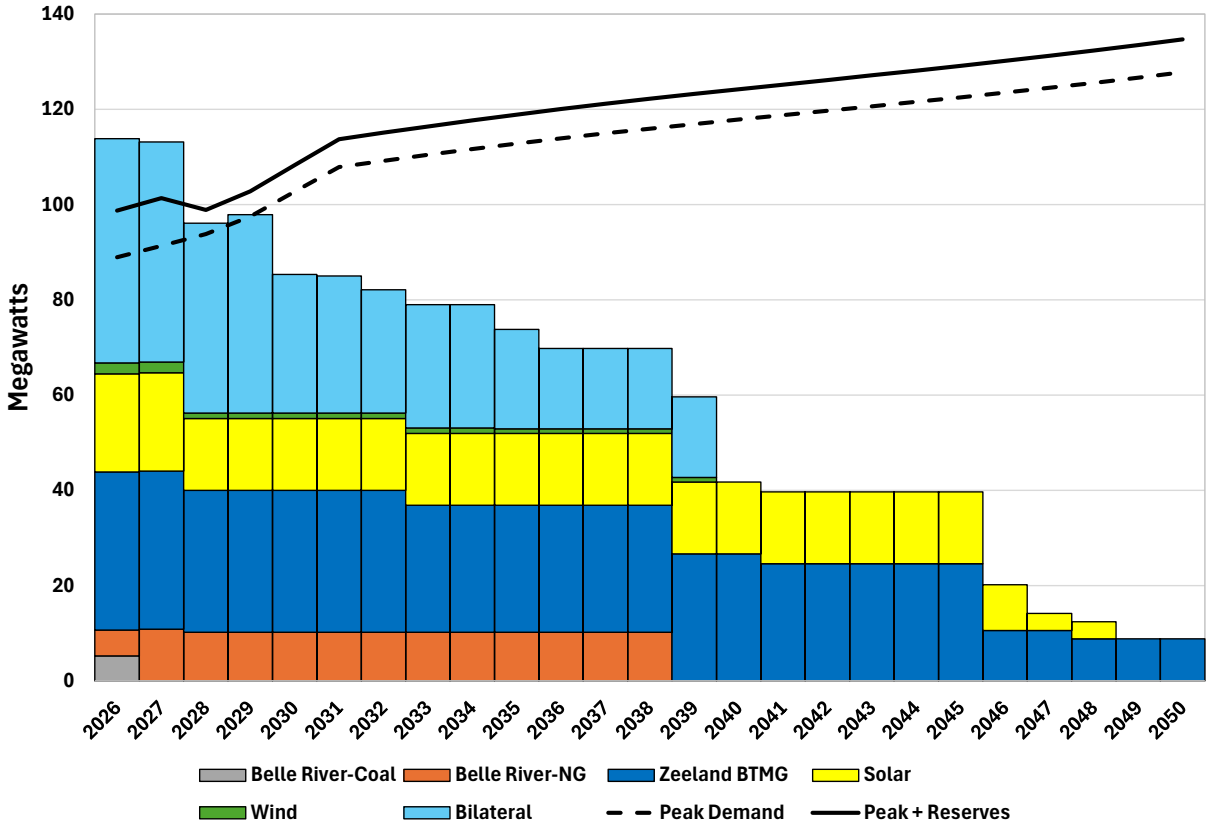

Figure 6-1: BPW Summer Capacity Balance

BPW currently relies on the bilateral transactions executed through MPPA to satisfy its planning reserve margin requirements above its existing resource portfolio. As shown in Figure 6-1, and described in more detail below, BPW is projected to need capacity beginning with the summer of 2028.

- Prior to 2030, the need for additional capacity is less than 5 MW and is assumed to be satisfied through the purchase of MISO Zonal Resource Credits ("ZRCs").
- By 2030, the need for additional capacity grows to 30 MW with the step-down of capacity from bilateral contracts.
- By 2040, the need for additional capacity is projected to increase to approximately 85 MW as a result of the anticipated retirement of Belle River, the expiration of the existing capacity contracts, and projected load growth.
- By 2050, the need for additional capacity is projected to increase to approximately 125 MW as a result of the anticipated retirements of the Washington Ave. Generation Facility and West Washington Generation Facility, expiration of existing renewable PPA's, and projected load growth.
    - It should be noted that, due to their condition, maintenance practices, and limited operation, the existing generating units have been kept in service beyond their expected operating life. While BPW has an anticipated retirement timeline for these units and has continued to maintain them in a manner that promotes reliable operation when needed, their increasing age may make long-term support a growing concern.

It should be noted that the addition of new resources reflected in this IRP is not solely driven by reserve margin considerations and may also be influenced by BPW's generation needs to comply with the requirements of PA 235.

7 RESOURCE OPTIONS

The analysis performed for this IRP includes consideration of various supply-side options, including conventional generating units, utility-scale renewable and energy storage technologies, and emerging technologies (i.e. small modular reactor, or "SMR", and carbon capture and sequestration, or "CCS") to meet projected system capacity and energy requirements. The following subsections discuss the approach and methodology used to develop the planning-level estimated capital and operating costs and performance characteristics for use in this IRP and present the corresponding estimates.

7.1 General Considerations

As a relatively small electric utility, BPW's supply-side options are limited to relatively smaller generating units, or purchases of shares of larger units (with the implicit assumption being that another entity develops the larger unit, and BPW is able to participate on a pro rata type basis for a smaller share). The resource options evaluated in this IRP were selected to provide an informative analysis of various supply-side options that may be suitable for BPW to consider and to provide insight into the relative economics of smaller units as compared to larger units. The resource options considered in this IRP included the following.

- BPW sole ownership of reciprocating internal combustion engines ("RICE")
- Entitlements to capacity (5 MW shares) from utility scale thermal generation resources, including natural gas-fired General Electric ("GE") LM6000 simple cycle aeroderivative turbines, GE advanced-class simple cycle combustion turbine ("NGCT"), and GE advanced-class combined cycle combustion turbine ("NGCC"), with and without 90% CCS
- Entitlements to capacity (5 MW shares) from small modular reactors ("SMR") resources
- Entitlements to capacity (5 MW shares) from renewable resources, including utility-scale solar photovoltaic ("PV") and utility-scale wind resources
- Entitlements to capacity (5 MW shares) from utility-scale 4- and 8-hour battery energy storage systems ("BESS")

It should be noted that the decision to characterize and evaluate General Electric ("GE"), Caterpillar, and Solar Turbines as the basis for the natural gas resource options evaluated in this IRP is not intended to imply that these are the only types of generating units available to BPW, but these manufacturers were viewed as representative. Several other manufacturers may offer competing technologies that BPW may ultimately consider (e.g., Mitsubishi-Hitachi Power Systems, Siemens, Wartsila, MAN Energy, Jenbacher). Regardless of the unit type or manufacturer, prior to making any final decisions on new generating units, BPW should consider working with an owner's engineer to develop more detailed, site-specific capital cost estimates,

and going to the market by issuing a bid/specifications package to solicit formal pricing estimates from manufacturers.

General Basis for Estimated Capital and Operating Costs and Performance

Estimated capital and operating costs and estimated performance (i.e., net heat rate) for the natural gas and SMR options evaluated in this IRP were developed based on nFront Consulting's proprietary collection of resource capital costs, O&M costs, and operating characteristics for supply-side options for use in resource planning studies. The characteristics are based on nFront Consulting's research on recent projects, regulatory filings for IRPs and other resource planning proceedings, participation in various power supply RFPs, discussions and data from equipment vendors, vendor performance models and reporting, and publicly available information. The estimates are considered inclusive of engineering, procurement, and construction costs as well as additional owner's costs.

Estimated costs for renewable (solar PV and onshore wind) and energy storage technologies were developed based on nFront's experience related to renewable power supply RFPs, independent research, and publicly available information (such as the National Renewable Energy Laboratory[5] ("NREL") Annual Technology Baseline ("ATB"). For purposes of this IRP, the all-in costs for these resources are represented as PPAs and include consideration of tax credits available under the Inflation Reduction Act, with consideration of the impact of more recent federal legislation, and likely cost trends capturing the potential for declining capital costs as these technologies mature, as discussed further below. However, BPW may consider other approaches for implementing these resources.

Electric Transmission Costs

Transmission related costs have become an increasingly significant driver of overall power supply costs. In recent years, transmission charges have grown at a faster rate than other components of power supply costs, making transmission-related costs a material contributor to upward cost pressure and an important consideration in long-term resource planning.

The electric transmission costs that were considered as a part of the IRP evaluation include transmission upgrade costs, congestion and marginal losses, and MISO Schedule 26A charges. A summary of how these transmission charges were applied within the IRP evaluation is illustrated below in Table 7-1, and described in more detail in the following paragraphs. Importantly, charges associated with Network Integrated Transmission Services ("NITS") have not been included as such costs can be considered "sunk costs" that would not change nor influence the resource and dispatch decisions reflected in this IRP.

[5] Recently renamed the National Laboratory of the Rockies.

Table 7-1: Projected Costs of Transmission Upgrades, Congestion, and Schedule 26A

New Resource Option	Location	Transmission Upgrade	Congestion & Losses	Schedule 26A Charges
SMR	Off-System	Yes	Yes	Yes
RICE	Local	No	No	No
RICEx2	Local	No	No	No
Small CT	Off-System	Yes	Yes	Yes
Large CT	Off-System	Yes	Yes	Yes
1x1 CC	Off-System	Yes	Yes	Yes
1x1 CC-CCS	Off-System	Yes	Yes	Yes
Solar PV	Off-System	Yes	Yes	Yes
Wind	Off-System	Yes	Yes	Yes
BESS (4-Hr)	Off-System	Yes	Yes	Yes
BESS (8-Hr)	Off-System	Yes	Yes	Yes

Legend: Small modular reactor (“SMR”); Reciprocating internal combustion engines (“RICE”); Simple cycle combustion turbine (“CT”); Combined cycle combustion turbine (“CC”); Combined cycle combustion turbine with carbon capture and sequestration (“CC-CCS”); Solar photovoltaic ("Solar PV"); Battery energy storage systems ("BESS")

For purposes of evaluating new resource options that would be located outside of BPW’s electric distribution system, it has been assumed that these resources would incur additional transmission costs related to transmission upgrades. The incremental transmission upgrade costs are included to account for the additional infrastructure required to reliably integrate those resources into the transmission system. The assumed transmission upgrade costs applied in this evaluation are based on a review of historical MISO generator interconnection cluster study results and escalated at 2.5 percent.

Additional costs associated with delivering energy from resources located outside of Zeeland include costs for locational marginal price (“LMP”) congestion and marginal losses from the Michigan hub to Zeeland and transmission charges under Schedule 26A[6]. The projected cost of congestion and marginal losses are based on a historical average of the last 3 years and escalated at 2.5 percent. The projected charges associated with Schedule 26A are based on indicative forecasts produced by MISO.

The assumed costs of transmission upgrades, costs of congestion and marginal losses, and Schedule 26A charges applied in this evaluation are summarized in Table 7-2.

[6] MISO Schedule 26A charges recover costs for certain large regional transmission projects within MISO referred to as Multi-Value Projects.

Table 7-2: Projected Costs of Transmission Upgrades, Congestion, and Schedule 26A (Nominal$)

Year	Transmission Upgrade ($/kW)	Congestion & Losses ($/MWh)	Schedule 26A Charges ($/MWh)
2026	300.0	0.63	1.58
2027	307.5	0.65	1.56
2028	315.2	0.67	1.53
2029	323.1	0.68	1.50
2030	331.1	0.70	1.47
2031	339.4	0.72	1.44
2032	347.9	0.74	1.41
2033	356.6	0.75	1.39
2034	365.5	0.77	1.36
2035	374.7	0.79	1.33
2036	384.0	0.81	1.31
2037	393.6	0.83	1.28
2038	403.5	0.85	1.26
2039	413.6	0.87	1.23
2040	423.9	0.90	1.21
2041	434.5	0.92	1.18
2042	445.4	0.94	1.16
2043	456.5	0.96	1.13
2044	467.9	0.99	1.11
2045	479.6	1.01	1.09
2046	491.6	1.04	1.07
2047	503.9	1.06	1.04
2048	516.5	1.09	1.02
2049	529.4	1.12	1.00
2050	542.6	1.15	0.98

Natural Gas Transportation Costs

For purposes of the evaluations performed in this IRP, it was assumed that BPW would incur both transmission-level and local delivery charges for natural gas, and those costs are reflected in the natural gas price forecasts presented in Section 8 of this IRP. The natural gas delivery charges were modeled as variable costs per MMBtu of natural gas consumed.

7.2 PA 235 Clean Energy Standards and Renewable Energy Standard Considerations

As discussed previously, the IRP considers a scenario in which BPW meets the RES and CES requirements of PA 235, which are generally outlined as follows:

- Minimum of 15 percent renewable energy through 2029
- Minimum of 50 percent renewable energy in 2030 through 2034
- Minimum of 60 percent renewable energy in 2035 and thereafter

- Minimum of 80 percent clean energy in 2035 through 2039
- 100 percent clean energy in 2040 and thereafter

Of the new resource options evaluated in this IRP, SMR, NGCC with CCS, solar PV, and wind resources all contribute to satisfying the PA 235 CES requirements, while solar PV and wind contribute to satisfying both the PA 235 CES and RES requirements. All energy from BPW's existing renewable PPAs is assumed to contribute towards satisfying both the PA 235 CES and RES requirements.

7.3 Cost and Performance Estimates

The estimated capital cost, operating cost, and performance for the natural gas-fired and SMR resource options evaluated in this IRP are shown in Table 7-3, along with additional information related to the consideration of these resource options in the IRP analysis. Please see Section 9 for analysis of the all-in, lifecycle costs of the resource options shown in Table 7-3. As shown in Table 7-2, the various natural gas and SMR resource options reflect a range of sizes and initial construction costs (capital costs), operating and maintenance (fixed and non-fuel variable O&M) costs, and efficiency (heat rate), which are all considered in the detailed economic evaluations presented in Section 11 herein.

Table 7-3: New Natural Gas and SMR Resource Cost and Performance Estimates[1]

Description	Nameplate Capacity (MW)	BPW Share (MW)	Earliest On-Line Date	Capital Cost ($/kW)[2]	Fixed O&M ($/kW-Yr)[2,3]	Non-Fuel Variable O&M ($/MWh)[1]	Full Load Net Plant Heat Rate (Btu/kWh)
SMR	300	5	2035	11,893	180	3.00	10,300
RICE	5	5	2028	2,000	30	7.12	9,800
RICEx2	10	10	2028	2,000	22.50	7.12	9,800
Small CT	16	16	2028	2,500	28.13	1.50	9,700
Large CT	426	5	2030	1,623	7.00	1.20	9,200
1x1 CC	664	5	2030	2,093	18.00	2.60	6,200
1x1 CC-CCS	598	5	2035	3,526	45.60	5.50	6,820

Notes:
1. All estimates reflect output and performance and average ambient conditions.
2. All costs are in 2025 base year dollars.
3. Fixed O&M for new combined cycle with CCS includes estimated costs for carbon dioxide ("CO_2") sequestration.

Legend: SMR: small modular reactor (nuclear) | RICE: reciprocating internal combustion engine | CT: simple cycle combustion turbine | CC: combined cycle combustion turbine | CC-CCS: combined cycle combustion turbine with carbon capture and sequestration

The assumed base year capital and fixed operating cost for solar PV, onshore wind, and BESS options, as well as the first-year capacity factors for solar and wind, are shown in Table 7-4, along with information related to the consideration of these resource options in the IRP analysis. It should be noted that capital and fixed operating costs for future install years for the solar PV, wind, and BESS options are assumed to decline as these technologies mature, based on projections

adapted from the NREL ATB. Similarly, first-year capacity factors for solar and wind resources are assumed to increase somewhat over the study horizon. Solar capacity factors are assumed to decline over the operating lives of these resources due to degradation of the panels and other equipment. Please see Section 9 for analysis of the all-in, lifecycle costs of the resource options shown in Table 7-4. As shown in Table 7-4, the various solar, wind, and BESS resource options reflect a range of sizes and initial construction costs (capital costs), operating and maintenance (fixed and non-fuel variable O&M) costs, and operating profiles (capacity factor), which are all considered in the detailed economic evaluations presented in Section 11 herein.

Table 7-4: New Solar, Wind, and BESS Resource Cost and Performance Estimates

Description	Nameplate Capacity (MW)	BPW Share (MW)	Capital Cost ($/kW)[1]	Fixed O&M Cost ($/kW-Yr)[1]	Capacity Factor (%)[2]	Operating Life (Years)
Solar PV	100	5	1,776	23.41	23.8	30
Wind	100	5	1,916	43.84	33.8	30
BESS (4-Hr)	100	5	2,453	61.32	N/A	20
BESS (8-Hr)	100	5	4,314	107.84	N/A	20

Notes:
1. All costs are in 2025 dollars and reflect a 2025 installation. Future years will vary due to the assumed technology cost curve (i.e., the trend of future costs on a constant dollars basis).
2. Capacity factor estimates reflect the first year of a 2025 installation. Future install years will tend to be slightly higher due to technology improvements. Capacity factors for solar resources are assumed to decline over their operating lives as a result of degradation.

Legend: Solar PV: Solar photovoltaic | BESS: Battery energy storage systems

The Inflation Reduction Act of 2022 ("IRA") includes various incentives associated with the development of solar PV, wind, BESS, SMR, and CCS energy resources. These include both investment tax credits ("ITC"), which reflect a tax credit amount based on a percentage of the installed cost of the resource, and production tax credits ("PTC"), which reflect a tax credit amount based on the amount of "production"—of energy, for generation technologies, and carbon dioxide sequestered, for CCS.

Table 7-5 presents a summary of how these incentives were assumed to apply for purposes of developing the cost estimates for these technologies considered in the IRP. It should be noted that the information in Table 7-5 is not being provided by nFront Consulting as an interpretation of the IRA or tax advice to BPW but instead reflects an estimate of how the tax incentive provisions of the IRA may apply to the various resources.

Table 7-5: Assumed Tax Credits[1]

Technology	Type	Value	Term	Eligibility Requirements[2]
Solar PV	PTC	$27.50/MWh (2022 $)	First 10 Years of Operation	Must begin construction by June 2026
Wind	PTC	$27.50/MWh (2022 $)	First 10 Years of Operation	Must begin construction by June 2026
BESS	ITC	30% of Capital Cost	N/A	Tax credits phase out for units with construction starts in 2034-36
SMR	ITC	30% of Capital Cost	N/A	Tax credits phase out for units with construction starts in 2034-36
CCS	PTC	$85/metric ton sequestered (2026 $)	First 12 Years of Operation	Must begin construction before 2033. Minimum capture rate of 18,750 metric tons of carbon dioxide ("CO_2") per year or 75% CO_2 capture rate.

Notes:
1. Information presented in this table is not being provided by nFront Consulting as an interpretation of the IRA or tax advice to BPW, but instead reflects an estimate of how the tax incentive provisions of the IRA may apply to these resource types.
2. Eligibility for tax credits is assumed to allow for reasonable construction timeframes—4 years for solar/wind, 2 years for BESS, and 10 years for SMR and CCS resources.

Utility-scale solar, wind, and BESS resources have been reflected in the IRP as 20-year PPA options based on estimates of the LCOE, or in the case of BESS resources, levelized cost of capacity ("LCOC"), from these resources over their useful lives.[7] Financing costs reflect the cost structure of a taxable developer and interest rates based on NREL's ATB, adjusted for interest rate trends. For solar and wind resources, it is assumed that some facilities brought online over 2026-2030 will be eligible for tax credits but that the proportion of facilities that are eligible will decrease over that timeframe. Hence, for purposes of the IRP, the rate for PPAs beginning in a year within that timeframe reflects a gradual transition from achieving the full benefit of tax credits in 2026 to no benefit of tax credits in 2031. This transition is intended to capture the competitive dynamics that may be experienced during this period in which some facilities that start construction by July 2026 are able to "safe harbor" tax credit eligibility, while others may not be able to do so.

The future cost curves reflected in the evaluation of PPAs for solar PV, wind, and BESS resources in this IRP are illustrated in Figures 7-1 through 7-3. Note that Figures 7-1 and 7-2 reflect that transition in the impact of tax credits over 2026-2031.

[7] The solar, wind, and BESS resources have been evaluated in this IRP as PPAs; subsequent evaluations would be necessary to determine whether BPW would pursue such options as PPAs or as resources owned by BPW.

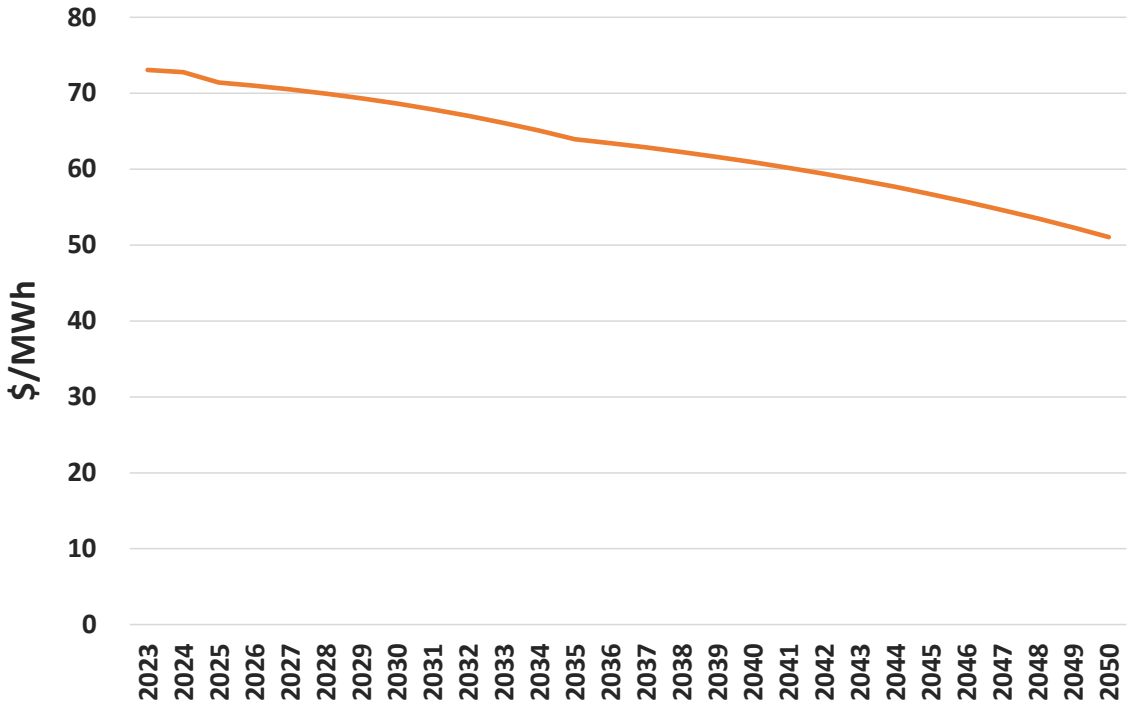

Figure 7-1. Future Solar PV PPA Cost Curve

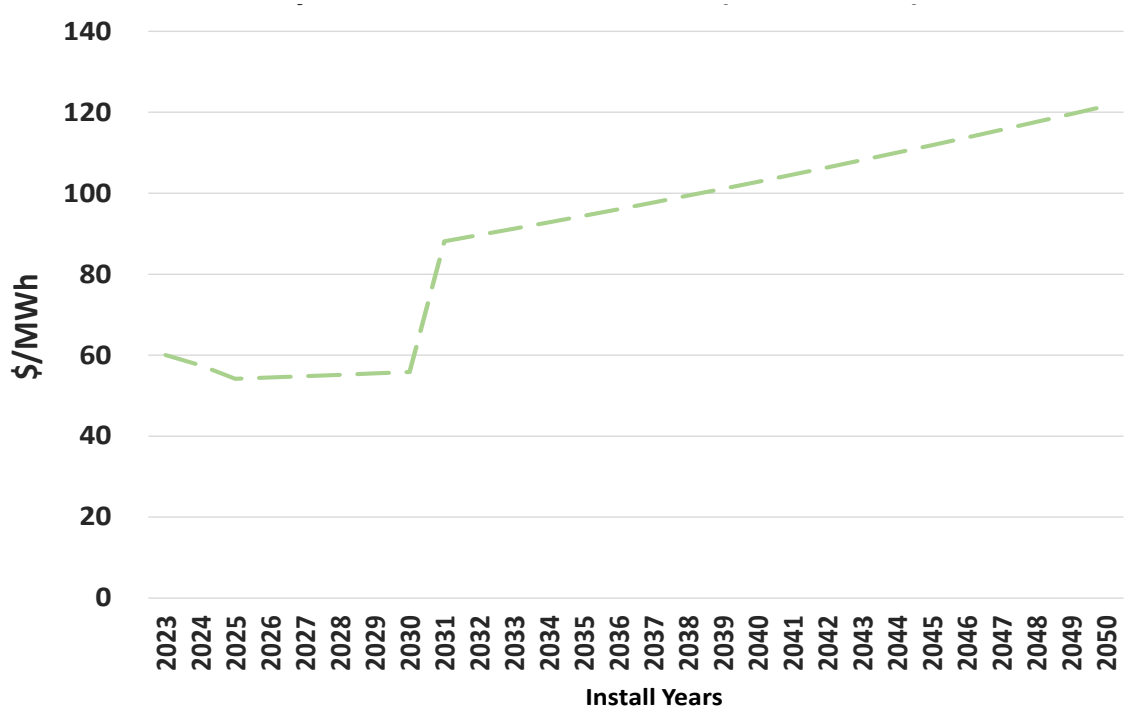

Figure 7-2. Future On-Shore Wind PPA Cost Curve

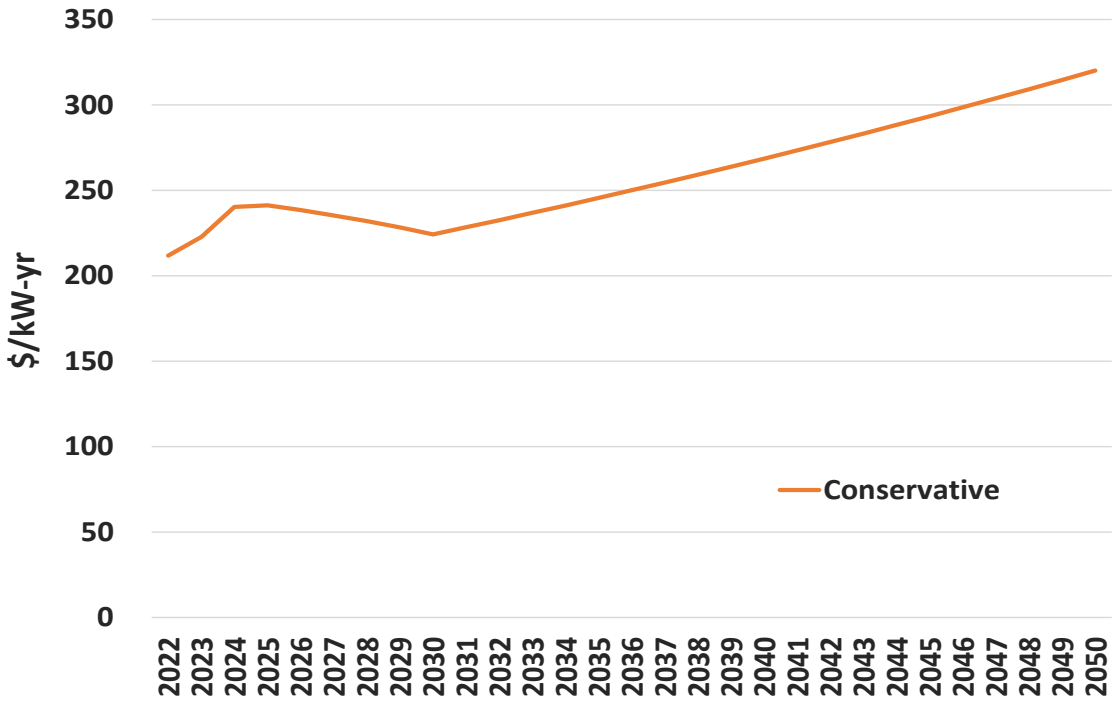

Figure 7-3. Future BESS PPA Cost Curve

8 FUEL PRICE FORECASTS

Forecasted fuel prices utilized in this IRP generally reflect an average of forecasts taken from the Energy Information Administration's 2025 Annual Energy Outlook ("AEO") Reference Case and obtained from S&P Global's August 2025 Forecast (which reflect consideration of NYMEX forward prices). The remainder of this section provides additional information related to the process used to develop the fuel price projections and presents the resulting fuel price projections. Importantly, to maintain consistency, the fuel price projections developed will be used in both the Power Market Price Forecast (Section 10) and the Resource Portfolio Optimization Analysis (Section 11) herein for purposes of evaluating the fuel cost of existing resources as well as new resource options.

8.1 Natural Gas Price Forecast

Henry Hub Price Forecast

A forecast of Henry Hub natural gas prices was developed utilizing NYMEX forward natural gas prices and the AEO forecast (published in April 2025) thereafter. Settled monthly NYMEX prices for Henry Hub for all trade days occurring during August 2025 were averaged to provide forecast monthly prices for the 2026-2029 period. Beginning with 2030, the AEO forecast of annual Henry Hub prices was assigned a monthly pattern based on relative monthly NYMEX forward prices through 2034, with the monthly pattern for 2034 applied to the AEO forecast annual price through the remainder of the study period. High and Low fuel price projections were developed based on the relative differences in the AEO Low and High Oil and Gas Supply Cases, respectively. Figure 8-1 depicts the forecasted Henry Hub prices developed for the IRP.

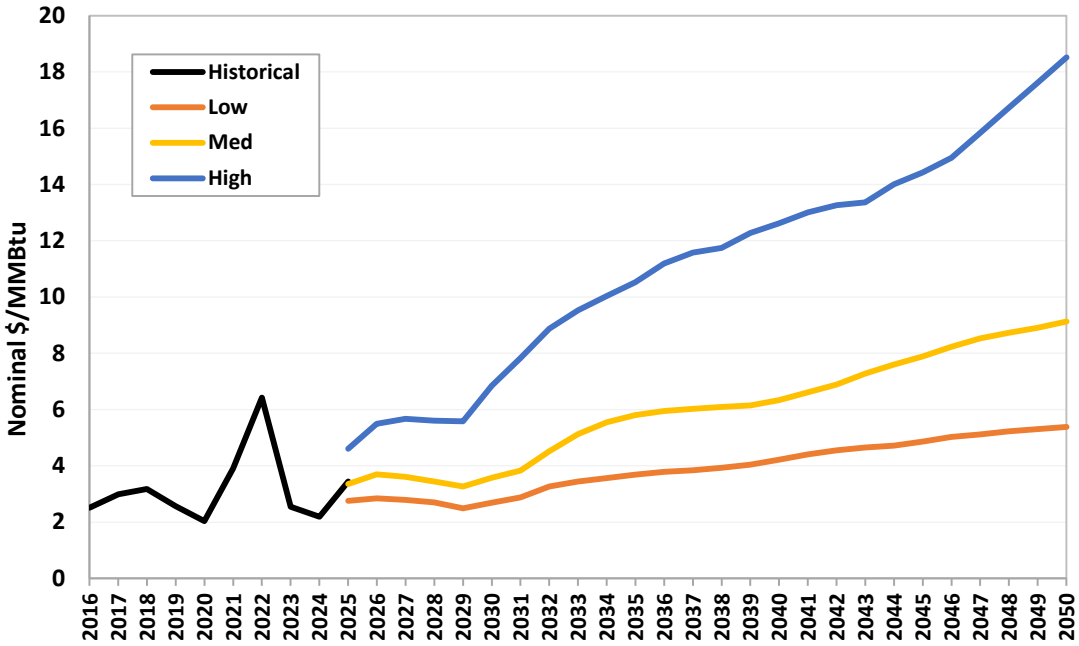

Figure 8-1: Annual Average Henry Hub Price Forecast (Nominal $/MMBtu)

Natural Gas Hub Price Forecast

For purposes of this IRP, long-term forecasts of natural gas prices were developed for major natural gas hubs throughout the MISO and PJM Balancing Authorities. Each MISO and PJM market area and a modeled BPW area were assigned natural gas prices based on the predominant natural gas hub within or near each area, as shown in Table 8-1 below.

Table 8-1: Natural Gas Hub Assignments

Market Area	Natural Gas Hub
Zeeland	Chicago Citygate
MISO IL (Zone 4)	Chicago Citygate
MISO IN (Zone 6)	Chicago Citygate
MISO MI (Zone 7)	Michcon Citygate
PJM AEP	TETCO M2
PJM ATSI	TETCO M2
PJM ComEd	Chicago Citygate

Natural gas prices modeled for each of the market areas were derived from forward prices utilizing NYMEX forward gas prices for each of the assigned natural gas hubs. For each natural gas hub, forward natural gas basis to Henry Hub based on the NYMEX forwards were utilized over the 2026-2034 period. After 2034, annual basis prices for each hub were held constant while maintaining the monthly shape. Figure 8-2 depicts the monthly forward price basis differential to Henry Hub, for each regional Hub over the forward price period for 2026-2050, and Figure 8-3 depicts the average annual basis for each calendar year for the same period. Figure 8-4 provides a summary of the average annual Henry Hub price forecasts and each modeled hub price.

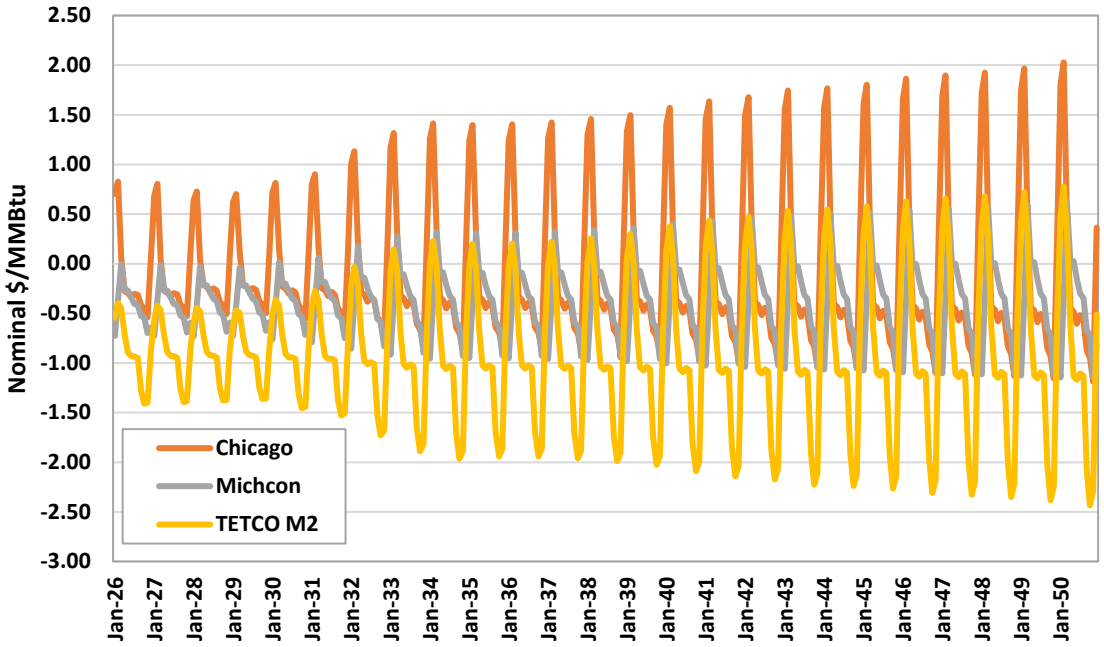

Figure 8-2: Monthly Forward Price Basis to Henry Hub (Nominal $/MMBtu)

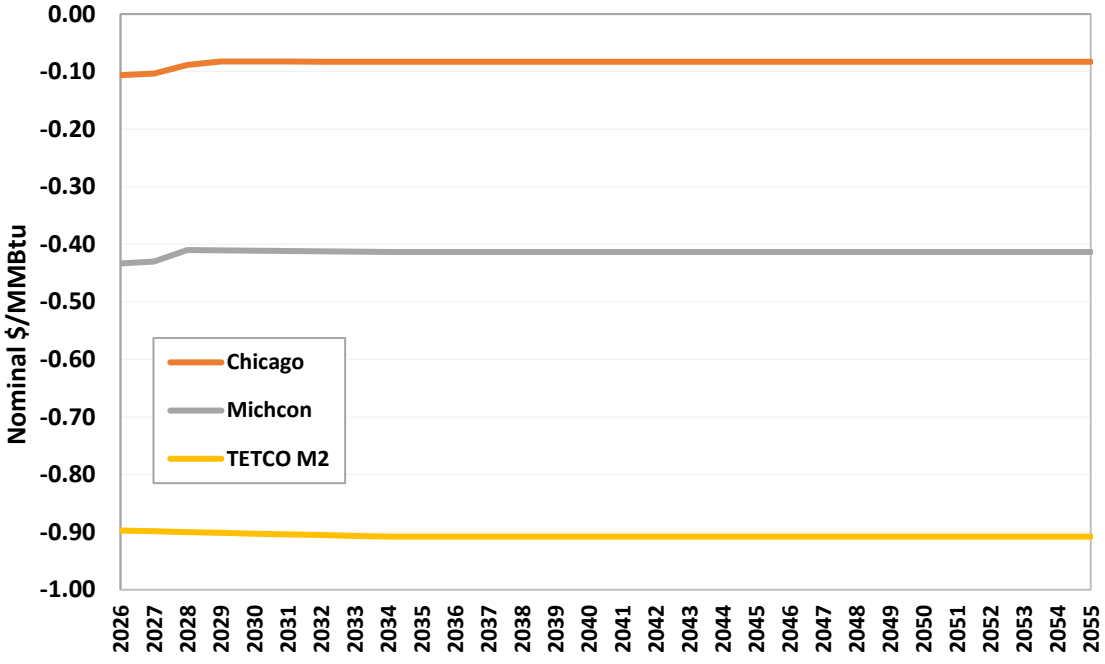

Figure 8-3: Annual Forward Price Basis to Henry Hub (Nominal $/MMBtu)

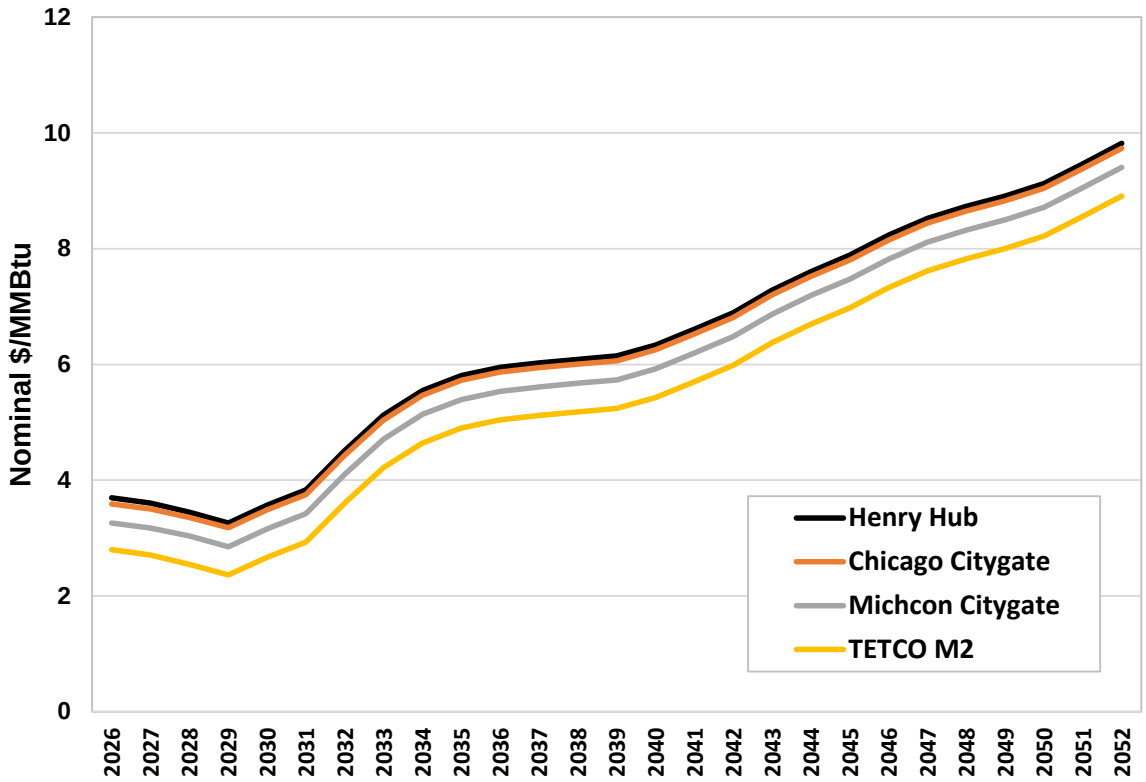

Figure 8-4: Annual Average Natural Gas Price Forecasts (Nominal $/MMBtu)

8.2 Coal Price Forecast

Forecasted coal prices are based on the average of basin price forecasts from the 2025 AEO for Central Appalachian, Northern Appalachian, Illinois, and Powder River basins. The forecasted prices for the Powder River basin, which is assumed to supply the Belle River coal plant, are shown in Figure 8-5 below.

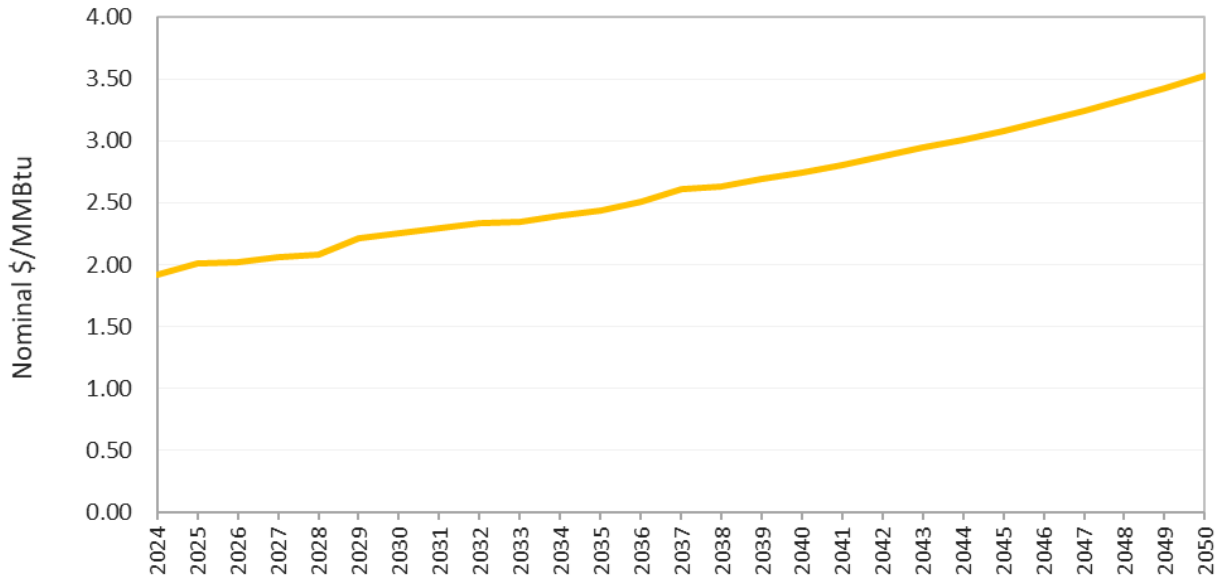

Figure 8-5: Forecast Powder River Basin Coal Prices (Nominal $/MMBtu)

8.3 Distillate Fuel Oil Price Forecast

Forecasted distillate fuel oil prices, shown in Figure 8-6 below, were based on an average of forecasts from the 2025 AEO.

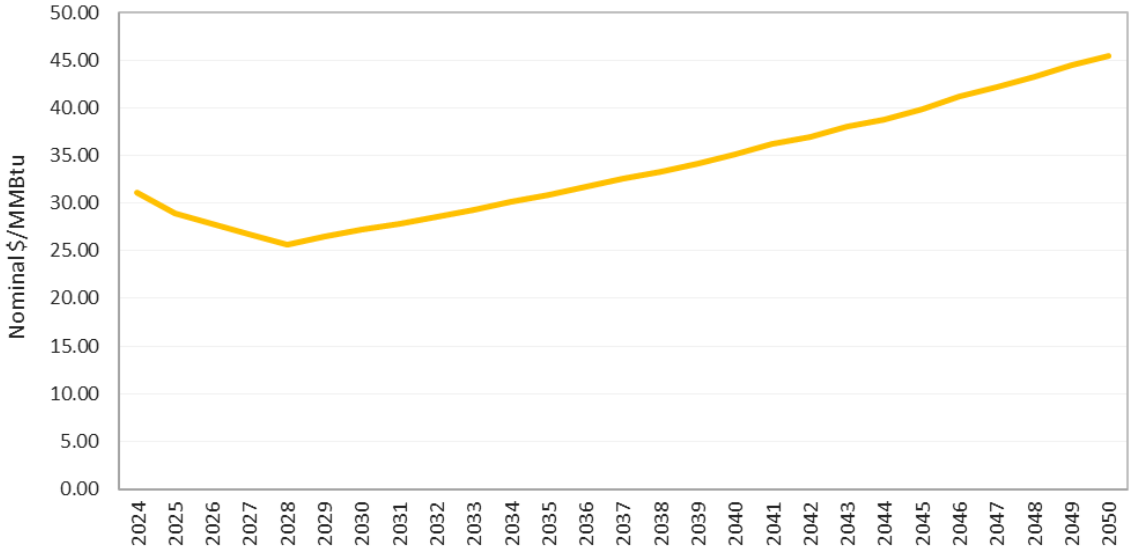

Figure 8-6: Forecast Distillate Fuel Oil Prices (Nominal $/MMBtu)

9 LEVELIZED COST OF ENERGY ANALYSIS

The levelized cost of energy ("LCOE") considers projected capital costs, operating costs, and fuel costs of resource alternatives on a present value basis to develop an average levelized cost across a range of potential resource operations (i.e., capacity factor, or amount of energy generated each year). Such an approach is widely used in the electric utility industry to compare the relative economics of resource options and to identify those resources that are consistently lower cost than other comparable resources within a likely range of operation for a class of resources (e.g., baseload, intermediate, and peaking). This process facilitates understanding of the relative economics between the different types of resource options. However, the LCOE analysis does not take into account how each resource may fit into BPW's overall portfolio to serve system load requirements, nor does it account for resource decisions that are made for the purposes of compliance with the RES and CES requirements of PA 235. The LCOE analysis reflects the economic parameters, natural gas price forecasts, and new resource cost and performance estimates presented in respective sections of this IRP.

9.1 LCOE Summary

Figure 9-1 illustrates the average levelized cost by resource type, shown for capacity factors ranging from 5 percent to 100 percent. Review of Figure 9-1 indicates the following:

- The new natural gas combined cycle ("1x1 CC") option has the lowest levelized cost at higher capacity factors.
- The large simple cycle combustion turbines ("Large CT") has the lowest levelized cost at lower capacity factors.
- Reciprocating internal combustion engines ("RICE" and "RICEx2") become economic at higher capacity factors and are seen to be more economic than new simple cycle aeroderivative turbines ("Small CT").
- Small modular reactors ("SMR") are shown to have higher levelized costs at all capacity factors.
- Comparison of the LCOE of non-dispatchable resources such as solar and wind and limited dispatch BESS to the LCOE of dispatchable resources (such as natural gas and SMR) is not a relevant comparison as such comparison does not account for the difference in firm capacity associated with each resource type.

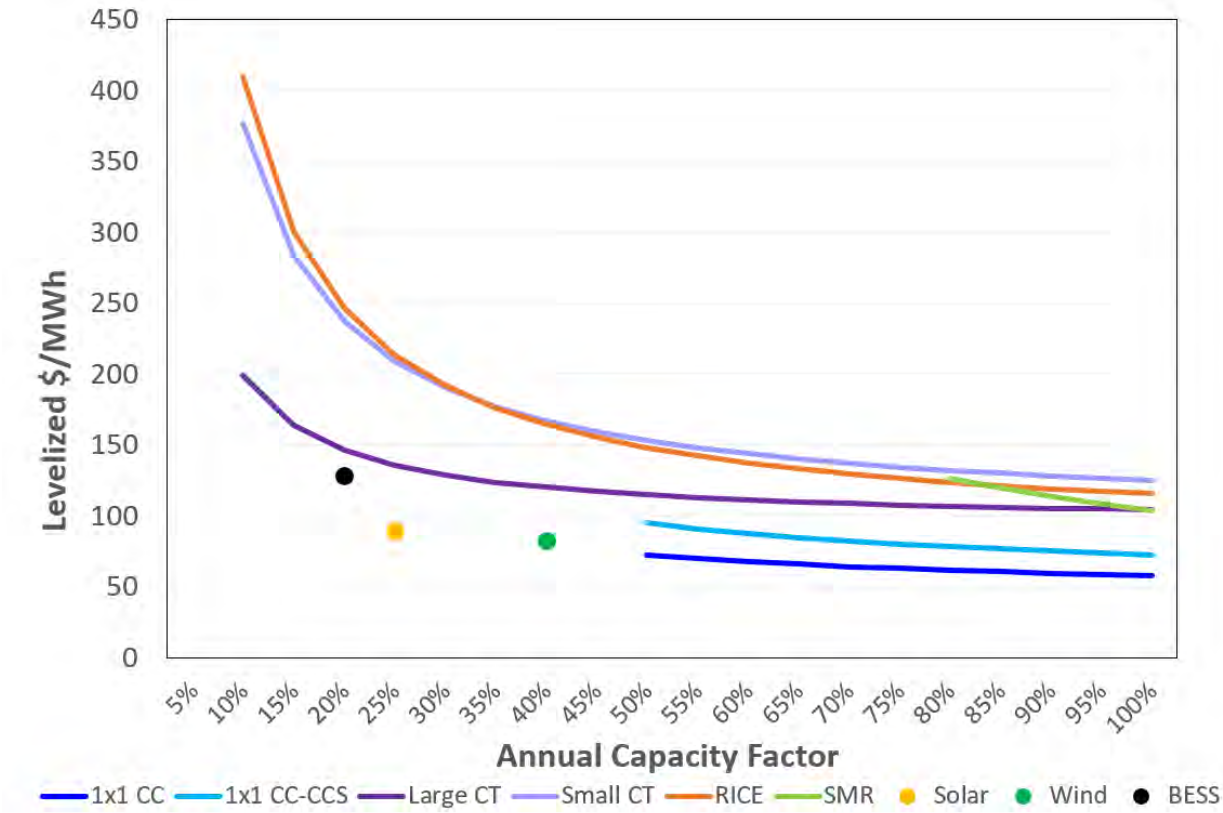

Figure 9-1: Average Levelized Cost by Capacity Factor and Resource Type

10 POWER MARKET PRICE FORECAST

MISO zonal market price forecasts were developed for use in the evaluation of BPW resource options in this IRP. Market prices forecasts were developed for the two scenarios discussed previously—one scenario that assumes no state requirements pertaining to renewable or clean energy production are in effect throughout the study period ("BAU"), and a second scenario that assumes the requirements of Michigan's Renewable Energy Standard ("RES") and Clean Energy Standard ("CES") remain in effect over the study period ("PA 235"). The two different forecasts of power market prices were developed in recognition that the market conditions between the two scenarios would be materially different.

The power market price forecasts were developed using the EnCompass™ simulation model and the vendor endorsed Horizon Energy regional database for MISO. Assumptions for fuel prices and new market resource options used for the market modeling were consistent with the fuel price forecasts and characterization of new resource options discussed previously in this IRP.

10.1 Market Model Regions

The power market model used to develop the market prices was simulated for the MISO and PJM Balancing Authorities. While the simulation was performed for all of MISO and PJM, the market forecasts were focused on relevant load zones within those Balancing Authorities for BPW. Figure 10-1 identifies the MISO and PJM load zones most relevant to the IRP considering the location of BPW's electric system within MIZO Zone 7 and BPW's power assets.

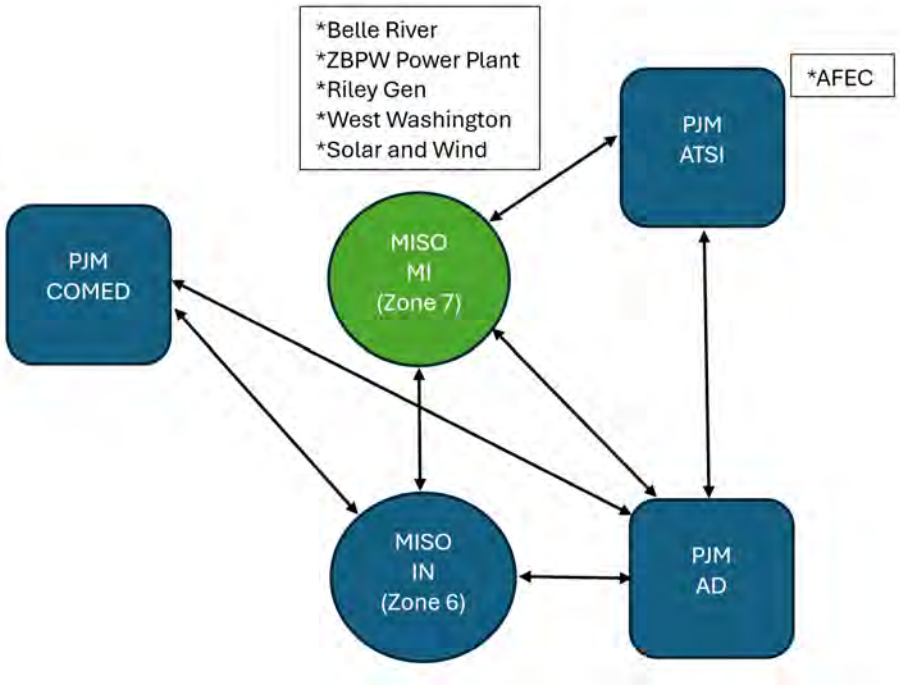

Figure 10-1: Market Model Load Zones

10.2 Fuel Prices and New Resource Options

The underlying assumptions, such as fuel prices and resource options, that form the basis of the power market model and IRP model are internally consistent. However, for purposes of the market price forecast, new resource additions were simulated utilizing assumptions for large utility-scale resources, utilizing the market planning capabilities of the EnCompass™ model to identify optimum resource decisions. Please refer to Section 7 (new resource options) and Section 8 (fuel price forecasts) of this IRP for more details regarding these assumptions.

10.3 Michigan Public Act 235

As discussed previously, the IRP considers a scenario in which BPW meets the RES and CES requirements of PA 235, which are generally outlined as follows. Importantly, the RES and CES requirements listed below are enforced in the power market scenario that reflects compliance with PA 235.

- Minimum of 15 percent renewable energy through 2029
- Minimum of 50 percent renewable energy in 2030 through 2034
- Minimum of 60 percent renewable energy in 2035 and thereafter
- Minimum of 80 percent clean energy in 2035 through 2039
- 100 percent clean energy in 2040 and thereafter
- Energy Storage target of 2,500 MW by 2030 and thereafter[8]

Per PA 235, the technologies that meet the RES requirements include biomass, landfill gas, solar, and wind while the technologies that qualify towards meeting the CES requirements include all renewable energy resources as well as hydro, nuclear, and natural gas combined cycle with CCS.

10.4 Market Power Price Forecasts

Capacity expansion portfolio optimizations were performed for BAU and PA 235 to determine the optimal resource portfolio for each load zone within the MISO and PJM Balancing Authorities. The resulting MISO Zone 7 resource portfolio for Scenario A and for Scenario B are shown in Figure 10-2 and Figure 10-3, respectively. Additionally, the resulting MSIO Zone 7 total power supply costs for Scenario A and Scenario B are shown in Figure 10-4 and 10-5, respectively.

[8] The PA 235 energy storage target was only considered for the market power evaluations and not for BPW's new resource evaluations.

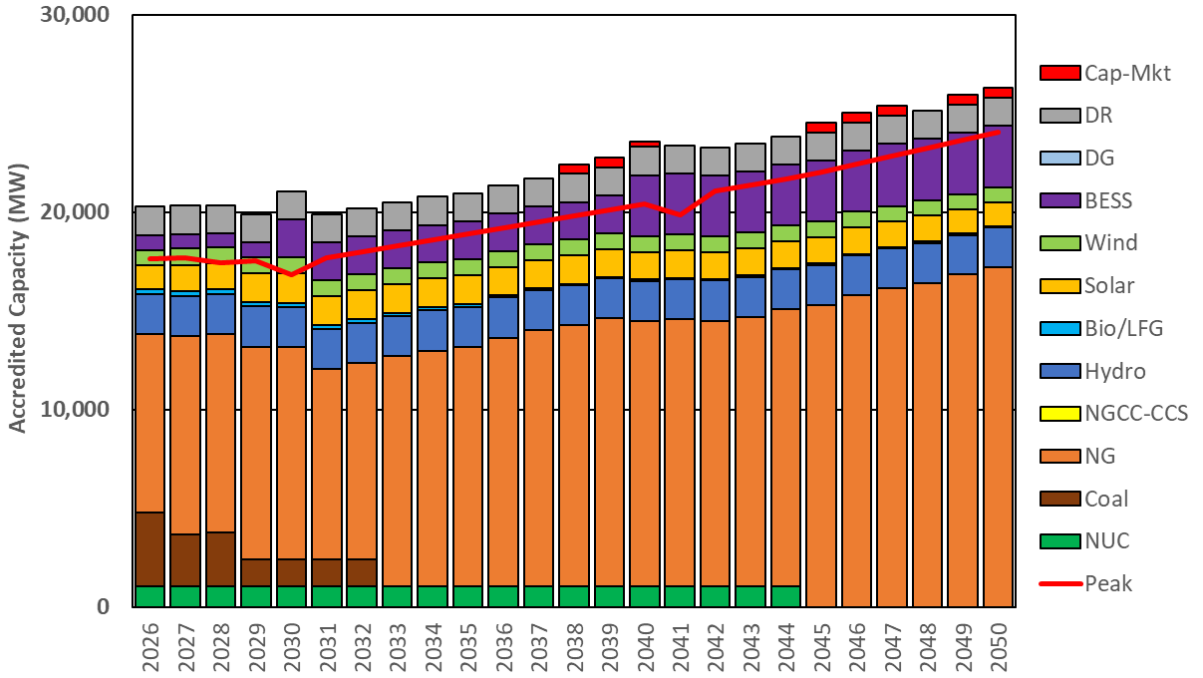

Figure 10-2: BAU – MISO Zone 7 Resource Portfolio

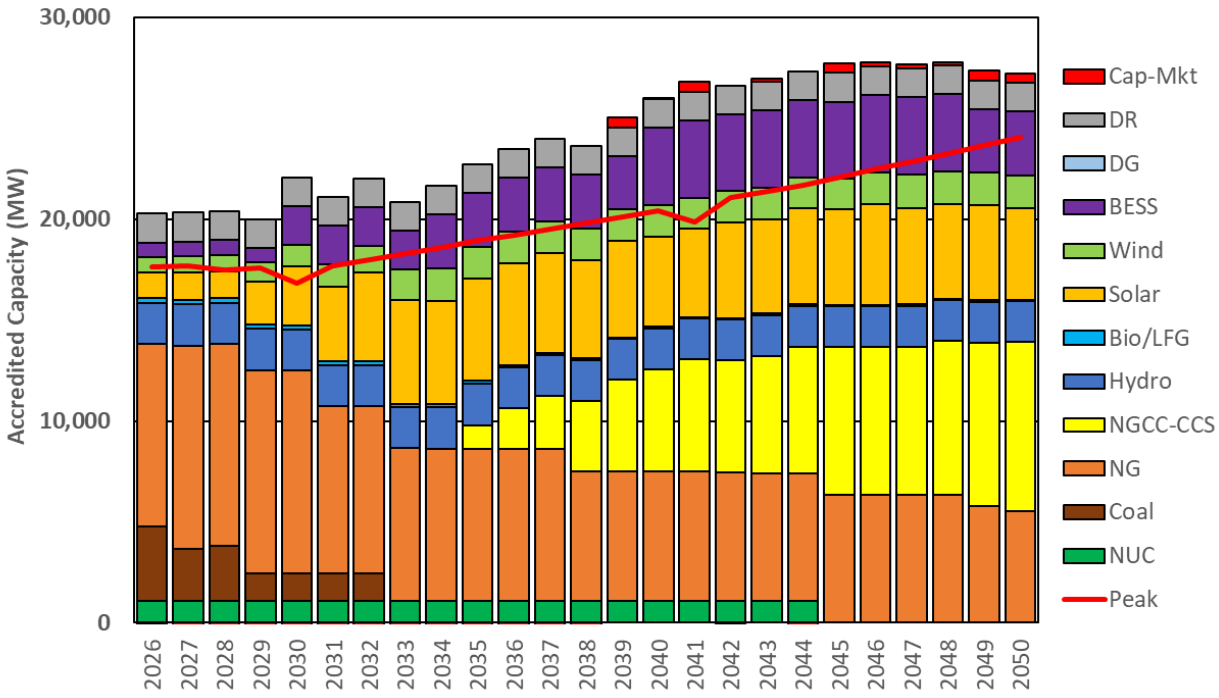

Figure 10-3: PA 235 – MISO Zone 7 Resource Portfolio

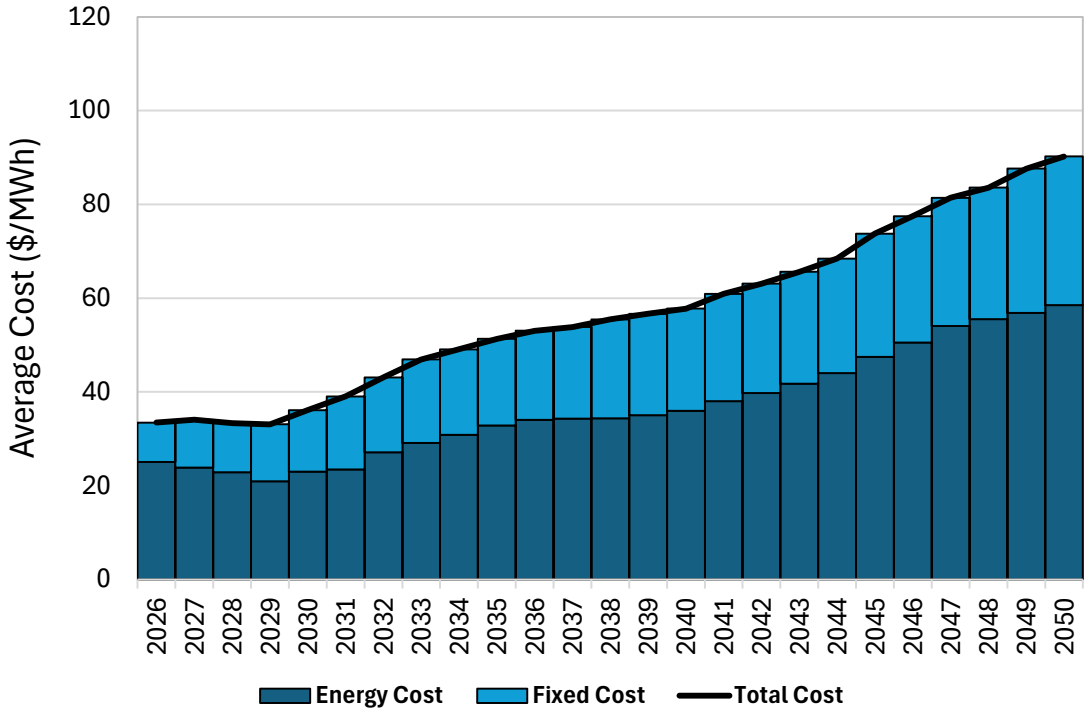

Figure 10-4: MISO Zone 7 Power Supply Costs – BAU

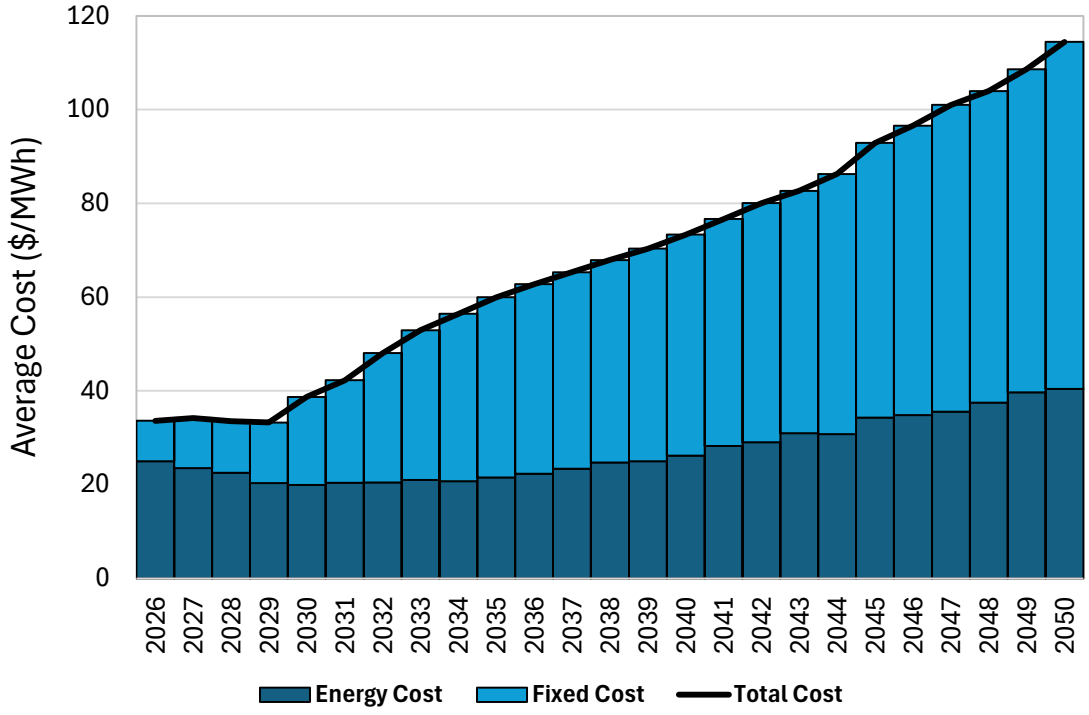

Figure 10-5: MISO Zone Power Supply Costs – PA 235

As evidenced by comparison of Figure 10-4 and 10-5 above, the long-term all-in cost of power supply in MISO Zone 7 is higher for a resource portfolio that complies with the requirements of PA 235. The divergence in costs begins in the early 2030s, coinciding with the need to construct higher-cost renewable and clean energy resources to satisfy PA 235 requirements. In addition, Figure 10-3 demonstrates that new resources are installed above the capacity requirements indicating that additional conventional dispatchable resources are necessary to ensure sufficient energy availability across all hours of the year. This combination of higher-cost clean energy additions and the continued need for firm, dispatchable capacity contributes to the elevated long-term cost trajectory observed under the PA 235-compliant portfolio.

Hourly production modeling simulations were then performed for the resulting BAU and PA 235 resource portfolios to develop the hourly market price forecasts. The forecasted on-peak and off-peak energy market prices are illustrated in Figures 10-6 and 10-7, respectively. It is important to note that while the market price for energy is lower in the PA 235 scenario due to the oversaturation of renewable generation in MISO Zone 7, any market energy that is purchased would not contribute toward a utility's compliance obligations under PA 235. As a result, reliance on lower-priced market energy does not offset the need to procure or build qualifying clean energy resources, effectively making such purchases an additional cost to the overall power supply portfolio.

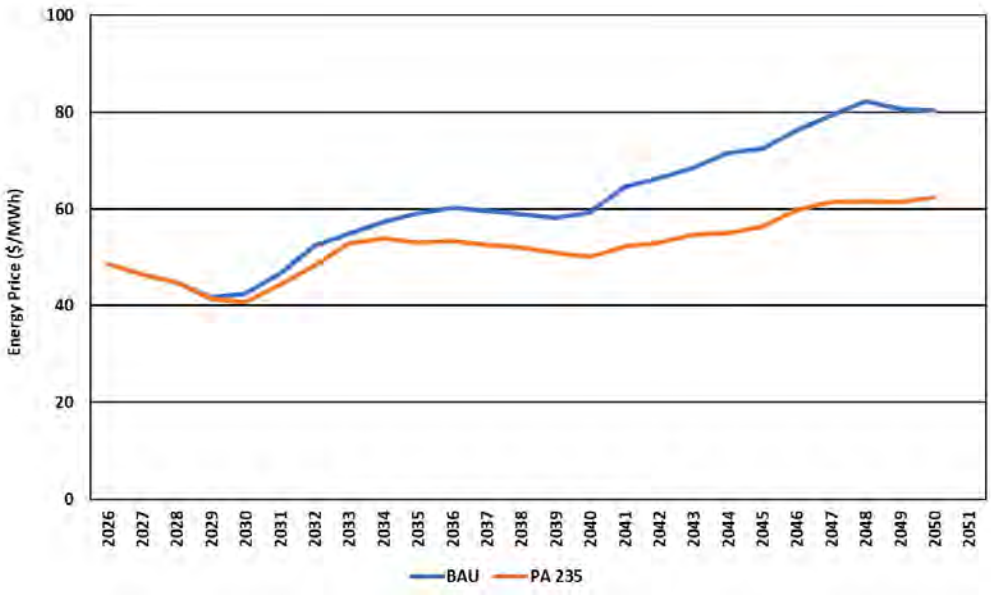

Figure 10-6: MISO Zone 7 On-Peak Pricing (Nominal $/MWh)

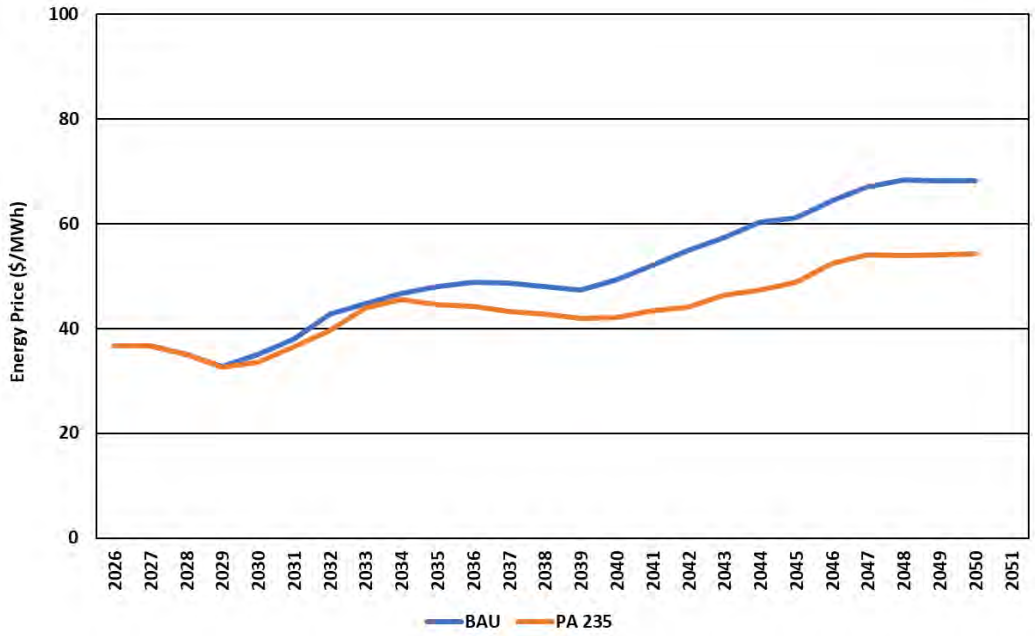

Figure 10-7: MISO Zone 7 Off-Peak Pricing (Nominal $/MWh)

Figure 10-8 compares average hourly price curves for the BAU and PA 235 scenarios for 2050. The figure shows hourly prices for four representative months (January, May, August, and September) selected to reflect the four seasons. Prices represent average hourly values within each selected month, rather than a seasonal average across all months. An important distinction for the future resource portfolio under the PA 235 scenario is the amount of solar PV and wind generation that is needed to meet the RES and CES standards. Due to the non-dispatchable nature of these renewable resources and the fact that solar PV is available only during the day, as renewable resource implementation increases, projected hourly market prices will exhibit greater price variability throughout the day, reduced pricing during daytime periods, and increased divergence across the seasons.

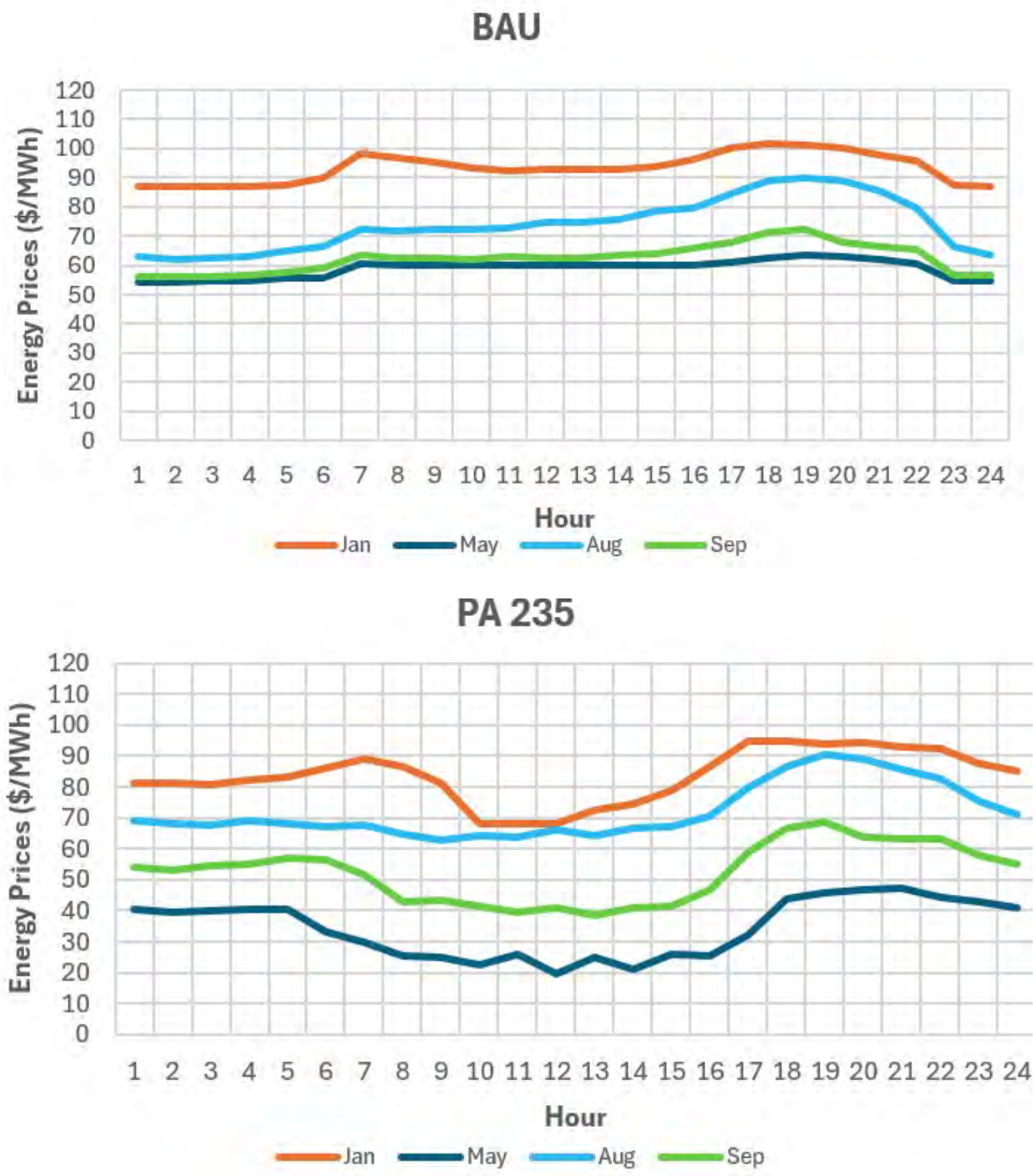

Figure 10-8: MISO Zone 7 Hourly Market Prices – 2050 (Nominal$)

11 RESOURCE PORTFOLIO OPTIMIZATION ANALYSIS

The IRP modeling approach utilized for this IRP relied upon the EnCompass™ power systems simulation model to optimize BPW's power supply portfolio using a common set of assumptions about the future. The EnCompass™ model provides significant flexibility with respect to the modeled study period and chronology used to simulate commitment and dispatch. The methodology and resulting portfolio optimization analysis are discussed in the remainder of this section.

11.1 Description of EnCompass

The EnCompass™ power market and portfolio simulation model, marketed by Anchor Power Solutions/Yes Energy, is an industry standard, generation simulation model that has been adopted by electric utilities and consultants throughout the U.S. for use in IRP studies and regulatory filings. The EnCompass™ model is a mixed integer linear programming ("MILP") model capable of optimizing generation expansion decisions; simulating generating resource commitment, dispatch, and ancillary service operations; simulation of renewable resources and energy storage; wholesale transactions and market clearing prices; and scenario and probabilistic analyses. A unique advantage of the EnCompass™ model is the ability to model wholesale markets (as described in Section 10 of this IRP report) and generation expansion decisions for BPW using assumptions and resource simulations that are internally consistent, allowing for evaluation of resource portfolios for BPW that include both self-build generating resources and wholesale power transactions across a range of assumptions, while being assured that prices and costs for fuel, market transactions, and all resources options are being modeled in a manner that is fully consistent.

11.2 Portfolio Analysis

nFront Consulting utilized EnCompass™ in order to determine the optimum selection of new resource options, in combination with BPW's existing resources, to reliably and economically meet forecast energy requirements for the various scenarios and sensitivities discussed previously in this IRP report (this process is referred to herein as "resource development"). The resource development process reflected consideration of BPW's forecasted peak demand and energy requirements, existing generating resources (internal resources, generation entitlements, and renewable PPAs), projected capacity needs to satisfy MISO seasonal PRM requirements, fuel price forecasts, power market prices, economic and financial parameters, and new resource options, all as discussed previously in this IRP. For each scenario, portfolio strategy and sensitivity evaluated as part of the resource development process, EnCompass™ used a present value revenue requirements approach to identify the least-cost resource plan over the IRP study period that meets the RES, and CES requirements (as applicable) while generating sufficient energy to meet forecast energy requirements and ensuring there is sufficient firm seasonal capacity to meet MISO's seasonal PRM requirements.

The present value of revenue requirements ("PVRR") approach is typical for use in electric utility resource planning and provides a means to compare portfolios on a total system costs basis over the full IRP study period, while appropriately reflecting variations in resource timing. The PVRR analysis is also used to illustrate how portfolios differ by cost category, such as the extent of capital investments, fixed or indexed costs and pricing, and exposure to potentially volatile fuel and market prices.

The PVRR evaluations reflected in this IRP consider the following types of costs.

- Fixed and non-fuel variable O&M costs for existing resources and new resource options
- Capital costs for new unit additions
- Fuel costs for existing resources and new resource options
- Costs for sequestration of carbon dioxide ("CO_2") (for resources with carbon capture and sequestration)
- Transmission service costs for new resources located outside of BPW's service territory
- Costs associated with new PPAs
- Costs associated with new energy market purchases

It should be noted that the PVRR evaluations do not consider fixed costs associated with BPW's existing bilateral market contracts, existing PPAs, general and administrative type costs, or any other fixed costs associated with the BPW electric system other than estimated fixed O&M costs for existing units, as such costs are considered "sunk costs" that would not change nor influence the resource and dispatch decisions reflected in this IRP.

11.3 Results of the Portfolio Analysis

The IRP considers BPW's resource needs in order to reliably and economically meet the energy requirements of its customers under two different scenarios —one scenario that assumes that no state requirements pertaining to renewable or clean energy production are in effect throughout the study period ("BAU"), and a second scenario that assumes the requirements of Michigan's Renewable Energy Standard ("RES") and Clean Energy Standard ("CES") remain in effect over the study period ("PA 235"). Within each scenario, multiple portfolio strategies were evaluated to reflect different approaches to meeting future resource need and reliability requirements. These portfolio strategies include: an economically optimized portfolio in which large-frame thermal resources are available beginning in 2030; a delayed large-frame portfolio in which large-frame resources are first available in 2035; and a local generation portfolio that limits resource additions to local generation and renewable PPA resources.

Finally, the resulting portfolios were simulated though a series of alternative assumptions for key variables to assess the sensitivity of portfolio power supply costs across the portfolio strategies. The scenarios, portfolio strategies, and sensitivities evaluated in this IRP are summarized as follows:

Category	Case	Description
Scenario	Business As Usual (”BAU”)	No State Requirements for PA 235
	Public Act 235 (”PA 235”)	Compliance with PA 235
Porfolio Strategy	Economically Optimized	Large-frame thermal resource available as early as 2030
	Large Units Available 2035	Large-frame thermal resource available starting 2035
	Local Generation	Only local generation and renewable PPA resources available
Sensitivity	Low Load Growth	Assumes lower load growth
	High Load Growth	Assumes higher load growth
	Low Fuel Price	Assumes lower fuel prices
	High Fuel Price	Assumes higher fuel prices

The remainder of this section summarizes the results of the EnCompass™ resource development process for each of the scenarios, portfolio strategies, and sensitivities discussed above and includes key takeaways based on review of the results of the analysis. The summary-level information includes the following:

- Figures that illustrate the utilization (generation) of each existing BPW resource as well as the new resources added through the expansion planning evaluation for BAU and PA 235 (Sensitivity results included in Appendix A).
- Figures that illustrate categories of capacity, including existing resources, new renewable resources, new natural gas combined cycle resources, new BESS, new natural gas combined cycle with CCS, and new peaking resources for BAU and PA 235 (Sensitivity results included in Appendix A).
- Tabular summary of the types of the changes in capacity (retirements and new unit additions), categorized by types of capacity, over specific time periods for BAU and PA 235 (Sensitivity results included in Appendix A).
- Tabular summary of the PVRR for BAU and PA 235 (Sensitivity results included in Appendix A).

Generation by Resource

Figures 11-1 through Figure 11-6 illustrate the annual generation by resource type for the BAU and PA 235 scenarios and the respective portfolio strategies as described above. It should be noted that all scenarios and portfolio strategies reflect the same assumptions related to assumed retirement dates for existing BPW generating resources, expiration dates for existing PPAs, and expiration dates for bilateral purchases. Retirement of any of BPW’s other existing generating units was not considered in this IRP.

Review of the BAU Portfolios (Figure 11-1 through Figure 11-3) indicates the following:

- The Economically Optimized portfolio relies on NGCC to provide the majority of energy, primarily displacing market purchases, Belle River, and local peaking generation.
- The Large Units Available 2035 portfolio strategy utilizes market energy and local peaking resources supply a greater share of energy in the near term, with NGCC generation increasing later in the study period once large-frame units become available.
- The Local Generation portfolio strategy increases reliance on market purchases due to the available local resources having higher variable energy costs, making market energy more economic for energy supply.

Review of the PA 235 Portfolios (Figures 11-4 through Figure 11-6) indicates the following:

- The Economically Optimized portfolio strategy replace much of the NGCC generation observed in BAU with wind, solar, and BESS in the early years, with NGCC-CCS providing a significant share of energy beginning around 2035.
- The Large Frame Units Available 2035 portfolio strategy relies more on market purchases in the near term, while renewable and NGCC-CCS generation levels in the later years are broadly consistent with the other portfolio strategies under this scenario.
- The Local Generation portfolio strategy shifts generation toward wind, solar, and BESS, displacing NGCC-CCS generation observed in the Economically Optimized and Large Frame Units Available 2035 portfolio strategies.
- The Local Generation portfolio strategy shows greater market purchases as well as more excess generation above load requirements.
- Across all portfolio strategies, the PA 235 portfolios result in lower reliance on market energy overall, as market purchases do not contribute to meeting RPS and CES requirements under PA 235.
- The analysis does not include the addition of any small modular reactor (”SMR”) resources under the BAU or PA 235 scenarios.

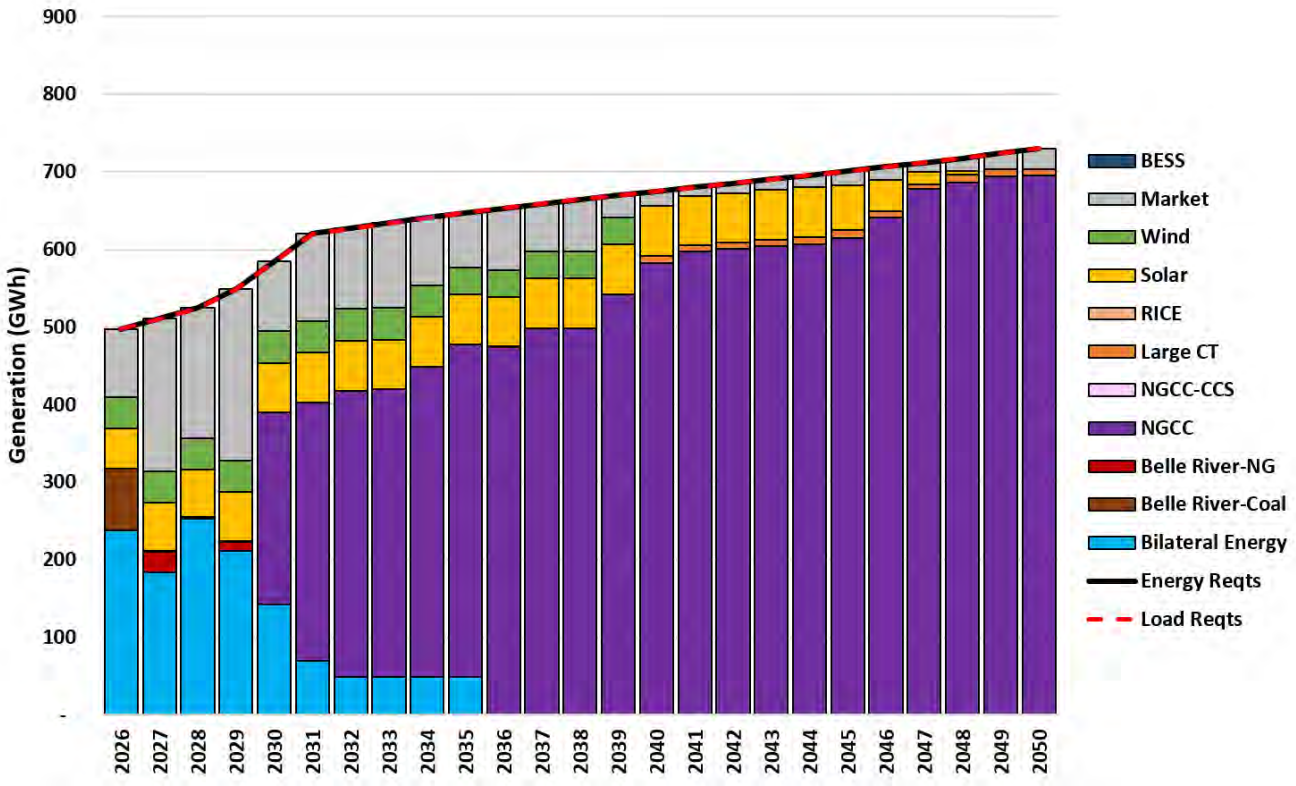

Figure 11-1: Energy Generated by Resource Type – BAU Economically Optimized

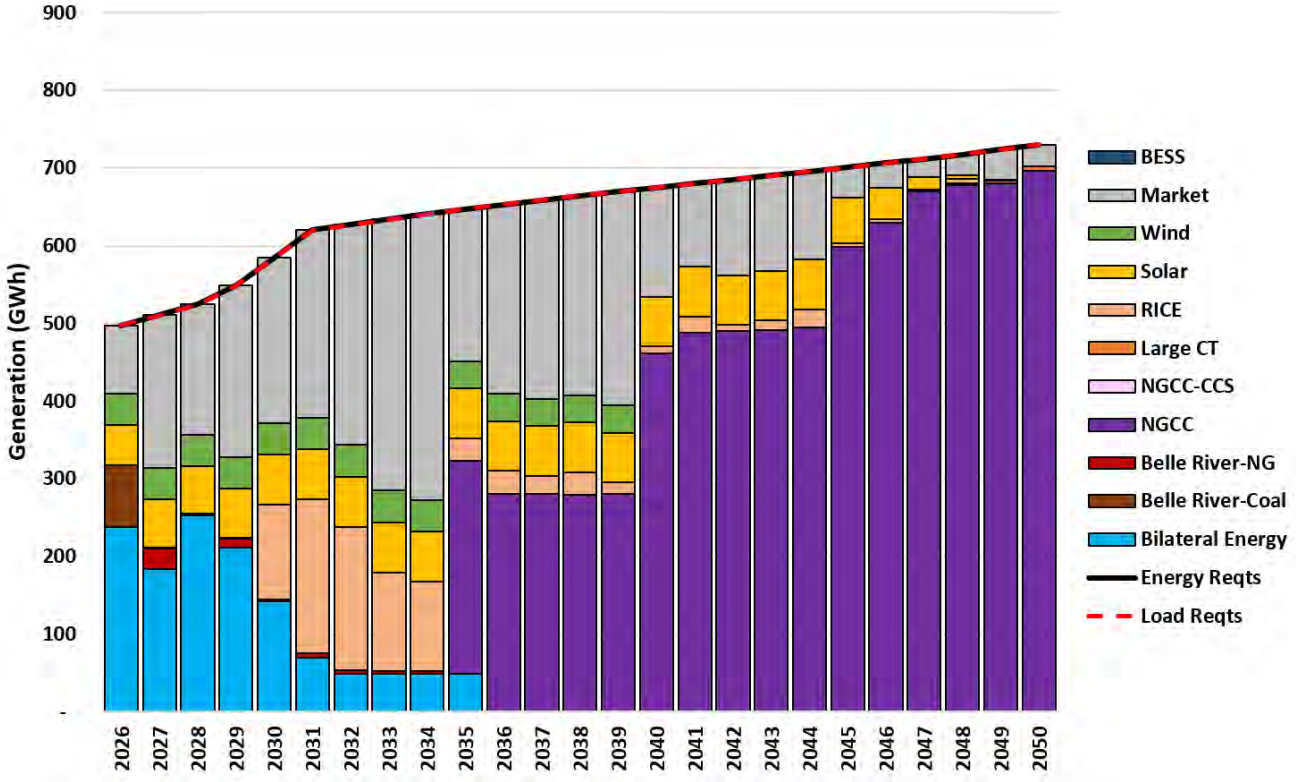

Figure 11-2: Energy Generated by Resource Type – BAU Large Units Available 2035

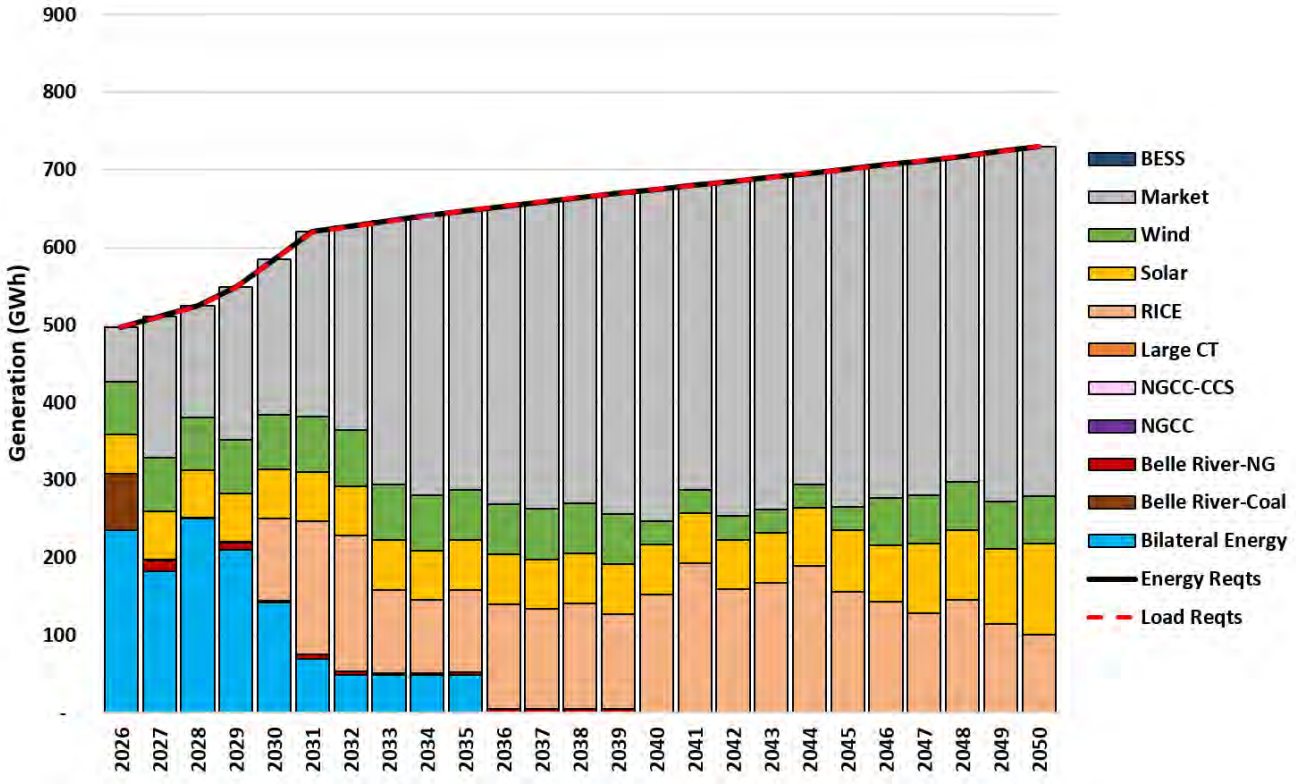

Figure 11-3: Energy Generated by Resource Type – BAU Local Generation

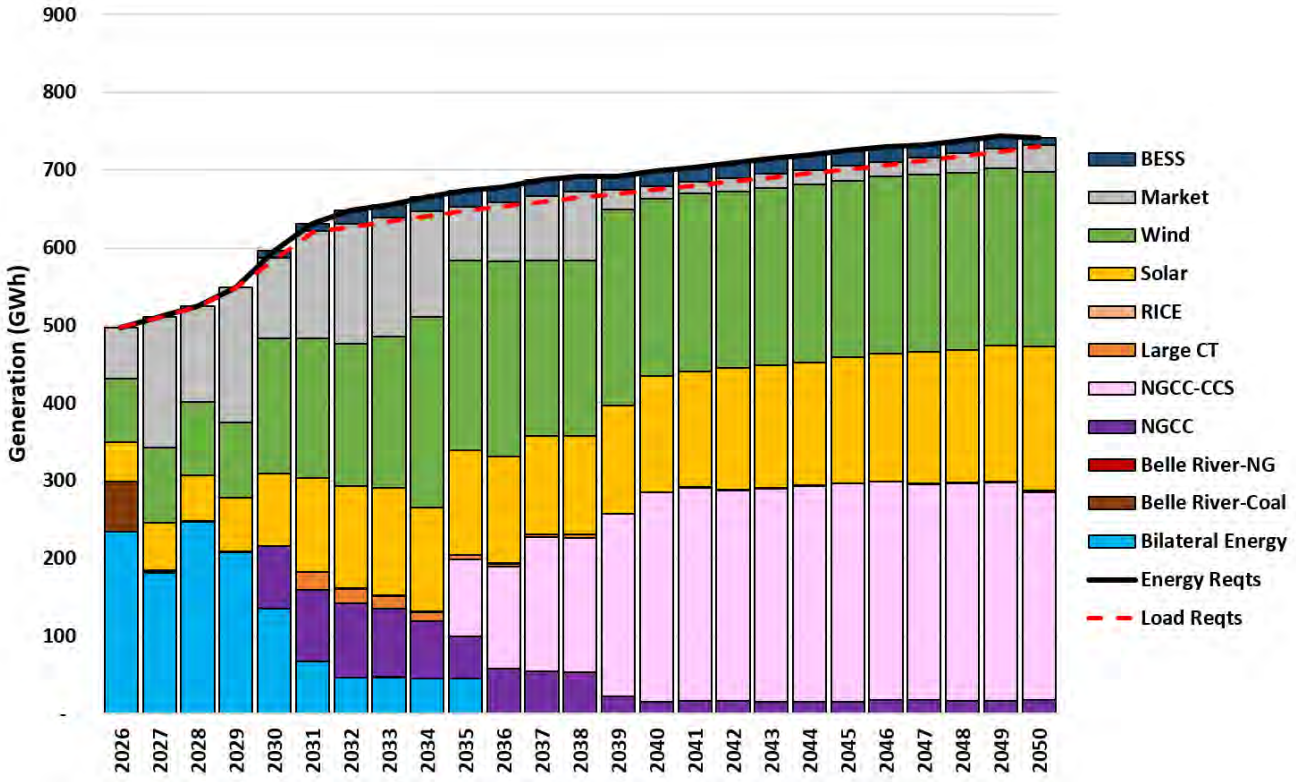

Figure 11-4: Energy Generated by Resource Type – PA 235 Economically Optimized

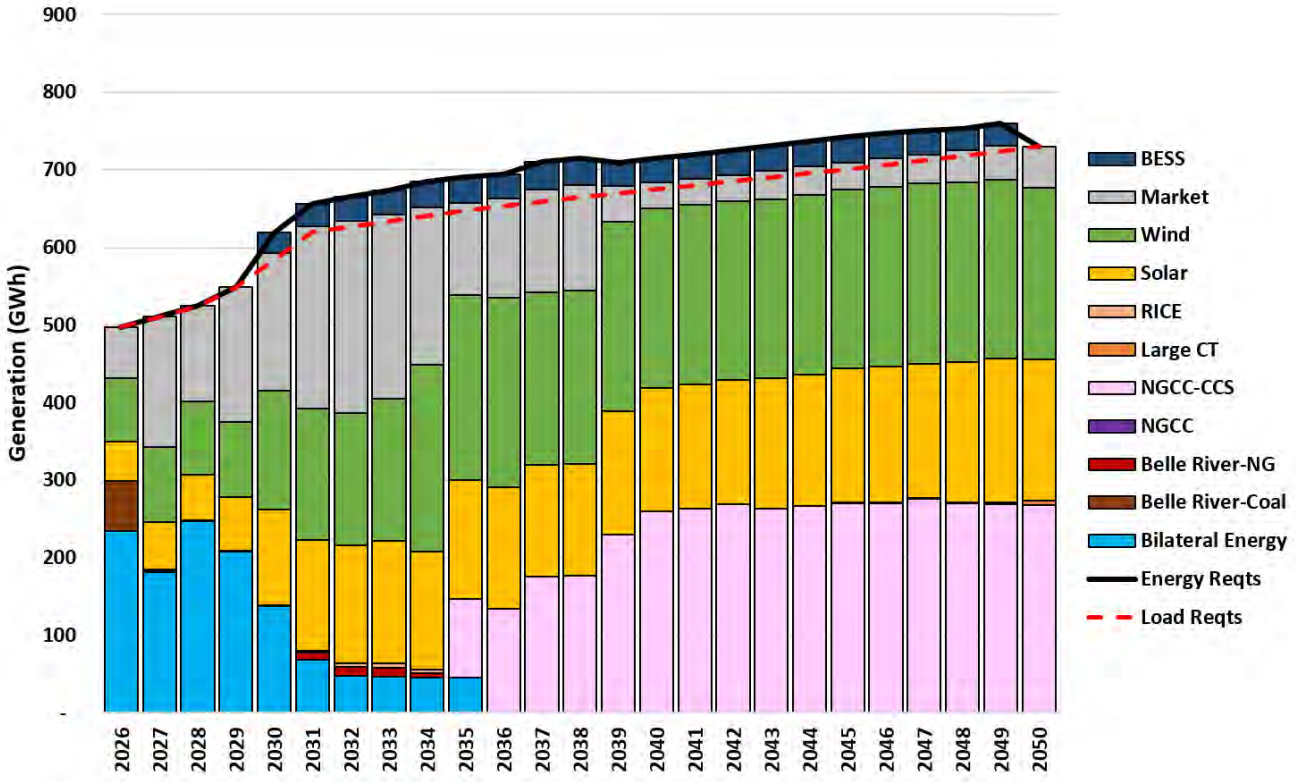

Figure 11-5: Energy Generated by Resource Type – PA 235 Large Units Available 2035

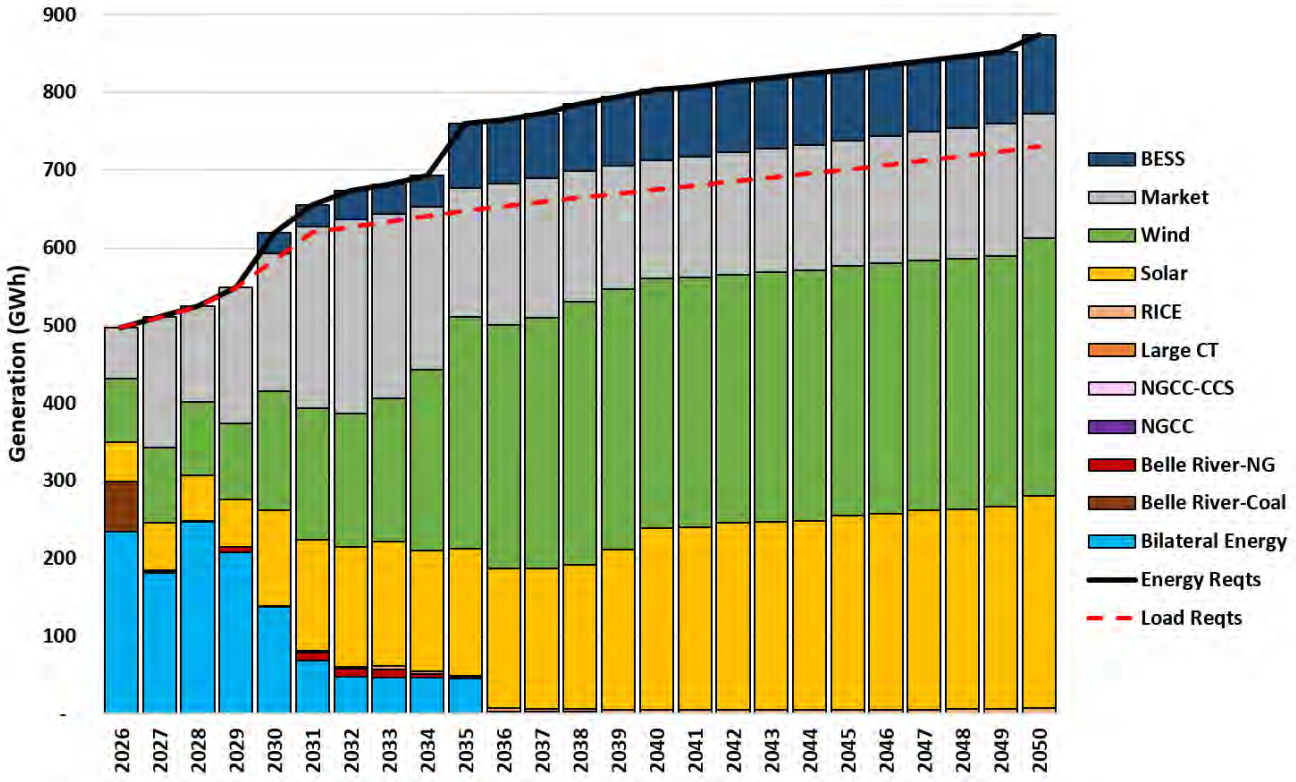

Figure 11-6: Energy Generated by Resource Type – PA 235 Local Generation

To meet CES requirements, utilities in Michigan may need to over-generate above load requirements during periods of high renewable output, which can depress market prices, increase exports to neighboring regions, and/or require additional energy storage. In other words, there will be hours in which generation continues to be produced and incur costs, but that generation is not used to serve load requirements. This dynamic is illustrated in Figure 11-7, which highlights the excess clean energy generation (i.e., "CES Dump Energy") on an annual basis.

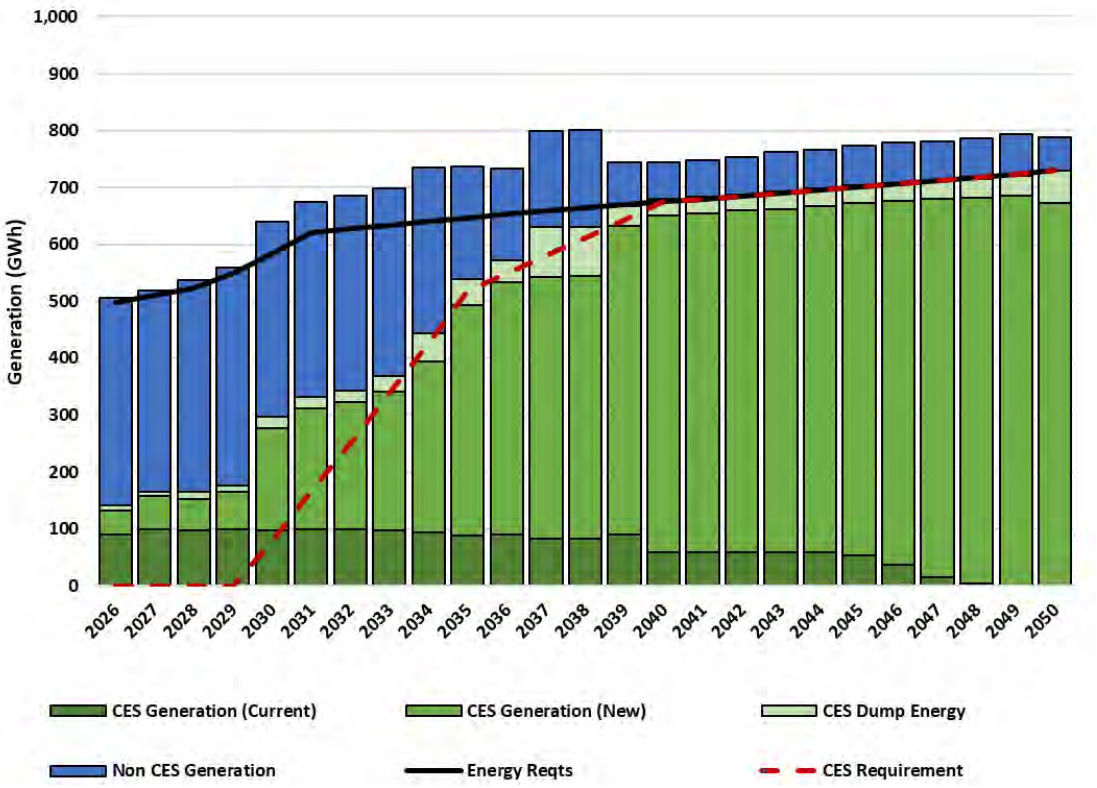

Figure 11-7: PA 235 CES Generation Contribution

System Capacity

Figures 11-8 through Figure 11-12 illustrate the total MW of summer firm capacity, by general type of capacity, that comprise BPW's system, including existing resources (including internal generating facilities, ownership entitlements, bilateral purchases, and renewable PPAs), new renewable resources, new natural gas combined cycle capacity, new BESS capacity, new natural gas combined cycle with CCS capacity, and new peaking capacity. It should be noted that all scenarios and portfolio strategies reflect the same assumptions including the retirement dates of BPW resources, expiration dates for existing PPAs and bilateral purchases. Retirement of any of BPW's other existing generating units was not considered in this IRP.

Review of the BAU Portfolios (Figures 11-8 through 11-10) indicates the following:

- NGCC capacity is installed as early as feasible across most portfolio strategies to meet capacity requirements.
- NGCT resources are added later in the study period to address incremental capacity needs.
- When large-frame resources are not made available until 2035, local RICE resources are installed in the near term to meet capacity requirements.
- The Local Generation portfolio strategy relies primarily on RICE resources to meet capacity needs, with limited renewable additions occurring late in the study period.
- No near-term renewable capacity is selected, reflecting the relative economics of available resources.

Review of the PA 235 Portfolios (Figures 11-11 through 11-13) indicates the following:

- BPW's needs for additional capacity are driven not only by the need to meet its system demand plus MISO Planning Reserve Margin requirements, but also the need for the addition of new resources that support compliance with the requirements of the RES and CES requirements under the PA 235 scenario.
- This is shown by comparing the total MW of capacity to the "Peak + Reserves" line in each of the Figures 11-11 through Figure 11-13. The excess generation generally occurs earlier in the IRP study period and is more significant in the PA 235 and the low growth scenarios. This excess generation in the PA 235 scenario is due to increased RES and CES requirements of PA 235, causing more intermittent capacity to be built to meet renewable and clean energy requirements.
- Capacity additions are primarily comprised of NGCC-CCS, wind, solar, and BESS, due to their ability to meet the RPS and CES standards under PA 235.
- The Economically Optimized portfolio strategy includes some near-term NGCC capacity alongside renewable additions to meet capacity requirements.
- Beginning in 2035, NGCC-CCS is installed to meet both capacity needs and CES requirements under PA 235.
- In portfolios where large-frame resources are not available until 2035, NGCC is not selected, with NGCC-CCS serving as the primary thermal resource once available.
- NGCC-CCS capacity additions increase in 2039, reflecting the final year in which the full value of available tax credits can be captured.
- The Local Generation portfolio strategy results in higher levels of renewable and BESS installations relative to other portfolio strategies.

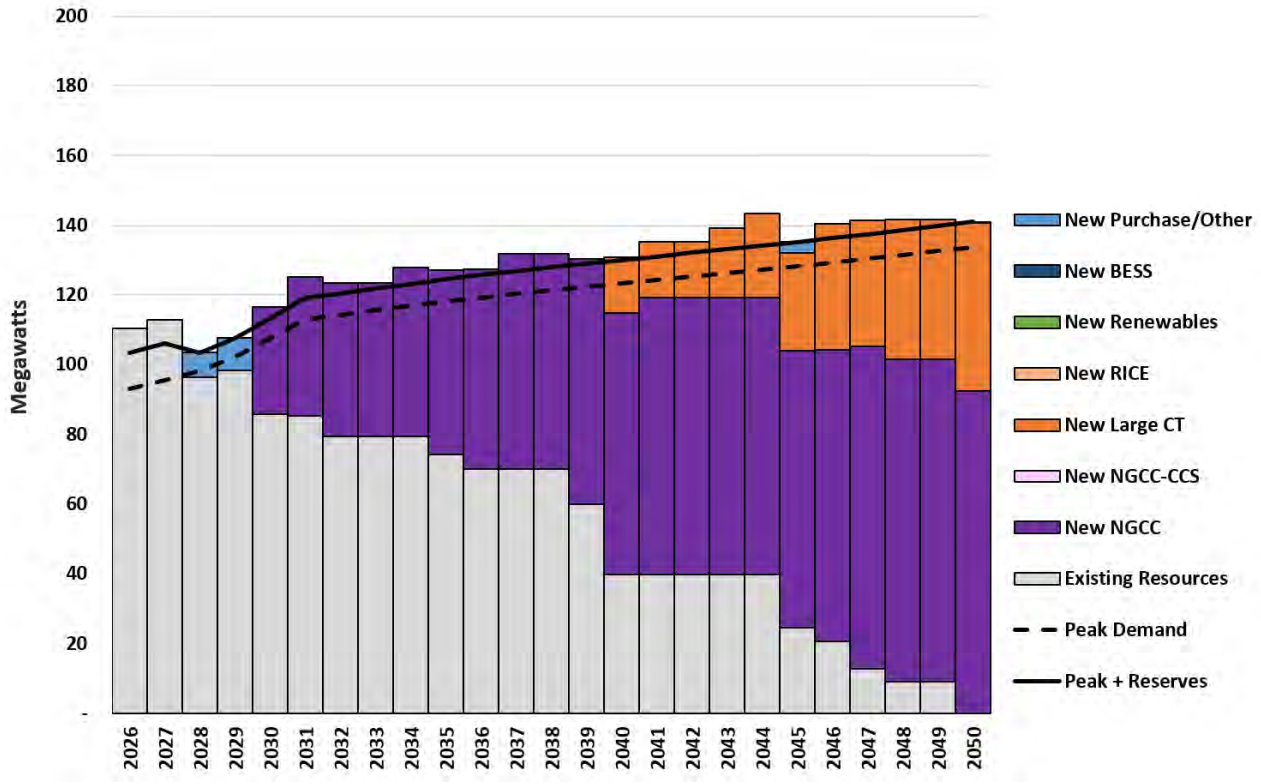

Figure 11-8: Summer Firm Capacity (MW) by Type – BAU Economically Optimized

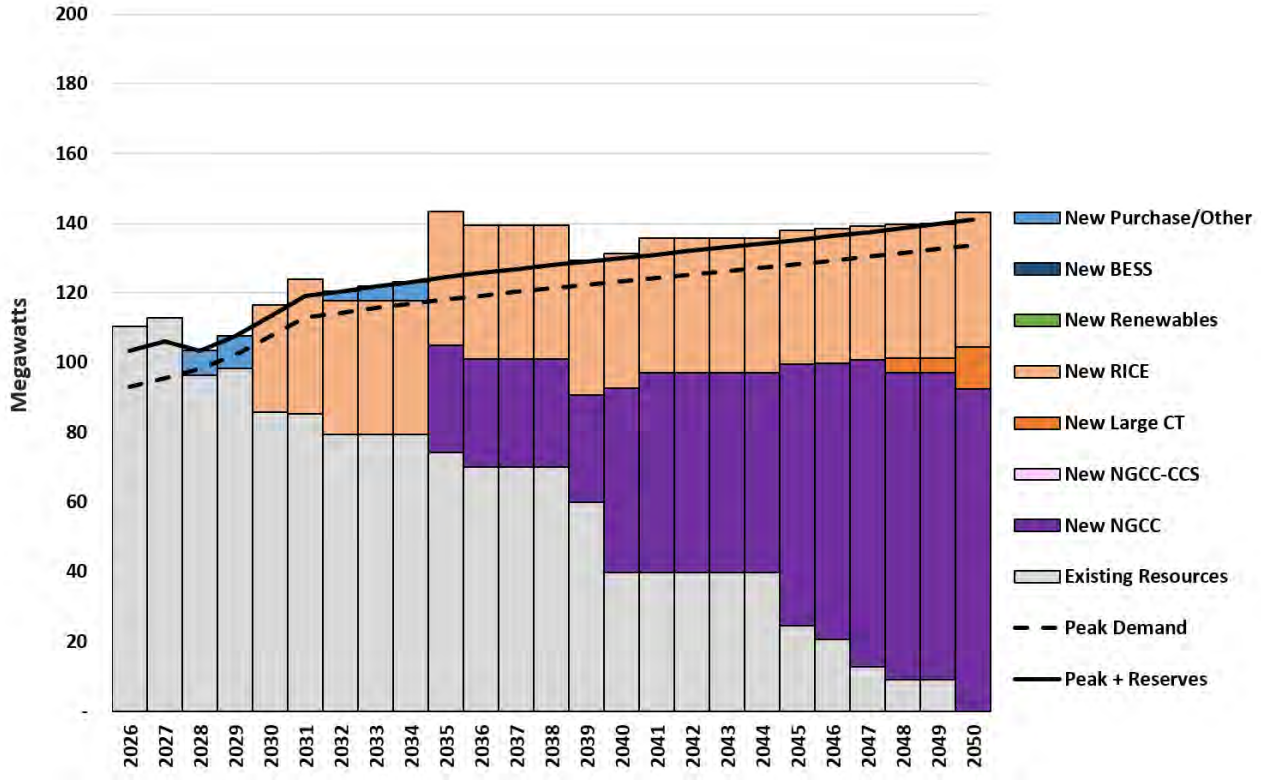

Figure 11-9: Summer Firm Capacity (MW) by Type – BAU Large Units Available 2035

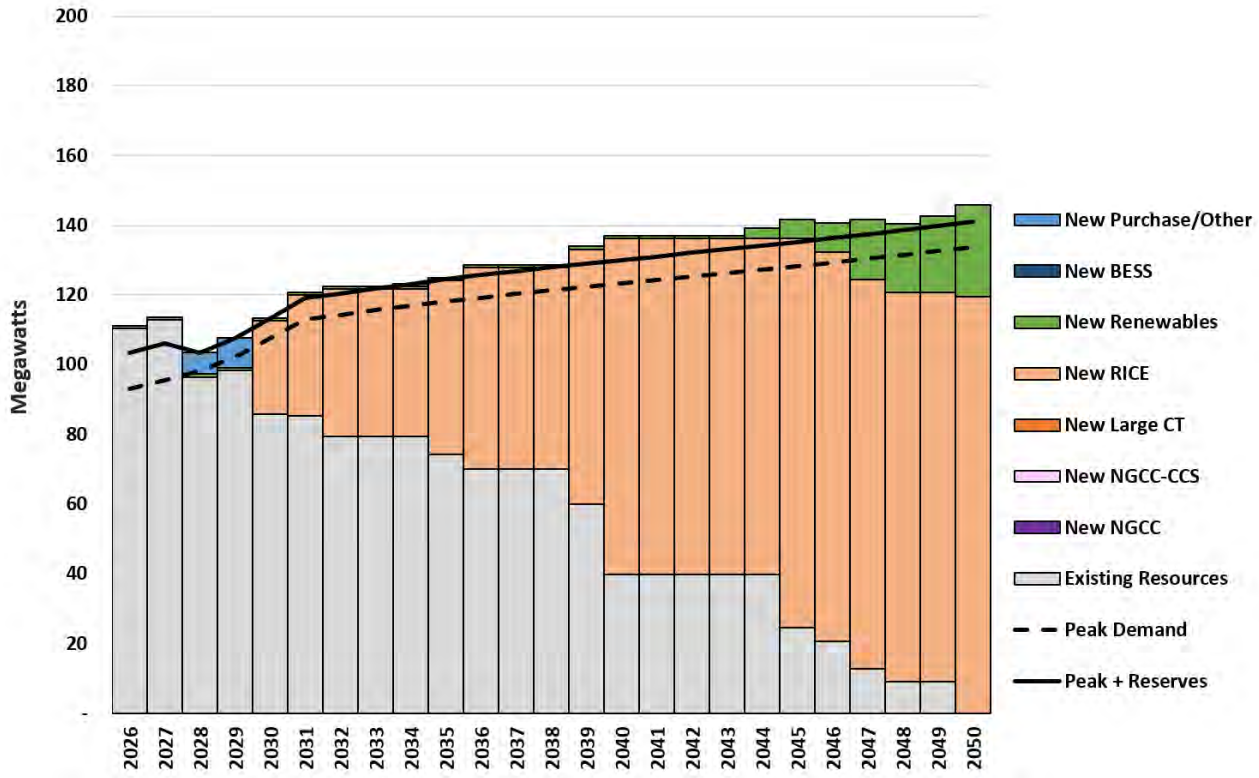

Figure 11-10: Summer Firm Capacity (MW) by Type – BAU Local Generation

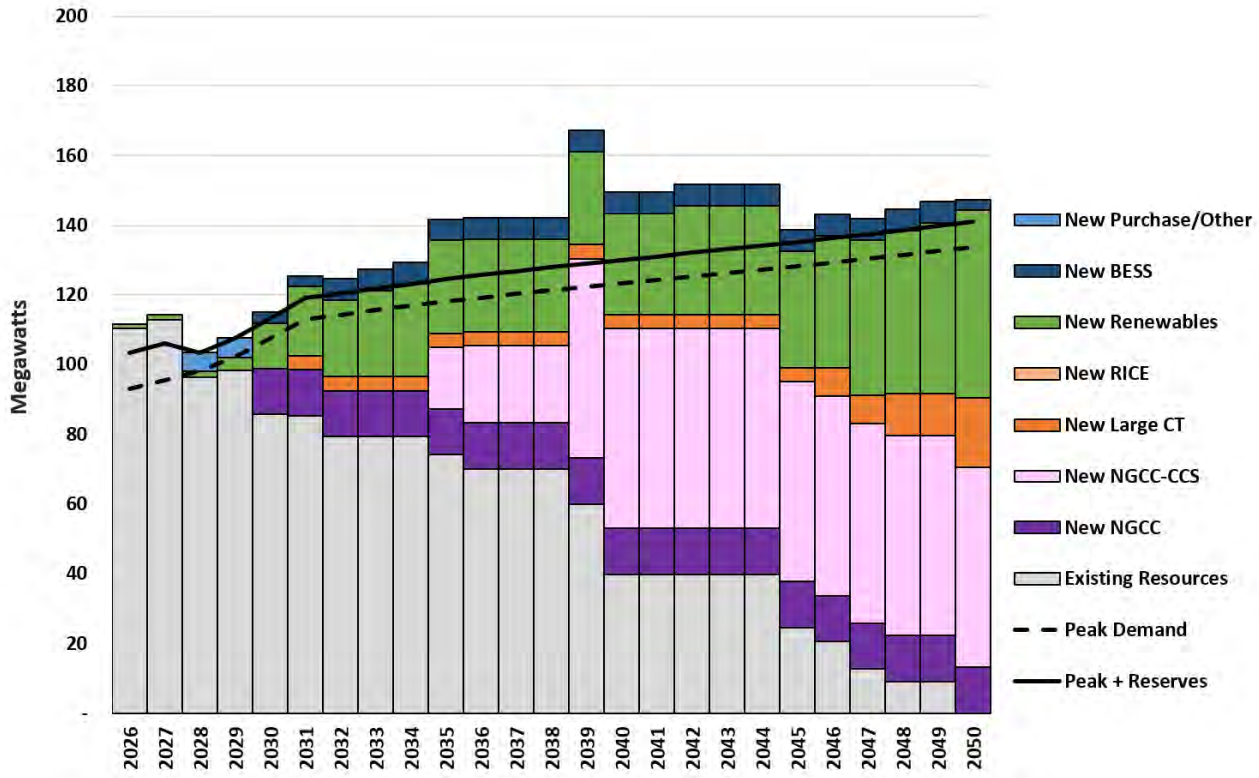

Figure 11-11: Summer Firm Capacity (MW) by Type – PA 235 Economically Optimized

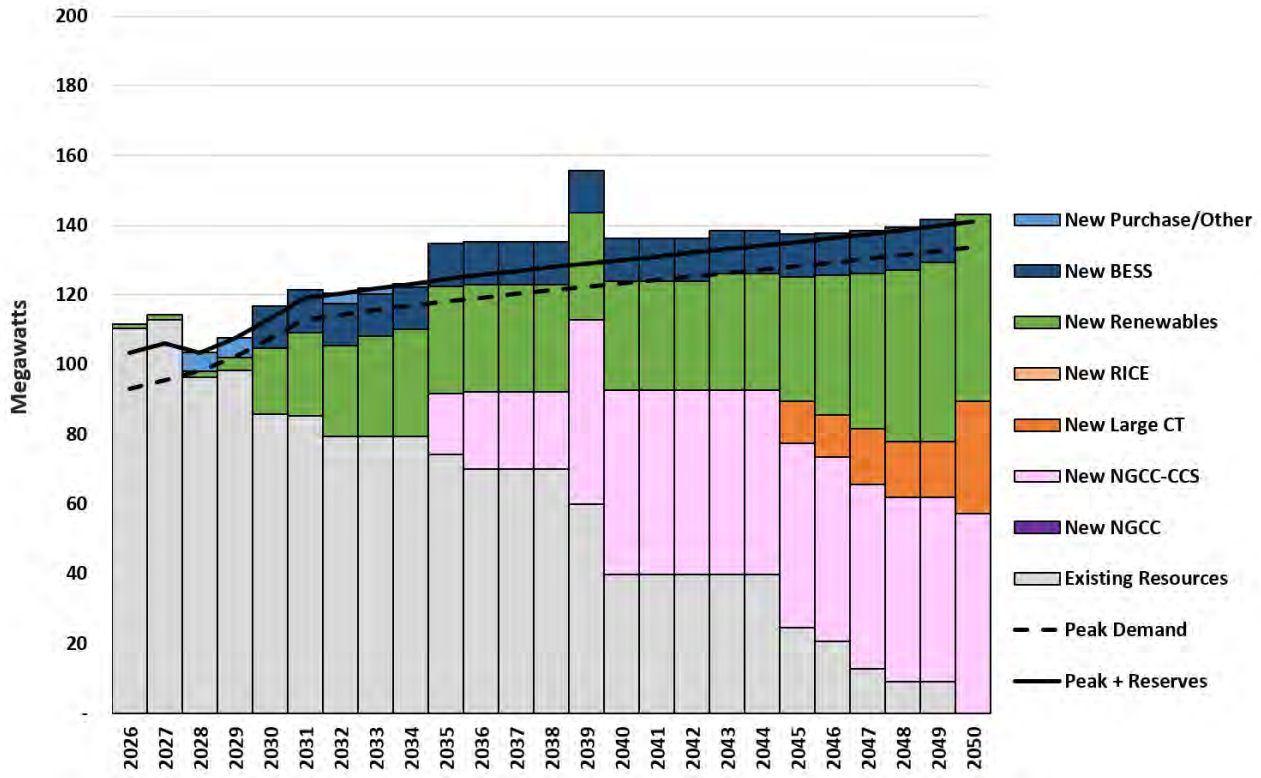

Figure 11-12: Summer Firm Capacity (MW) by Type – PA 235 Large Units Available 2035

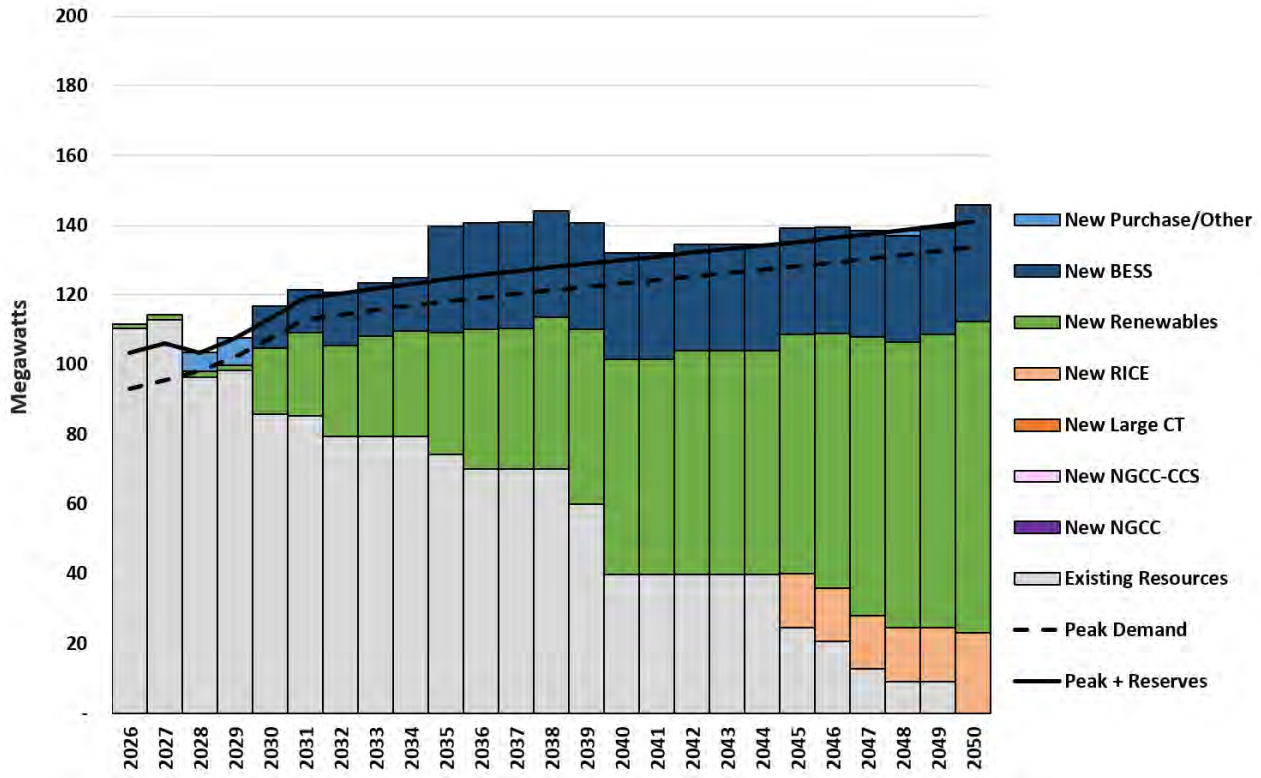

Figure 11-13: Summer Firm Capacity (MW) by Type – PA 235 Local Generation

Changes in Capacity

Table 11-1 presents a summary of the changes in capacity (retirements and new additions), categorized by types of capacity, over specific time periods, for the various scenarios and portfolio strategies.

Table 11-1: Summary of Capacity Additions (MW)

	Economically Optimized		Large Units Available		Local Generation	
Year	**BAU**	**PA 235**	**BAU**	**PA 235**	**BAU**	**PA 235**
New NGCC						
2030-2034	55	15	0	0	0	0
2035-2040	30	0	60	0	0	0
2041-2050	20	0	45	0	0	0
New NGCT						
2030-2034	0	5	0	0	0	0
2035-2040	20	0	0	0	0	0
2041-2050	40	20	15	40	0	0
New NGCC-CCS						
2035-2040	0	65	0	60	0	0
2041-2050	0	0	0	5	0	0
New Peaking						
2026-2029	0	0	0	0	0	0
2030-2040	0	0	25	0	65	0
2039-2050	0	0	0	0	15	15
New SMR						
2035-2050	0	0	0	0	0	0
New Solar						
2026-2029	0	5	0	5	0	0
2030-2040	0	45	0	50	0	115
2041-2050	0	55	0	50	55	60
New BESS						
2026-2029	0	0	0	0	0	0
2030-2040	0	10	0	20	0	50
2041-2050	0	(5)	0	(20)	0	5
New Wind						
2026-2029	0	20	0	20	0	20
2030-2040	0	60	0	60	0	105
2041-2050	0	0	0	0	0	5

The resource additions associated with the portfolio strategies identified in Table 11-1 are illustrated further in Figure 11-14. The figure provides a representation of how these resources are deployed across the portfolio strategies, emphasizing the commonalities and differences of new resource additions. Review of Figure 11-14 indicates the following:

- Participation in NGCC is consistently identified as a valuable addition under BAU, with capacity additions occurring as early as feasible to meet near-term capacity and energy needs, where available.

- Under PA 235, NGCC is primarily selected when paired with carbon capture, reflecting its value toward meeting the CES requirements under PA 235.
- Local-only strategies rely more heavily on peaking resources and renewables.
- New renewable capacity is limited under the BAU scenario, as thermal resources are more economical to meet capacity and energy needs.
- New peaking capacity is limited under the PA 235 scenario, as these resources do not contribute toward meeting the state requirements under PA 235.
- No new local peaking generation (i.e., RICE) is selected prior to 2030 across portfolio strategies, suggesting that near-term capacity and energy needs can be met without additional peaking resources, likely through a combination of existing resources and market purchases.
- Wind emerges as the most economic renewable resource in the near term, with earlier and more consistent selection releative to other renewable technologies.
- The analysis does not incluude the addition of any small modular reactor (”SMR”) resources.

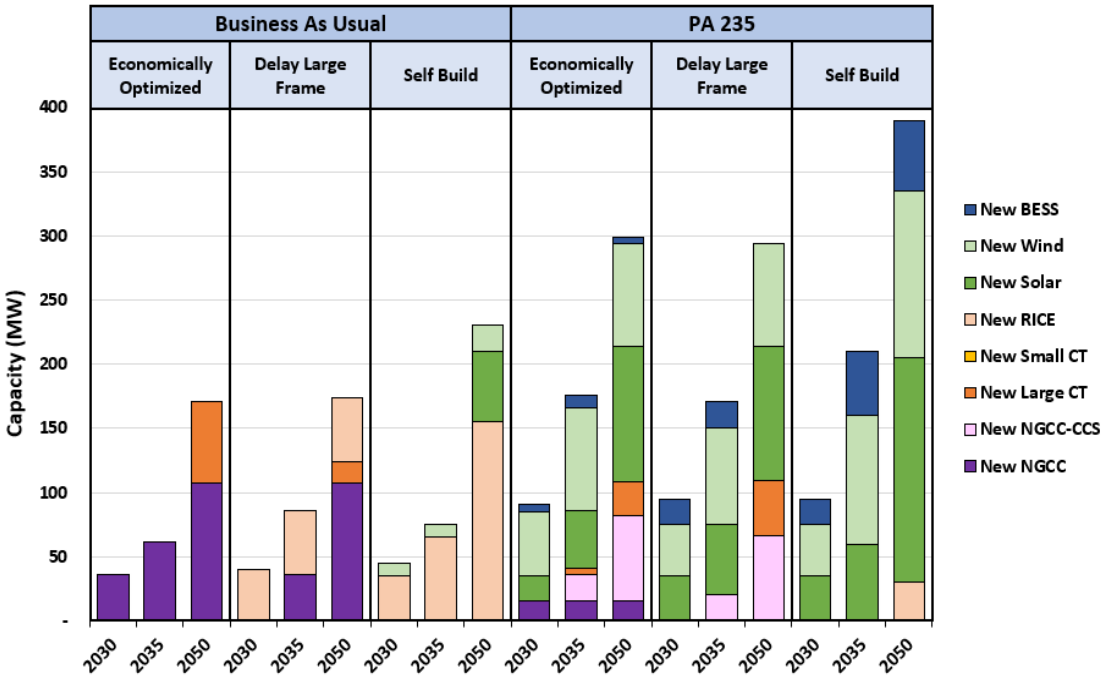

Figure 11-14: Summary of Capacity Additions (MW)

PVRR Summary

Table 11-2 presents summaries of the PVRR associated with each portfolio strategies developed for BAU and PA 235, and Figure 11-15 provides a more detailed breakout of the various cost components that makeup the PVRR. Detailed sensitivity results are provided in the Appendix. It should be noted that the PVRR analysis does not consider fixed costs associated with BPW’s existing PPAs, general and administrative type costs, or any other fixed costs associated with the BPW electric system other than estimated fixed O&M costs for existing units; such costs are considered “sunk costs” that would not change nor influence the resource and dispatch decisions reflected in this IRP. Additionally, when reviewing and comparing PVRR results, it is important

to note that comparisons of PVRR results across cases may be misleading given the underlying differences in assumptions between cases; for example, the PVRR of a case reflecting higher loads would be expected to be higher than for a case reflecting lower loads, all else being equal. The conclusions presented related to PVRR are based on appropriate comparisons of cases.

Table 11-2: Present Value Revenue Requirements (PVRR; 2026-2050)

Scenario	Economically Optimized	Large Units Available 2035	Local Generation
PVRR Power Cost			
BAU ($ Million)	$648	$705	$791
PA 235 ($ Million)	$905	$906	$1,010
Levelized Cost			
BAU ($/MWh)	$70.04	$76.16	$85.41
PA 235 ($/MWh)	$97.75	$97.85	$109.06

Review of Table 11-2 and Figure 11-15 indicates the following:

- Comparisons of the BAU and PA 235 scenarios across all three portfolio strategies illustrates the impact to system costs of complying with the requirements of PA 235. Across portolio strategies, total system costs under the PA 235 scenario are approximately 30-40% higher than those under the BAU scenario.
- Under the BAU scenario, access to large-frame units beginning in 2030 reduces overall system costs by approximately 8%, while meeting capacity requirements exclusively with local generation increases costs by approximately 12%.
- Under the PA 235 scenario, access to large-frame units beginning in 2030 reduces overall system costs by less than 1%, while meeting capacity requirements exclusively with local generation increases costs by approximately 11%.

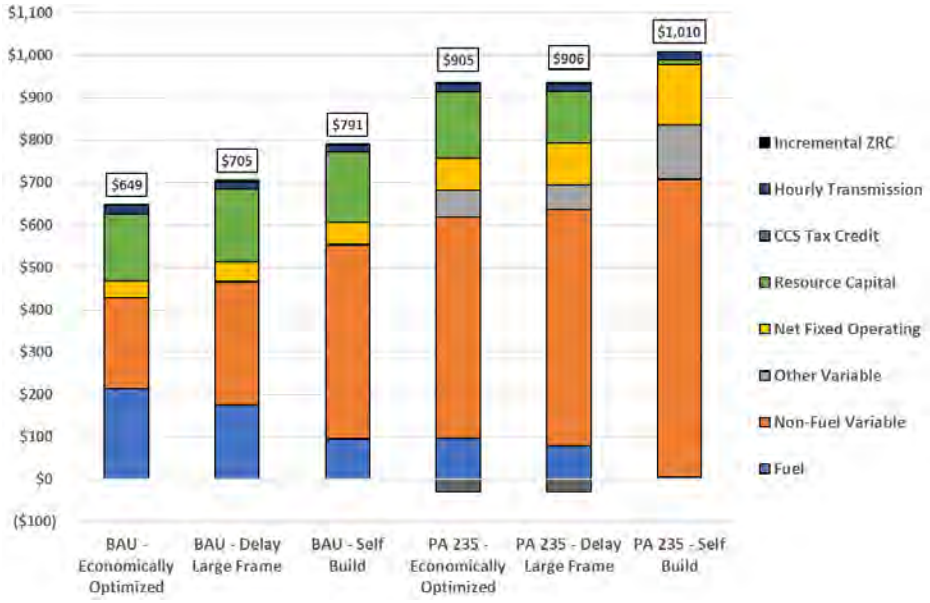

Figure 11-15: PVRR Summary – PVRR Power Costs (2026 $M, 2026-2050)

CO_2 Emissions

Figure 11-16 illustrates BPW's actual CO_2 emissions per MWh for 2019 and 2025 and the projected CO_2 emissions per MWh for each of the portfolio strategies developed for the BAU and PA 235 scenarios. As shown in Figure 11-16, all portfolio strategies would result in significantly lower CO_2 emissions per MWh as compared to historical levels.

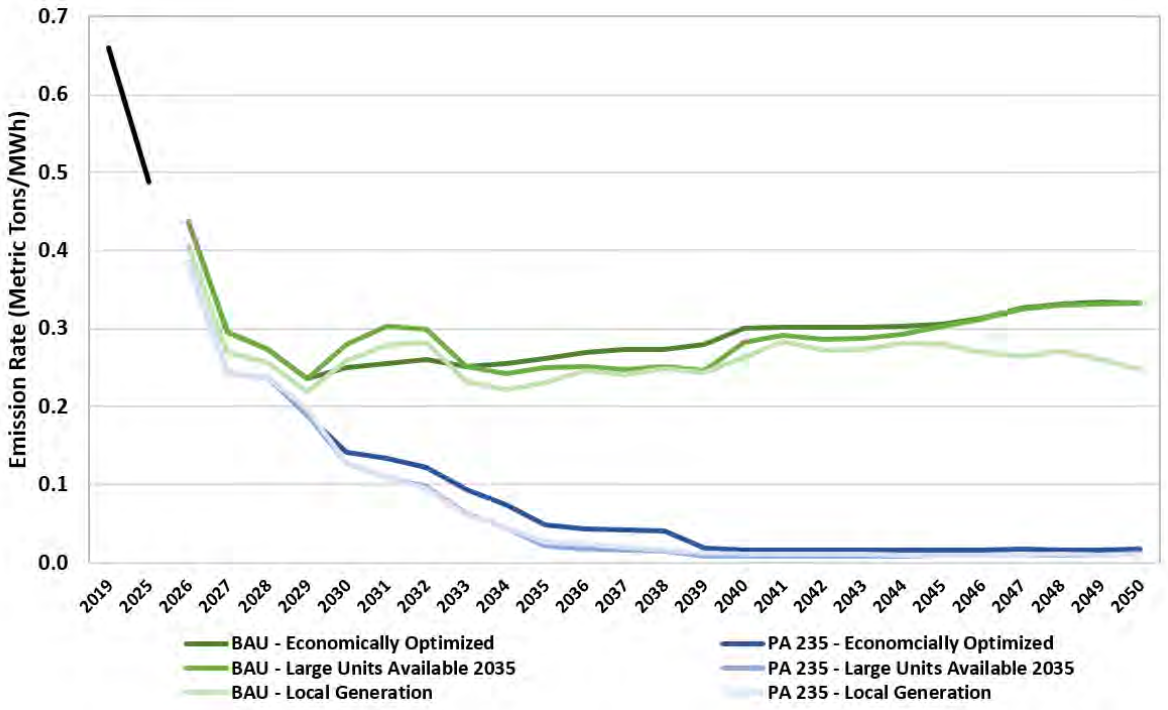

Figure 11-16: Average CO_2 Emissions by Portfolio Strategy

Table 11-3 below presents the average CO_2 emissions per MWh over the study period for each of the portfolio strategies developed for the BAU and PA 235 scenarios.

Table 11-3: CO_2 Emission Across Portfolio Strategies (2026-2050)

Portfolio Strategy	Average Emissions (Metric Tons/MWh)
BAU	
Economically Optimized	0.29
Large Units Available 2035	0.29
Local Generation	0.26
PA 235	
Economically Optimized	0.08
Large Units Available 2035	0.07
Local Generation	0.07

Review of Table 11-3 indicates the following:

- Resource portfolios under the PA 235 scenarios exhibit lower emissions than the resource portfolios under the BAU scenarios. This is a direct result of the signficant amount of renewable and clean energy generating resources that are needed to meet PA 235 requirements, thus resulting in overall lower emissions.
- The Local Generation portfolio results in lower emissions under the BAU scenario. The energy requirements under the the Local Generation portfolio are primarily meet with energy market purchases, which indicates that the emission rate of the overall energy market is slightly lower than a portfolio that is largely comprised of NGCC generation.

Sensitivity and Risk Analysis

To evaluate the robustness of the portfolio strategies under varying future conditions, a series of sensitivities were performed across both the BAU scenario and the PA 235 scenario. These sensitivities focus on key uncertainties that impact resource build decisions, dispatch, and PVRR.

Fuel Price Resiliency

For each portfolio strategy developed under both scenarios, sensitivities were applied to reflect high and low fuel prices assumptions. This approach allows for a consistent comparison of how each strategy performs under a range of plausible future conditions. Tables 11-4 and 11-5 present the average levelized power costs for each portfolio strategy across all fuel-price sensitivities for the BAU and PA 235 scenarios, respectively. Additional results and supporting figures are also provided in Appendix A.

Table 11-4: Fuel Price Resiliency for BAU Portfolios (PVRR; 2026-2050)

Portfolio Strategy	Average Levelized Power Costs ($/MWh)			
	Medium Fuel Price	Low Fuel Price	High Fuel Price	Range of Uncertainty
Economically Optimized	$70.04	$60.67	$82.62	$21.95
Large Units Available 2035	$76.16	$66.45	$85.87	$19.42
Local Generation	$85.41	$76.40	$91.24	$14.84

Table 11-5: Fuel Price Resiliency for PA 235 Portfolios (PVRR; 2026-2050)

Portfolio Strategy	Average Levelized Power Costs ($/MWh)			
	Medium Fuel Price	Low Fuel Price	High Fuel Price	Range of Uncertainty
Economically Optimized	$97.75	$93.36	$102.15	$8.78
Large Units Available 2035	$97.85	$94.22	$101.77	$7.55
Local Generation	$109.06	$108.50	$109.47	$0.97

Review of Table 11-4 and 11-5, and the supporting figures provided in the Appendix indicate the following:

- NGCC provides the majority of energy under the BAU scenario once available, dispacing market purchases and existing generation; this trend remains consistent across most sensitivities.
- Under high fuel price sensitivities, market energy becomes more economic, displacing a significant portion of NGCC generation.
- Under low fuel price sensitivities, owned resources are dispatched more heavily, with increased generation from NGCC and local peaking units, particularly in the Local Generation portfolio strategies.
- High fuel price sensitivities in the PA 235 scenario also increase reliance on market energy, though to a lesser extent than in the BAU scenario, as market purchases do not contribute toward meeting PA 235 requirements.
- While the Economically Optimized portfolio strategy is the most sensitive to fuel price, the portfolio strategy remains the lowest cost option under both BAU and PA 235 scenarios
- While the PA 235 scenarios are more resilient to changes in fuel prices, the resource porfolios needed to meet PA 235 requirements remain higher in cost.

Load Growth Responsiveness

For each portfolio strategy developed under both scenarios, sensitivities were applied to reflect high and low load growth projections. This approach allows for a consistent comparison of how each strategy performs under a range of plausible future conditions. Figures 11-16 and 11-17 present the average levelized power costs for each portfolio strategy across all load growth sensitivities for the BAU and PA 235 scenarios, respectively. Additional results and supporting figures are also provided in Appendix A.

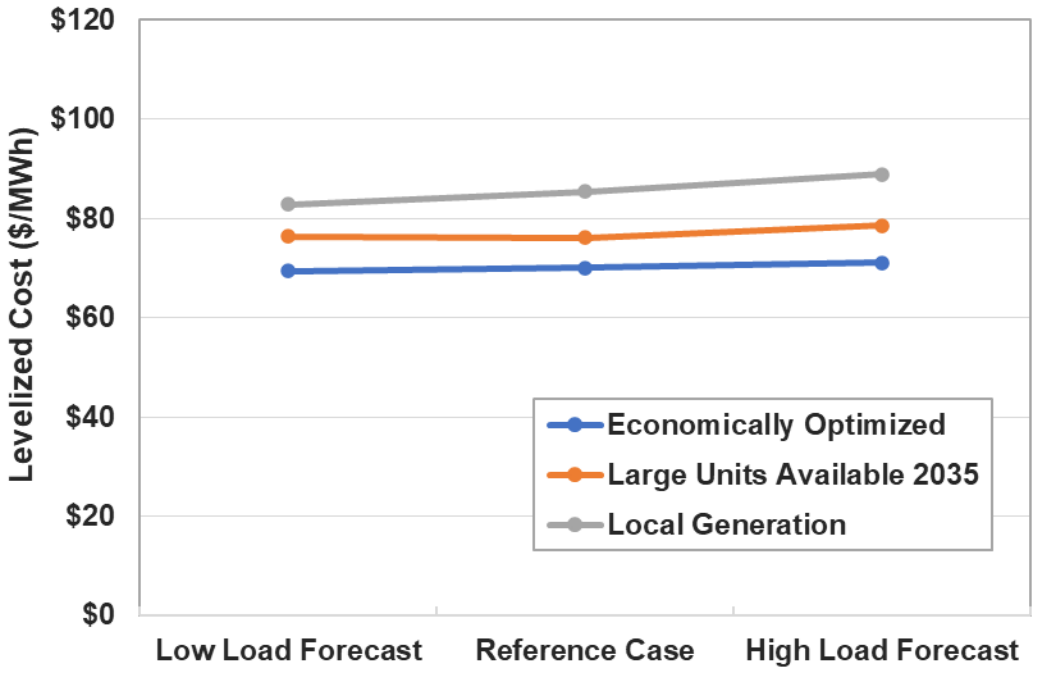

Figure 11-16: Levelized Costs for Portfolio Strategies – BAU Scenario

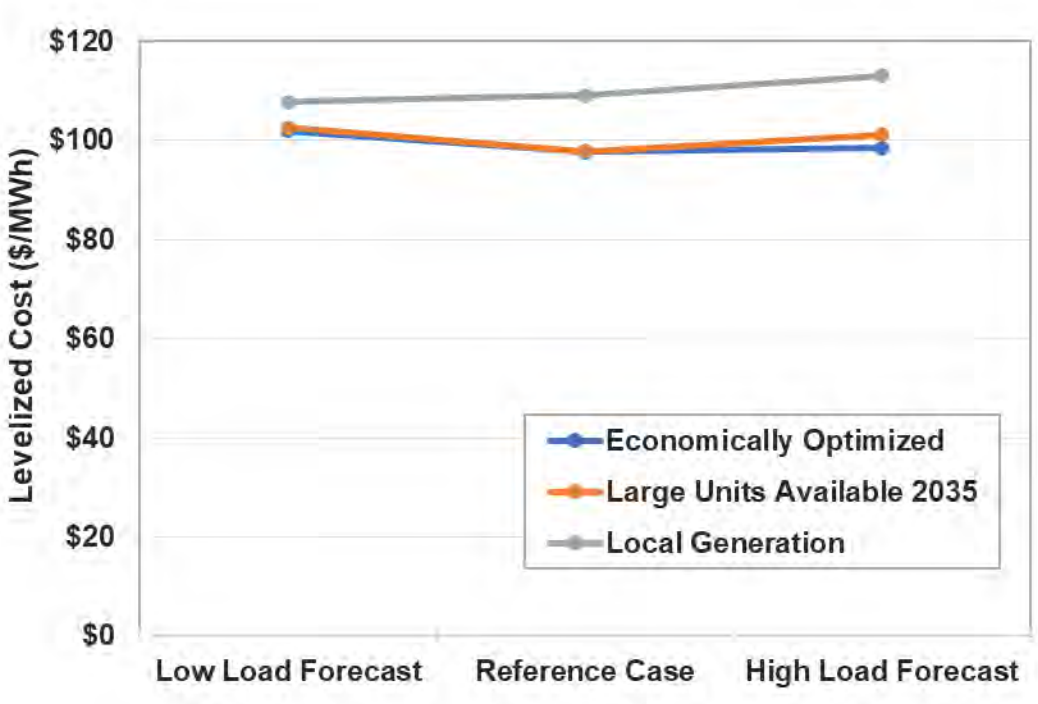

Figure 11-17: Levelized Costs for Portfolio Strategies – PA 235 Scenario

Review of Figures 11-16 and 11-17, and the supporting figures provided in Appendix A indicate the following:

- The overall mix of resource types remains generally consistent across sensitivities, regardless of scenario or portfolio strategy, with higher load growth resulting in greater levels of capacity additions, but with resource types remaining proportional to the Reference Case, and lower load growth resulting in lower levels of capacity additions, but with resource types remaining proportional to the Reference Case.
- The timing of resource additions remains largely consistent with the reference case across sensitivities, with differences primarily reflected in the magnitude of capacity additions rather than shifts in installation timing.
- Low load growth sensitivities result in excess capacity, reflecting near-term additions made to meet projected load growth that ultimately does not materialize.
- Portfolio strategies with large frame units show lower overall costs compared to those with only local generation and are less sensitive to load variations.
- Portfolio strategies under the PA 235 scenario are less senstive to load variations than the portfolio strategies under the BAU scenario.

Ranking Analysis

A comparative ranking analysis was performed to evaluate the relative performance of each portfolio strategy across both the BAU scenario and the PA 235 scenario. Each portfolio strategy was assessed against six evaluation metrics designed to capture key dimensions of performance, including reliability, affordability, local control, fuel cost resiliency, load growth response, and CO2 emissions.

For each metric, portfolio strategies were ranked relative to one another, and weights were applied to reflect the relative importance of each evaluation criterion. These weights are summarized at the bottom of Table 11-6. A weighted score was then calculated for each portfolio strategy, as shown in the rightmost column, to provide an overall comparison across scenarios and portfolio strategies.

Table 11-6: Ranking of Potential Portfolio for Evaluation Metrics

Portfolios	Reliability	Affordability	Control of Resource Particpation	Fuel Cost Resiliency	Load Growth Response	CO2 Emissions	Weighted Average
Business-As-Usual							
Economically Optimized	1	1	3	3	1	3	1.8
Large Units Available 2035	1	2	2	2	2	2	2.0
Local Generation	1	3	1	1	3	1	2.2
MI Public Act 235							
Economically Optimized	1	1	3	3	1	3	1.8
Large Units Available 2035	1	2	2	2	2	1	1.9
Local Generation	1	3	1	1	3	2	2.3
Weights	0%	50%	20%	10%	10%	10%	100%

The following discussion summarizes key findings from the ranking analysis:

- The Economically Optimized portfolio strategy ranks as the most robust strategy across both scenarios. This results suggests that early participation in large-frame resources – particularly NGCC resources – provides meaningful benefits in terms of cost and overal portfolio performance.
- The Large Units Available 2035 portfolio strategy highlights the value of maintaining optionality in the near term, indicating that preserving the ability to participate in future large-frame resource can support strong perfomance across a range of potential future conditions.
- The Local Generation provides the greatest level of local control, but results in the highest overall system costs and has worse responsiveness to changes in load growth, indicating reduced flexibility under varying future conditions.

Evaluation of Regulatory Uncertainty for PA 235

BPW faces a degree of uncertainty related to evolving state regulatory requirements in the form of PA 235, including mandates for a specified share of energy to be sourced from renewable or clean resources. While this legislation took effect in 2024, key elements of compliance remain unclear, and the anticipated phase-out of federal tax incentives under the IRA introduces additional considerations.

BPW's current open capacity position provides flexibility to adapt to future resource strategies; however, optimum capacity builds under the resulting portfolio strategies show limited alignment in near-term resource additions across these scenarios, indicating that early investment decisions may differ significantly depending on the assumed regulatory future. Importantly, these near-term resource decisions may introduce path dependencies that impact long-term cost and resource outcomes if future regulatory conditions differ from expectations. To evaluate the potential risk associated with this uncertainty, a "What-If" analysis was conducted to investigate how specific portfolio strategies are able to respond to changes in the assumed future regulatory environment.

The "What-If" analysis is intended to assess how different near-term strategies perform when evaluated against an alternative regulatory future, thereby providing insight into the risks and trade-offs associated with early action versus deferral. The two "What-If" cases evaluated are described below and the results of the analysis are presented in Table 11-7.

- **Early Renewable Additions but PA 235 is Altered**: This case assumes an aggressive near-term buildout of renewable resources to align with anticipated PA 235 requirements. The portfolio strategy is then evaluated under a regulatory future in which such requirements do not materialize, assessing the cost and operational implactions of early renewable invesment.
- **Early Local RICE Resource Build but PA 235 is Fully Enforced:** This case assumes that near-term capacity needs are met through local RICE resources, with renewable investment deferred. The portfolio strategy is then evaluated under a future in which PA 235 requirements are enforced, assessing the implications of delayed renewable deployment and the resulting need for accelerated compliance.

Table 11-7: What-If Analysis (PVRR; 2026-2050)

Portfolio Strategy	Average Levelized Power Costs ($/MWh)	
	$/MWh	Incremental
BAU		
Large Units Available 2035	$76.16	N/A
Early Renewables without PA 235	$90.84	$14.68
PA 235		
Large Units Available 2035	$97.85	N/A
Early RICE with PA 235	$104.57	$6.71

As shown in Table 11-7, pursuing an aggressive near-term renewable buildout under a future in which PA 235 requirements are relaxed results in an incremental average levelized power cost of $14.68/MWh. In contrast, meeting near-term capacity needs with local RICE resources while deferring large-scale renewable procurement until the regulatory framework under PA 235 is clarified results in a lower incremental cost of $6.71/MWh. This comparison highlights the trade-off between early commitment and regulatory flexibility and indicates that delaying the decision to aggressively pursue renewables reduces may reduce cost exposure for BPW given the current uncertainty of PA 235 implementation.

More detailed results that support the evaluation of the “What-If” scenarios are provided in Appendix A.

12 STAKEHOLDER ENGAGMENT

12.1 Stakeholder Overview

Throughout development of the IRP, BPW provided opportunities for members of the community ("Stakeholders") to participate in the IRP Stakeholder Working Group ("SWG"), which consisted of three meetings with the Stakeholders and was preceded by a public meeting for any members of the community to attend and participate in. BPW provided a dedicated IRP website (Power Supply Strategic Planning - Zeeland BPW)[9] to inform customers of the IRP process, including frequently asked questions, and invited the public to submit any questions or feedback related to the IRP process. BPW posted presentation material and recordings of the public meetings and the SWG meetings on the IRP website.

The SWG was formed by BPW and was intended to lead to improvements to the IRP and planning processes through feedback received from Stakeholders. The SWG was developed to represent a wide range of concerns and perspectives to help inform the development of an IRP that is in the best interest of the BPW's customers while meeting the requirements of the State Michigan.

BPW identified several key sectors to ensure the SWG reflected a broad and representative cross-section of the community. These sectors included governmental agencies, commercial and industrial key accounts, educational and health-care institutions, economic development organizations, community groups, and residential representatives. To engage participants from each sector, BPW conducted targeted outreach to specific contacts and supplemented these efforts with broader public promotion. Mailers, social media, and updates on the project website were used to reach the wider residential population and encourage broad community involvement.

Objectives and guidelines for the SWG process consisted of the following:

- Create an open dialogue around BPW's IRP.
- Provide education and transparency into BPW's resource planning process and obligation to provide reliable and economic power in an environmentally responsible manner.
- Provide the opportunity to share wide-ranging and diverse opinions on the planning process, analysis, and the contents of the IRP.
- Provide a forum for deep and technical discussion of the analysis, and the tradeoffs inherent to integrated resource planning.
- Collaborate and discuss how diverse perspectives and approaches could advise and benefit BPW's IRP.
- Participate in an active and focused manner and commit to the success of the IRP process.
- Build trust and strong relationships among the Stakeholders.
- Consider the interests and concerns of all BPW customers and Stakeholders, and interact respectfully with all Stakeholders.
- Evaluate fairly and thoroughly the feedback and input from all Stakeholders, and keep the needs, concerns, and questions of Stakeholders alive and present in the planning of the IRP.

[9] https:://zeelandbpw.com/power-plan

12.2 Summary of Meetings

Table 12-1 provides a summary of the dates and associated topics for the public meeting and each of the three SWG meetings.

Table 12-1: Summary of Meetings

Meeting Name	Meeting Date	Meeting Topics

Public Meeting	October 16, 2025	• Overview of BPW
		  o History
		  o Operations and Resources
		  o Interaction with MPPA and MISO
		  o Priorities
		  o Customer Demographics,
		  o Power Supply Basics
		  o Future Challenges
		• Overview of an IRP
		  o Key Components
		  o IRP Process and Goals
		• BPW's IRP Process
		• Schedule of SWG Meetings and SWG Expectations

SWG Meeting #1	November 18, 2025	• BPW Customer Survey Results
		• Refresh on BPW and Industry Challenges
		• IRP Assumptions
		  o Planning Criteria
		  o PA 235
		  o Load Forecast
		  o Fuel Price Projections
		  o Market Price Projections
		  o Options
		• Schedule of SWG Meetings and SWG Expectations

SWG Meeting #2	January 8, 2026	• Address Questions from SWG Meeting #1
		  o Demand-Side Management and Energy Efficiency
		  o Planning and Implementation
		• Structure of BPW's IRP
		  o Portfolios and Scenarios
		  o MISO
		  o Options
		  o Market Price Projections
		  o Sensitivities
		• Schedule of SWG Meetings and SWG Expectations

SWG Meeting #3	March 19, 2026	• Preliminary Results • Portfolio Evaluation Criteria • Near-Term Action Plan • Coordination and Collaboration with MPPA

13 CONCLUSIONS AND NEAR-TERM ACTIONS

This IRP provides a comprehensive analysis of various resource options to meet BPW's customer's electric needs while balancing critical objectives, including system reliability, economics, and regulatory compliance.

13.1 Conclusions

BPW's current open capacity position provides flexibility to adapt to future resource strategies; however, optimum capacity builds under the resulting portfolio strategies show limited alignment in near-term resource additions across these scenarios, indicating that early investment decisions may differ significantly depending on the assumed regulatory future. Importantly, these near-term resource decisions may introduce path dependencies that impact long-term cost and resource outcomes if future regulatory conditions differ from expectations.

With this context in mind, the following presents the conclusions based on the analysis and evaluations performed for and discussed throughout this IRP:

- Participation in larger, shared thermal generating resources is a key driver of economic value. Near-term planning decisions should prioritize preserving the ability to participate in future large generating units, even if full commitment occurs at a later date. Results of the IRP that support this conclusion include the following.
    - NGCC capacity is installed as early as feasible across most portfolio strategies to meet capacity requirements.
    - Participation in NGCC is consistently identified as a valuable addition under BAU, with capacity additions occurring as early as feasible to meet near-term capacity and energy needs, where available.
    - The BAU Economically Optimized portfolio relies on NGCC to provide the majority of energy, primarily displacing market purchases, Belle River, and local peaking generation.
    - The BAU Large Units Available 2035 portfolio strategy depicts the use of market energy and local peaking resources supply in the near term, with NGCC generation increasing later in the study period once large-frame units become available.
    - Under PA 235, NGCC is primarily selected when paired with carbon capture, reflecting its value toward meeting the CES requirements under PA 235.
    - Beginning in 2035, NGCC-CCS is installed to meet both capacity needs and CES requirements under PA 235.
    - In portfolios evaluated under PA-235 where large-frame resources are not available until 2035, NGCC is not selected, with NGCC-CCS serving as the primary thermal resource once available.
    - The Economically Optimized portfolio strategy ranks as the most robust strategy across both scenarios. This result suggests that early participation in large-frame

resources – particularly NGCC – provides meaningful benefits in terms of cost and overall portfolio performance.

  - The Large Units Available 2035 portfolio strategy highlights the value of maintaining optionality in the near term, indicating that preserving the ability to participate in future large-frame resources can support strong performance across a range of potential future conditions.

- Reliance exclusively on local generation is consistently identified as the higher-cost portfolio strategy. While local resources can provide operational and siting advantages, limiting the portfolio to these options reduces economic efficiency and increases overall system costs over the study period.
  - Local-only strategies rely more heavily on peaking resources and renewables.
  - Under the BAU scenario, meeting capacity requirements exclusively with local generation increases costs by approximately 12%.
  - Under the PA 235 scenario, meeting capacity requirements exclusively with local generation increases costs by approximately 11%.
  - The Local Generation provides the greatest level of local control, but results in the highest overall system costs and has worse responsiveness to changes in load growth, indicating reduced flexibility under varying future conditions.
- Power supply portfolios designed to fully meet the requirements of PA 235 result in higher costs relative to the BAU portfolios.
  - Across portfolio strategies, compliance with PA 235 is estimated to increase total power supply costs by approximately 30 to 40 percent over the study period.
  - The PA 235 portfolios result in lower reliance on market energy overall, as market purchases do not contribute to meeting RPS and CES requirements under PA 235.
  - To meet CES requirements, utilities in Michigan may need to over-generate during periods of high renewable output, which can depress market prices, increase exports to neighboring regions, and/or require additional energy storage (as illustrated in Figure 11-7, which highlights excess generation on an annual basis).
- Delaying an aggressive near-term buildout of renewable resources to meet PA 235 requirements results in the lowest incremental cost exposure. Given the uncertainty surrounding the regulatory compliance and the considerations related to the phase-out of the IRA tax credits, BPW should plan to remain compliant while avoiding higher costs associated with early commitments that may prove misaligned with future regulatory outcomes.
  - Pursuing an aggressive near-term renewable buildout under a future in which PA 235 requirements are altered results in an incremental average levelized power cost of $14.68/MWh.

- Meeting near-term capacity needs with local RICE resources while deferring large-scale renewable procurement until the regulatory framework under PA 235 is clarified results in an incremental average levelized power cost of $6.71/MWh.

13.2 Near-Term Actions

BPW intends to continue its proactive resource planning to maintain resource adequacy beyond 2030 due to projected load growth and evolving capacity market conditions. Concurrently, MPPA forecasts capacity shortfalls among member utilities beginning in 2030. Staff have evaluated a range of resource options and recommend continued advancement of both local and regional generation opportunities while maintaining flexibility as additional technical, financial, and regulatory information becomes available.

The IRP evaluated future load obligations, resource adequacy requirements, market conditions, and resource alternatives available to BPW. Results indicate that additional capacity resources will likely be required to satisfy future reliability obligations. In parallel, MPPA has been evaluating a strategic generation initiative involving interested member communities, with BPW participating as both a potential project participant and host community.

Maintaining resource adequacy beyond 2030 will likely require a combination of local resource development, regional collaboration, and strategic capacity procurement. Based on the results of this IRP, BPW intends to pursue a series of near-term actions to refine BPW's path forward, which will position BPW to make informed investment decisions that support long-term reliability, affordability, and sustainability objectives. These near-term action items are summarized below in Table 13-1.

Table 13-1: Summary of Near-Term Actions

Action	Description
Advance Local Generation Site Due Diligence	Continue environmental, permitting, interconnection, fuel supply, and constructability evaluations of potential BPW-owned generation sites and identify additional strategic locations.
Reduce Near-Term Capacity Market Exposure	Pursue interim capacity procurement strategies to mitigate BPW's open capacity position while long-term solutions are evaluated.
Evaluate New Generation Alternatives	Evaluate both locally owned and jointly owned generation resources using lifecycle cost, performance, financing, risk, and portfolio optimization criteria.
Coordinate with MPPA Resource Development Initiatives	Maintain active participation in MPPA planning efforts and evaluate opportunities for economies of scale and shared development risk.

Appendix A

Supplemental Information to the Zeeland Board of Public Works 2026 Integrated Resource Plan

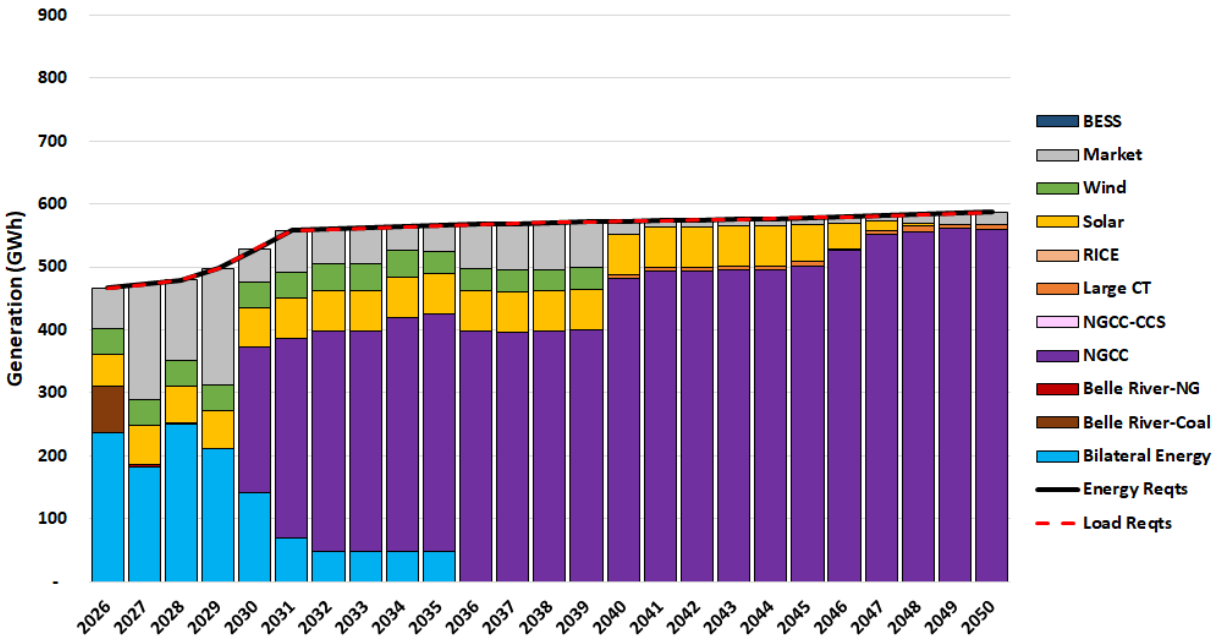

Figure A-1: Energy Generated by Resource Type – BAU Economically Optimized (Low Load Growth)

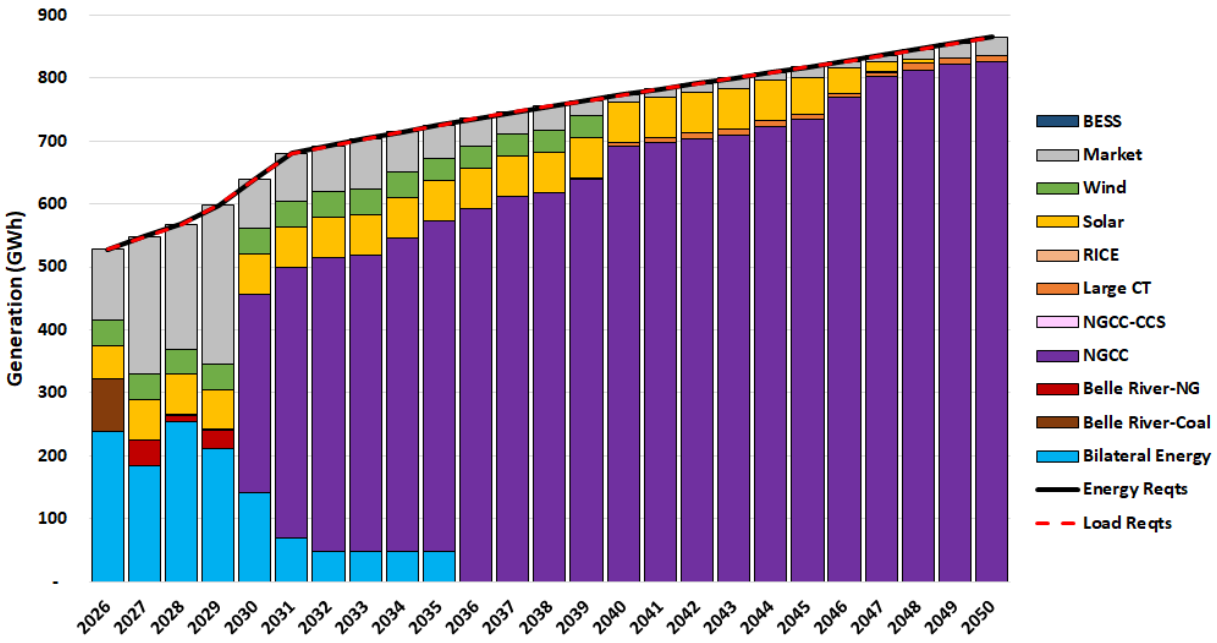

Figure A-2: Energy Generated by Resource Type – BAU Economically Optimized (High Load Growth)

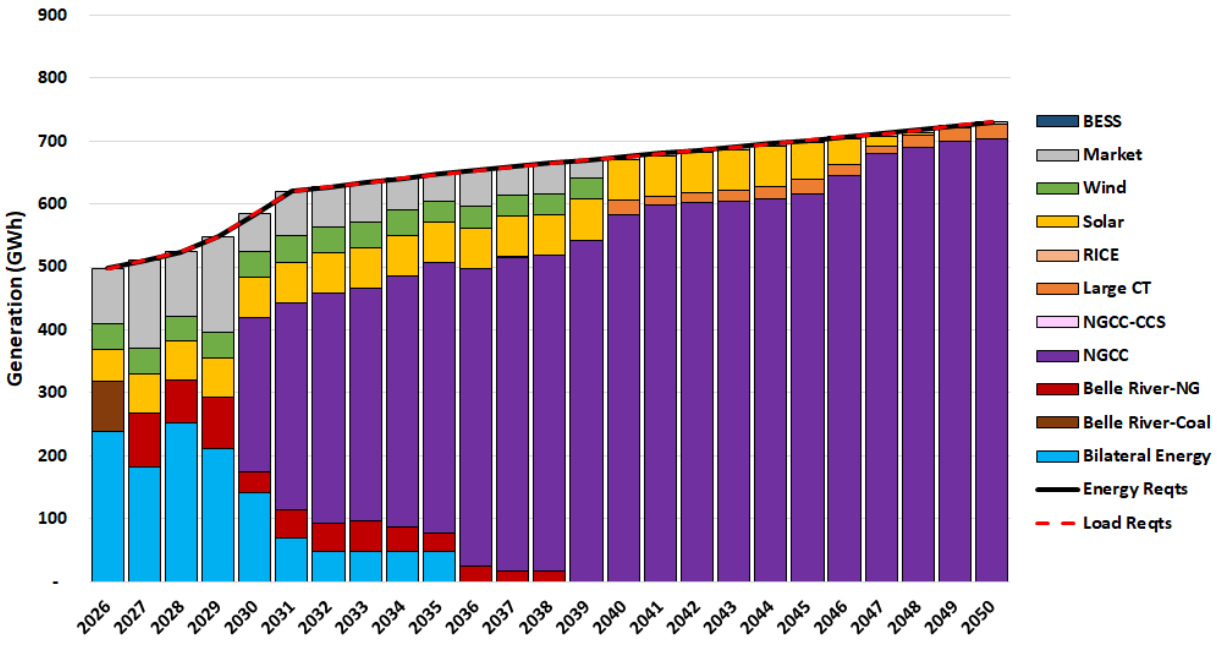

Figure A-3: Energy Generated by Resource Type – BAU Economically Optimized (Low Fuel Price)

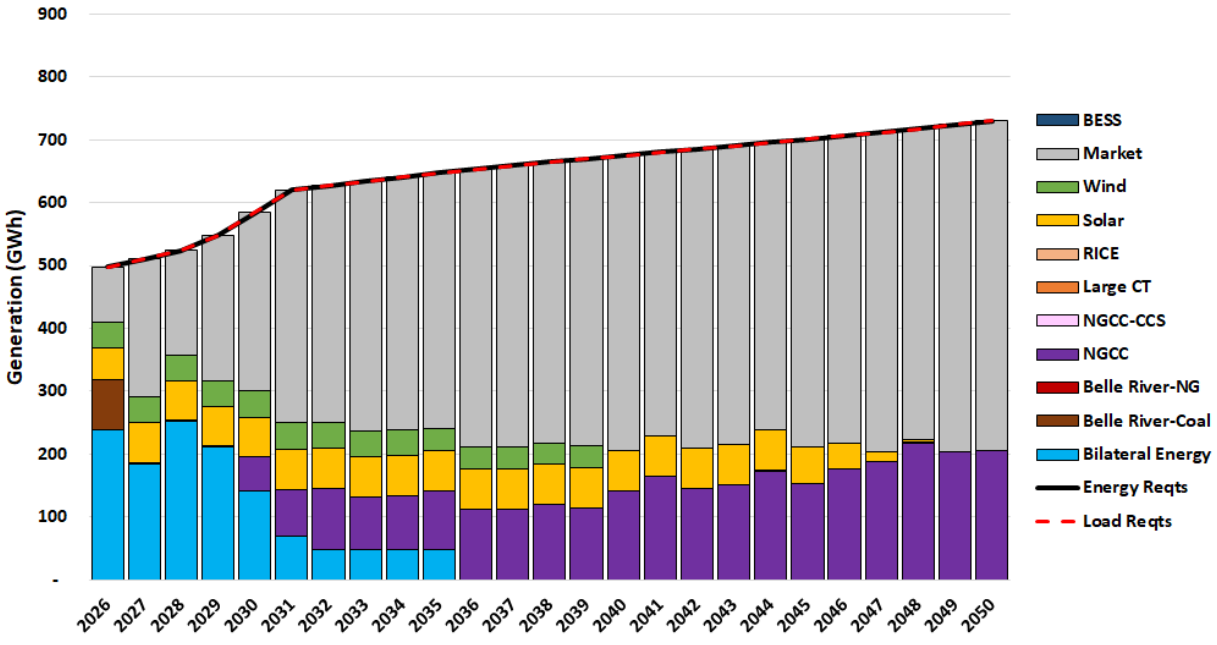

Figure A-4: Energy Generated by Resource Type – BAU Economically Optimized (High Fuel Price)

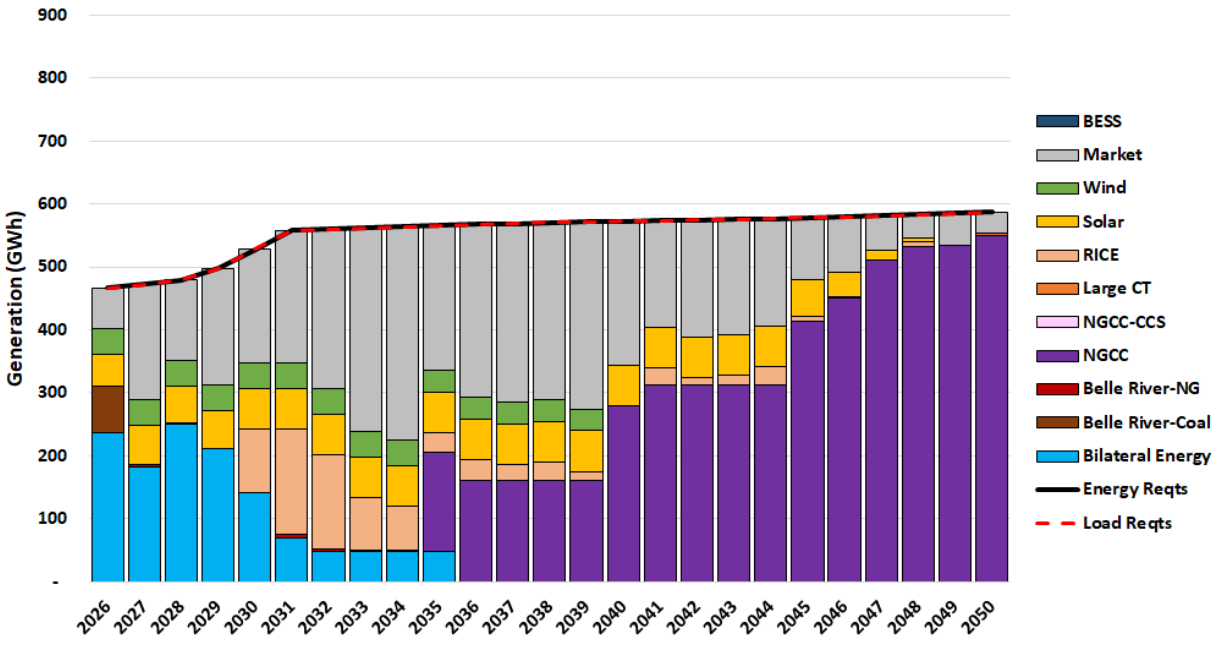

Figure A-5: Energy Generated by Resource Type – BAU Large Units Available 2035 (Low Load Growth)

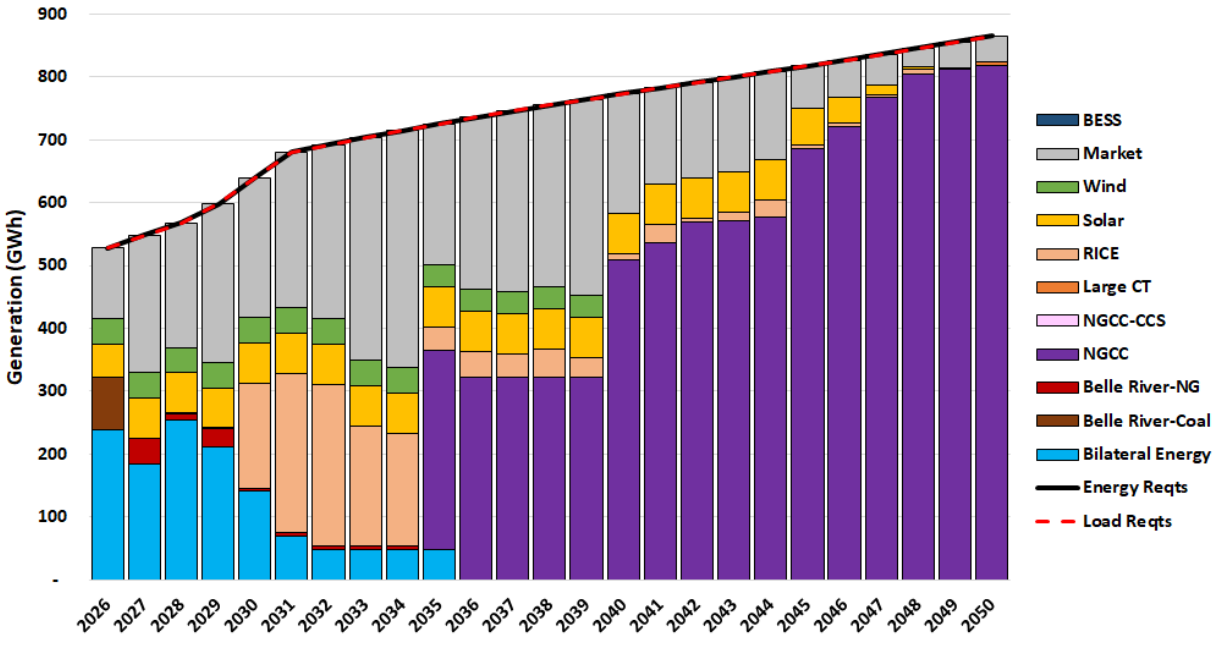

Figure A-6: Energy Generated by Resource Type – BAU Large Units Available 2035 (High Load Growth)

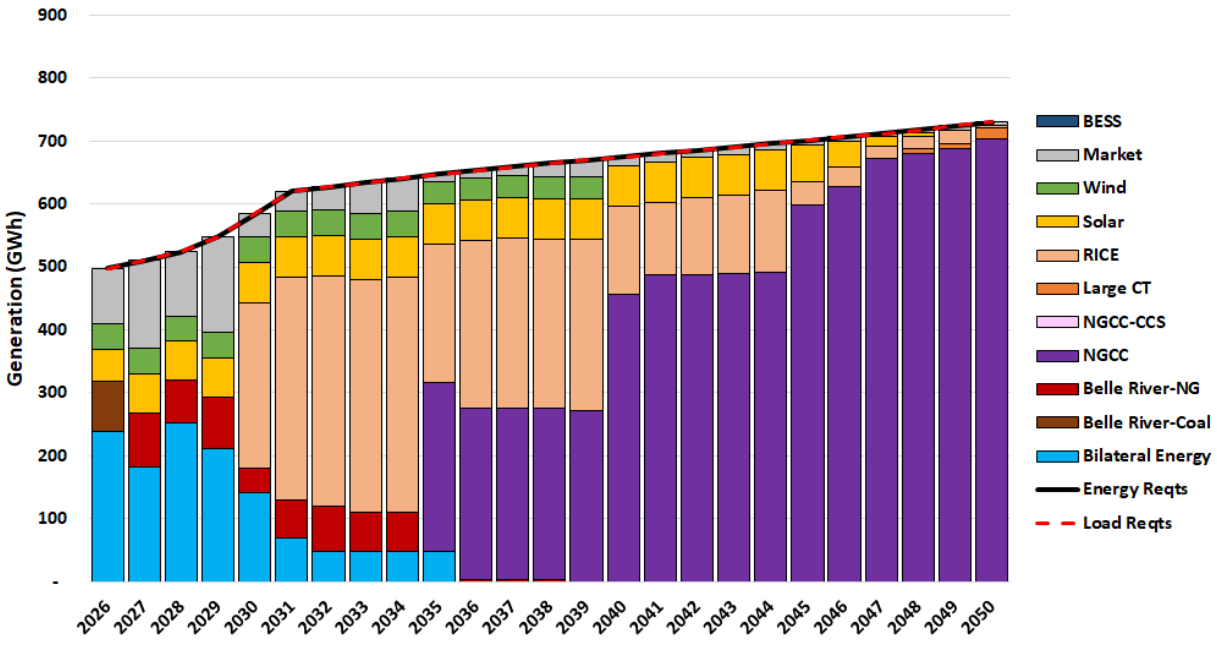

Figure A-7: Energy Generated by Resource Type – BAU Large Units Available 2035 (Low Fuel Price)

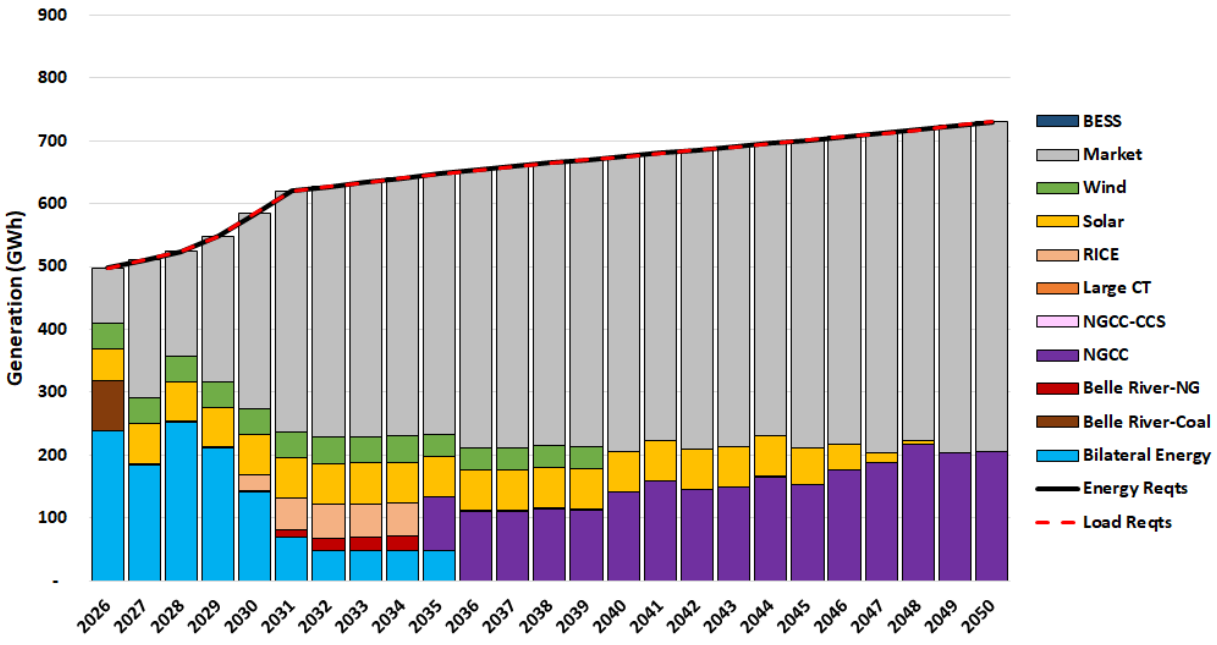

Figure A-8: Energy Generated by Resource Type – BAU Large Units Available 2035 (High Fuel Price)

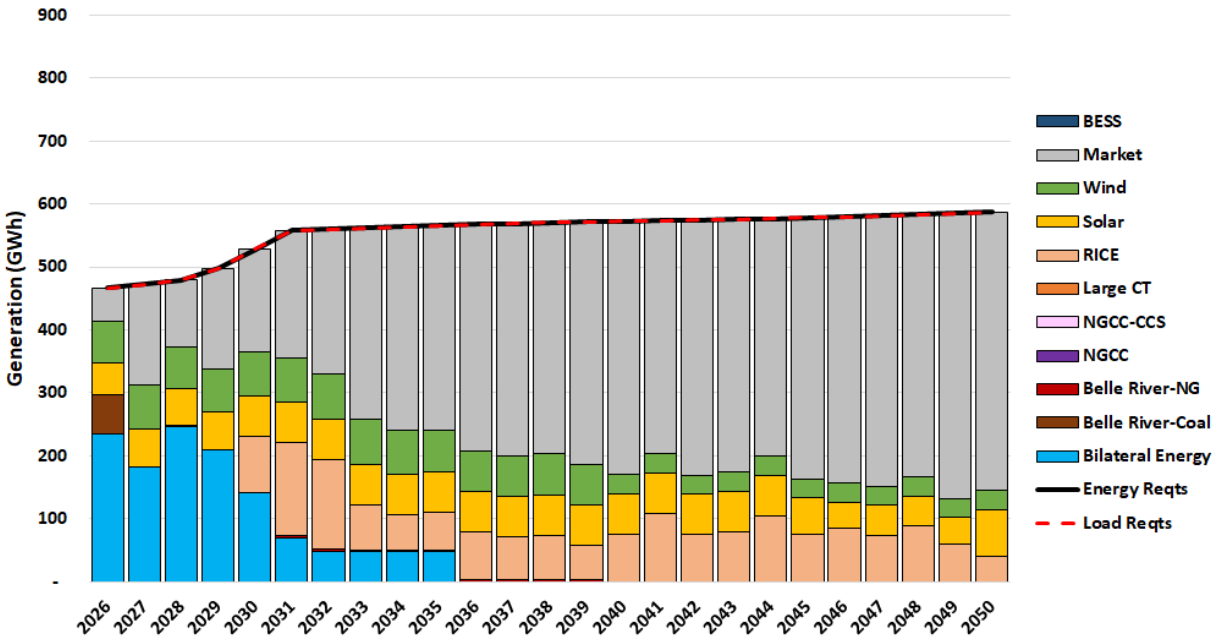

Figure A-9: Energy Generated by Resource Type – BAU Local Generation (Low Load Growth)

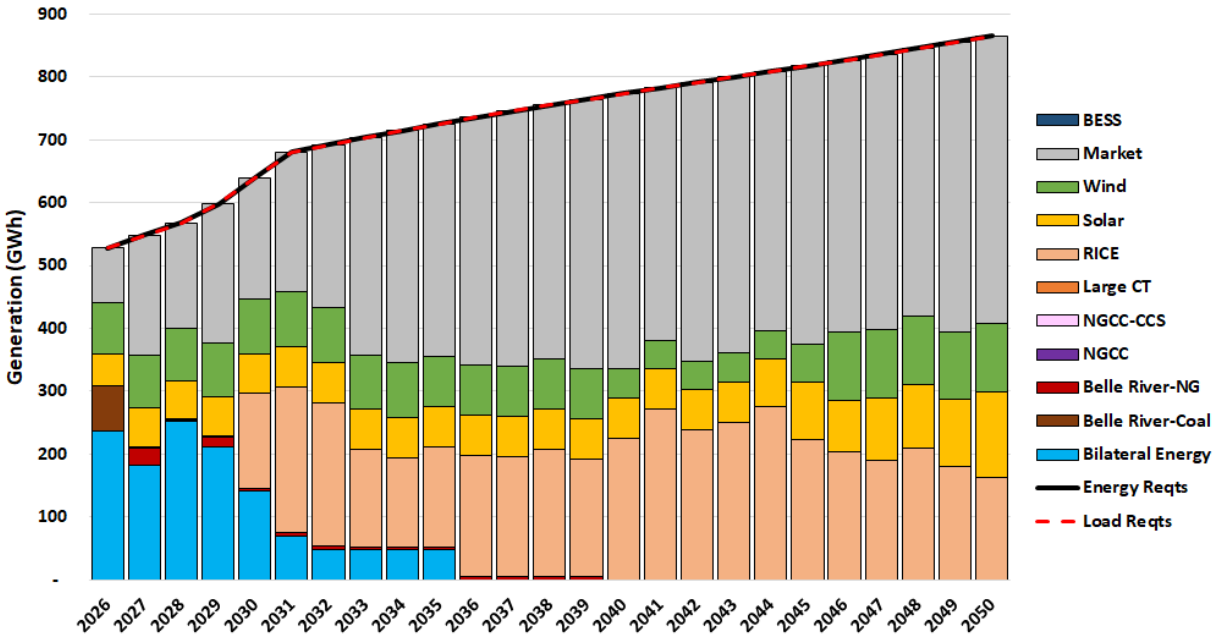

Figure A10: Energy Generated by Resource Type – BAU Local Generation (High Load Growth)

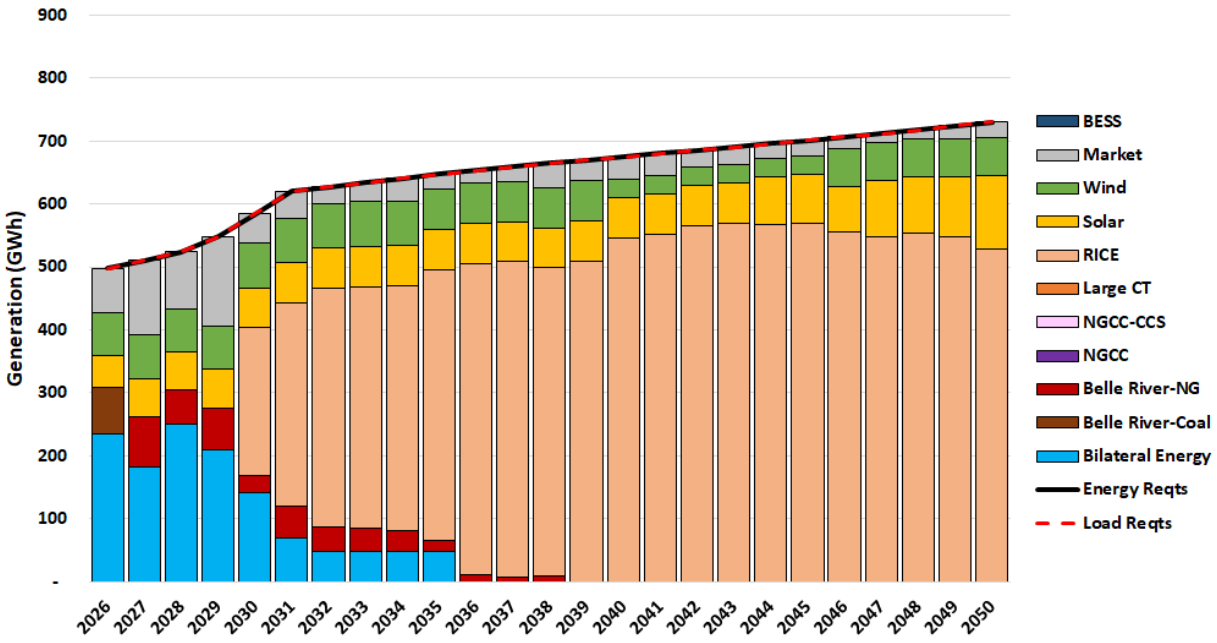

Figure A-11: Energy Generated by Resource Type – BAU Local Generation (Low Fuel Price)

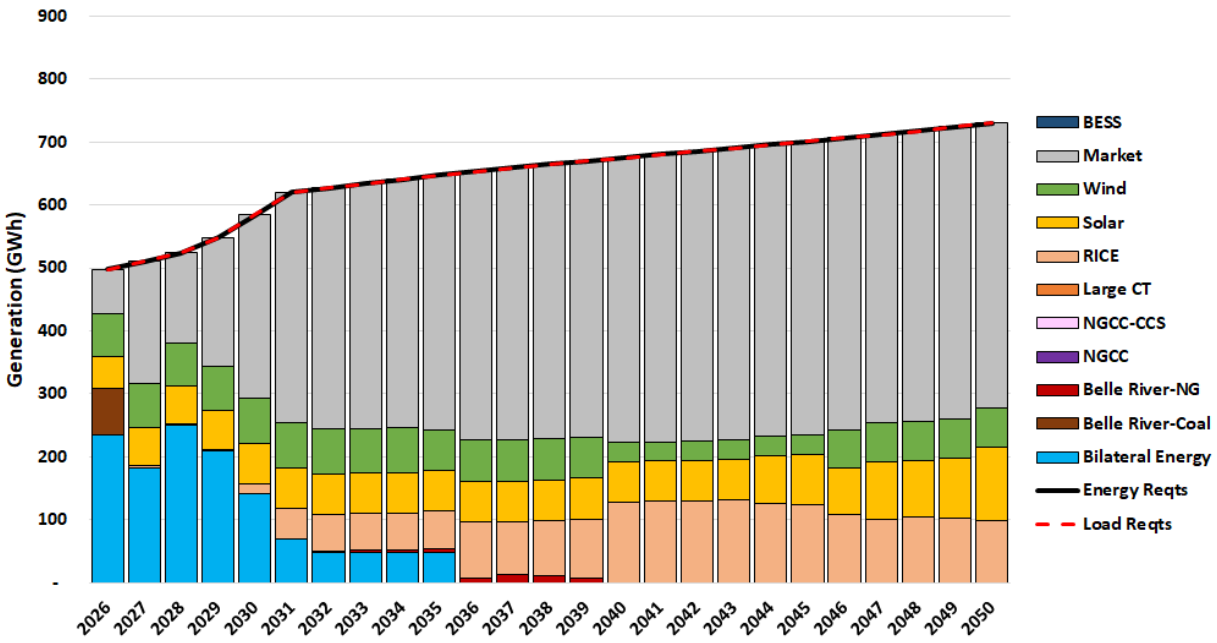

Figure A-12: Energy Generated by Resource Type – BAU Local Generation (High Fuel Price)

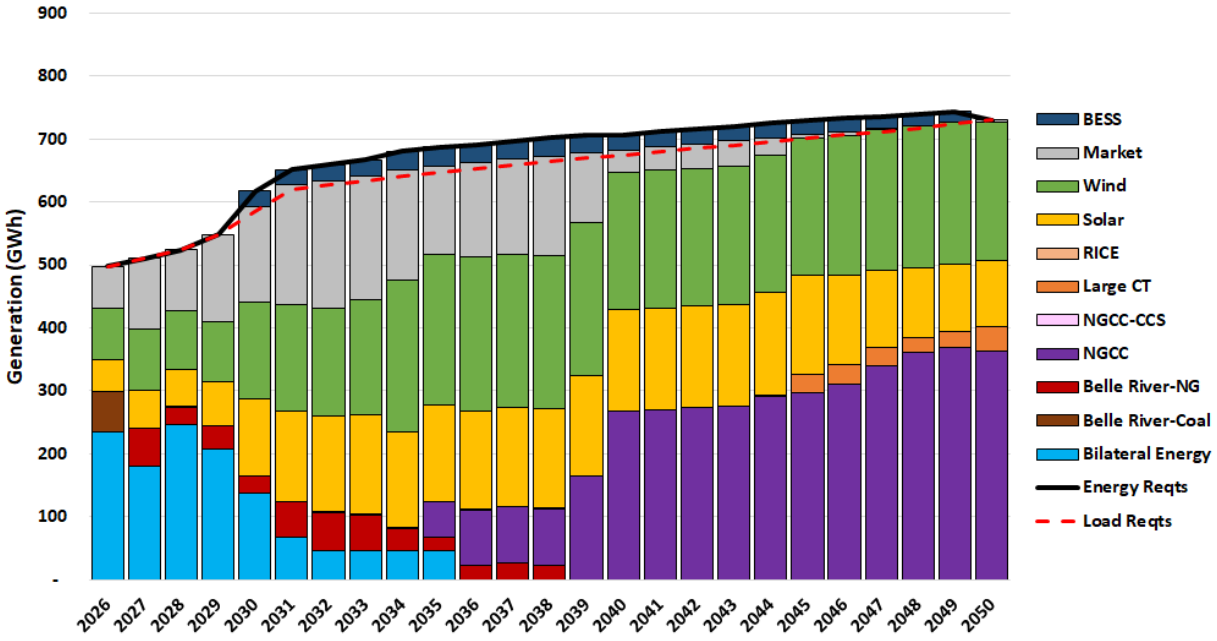

Figure A-13: Energy Generated by Resource Type – Early Renewables with no PA 235 (Low Fuel Price)

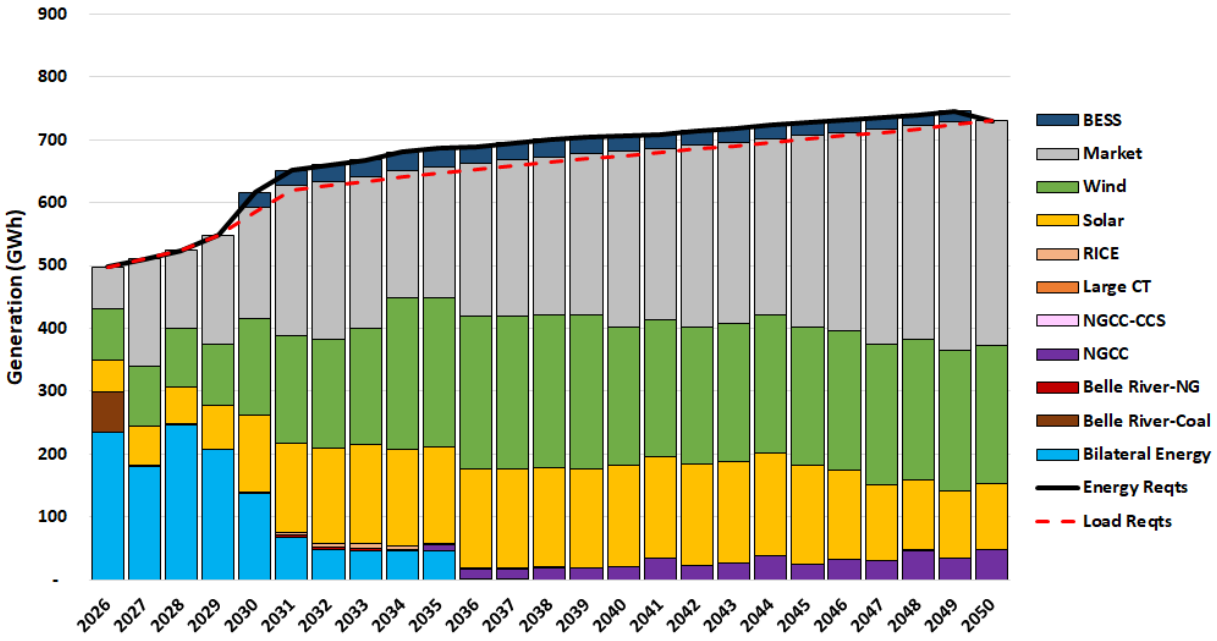

Figure A-14: Energy Generated by Resource Type – Early Renewables with no PA 235 (High Fuel Price)

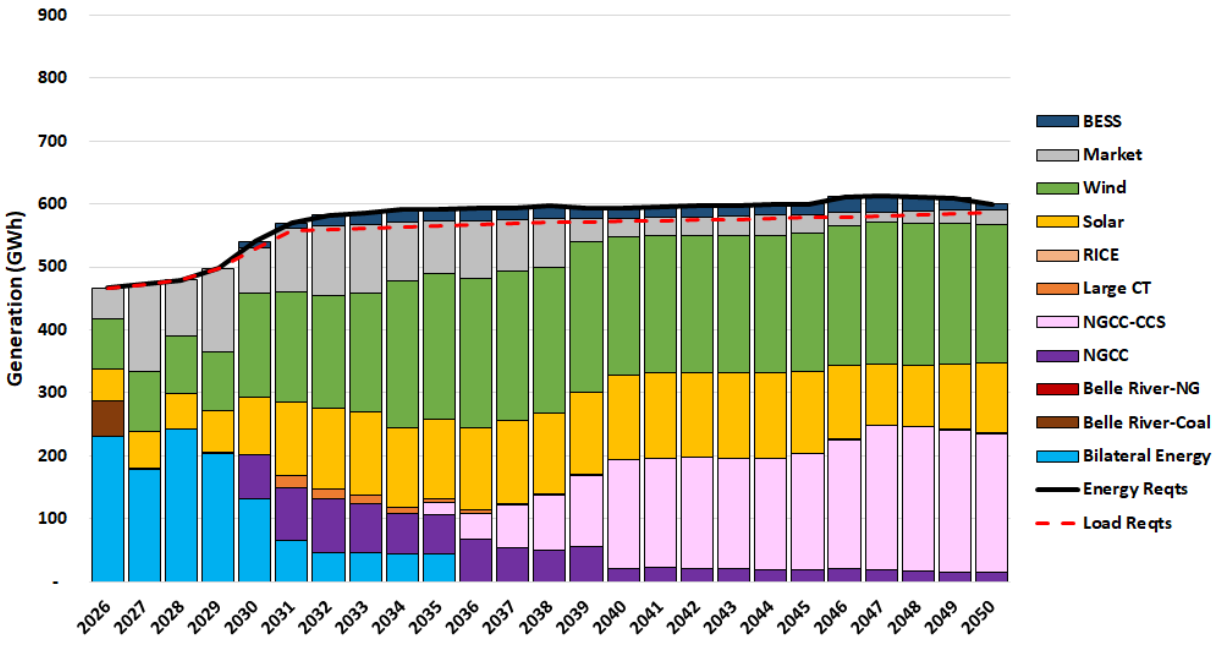

Figure A-15: Energy Generated by Resource Type – PA 235 Economically Optimized (Low Load Growth)

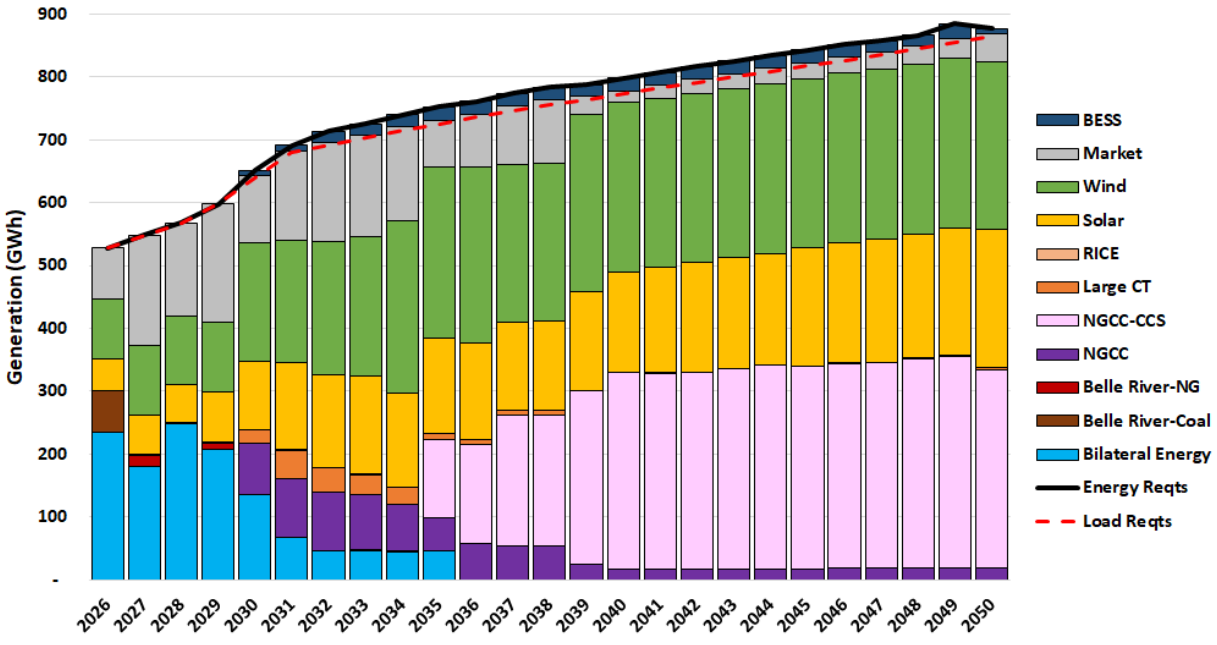

Figure A-16: Energy Generated by Resource Type – PA 235 Economically Optimized (High Load Growth)

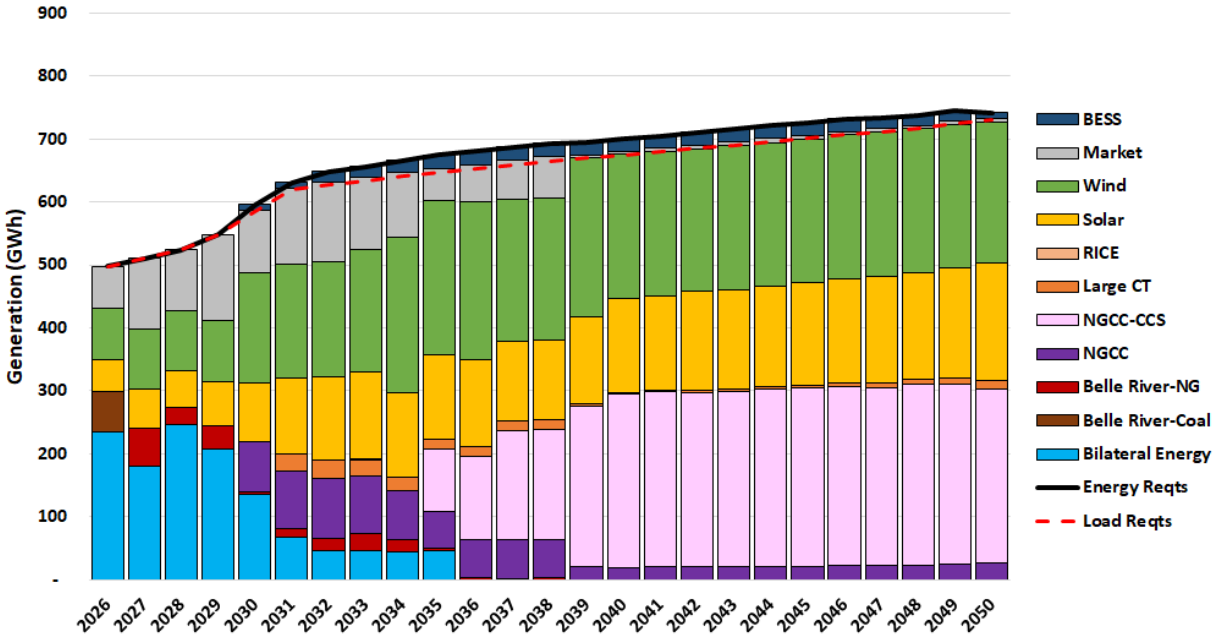

Figure A-17: Energy Generated by Resource Type – PA 235 Economically Optimized (Low Fuel Price)

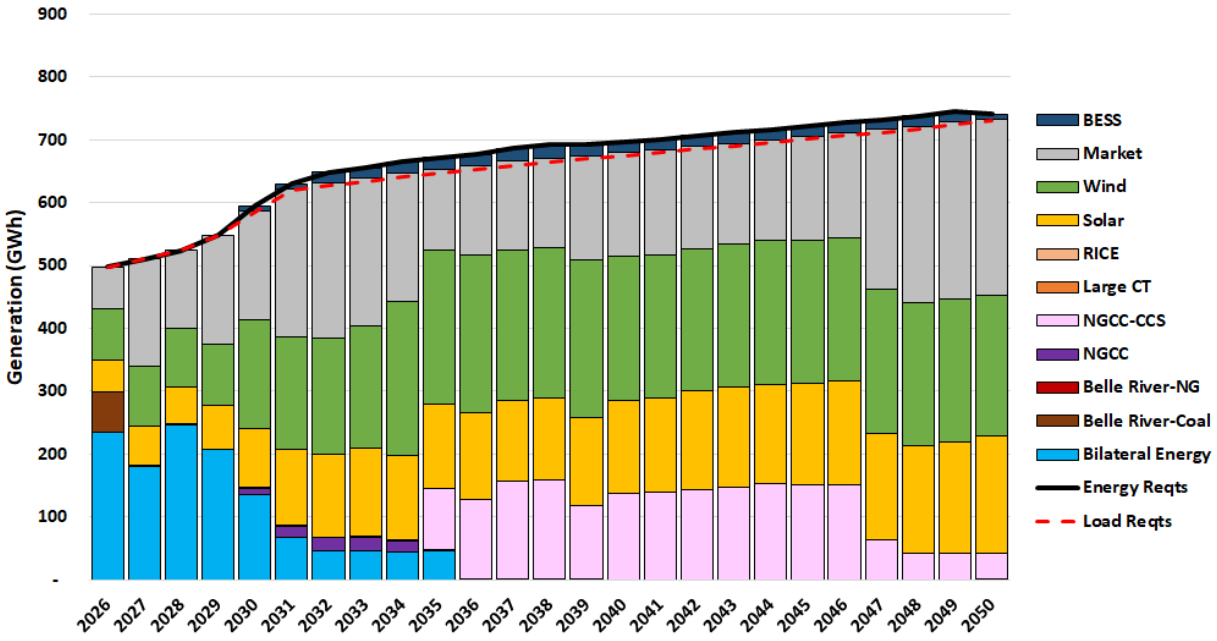

Figure A-18: Energy Generated by Resource Type – PA 235 Economically Optimized (High Fuel Price)

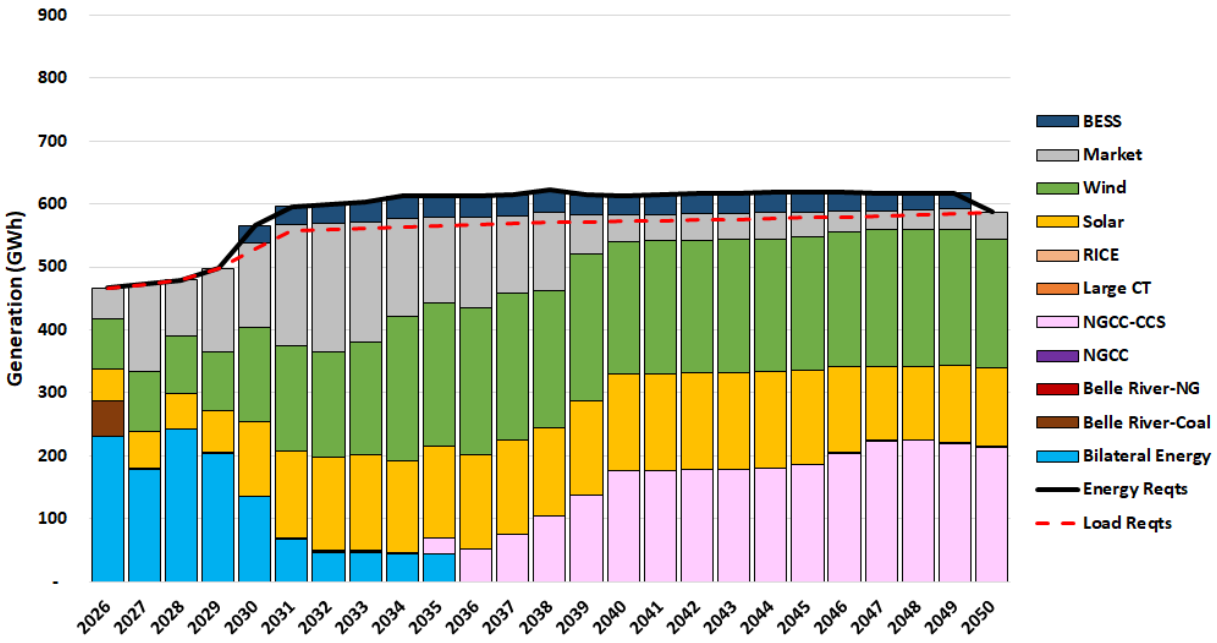

Figure A-19: Energy Generated by Resource Type – PA 235 Large Units Available 2035 (Low Load Growth)

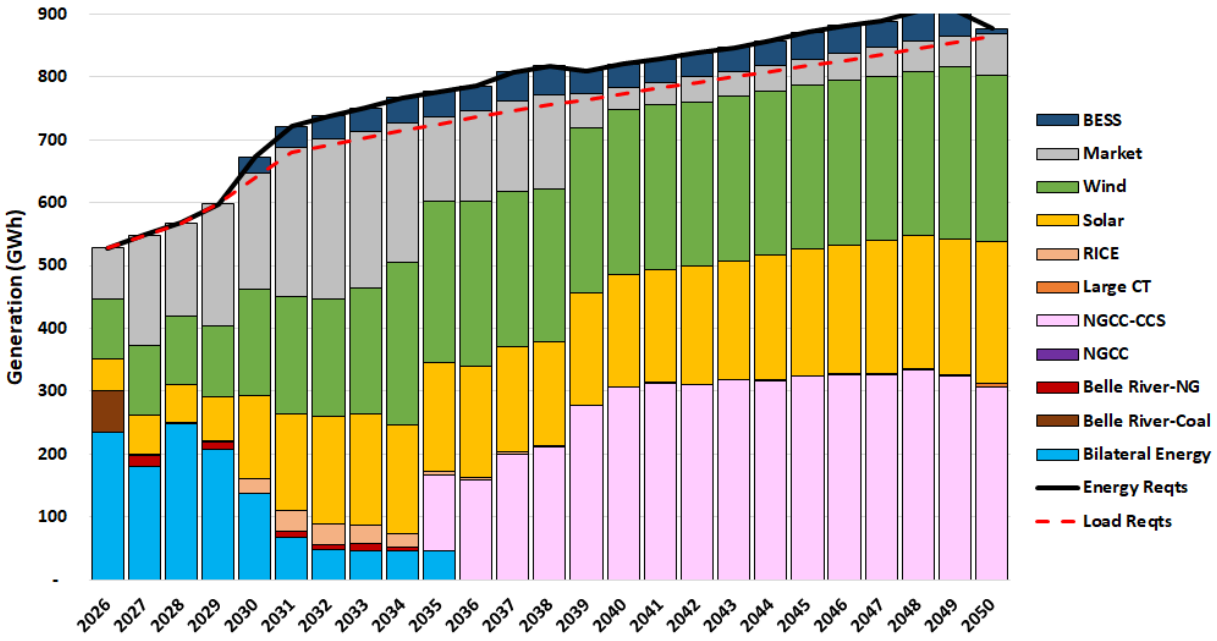

Figure A-20: Energy Generated by Resource Type – PA 235 Large Units Available 2035 (High Load Growth)

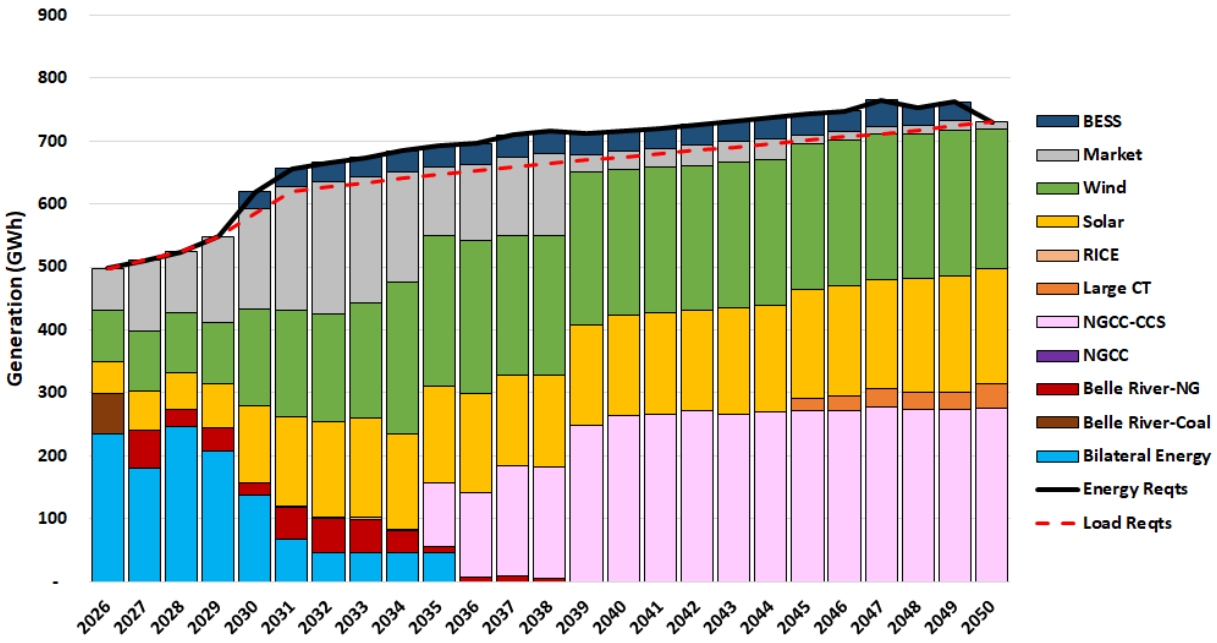

Figure A-21: Energy Generated by Resource Type – PA 235 Large Units Available 2035 (Low Fuel Price)

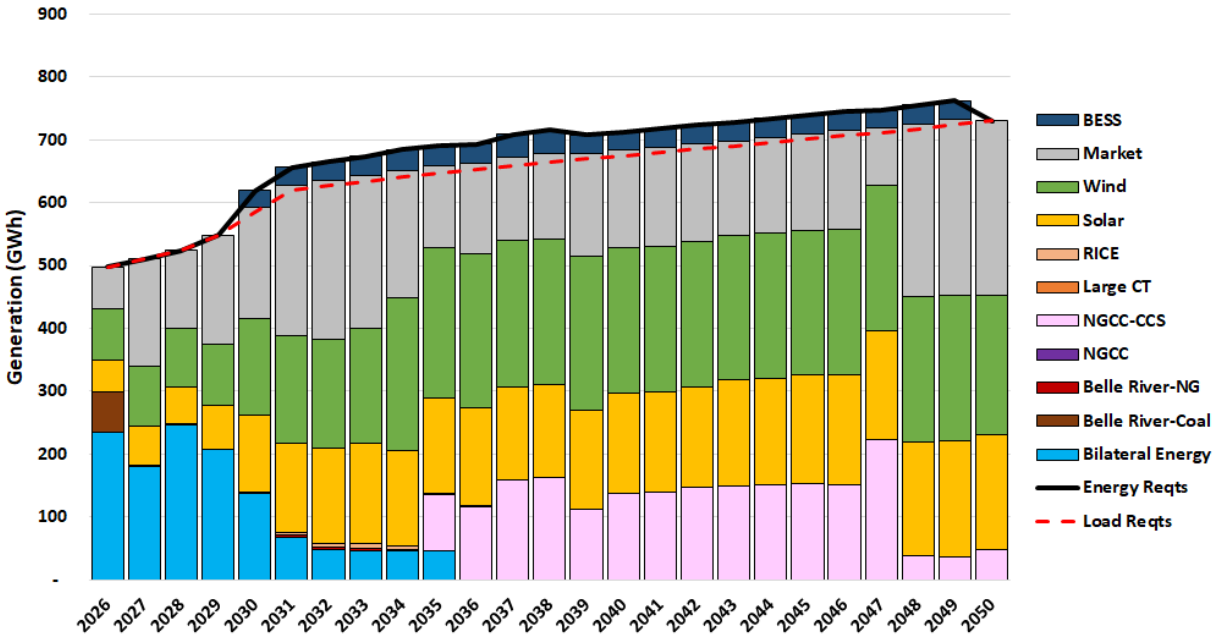

Figure A-22: Energy Generated by Resource Type – PA 235 Large Units Available 2035 (High Fuel Price)

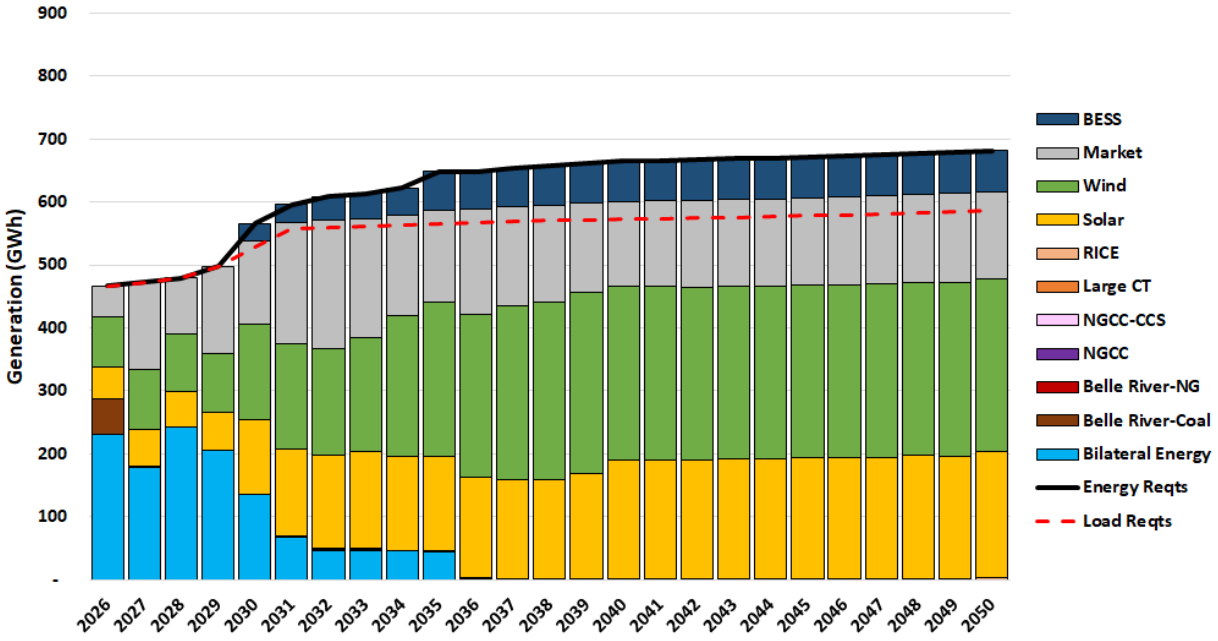

Figure A-23: Energy Generated by Resource Type – PA 235 Local Generation (Low Load Growth)

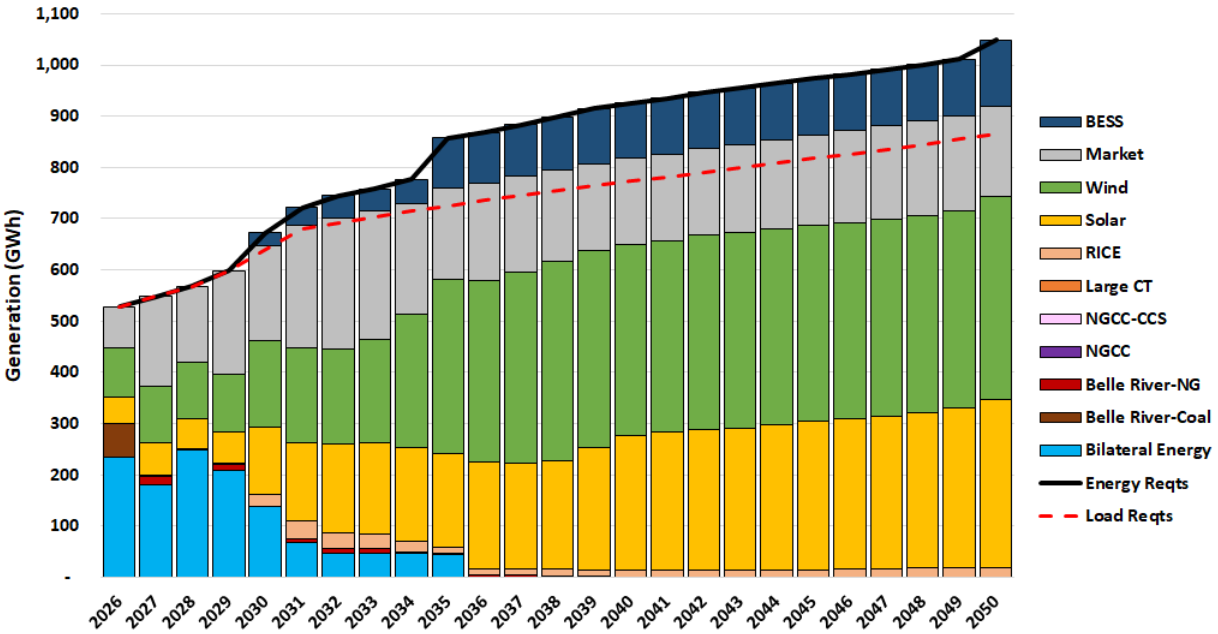

Figure A-24: Energy Generated by Resource Type – PA 235 Local Generation (High Load Growth)

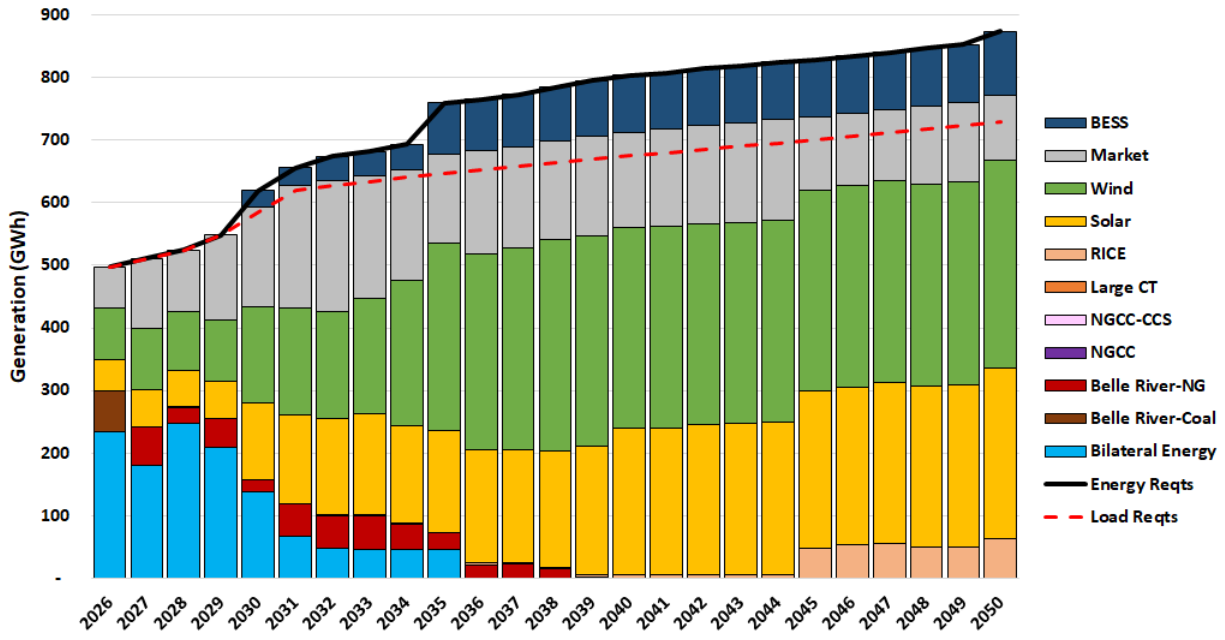

Figure A-25: Energy Generated by Resource Type – PA 235 Local Generation (Low Fuel Price)

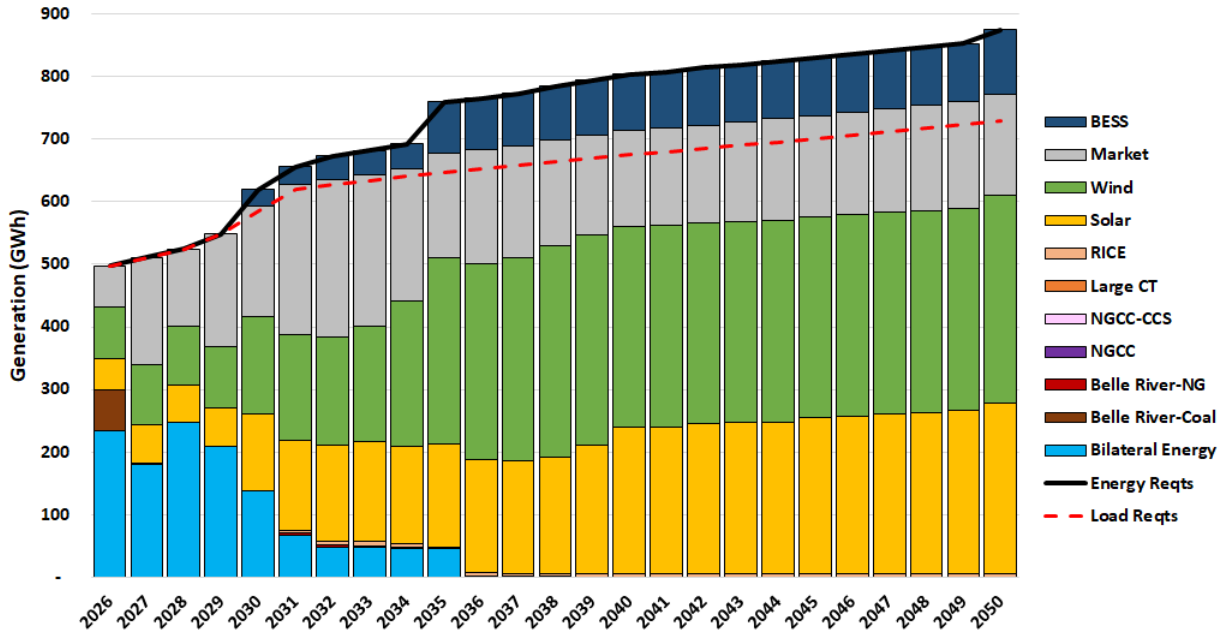

Figure A-26: Energy Generated by Resource Type – PA 235 Local Generation (High Fuel Price)

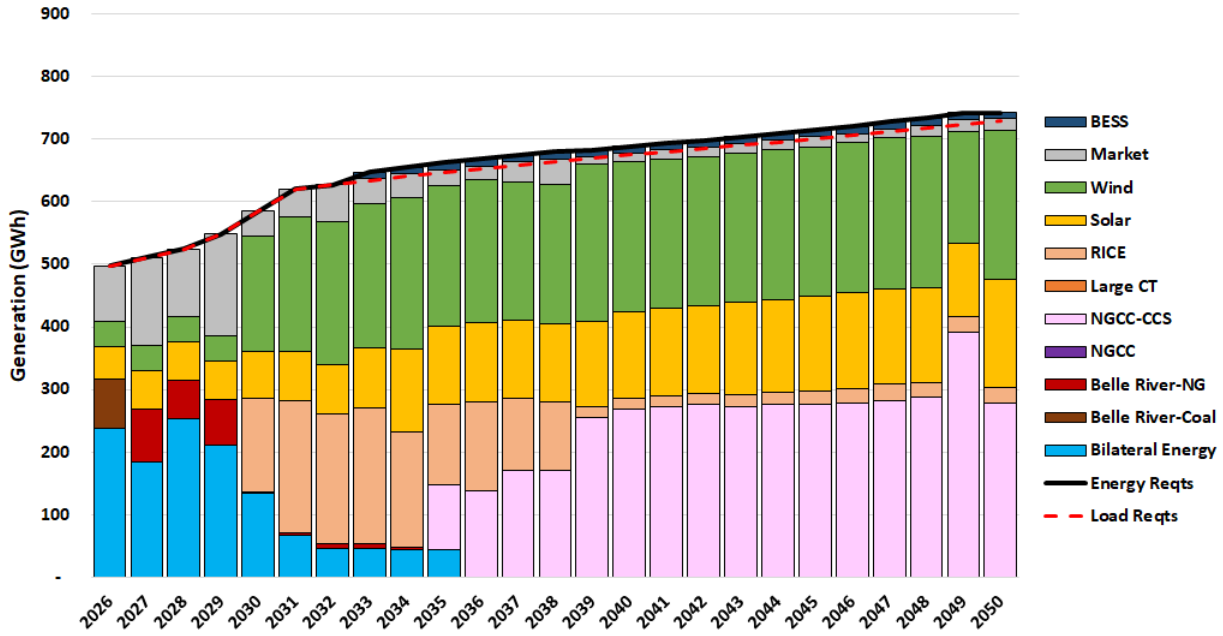

Figure A-27: Energy Generated by Resource Type – Early Local RICE with PA 235 (Low Fuel Price)

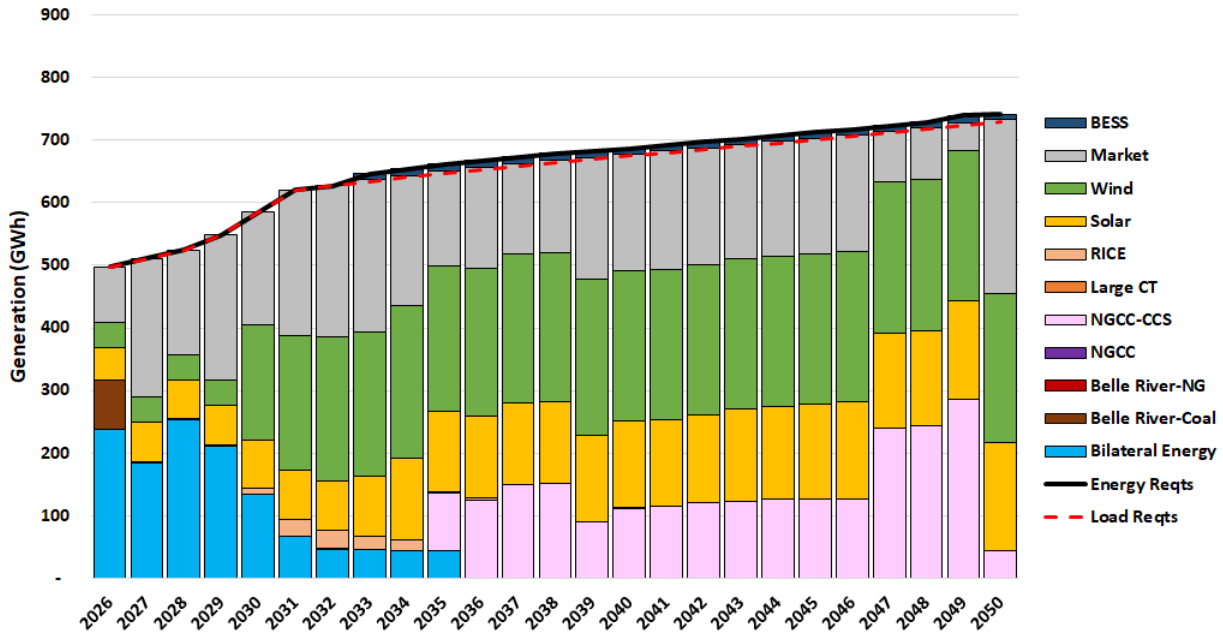

Figure A-28: Energy Generated by Resource Type – Early Local RICE with PA 235 (High Fuel Price)

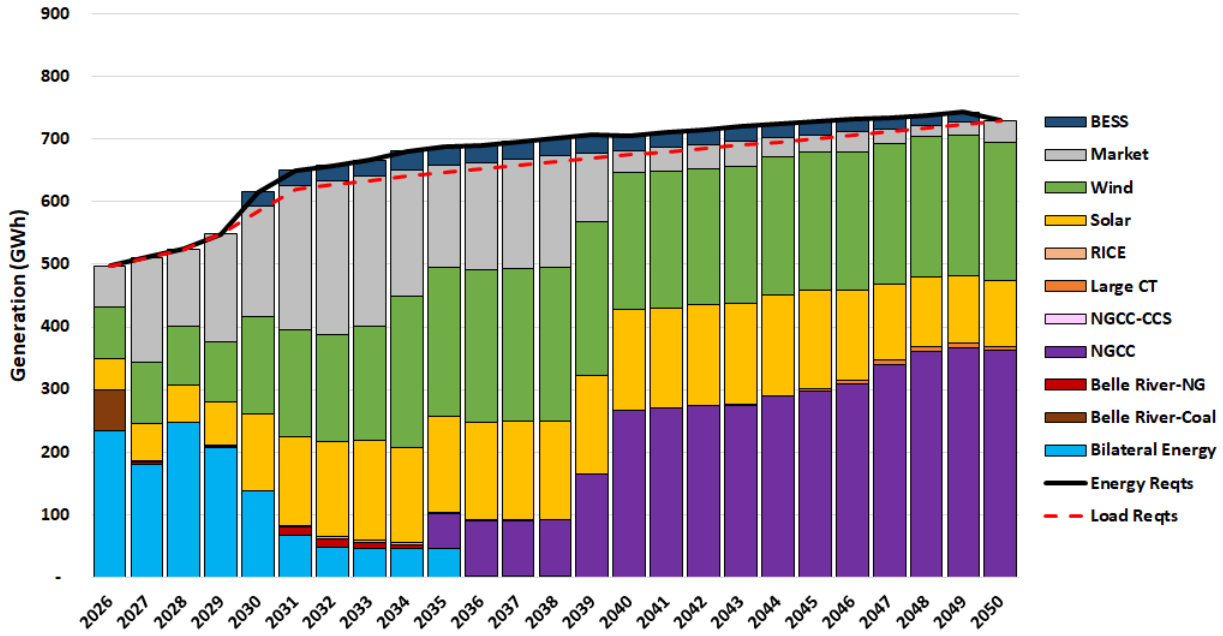

Figure A-29: Energy Generated by Resource Type – Early Renewables without PA 235

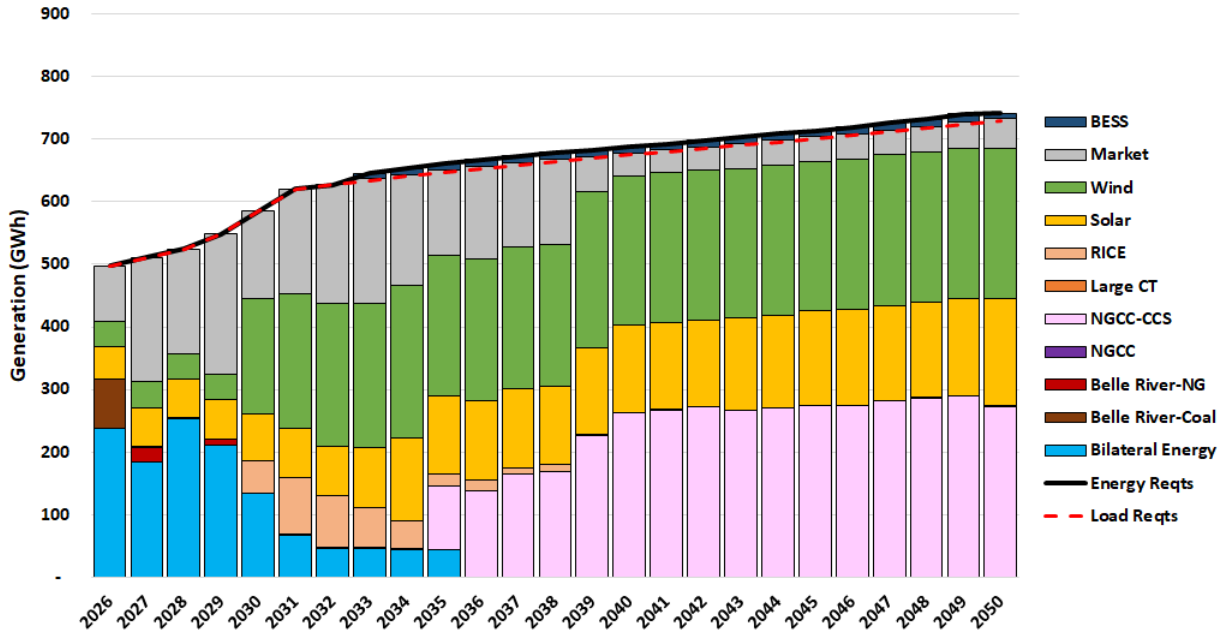

Figure A-30: Energy Generated by Resource Type – Local RICE with PA 235

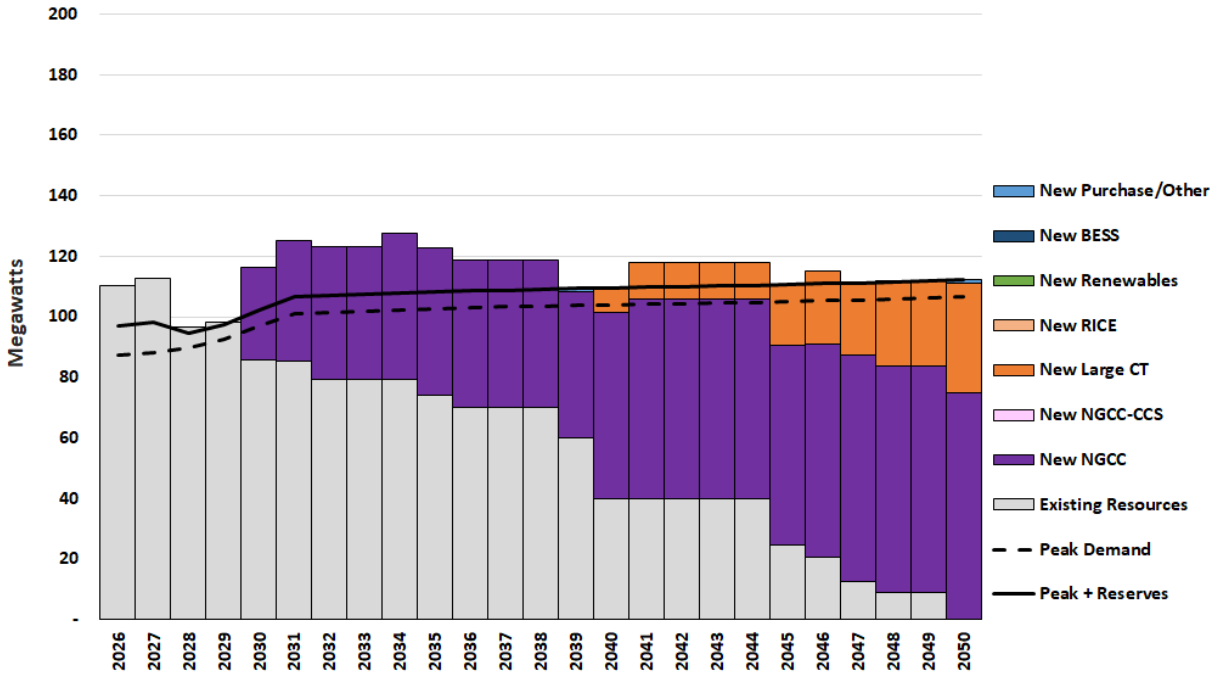

Figure A-31: Total Summer Firm Capacity (MW) by Type – BAU Economically Optimized (Low Load Growth)

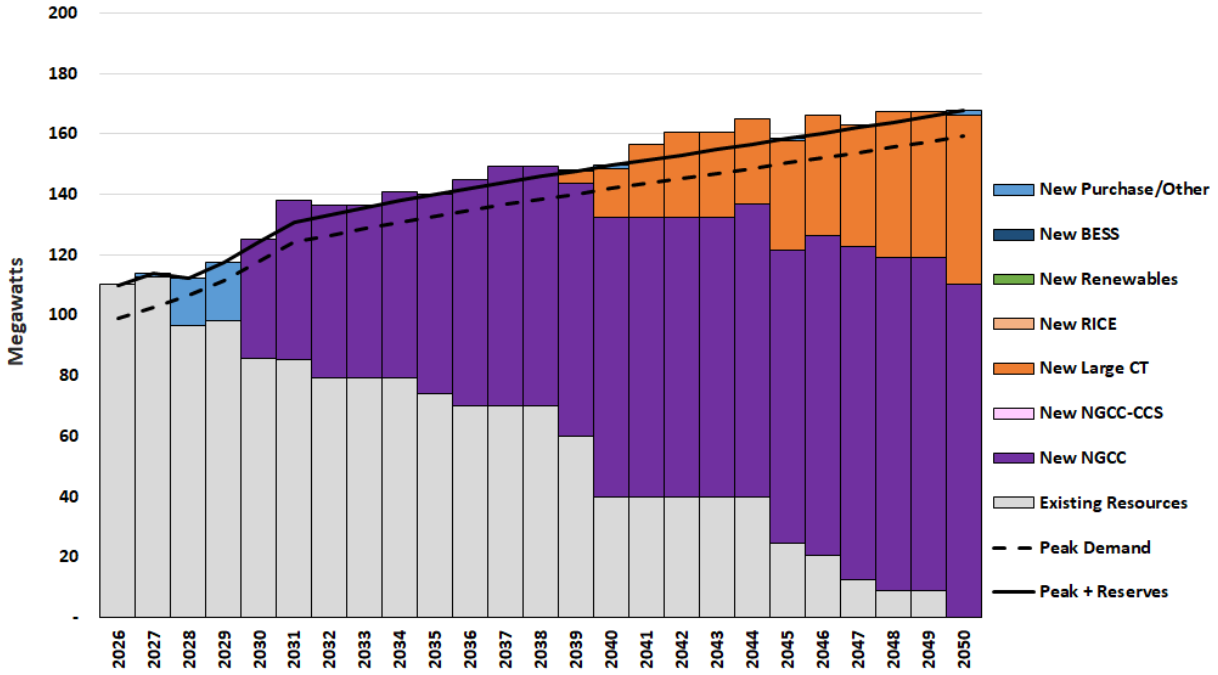

Figure A-32: Total Summer Firm Capacity (MW) by Type – BAU Economically Optimized (High Load Growth)

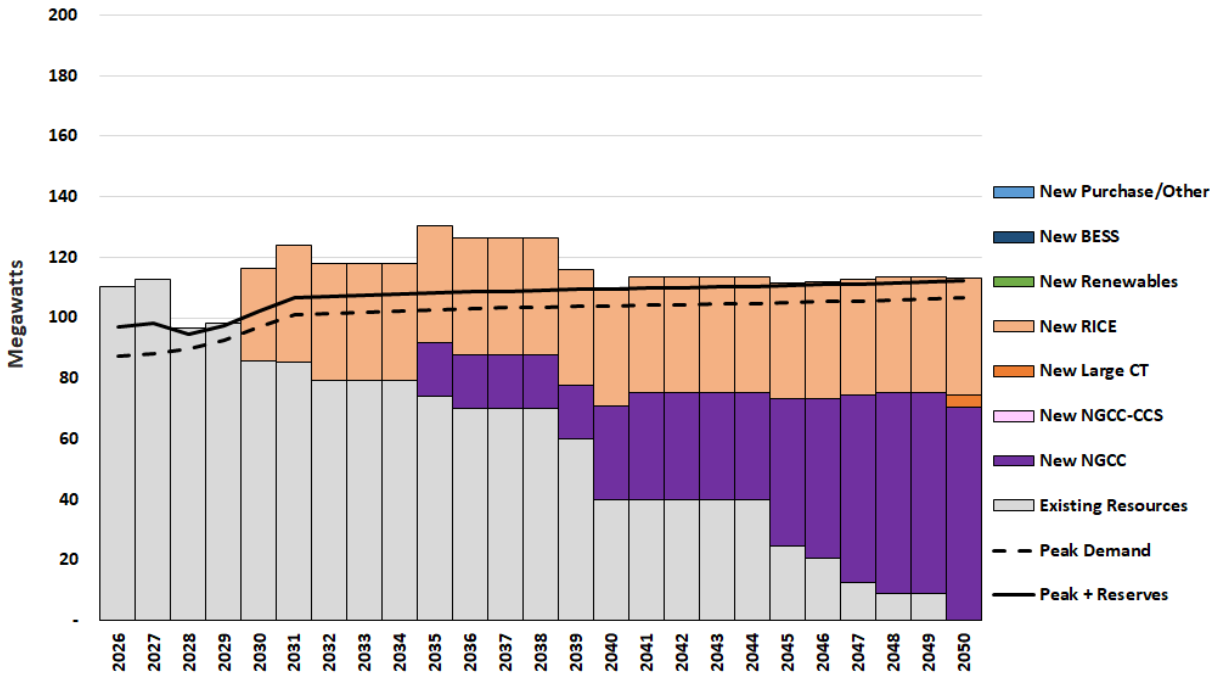

Figure A-33: Total Summer Firm Capacity (MW) by Type – BAU Large Units Available 2035 (Low Load Growth)

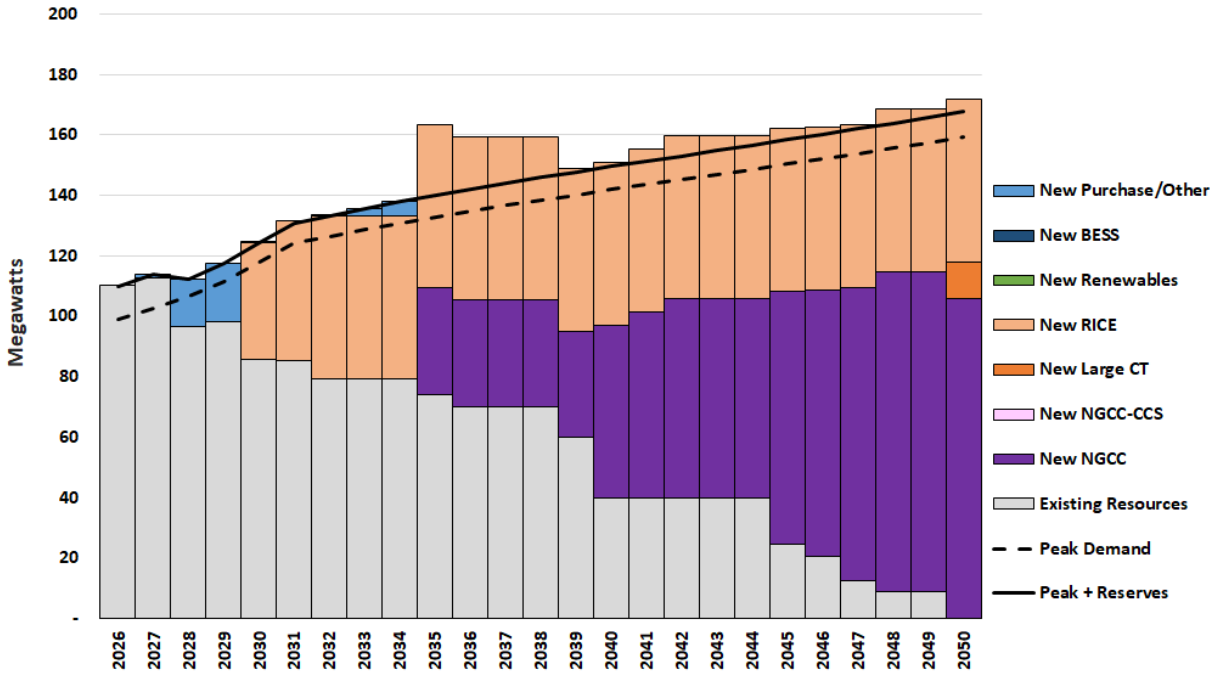

Figure A-34: Total Summer Firm Capacity (MW) by Type – BAU Large Units Available 2035 (High Load Growth)

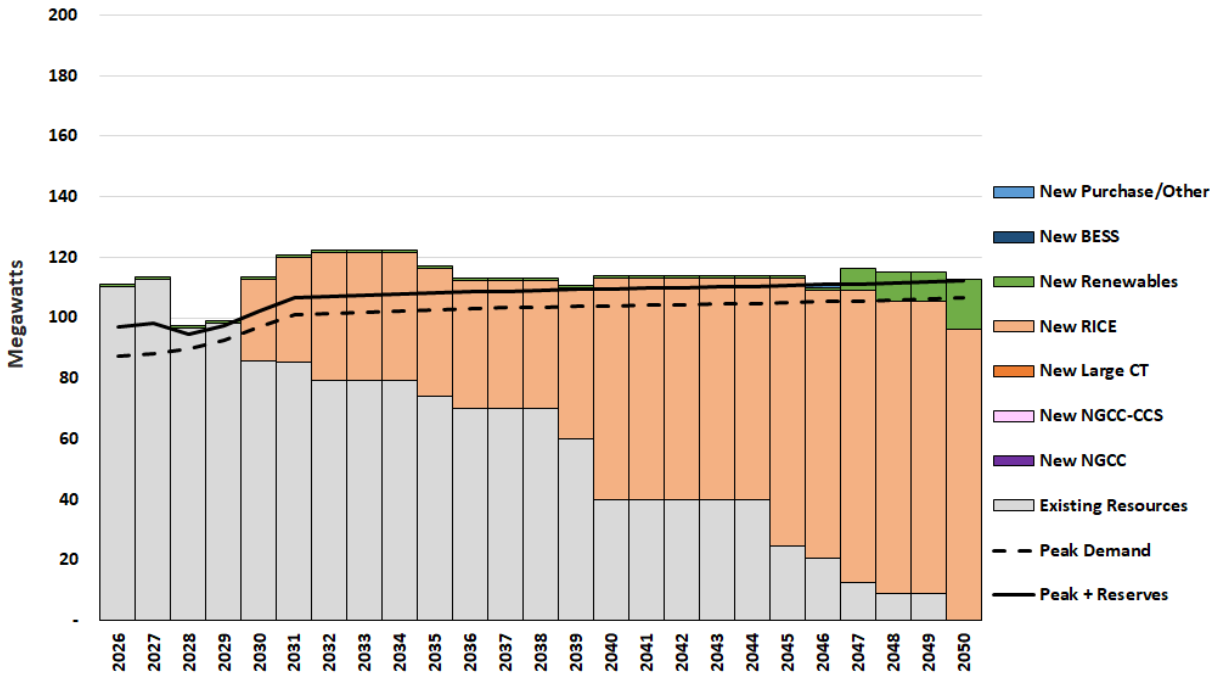

Figure A-35: Total Summer Firm Capacity (MW) by Type – BAU Local Generation (Low Load Growth)

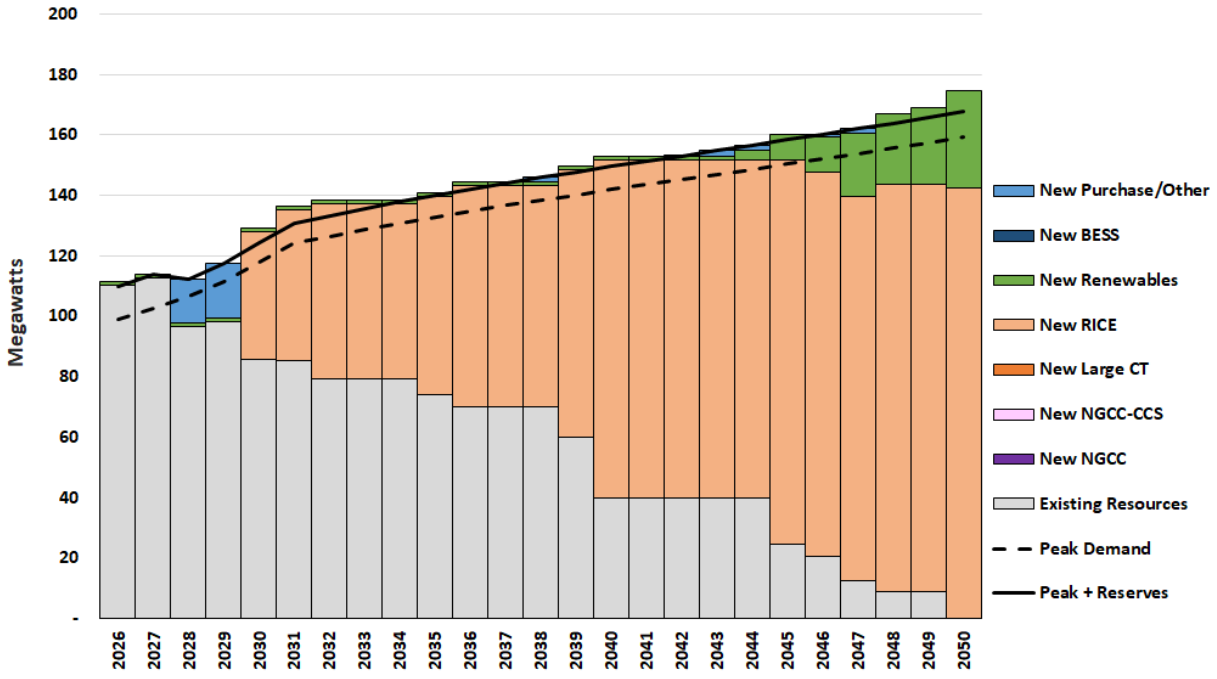

Figure A-36: Total Summer Firm Capacity (MW) by Type – BAU Local Generation (High Load Growth)

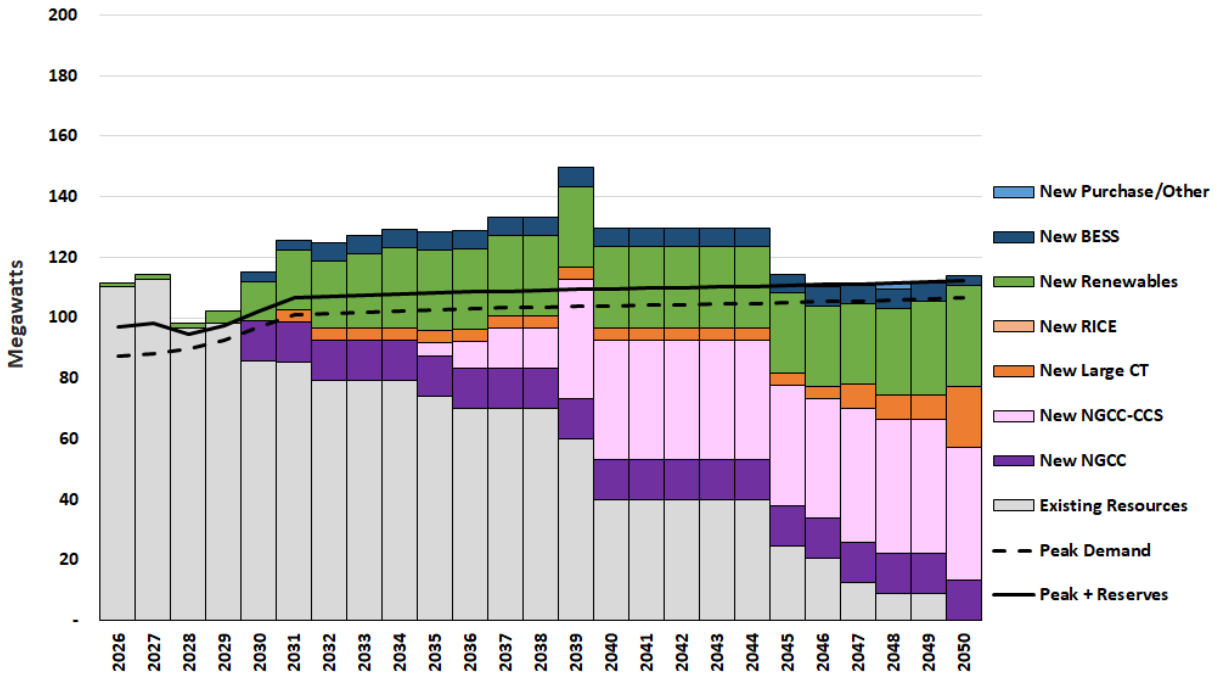

Figure A-37: Total Summer Firm Capacity (MW) by Type – PA 235 Economically Optimized (Low Load Growth)

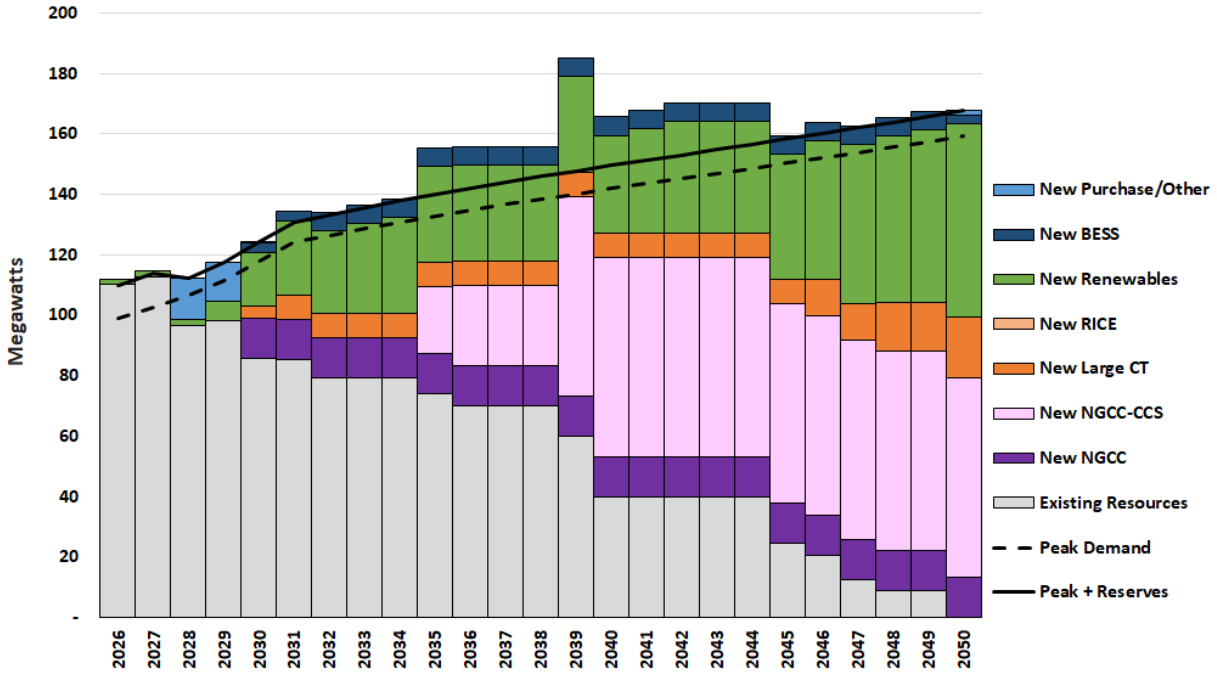

Figure A-38: Total Summer Firm Capacity (MW) by Type – PA 235 Economically Optimized (High Load Growth)

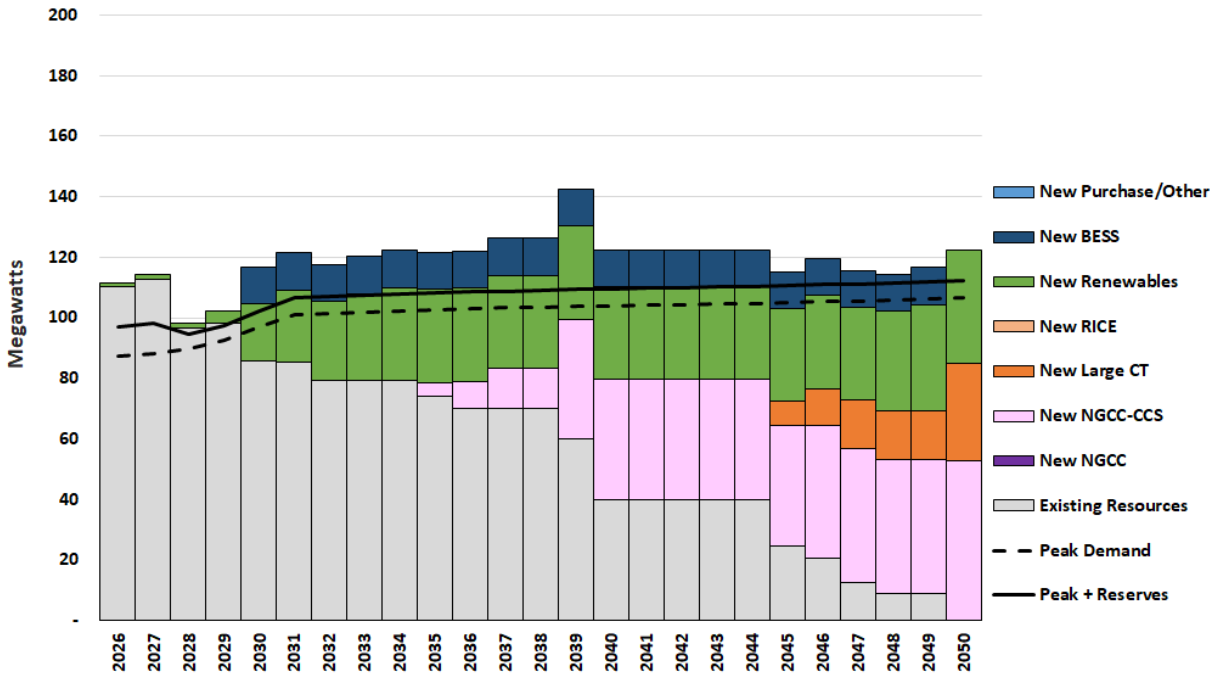

Figure A-39: Total Summer Firm Capacity (MW) by Type – PA 235 Large Units Available 2035 (Low Load Growth)

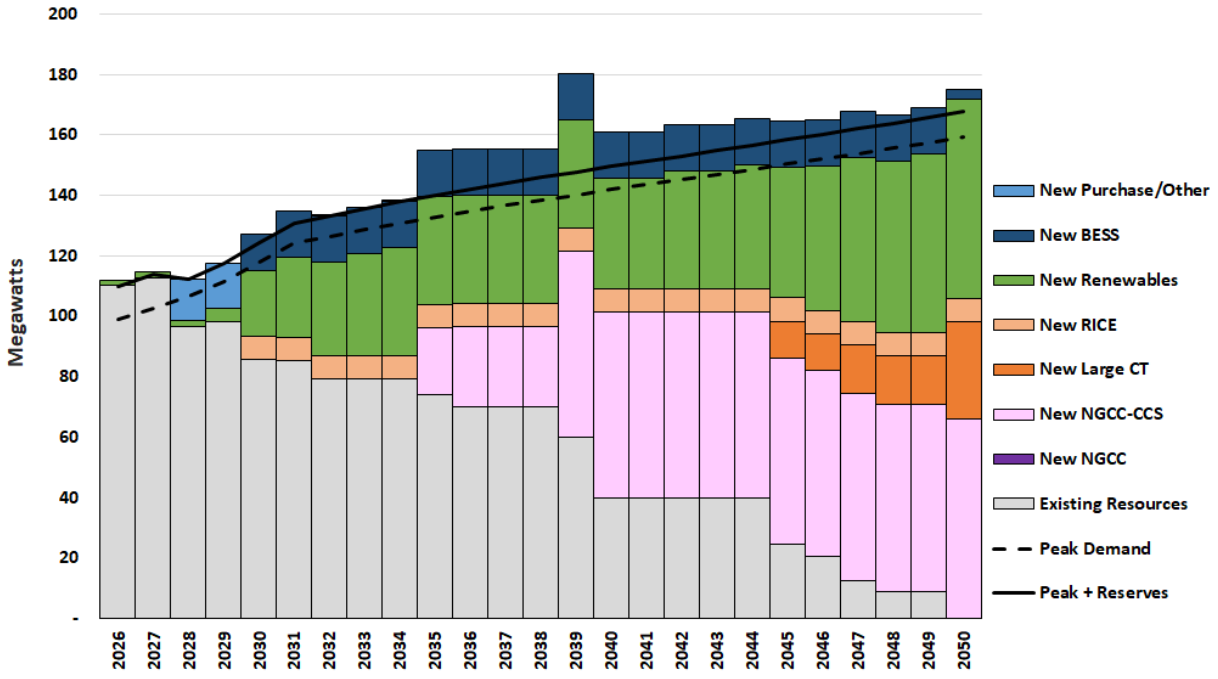

Figure A-40: Total Summer Firm Capacity (MW) by Type – PA 235 Large Units Available 2035 (High Load Growth)

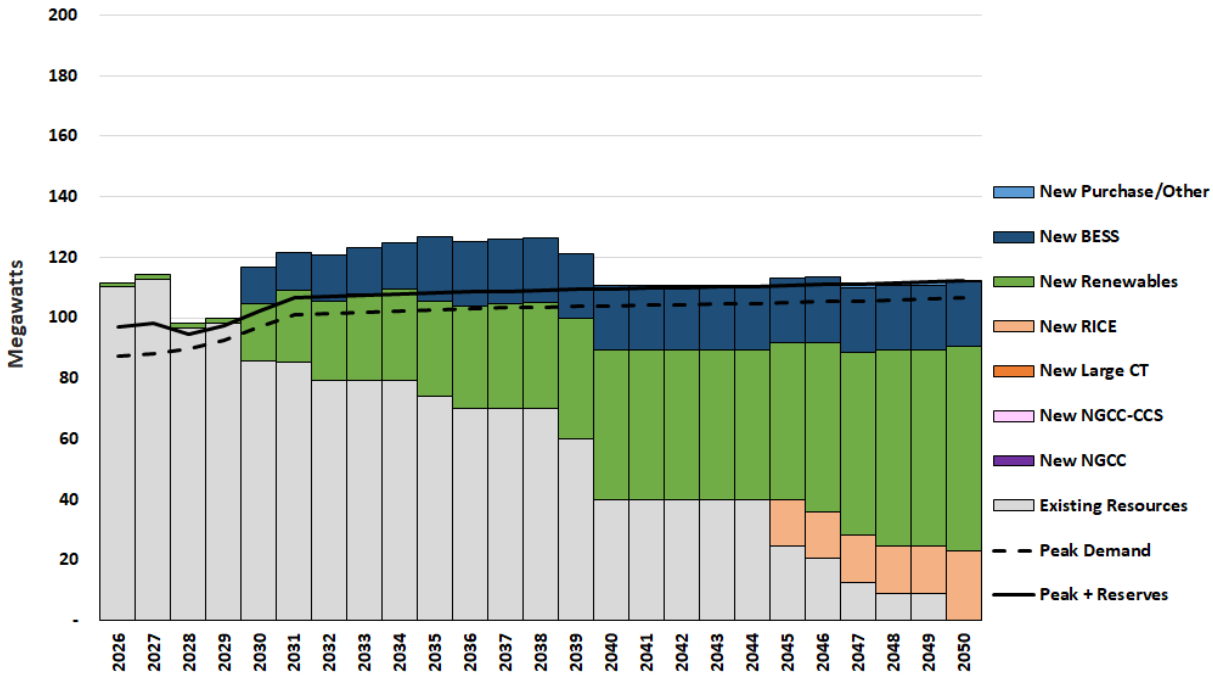

Figure A-41: Total Summer Firm Capacity (MW) by Type – PA 235 Local Generation (Low Load Growth)

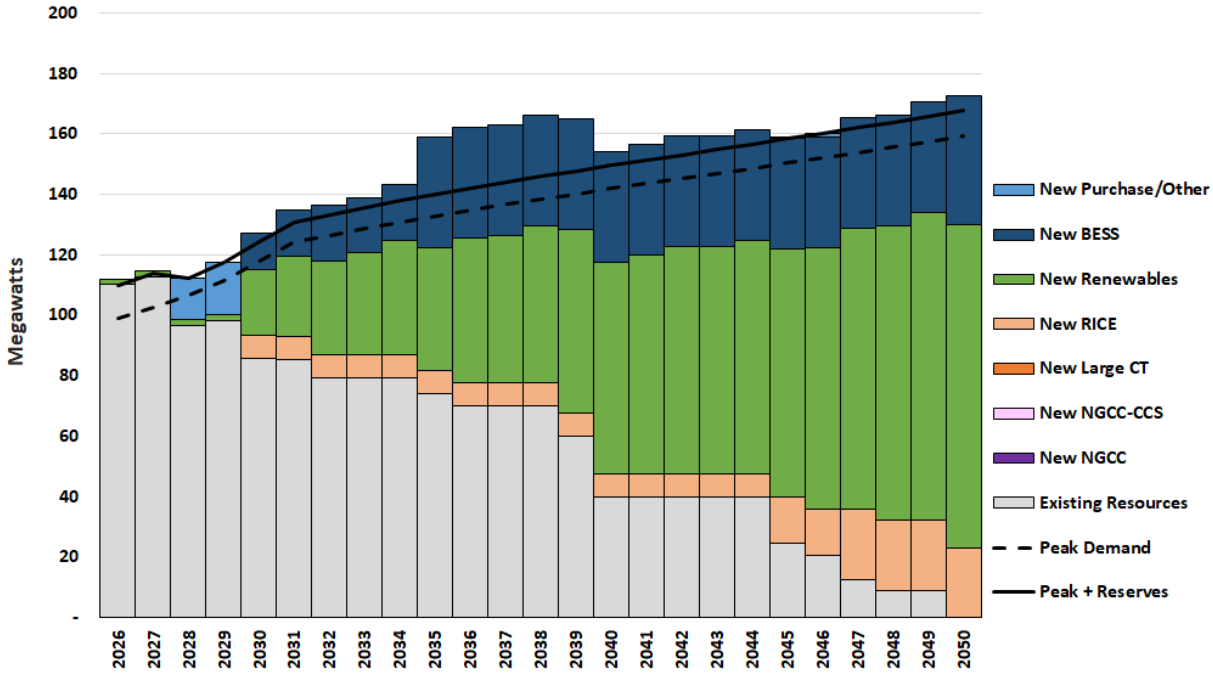

Figure A-42: Total Summer Firm Capacity (MW) by Type – PA 235 Local Generation (High Load Growth)

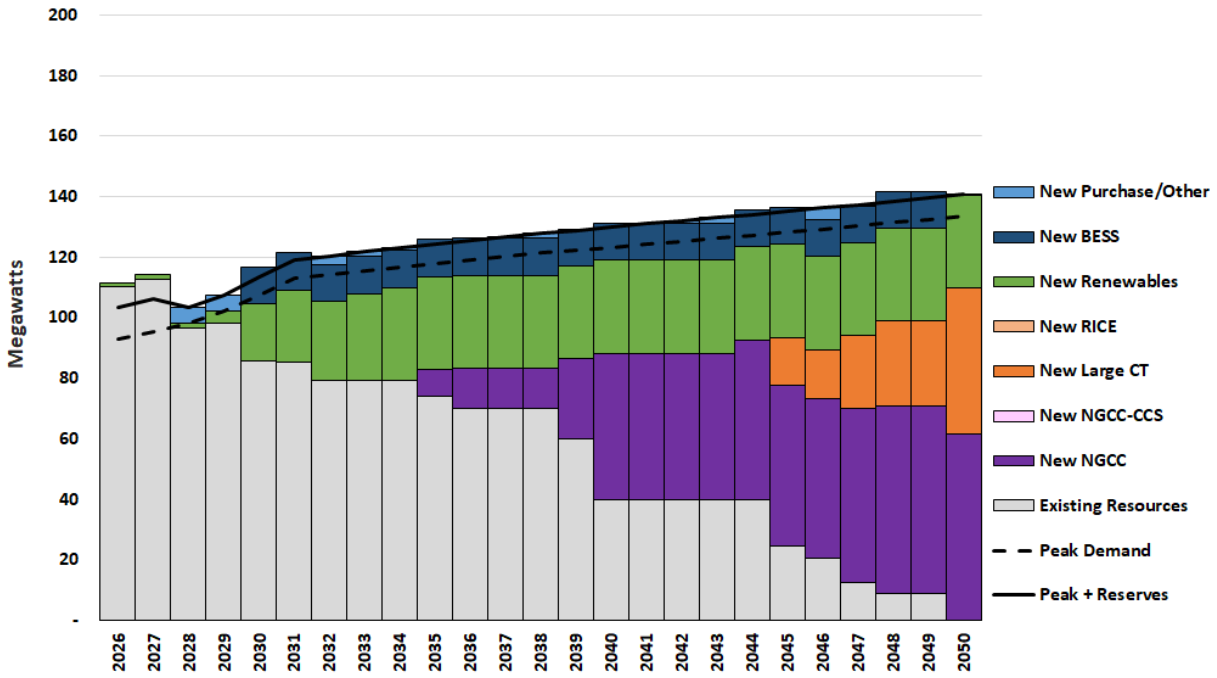

Figure A-43: Total Summer Firm Capacity (MW) by Type – Early Renewables without PA 235

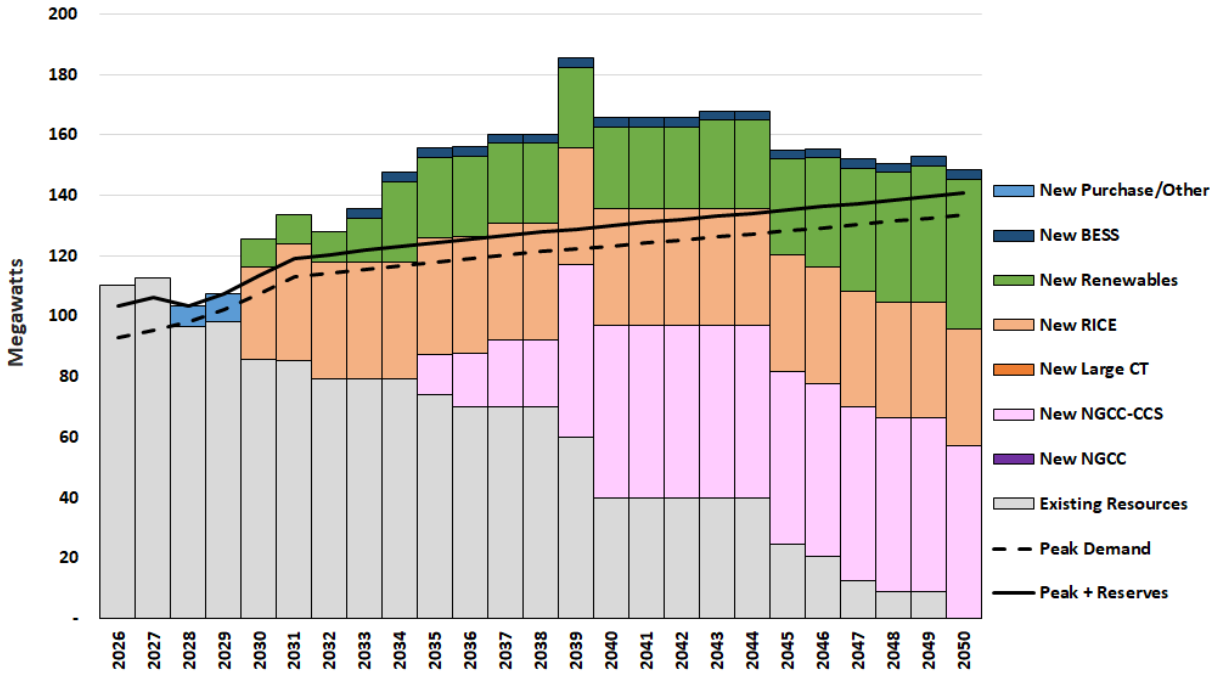

Figure A-44: Total Summer Firm Capacity (MW) by Type – Early RICE with PA 235

BAU Portfolios	PVRR Power Costs ($M)		
	Reference	Low Fuel Price	High Fuel Price
Economically Optimized	$648	$562	$765
Large Units Available 2035	$705	$615	$795
Local Generation	$791	$707	$845

Range of Fuel Cost Uncertainty (NPV $M)	
Economically Optimized	$203
Large Units Available 2035	$180
Local Generation	$137

PA 235 Portfolios	PVRR Power Costs ($M)		
	Medium Fuel Price	Low Fuel Price	High Fuel Price
Economically Optimized	$905	$864	$946
Large Units Available 2035	$906	$872	$942
Local Generation	$1,010	$1,005	$1,013

Range of Fuel Cost Uncertainty (NPV $M)	
Economically Optimized	$81
Large Units Available 2035	$70
Local Generation	$9

BAU Portfolios	Average Levelized Power Costs ($/MWh)		
	Medium Fuel Price	Low Fuel Price	High Fuel Price
Economically Optimized	$70.04	$60.67	$82.62
Large Units Available 2035	$76.16	$66.45	$85.87
Local Generation	$85.41	$76.40	$91.24

Range of Fuel Cost Uncertainty ($/MWh)	
Economically Optimized	$21.95
Large Units Available 2035	$19.42
Local Generation	$14.84

PA 235 Portfolios	Average Levelized Power Costs ($/MWh)		
	Medium Fuel Price	Low Fuel Price	High Fuel Price
Economically Optimized	$97.75	$93.36	$102.15
Large Units Available 2035	$97.85	$94.22	$101.77
Local Generation	$109.06	$108.50	$109.47

Range of Fuel Cost Uncertainty ($/MWh)	
Economically Optimized	$8.78
Large Units Available 2035	$7.55
Local Generation	$0.97

Figure A-45: PVRR for Fuel Price Sensitivities

BAU Portfolios	PVRR Power Costs ($M) Low Load Forecast	Reference Case	High Load Forecast	Variation
Economically Optimized	$560	$648	$740	$180
Large Units Available 2035	$616	$705	$818	$202
Local Generation	$668	$791	$925	$257
Diff to Economically Optimized				
Large Units Available 2035	$55.8	$56.6	$78.0	
Local Generation	$107.9	$142.3	$185.1	

PA 235 Portfolios	PVRR Power Costs ($M) Low Load Forecast	Reference Case	High Load Forecast	Variation
Economically Optimized	$822	$905	$1,025	$203
Large Units Available 2035	$827	$906	$1,053	$226
Local Generation	$869	$1,010	$1,176	$307
Diff to Economically Optimized				
Large Units Available 2035	$266.9	$257.5	$312.9	
Local Generation	$309.1	$361.3	$436.3	

BAU Portfolios	Average Levelized Power Costs ($/MWh) Low Load Forecast	Reference Case	High Load Forecast	Variation
Economically Optimized	$69.44	$70.04	$71.07	$1.63
Large Units Available 2035	$76.36	$76.16	$78.57	$2.41
Local Generation	$82.83	$85.41	$88.86	$6.04
Diff to Economically Optimized				
Large Units Available 2035	$6.9	$6.1	$7.5	
Local Generation	$13.4	$15.4	$17.8	

Avg Levelized Portfolio Cost ($/MWh)

PA 235 Portfolios	Average Levelized Power Costs ($/MWh) Low Load Forecast	Reference Case	High Load Forecast	Variation
Economically Optimized	$101.88	$97.75	$98.45	$4.14
Large Units Available 2035	$102.54	$97.85	$101.15	$4.69
Local Generation	$107.77	$109.06	$113.00	$5.22
Diff to Economically Optimized				
Large Units Available 2035	$33.1	$27.8	$30.1	
Local Generation	$38.3	$39.0	$41.9	

Figure A-46: PVRR for Load Sensitivities

Table A-1 Summary of Capacity Retirements and Additions for BAU									
	Economically Optimized			Large Units Available 2035			Local Generation		
Year	Base	High	Low	Base	High	Low	Base	High	Low
Retirements									
Belle River (2039)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)
ZBPW (2030-2045)	(19)	(19)	(19)	(19)	(19)	(19)	(19)	(19)	(19)
West Wash (2047)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Riley (2050)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
New NGCC									
2030-2034	55	70	55	0	0	0	0	0	0
2035-2040	30	35	15	60	65	35	0	0	0
2041-2050	20	20	15	45	55	45	0	0	0
New NGCT									
2030-2034	0	0	0	0	0	0	0	0	0
2035-2040	20	20	10	0	0	0	0	0	0
2041-2050	40	50	35	15	15	5	0	0	0
New NGCC-CCS									
2035-2040	0	0	0	0	0	0	0	0	0
2041-2050	0	0	0	0	0	0	0	0	0
New Peaking									
2026-2029	0	0	0	0	0	0	0	0	0
2030-2040	0	0	0	25	35	25	65	75	50
2041-2050	0	0	0	0	0	0	15	20	15
New SMR									
2035-2050	0	0	0	0	0	0	0	0	0
New Solar									
2026-2029	0	0	0	0	0	0	0	0	0
2030-2040	0	0	0	0	0	0	0	0	0
2041-2050	0	0	0	0	0	0	55	65	35
New BESS									
2026-2029	0	0	0	0	0	0	0	0	0
2030-2040	0	0	0	0	0	0	0	0	0
2041-2050	0	0	0	0	0	0	0	0	0
New Wind									
2026-2029	0	0	0	0	0	0	10	15	10
2030-2040	0	0	0	0	0	0	0	0	0
2041-2050	0	0	0	0	0	0	10	20	0

Table A-2 Summary of Capacity Retirements and Additions for PA 235									
	Economically Optimized			Large Units Available 2035			Local Generation		
Year	Base	High	Low	Base	High	Low	Base	High	Low
Retirements									
Belle River (2039)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)
ZBPW (2030-2045)	(19)	(19)	(19)	(19)	(19)	(19)	(19)	(19)	(19)
West Wash (2047)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Riley (2050)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
New NGCC									
2030-2034	15	15	15	0	0	0	0	0	0
2035-2040	0	0	0	0	0	0	0	0	0
2041-2050	0	0	0	0	0	0	0	0	0
New NGCT									
2030-2034	5	10	5	0	0	0	0	0	0
2035-2040	0	0	0	0	0	0	0	0	0
2041-2050	20	15	20	40	40	40	0	0	0
New NGCC-CCS									
2035-2040	65	75	45	60	70	45	0	0	0
2041-2050	0	0	5	5	5	15	0	0	0
New Peaking									
2026-2029	0	0	0	0	0	0	0	0	0
2030-2040	0	0	0	0	5	0	0	5	0
2041-2050	0	0	0	0	0	0	15	10	15
New SMR									
2035-2050	0	0	0	0	0	0	0	0	0
New Solar									
2026-2029	5	10	5	5	5	5	0	0	0
2030-2040	45	45	40	50	60	50	115	130	90
2041-2050	55	70	15	50	65	15	60	80	40
New BESS									
2026-2029	0	0	0	0	0	0	0	0	0
2030-2040	10	10	10	20	25	20	50	60	35
2041-2050	(5)	(5)	(5)	(20)	(20)	(20)	5	10	0
New Wind									
2026-2029	20	25	20	20	25	20	20	25	20
2030-2040	60	70	60	60	65	55	105	120	90
2041-2050	0	0	0	0	5	0	5	10	0

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INTEROFFICE MEMORANDUM

TO:	Mayor Van Dorp and City Council Members
FROM:	Doug Engelsman, CWP Superintendent
SUBJECT:	Utility Ordinance Amendment - PFAS Local Limit Establishment
DATE:	September 4, 2026
CC:	City Council Work Study Agenda Items September 8, 2026

BACKGROUND:

PFAS is not a new issue for the Zeeland Clean Water Plant. In 2018, EGLE directed wastewater treatment plants with Industrial Pretreatment Programs to identify potential industrial sources of PFAS, investigate those sources through sampling, and work with confirmed sources to reduce and eliminate certain PFAS from industrial sources that may pass through municipal wastewater systems.

In 2019, the CWP's PFAS monitoring identified an industrial source of PFOS entering the wastewater system. Since that time, the City has worked with the industrial user on source identification and treatment measures intended to reduce PFOS entering the CWP.

Through that process, staff identified an important gap in the City's Industrial Pretreatment Program. While the CWP could identify and monitor PFAS sources and work with industrial users to reduce discharges, the City did not have an established numerical local limit that provided a clear and consistently enforceable standard. That led the City to pursue a PFAS Local Limits Study.

The City contracted with Moore & Bruggink to complete the study. The sampling methodology was reviewed and approved by EGLE before the study was conducted. The study evaluated five PFAS compounds and calculated an initial PFOS local limit of 23.1 parts per trillion.

Following review of the study results, CWP staff requested that EGLE approve a more protective PFOS limit of 12 parts per trillion, consistent with Michigan's current surface water quality value. This recommendation also aligns with the State of Michigan IPP initiative which has defined sources as those industrial users with discharges greater than 12 ppt. Staff made that recommendation because PFAS regulations continue to evolve, source control is the most effective way to address PFAS, and a more protective local limit helps safeguard the City's wastewater treatment system, biosolids program, receiving waters, and capacity for future growth.

Municipal wastewater treatment plants were not designed to remove PFAS once it enters the sewer system. For that reason, the State of Michigan IPP initiative dictates that controlling PFAS

at its industrial source is the City's most effective means of reducing the amount of PFAS entering the treatment plant and ultimately the environment.

Staff also recognizes that questions have been raised regarding the difference between the 23.1 ppt value calculated through the engineering study and the proposed 12 ppt limit, this distinction is important. The 23.1 ppt figure represents the calculated result of the study, while the 12 ppt figure represents the more protective standard recommended by CWP staff and subsequently approved by EGLE.

Throughout this process, staff's focus has been on science and on establishing sound public policy, not on any individual industry. The purpose of establishing local limits is to provide a clear, consistent, and enforceable standard that applies fairly to industrial users and protects the City's wastewater system and receiving waters.

PROPOSED ORDINANCE AMENDMENTS

The proposed ordinance would amend the City's Sewer Use Ordinance to formally incorporate local limits for five PFAS compounds into the City's Industrial Pretreatment Program. The proposed limits are:

Parameter	Current Limit (ng/L)	Proposed Limit (ng/L)
Perfluorooctanesulfonic acid (PFOS)	—	12
Perfluorooctanoic acid (PFOA)	—	192
Perfluorobutanoic acid (PFBS)	—	780,000
Perfluorononanoic acid (PFNA)	—	35
Perfluorohexanesulfonic acid (PFHxS)	—	240

In addition to establishing the numerical local limits, the ordinance would provide the CWP with additional tools to monitor and manage industrial discharges that have the potential to contain PFAS. This includes the ability to require sampling and analytical testing before certain discharges occur when there is a high potential for an industrial user to exceed an applicable local limit.

The ordinance could also require certain categorical, significant, or minor industrial users that manufacture, use, have used, or have been found to discharge materials containing the listed PFAS compounds to develop and implement a pollution reduction plan. These plans may include monitoring, treatment, product substitutions, best management practices, or other measures intended to reduce or eliminate PFAS discharges to the wastewater system.

The ordinance further provides the City with the ability, through a wastewater discharge permit or similar control mechanism, to require additional monitoring, reporting, or source-reduction measures when appropriate.

Taken together, the proposed amendments are intended to move the City from a system that relies primarily on identifying and working with PFAS sources after they are discovered to one that includes defined numerical standards and clear regulatory tools for monitoring, source control, and enforcement.

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Staff is ultimately proposing adoption of these amendments, including the 12 ppt PFOS local limit, as a means of establishing a clear, consistent, and enforceable framework for managing PFAS discharges into the City's wastewater system

NEXT STEPS

No formal action is requested from City Council at the September 8 meeting. Following the work-study discussion, staff will review the questions, comments, and concerns raised and determine whether any additional information or revisions to the proposed ordinance are appropriate.

Staff would then anticipate bringing the ordinance back to City Council through the City's standard two-reading process. The first reading will occur at a future City Council meeting, followed by a second reading and potential adoption at a subsequent meeting. This approach will provide City Council with an opportunity to fully review the proposed ordinance and the issues raised before being asked to take formal action. We look forward to the discussion on Tuesday evening.

Doug Engelsman

Clean Water Plant Superintendent

CITY OF ZEELAND

ORDINANCE NO. _____

(An ordinance to Amend Section 40-569 of Volume I of The Code of the City of Zeeland, Michigan and to Adopt and Add Sections 40-187 and 40-575 to Volume I of The Code of the City of Zeeland, Michigan)

Portions of minutes of a Regular Meeting of the City Council of the City of Zeeland, County of Ottawa, Michigan, held in the Zeeland City Hall in said City on September 8, 2026, at 7:00 'clock P.M., Local Time.

PRESENT: Council Members _____

_____

ABSENT: Council Members _____

_____

The following preamble and ordinance were offered by Council Member _____ and supported by Council Member _____:

WHEREAS, the Michigan Department of Environment, Great Lakes and Energy ("EGLE") has reviewed and evaluated proposed modifications to the City of Zeeland's Industrial Pretreatment Program ("IPP");

AND WHEREAS, it is necessary to regulate certain incompatible substances which may be discharged into the City's Wastewater System;

AND WHEREAS, the City has responsibilities to update its approved pretreatment program when:

A New pollutants are introduced;

B. New pollutants that were previously unevaluated are identified; or,

C. Substantial increases of pollutants are proposed as required in the notification of new or increased uses in accordance with the provisions of Title 40 of the Code of Federal Regulations, Section 122.42;

AND WHEREAS, the City of Zeeland must establish limits in regard to the discharge and emission of such substances as PFOS, PFOA, PFBS, PFNA or PFHxS;

AND WEHREAS, the Clean Water Plan Superintendent has recommended that a proposed change of regulations be approved;

AND WHEREAS, such proposed and revised regulations will promote the public health.

THE CITY OF ZEELAND ORDAINS.

Section 1. Section 40-187 of the Zeeland City Code be adopted to read in its entirety as follows:

"SEC. 40-187. Additional Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the contact clearly indicates a different meaning:

A *Categorical Industrial User (CIU*) means a non-domestic facility subject to national Categorical Pretreatment Standards. A CIU shall automatically be classified as a Significant Industrial User (SIU), and it shall be governed under EPA Pretreatment Standards based on specific industrial processes."

Section 2. Section 40-569 of the Zeeland City Code be amended to read in its entirety as follows:

“SEC. 40-569. TABLE 2, INCOMPATIBLE SUBSTANCES OR CHARACTERISTIC.

Following is table 2, pertaining to incompatible substances or characteristic.

Table 2
Incompatible Substances or Characteristics
In the Wastewater System

	Limitation	
Parameter	**Daily Maximum**	**Monthly Average**
Ammonia nitrogen	100.0 mg/L	100.0 mg/L
Arsenic	0.30 mg/L	0.30 mg/L
Cadmium	0.35 mg/L	0.073 mg/L
Chromium (hexavalent)	0.59 mg/L	0.21 mg/L
Chromium (total)	3.0 mg/L	1.4 mg/L
Copper	0.67 mg/L	0.19 mg/L
Cyanide (available)	0.42 mg/L	0.047 mg/L
Flash point (closed cup)	Not less than 150;deg;F	Not less than 150;deg;F
Grease and oil (freon extractables)	100.0 mg/L	100.0 mg/L
Lead	1.5 mg/L	0.51 mg/L
pH	Not less than 6.5 nor greater than 9.5 S.U.	Not less than 6.5 nor greater than 9.5 S.U.
Mercury*	Less than 0.2 μg/L	Less than 0.2 μg/L
Molybdenum	42 mg/L	2.5 mg/L
Nickel	1.1 mg/L	1.1 mg/L
Perfluorooctanesulfonic acid (PFOS)	12 ng/L	
Perfluorooctanoic acid (PFOA)	192 ng/L	
Perfluorobutanoic acid (PFBS)	780,000 ng/L	
Perfluorononanoic acid (PFNA)	35 ng/L	
Perfluorohesxanesulfonic acid (PFHxS)	240 ng/L	
Selenium	0.73 mg/L	0.031 mg/L
Silver	0.75 mg/L	0.12 mg/L
Temperature	Not less than 32;deg;F nor greater than 150;deg;F	Not less than 32;deg;F nor greater than 150;deg;F
Zinc	0.71 mg/L	0.71 mg/L
1,4-Dichlorobenzene	3.0 mg/L	0.079 mg/L
2,4,6-Trichlorophenol	2.4 mg/l	0.10 mg/L
Pentachlorophenol	1.4 mg/L	0.17 mg/L
Toluene	15 mg/L	1.3 mg/L

mg/L = milligrams per liter

ng/L = nanograms per liter

P.C.U. = Platinum Cobalt Units

S.U. = Standard Units

Any categorical, significant, or minor industrial user regulated under the State Industrial Pretreatment Program (IPP) that has a high potential of discharging wastewater containing any incompatible substance or characteristic listed in Section 40-569, Table 2 of this ordinance, at concentrations exceeding the applicable limits, may be required by the superintendent to conduct sampling and analytical testing prior to commencing such discharge. The categorical, significant, or minor industrial user shall demonstrate, through acceptable analytical results, that the proposed discharge complies with the applicable limitations that are established in

Section 40-569, Table 2 of this ordinance, and that the proposed discharge will not result in an exceedance to those limitations.

*Discharges of mercury shall be below detection as described. Monitoring for mercury shall be in accordance with the following test methods:

The discharge of mercury above the quantification level of 0.2 µg/L shall represent an exceedance of the local limit. Mercury sampling procedures, preservation and handling, and analytical protocol for compliance monitoring shall be in accordance with U.S. EPA Method 245.1, unless Method 1631 is required by the city. The quantification level shall be 0.2 µg/L for Method 245.1 or 0.5 µg/L for Method 1631, unless higher levels are appropriate due to sample matrix interference. In the event of a mercury limit exceedance, the user shall develop a mercury reduction plan, which must include elements deemed necessary by the manager.

Once the mercury reduction plan is approved by the manager, the user must implement the plan in order to progress toward compliance with mercury limits. Elements of a mercury reduction plan may include monitoring and reporting according to a specific schedule, as deemed necessary by the manager.

Parameter	Daily Average (mg/L)
5-day biochemical oxygen demand (BODs)	250—1,100
Chemical oxygen demand (COD)	500—4,000
Suspended solids	200—1,300
Phosphorus, total	5—15
Ammonia nitrogen	18—100”

Section 3. Section 40-575 of the Zeeland City Code be adopted to read in its entirety as follows:

“Sec. 40-575 PFAS compounds listed in SEC. 40-569. TABLE 2 regulations under Local Limits, the United States Environmental Protection Agency or the State of Michigan.
General Requirement: Any categorical, significant, or minor user who manufactured/manufactures, previously used, currently uses, plans to use and whoever has been found to have discharged materials containing PFAS compounds listed in SEC. 40-569. TABLE 2 of this ordinance; any liquid wastes and/or wastewaters to the POTW, shall be required to develop, submit and implement a pollution reduction plan (PRP) for the reduction and elimination of the PFAS compounds listed in SEC. 40-569. TABLE 2 of this ordinance in wastewater.

a. The PRP shall be submitted to and approved by the superintendent of the clean water plant or the superintendent’s designate and shall include, but not limited to, monitoring, treatment, product substitutions, best management practices (BMPs) or other proven management protocols, that the user will implement. For existing users, these plans shall be submitted to the superintendent of the clean water plant or the designate within ninety (90) days of the effective date of these rules; For users initiating discharge after the effective date of these rules, these plans shall be submitted to the superintendent or the designate ninety (90) days prior to the commencement of a discharge to the POTW. Any monitoring program shall be conducted in accordance with sample collection methods as defined by the State of Michigan or USEPA and must be analyzed in accordance with 40 CFR 136 or another approved method recognized by the State of Michigan; or where USEPA or the State of Michigan has not established sample collection methods or approved analytical methods in 40 CFR 136, the methods shall be specified and / or approved by the city.

b. The city may require any categorical, significant, or minor users to conduct discharge monitoring and reporting; or the development and implementation of additional source reduction, control and elimination actions for the PFAS compounds listed in SEC. 40-569. TABLE 2 of this ordinance; through a wastewater discharge permit or equivalent control mechanism."

Section 4. All Ordinances or parts thereof in conflict with the provisions of this Ordinance are to the extent of such conflict hereby repealed.

Section 5. This Ordinance shall take effect immediately upon publication thereof and is hereby declared to be an Emergency Ordinance.

This Ordinance is hereby adopted on the 8th Day of September, 2026, at a Regular Meeting of the Zeeland City Council, with the following vote:

AYES: Council Members _____

_____

NAYS: Council Members _____

_____

ABSENT: Council Members _____

City of Zeeland

By: _____
Richard J. Van Dorp III, Mayor

By: _____
Kristen R. DeVerney, Clerk

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of Ordinance No._____ which was duly adopted by the City Council of the City of Zeeland, County of Ottawa, Michigan, at a Regular Meeting held on September 8, 2026, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, Public Acts of Michigan, 1976, as amended, and that the minutes of said meeting were kept and will be or have been made available as required by said Act. I hereby certify that the above Ordinance known as Ordinance No. _____ or a summary of such Ordinance was published in the Zeeland Record on the ____ day of September, 2026.

_____
Kristen R DeVerney, City Clerk

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION

PHILLIP D. ROOS
DIRECTOR

April 22, 2026

VIA EMAIL

Douglas Engelsman, Superintendent
Zeeland WWTP
350 East Rich Avenue
Zeeland, MI 49464

Dear Douglas Engelsman:

SUBJECT: National Pollutant Discharge Elimination System (NPDES)
Permit No. MI0020524
Designated Name: Zeeland WWTP
Industrial Pretreatment Program – Non-Substantial Modification Approval

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD) staff has received the City of Zeeland's *Industrial Pretreatment Program (IPP) Unscheduled Submissions for Approval* submitted via the MiEnviro Portal on March 24, 2026. WRD staff have conducted a review of the evaluation and determined it to be a non-substantial modification to your IPP, in accordance with the criteria set forth in R 323.2309 of the Michigan Administrative Code (MAC). This program modification meets the minimum requirements and is hereby approved.

Parameter	**Current Limit (ng/L)**	**Proposed Limit (ng/L)**
Perfluorooctanesulfonic acid (PFOS)	--	12
Perfluorooctanoic acid (PFOA)	--	192
Perfluorobutanoic acid (PFBS)	--	780,000
Perfluorononanoic acid (PFNA)	--	35
Perfluorohexanesulfonic acid (PFHxS)	--	240

The evaluation for PFOS, PFBS, PFNA, and PFHxS had calculated local limit values greater than the applicable Water Quality Based Effluent Limits (WQBELs), but the city has exercised the right to be conservative and set limits at the WQBELs.

Staff review of the local limits submission considered methodology and data provided by the permittee to demonstrate that the limits will protect against the pass-through of pollutants and prevent interference with land application of biosolids.

As a condition of approval, the city has responsibilities under R 323.2303(4) of the MAC that requires that each Publicly Owned Treatment Works with an approved pretreatment program review and update the local limits when:

1. New pollutants are introduced.
2. New pollutants that were previously unevaluated are identified.
3. Substantial increases of pollutants are proposed as required in the notification of new or increased uses in accordance with the provisions of Title 40 of the Code of Federal Regulations, Section 122.42.

As a condition of this approval, we require the City to monitor the Zeeland Wastewater Treatment Plant influent, effluent, and biosolids at least annually for all pollutants with local limits. Results should be summarized and submitted to the district as part of the City’s "Industrial Pretreatment Program Annual Report," unless otherwise directed.

This program modification meets the minimum requirements and is hereby approved. This approval is not, however, an endorsement of the local limits and does not constitute a release or waiver of liability for compliance with your NPDES permit, your NPDES permit application, or Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

This approval is effective immediately.

We encourage the city to adopt these approved local limits in its Sewer Use Ordinance as quickly as possible. Once the new local limits have been adopted, please provide a copy of the adopted sewer use ordinance via the MiEnviro Portal for our records.

Should you require further information, please contact Paul Mazur at 517-582-8884; MazurP@Michigan.gov.

Sincerely,

Stephanie Kammer, Manager
Emerging Pollutants Section
Water Resources Division

cc: Michael Worm, EGLE
Paul Mazur, EGLE
Christina Bauer, EGLE
Bonnie Broadwater, EGLE

Moore+Bruggink
Consulting Engineers

TO: Paul Mazur, EGLE Water Resources Division

FROM: Emily Perrin, PE

DATE: 3/24/2026

SUBJECT: Proposed PFAS Local Limits Memorandum for the City of Zeeland Clean Water Plant

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This memorandum summarizes calculated local limits for PFOS, PFOA, PFBS, PFNA, and PFHxS.

BACKGROUND

The City of Zeeland does not currently have established local limits for PFAS compounds. The City has performed sampling of its industrial users and confirmed that PFAS compounds are present in their wastewater streams, which are sent to the City of Zeeland's Clean Water Plant. A Local Limits Study was performed for the five major PFAS compounds in order to set local limits for these compounds to prevent pass through or interference at the Clean Water Plant as well to protect the waters of the state.

Six samples were collected at three locations during November and December of 2025. Samples were taken at the Clean Water Plant's influent and effluent, as well as one background location located within the City of Zeeland. This data was used to calculate the local limits.

LOCAL LIMITS CALCULATIONS

The local limits calculations were completed using the EPA's Allowable Headworks Loading (AHL) formulas for Water Quality Based Effluent Limits (WQBELs) for PFOS, PFOA, PFBS, PFNA, and PFHxS. The WQBELs were provided by EGLE in a January 22, 2026 memo. Clean Water Plant and industrial user flow rates from 2025 were used for this analysis. The detailed calculations are attached for reference.

EGLE supplied daily maximum WBQELs of 240,000 ug/L for PFBS and 15,000 ug/L for PFOA. They also supplied monthly average WQBELs of 780 ug/L for PFBS, 0.24 ug/L for PFHxS, 0.035 ug/L for PFNA, 0.20 ug/L for PFOA, and 0.012 ug/L for PFOS. The monthly average WQBELs lead to the lowest Maximum Allowable Headworks Loadings (MAHLs). MAHLs were calculated to be 0.000364 lbs/day for PFOS, 0.00211 lbs/day for PFOA, 15.20 lbs/day for PFBS, 0.00070 lbs/day for PFNA, and 0.00480 lbs/day for PFHxS.

EGLE Interim Strategy Requirements include a 20 ug/kg PFOS and PFOA limit for land applied biosolids. For PFOS, the calculated value was above the MAHL. For PFOA, a negative value was calculated. This value can be disregarded because the actual PFOA

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concentrations in the Clean Water Plant's biosolids are below the EGLE mitigation criteria of 20 ug/kg, as defined in the Land Application of Biosolids Containing PFAS Interim Strategy.

Maximum Allowable Industrial Loadings (MAILs) were calculated by subtracting a safety factor (20% of the MAHL), a growth allowance (2.5% of the MAHL) and the uncontrolled loading from the MAHLs. This results in a MAIL of 0.000193 lbs/day for PFOS, 0.00160 lbs/day for PFOA, 11.78 lbs/day for PFBS, 0.000521 lbs/day for PFNA, and 0.00367 lbs/day for PFHxS.

Local limits were calculated using the uniform allocation method. MAILs were divided by the average industrial flow, leading to calculated local limits of 23.1 ng/L for PFOS, 191.8 ng/L for PFOA, 1,412,116 ng/L for PFBS, 62.5 ng/L for PFNA, and 439.6 ng/L for PFHxS.

RECOMMENDATIONS

With the exception of PFOA, all calculated local limits are substantially higher than the WQBELs. The WQBEL for PFOA is 200 ng/L. The proposed local limit for PFOA is 192 ng/L, which is the calculated local limit. Although the other PFAS concentrations observed during testing were below WQBELs, it is proposed to set local limits at the WQBELs for PFOS, PFBS, PFNA, and PFHxS. The WQBELs and proposed local limits for the remaining four compounds are as follows: PFOS = 12 ng/L, PFBS = 780,000 ng/L, PFNA = 35 ng/L, and PFHxS = 240 ng/L. The calculated local limits, WQBELs, and proposed local limits are shown in the table below.

	Calculated Uniform Concentration (ng/L)	Water Quality Based Effluent Limit (ng/L)	Proposed Local Limit (ng/)
PFOS	26.0	12	**12**
PFOA	191.8	200	**192**
PFBS	1,412,117	780,000	**780,000**
PFNA	63.8	35	**35**
PFHxS	442.9	240	**240**

Removal Efficiencies Calculations

Parameter =	PFOA								
	Influent	Effluent	Reporting	Influent[1]		Reporting	Effluent[1]		% Daily
Date	Flow (MGD)	Flow (MGD)	Limit (ng/L)	ng/L	lb/Day	Limit (ng/L)	ng/L	lb/Day	removal
11/17/2025	2.552	2.552	1.9	3.7	0.0000787	2	7.2	0.000153	-95%
11/21/2025	2.216	2.216	2	3.8	0.0000702	2	6.8	0.000126	-79%
11/25/2025	2.158	2.158	2	3.4	0.0000612	1.9	7.2	0.000130	-112%
12/3/2025	2.468	2.468	1.8	2.9	0.0000597	1.8	5.2	0.000107	-79%
12/8/2025	2.392	2.392	1.8	2.8	0.0000559	1.8	4.8	0.000096	-71%
12/11/2025	2.432	2.432	1.8	3.1	0.0000629	1.8	6.2	0.000126	-100%
				3.3	0.0000648		6.2	0.000123	
Average Daily Removal Efficiency									**-89%**
Mean Removal Efficiency, %									**-90%**

1. The MDL was used in calculations for values less than MDL (shown as ND)

Parameter =	PFBS								
	Influent	Effluent	Reporting	Influent[1]		Reporting	Effluent[1]		% Daily
Date	Flow (MGD)	Flow (MGD)	Limit (ng/L)	ng/L	lb/Day	Limit (ng/L)	ng/L	lb/Day	removal
11/17/2025	2.552	2.552	1.9	ND	0.0000404	2	2.1	0.0000447	-11%
11/21/2025	2.216	2.216	2	ND	0.0000370	2	ND	0.0000185	0%
11/25/2025	2.158	2.158	2	ND	0.0000360	1.9	2.3	0.0000414	-15%
12/3/2025	2.468	2.468	1.8	ND	0.0000370	1.8	ND	0.0000370	0%
12/8/2025	2.392	2.392	1.8	ND	0.0000359	1.8	ND	0.0000359	0%
12/11/2025	2.432	2.432	1.8	2.2	0.0000446	1.8	2	0.0000406	9%
				2.0	0.0000385		2.0	0.0000363	
Average Daily Removal Efficiency									**-3%**
Mean Removal Efficiency, %									**-3%**

1. The MDL was used in calculations for values less than MDL (shown as ND)

Parameter =	PFOS								
	Influent	Effluent	Reporting	Influent[1]		Reporting	Effluent[1]		% Daily
Date	Flow (MGD)	Flow (MGD)	Limit (ng/L)	ng/L	lb/Day	Limit (ng/L)	ng/L	lb/Day	removal
11/17/2025	2.552	2.552	1.9	3.4	0.0000724	2	2.7	0.0000575	21%
11/21/2025	2.216	2.216	2	4.1	0.0000758	2	3.2	0.0000591	22%
11/25/2025	2.158	2.158	2	4.4	0.0000792	1.9	2.9	0.0000522	34%
12/3/2025	2.468	2.468	1.8	3.2	0.0000659	1.8	2	0.0000412	38%
12/8/2025	2.392	2.392	1.8	2.9	0.0000579	1.8	ND	0.0000180	38%
12/11/2025	2.432	2.432	1.8	3.8	0.0000771	1.8	ND	0.0000183	53%
				3.6	0.0000714		2.4	0.0000410	
Average Daily Removal Efficiency									**34%**
Mean Removal Efficiency, %									**34%**

1. The MDL was used in calculations for values less than MDL (shown as ND)

Parameter =	PFHxS								
	Influent	Effluent	Reporting	Influent[1]		Reporting	Effluent[1]		% Daily
Date	Flow (MGD)	Flow (MGD)	Limit (ng/L)	ng/L	lb/Day	Limit (ng/L)	ng/L	lb/Day	removal
11/17/2025	2.552	2.552	1.9	ND	0.0000404	2	ND	0.0000426	-5%
11/21/2025	2.216	2.216	2	ND	0.0000370	2	ND	0.0000370	0%
11/25/2025	2.158	2.158	2	ND	0.0000360	1.9	ND	0.0000342	5%
12/3/2025	2.468	2.468	1.8	ND	0.0000370	1.8	ND	0.0000370	0%
12/8/2025	2.392	2.392	1.8	ND	0.0000359	1.8	ND	0.0000359	0%
12/11/2025	2.432	2.432	1.8	ND	0.0000365	1.8	ND	0.0000365	0%
				1.88	0.0000371		1.88	0.0000372	
Average Daily Removal Efficiency									**0%**
Mean Removal Efficiency, %									**0%**

1. The MDL was used in calculations for values less than MDL (shown as ND)

Parameter =	PFNA								
	Influent	Effluent	Reporting	Influent[1]		Reporting	Effluent[1]		% Daily
Date	Flow (MGD)	Flow (MGD)	Limit (ng/L)	ng/L	lb/Day	Limit (ng/L)	ng/L	lb/Day	removal
11/17/2025	2.552	2.552	1.9	ND	0.0000404	2	ND	0.0000426	-5%
11/21/2025	2.216	2.216	2	ND	0.0000370	2	ND	0.0000370	0%
11/25/2025	2.158	2.158	2	ND	0.0000360	1.9	ND	0.0000342	5%
12/3/2025	2.468	2.468	1.8	ND	0.0000370	1.8	ND	0.0000370	0%
12/8/2025	2.392	2.392	1.8	ND	0.0000359	1.8	ND	0.0000359	0%
12/11/2025	2.432	2.432	1.8	ND	0.0000365	1.8	ND	0.0000365	0%
				1.88	0.0000371		1.88	0.0000372	
Average Daily Removal Efficiency									**0%**
Mean Removal Efficiency, %									**0%**

1. The MDL was used in calculations for values less than MDL (shown as ND)

Zeeland Clean Water Plant
Allowable Headworks Loading - Acute WQBELs (from EGLE)

AHL based on AWQBELs					
Parameter	**C**awqbels **(ug/L)**	**C**awqbels **(mg/L)**	**Q**potw **(MGD)**	**R**potw **(decimal %)**	**AHL**npdes **(lb/day)**
PFOS	-	-	2.40	34%	-
PFOA	15,000	15	2.40	-90%	158.15
PFBS	240,000	240	2.40	-3%	4675.8
PFNA	-	-	2.40	0%	-
PFHxS	-	-	2.40	0%	-

$$AHL_{awqbels} = \frac{(8.34) \times (C_{awqbels}) \times (Q_{potw})}{(1 - R_{potw})}$$

AHL *awqbels =* *AHL based on WQBEL, lb/day*
C *awqbels =* *WQBELs, mg/L (use more conservative daily max)*
Q *potw =* *POTW average flow rate, MGD*
R *potw =* *Plant removal efficiency (headworks to effluent), decimal*
8.34 *=* *conversion factor*

Zeeland Clean Water Plant

Allowable Headworks Loading - Chronic WQBELs (from EGLE)

AHL based on CWQBELs					
Parameter	**C**cwqbels **(ug/L)**	**C**cwqbels **(mg/L)**	**Q**potw **(MGD)**	**R**potw **(decimal %)**	**AHL**npdes **(lb/day)**
PFOS	0.012	0.000012	2.40	34%	0.000364
PFOA	0.2	0.0002	2.40	-90%	0.00211
PFBS	780	0.78	2.40	-3%	15.20
PFNA	0.035	0.000035	2.40	0%	0.000701
PFHxS	0.24	0.00024	2.40	0%	0.00480

$$AHL_{cwqbels} = \frac{(8.34) \times (C_{cwqbels}) \times (Q_{potw})}{(1 - R_{potw})}$$

$AHL_{cwqbels}$ = *AHL based on WQBEL, lb/day*

$C_{cwqbels}$ = *WQBELs, mg/L (use more conservative month avg)*

Q_{potw} = *POTW average flow rate, MGD*

R_{potw} = *Plant removal efficiency (headworks to effluent), decimal*

8.34 = *conversion factor*

Zeeland Clean Water Plant
Allowable Headworks Loading - Land Application Criteria

AHL based on Land Application Criteria					
Parameter	**C**slgstd **(mg/kg)**	**Q**sldg **(MGD)**	**R**potw **(decimal %)**	**PS decimal (%)**	**AHL sldg (lb/day)**
PFOS	0.02	0.0150	34%	0.05	0.00037
PFOA	0.02	0.0150	-90%	0.05	-0.00014
PFBS	-	0.0150	-3%	0.05	-
PFNA	-	0.0150	0%	0.05	-
PFHxS	-	0.0150	0%	0.05	-

$$AHL\ sldg = \frac{(8.34) \times (C\ slgstd) \times (PS/100) \times (Q\ sldg) \times (G\ sldg)}{R\ potw}$$

AHL *sldg =* *AHL based on land application standards, lb/day*
C *slgstd =* *sludge land application criterion, mg/kg (dry)*
(EGLE interim strategy requirements)
PS *= Percent solids of sludge to disposal*
Q *potw = Total sludge flow rate to disposal, MGD*
R *potw = Plant removal efficiency (headworks to effluent), decimal*
G *sldg = Specific Gravity of Sludge, ~ kg/L = 1.0*
8.34 *= conversion factor*

Zeeland Clean Water Plant
Maximum Allowable Headworks Loading Summary

MAHLs				
Parameter	**Acute Water Quality Standards (lb/day)**	**Chronic Water Quality Standards (lb/day)**	**Land Application Requirements[1] (lb/day)**	**MAHL[2] (lb/day)**
PFOS	-	**0.000364**	0.00037	***0.000364***
PFOA	158.15	**0.00211**	-0.00014	***0.00211***
PFBS	4675.8	**15.20**	-	***15.20***
PFNA	-	**0.00070**	-	***0.00070***
PFHxS	-	**0.00480**	-	***0.00480***

(1) Negative AHLs have been disregarded based on analytical data

(2) MAHL based on most stringent AHL

Zeeland Clean Water Plant

Background Sampling Results

	Date	Location	PFOS	RL	PFOA	RL	PFBS	RL	PFNA	RL	PFHxS	RL
1	11/17/2025	#4	4.6	1.9	2.8	1.9	<1.9	1.9	<1.9	1.9	<1.9	1.9
2	11/21/2025	#4	5.3	1.8	2.8	2.0	<1.8	1.8	<1.8	1.8	<1.8	1.8
3	11/25/2025	#4	6.8	1.9	3.4	1.9	<1.9	1.9	<1.9	1.9	<1.9	1.9
4	12/3/2025	#4	**<19**	**19**	4	1.9	<1.9	1.9	<1.9	1.9	**<19**	**19**
5	12/8/2025	#4	**<5.7**	**5.7**	2.5	1.8	<1.8	1.8	<1.8	1.8	<1.8	1.8
6	12/11/2025	#4	4.3	1.8	2.3	1.8	<1.8	1.8	<1.8	1.8	<1.8	1.8
	Cunc (mg/L)		**7.6**		**3.0**		**1.9**		**1.9**		**4.7**	

*Reporting limit used where samples were below the reporting limit

Zeeland Clean Water Plant

Average Background

Uncontrollable Inflow			
Parameter	**Lunc (lb/day)**	**Cunc (mg/L)**	**Qunc (MGD)**
PFOS	0.000089	0.0000076	1.400
PFOA	0.000035	0.0000030	1.400
PFBS	0.000022	0.0000019	1.400
PFNA	0.000022	0.0000019	1.400
PFHxS	0.000055	0.0000047	1.400

***L** unc =* ***8.34** x* ***Cunc** x* ***Q** unc*

***L** unc = Level of Uncontrolled loading from residential & commercial services, lb/day*

***C** unc = Uncontrolled Pollutant Concentration, mg/L*

***Q** unc = Uncontrolled Flow Rate, MGD*

Zeeland Clean Water Plant
MAXIMUM ALLOWABLE INDUSTRIAL LOADING AND PROPOSED LOCAL LIMITS

Maximum Allowable Industrial Loading								
Parameter	MAHL (lb/day)	SF (lb/day)	Lunc (lb/day)	GA (lb/day)	MAIL (lb/day)	Calculated Uniform Concentration for Industrial Users (mg/L)	Calculated Uniform Concentration for Industrial Users (ng/L)	Proposed Local Limit (ng/L)
PFOS	0.000364	0.000073	0.0000889	0.0000091	0.000193	0.00002313	23.1	12
PFOA	0.00211	0.000422	0.0000346	0.0000527	0.00160	0.00019179	191.8	191.8
PFBS	15.20	3.04	0.0000216	0.3799055	11.78	1.412	1,412,116	780,000
PFNA	0.00070	0.000140	0.0000216	0.0000175	0.000521	0.00006251	62.51	35
PFHxS	0.00480	0.000960	0.0000549	0.000120	0.00367	0.00043962	439.6	240

$$MAIL = MAHL - (SF + L_{unc} + GA)$$

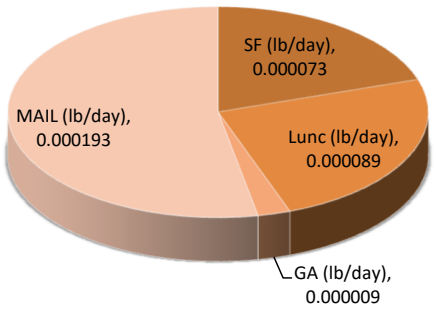
MAIL = *Maximum Allowable Industrial Loading (lb/day)*
MAHL = *Maximum Allowable Headworks Loading (lb/day)*
SF = *20% Safety Factor, (lb/day)**
Lunc = *Loadings from uncontrolled sources (lb/day)*
HW = *Loadings from Hauled Waste, zero for Zeeland*
GA = *2.5% Growth Allowance (lb/day)*
1.00 *Industrial flow (MGD)*

20% safety factor recommended for PFAS compounds

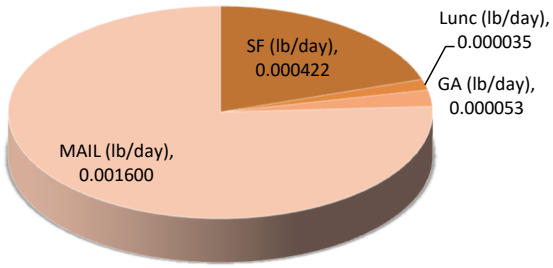
$$C_{lim} = MAIL / ((Q_{cont}) * 8.34)$$

C lim = *Uniform Concentration Limit (mg/L)*
MAIL = *Maximum Allowable Industrial Loading (lb/day)*
Q ind = *Total industrial flow rate (MGD)*
8.34 = *unit conversion factor*

PFOS



PFOA



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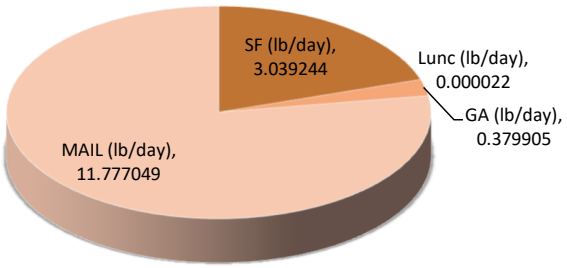
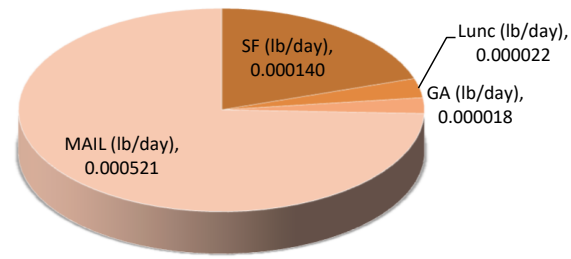
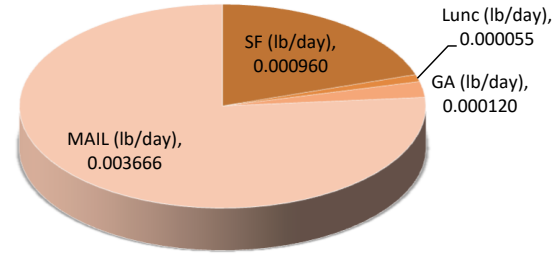


PFNA



PFHxS



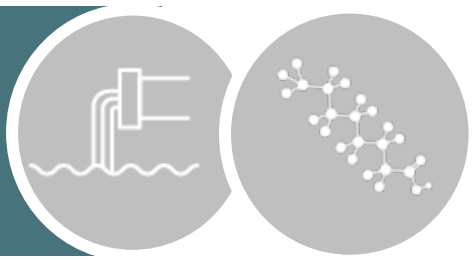
MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN INDUSTRIAL PRETREATMENT PROGRAM (IPP) PFAS INITIATIVE

Identified Industrial Sources of PFOS to Municipal Wastewater Treatment Plants

August 2020, Revised and Updated May 2025

EGLE, WATER RESOURCES DIVISION
800-662-9278 | Michigan.gov/EGLE



Contents

INTRODUCTION

2025 Update

This document was originally published in August 2020 and has been updated in May 2025 to include additional and updated wastewater treatment plant (WWTP) actions, significant PFOS sources, regulatory criteria, pretreatment and reduction efforts, and evaluations of the overall progress of the Industrial Pretreatment Program (IPP) Per- and Polyfluoroalkyl Substances (PFAS) Initiative.

IPP PFAS Initiative

As a special effort under the National Pollutant Discharge Elimination System (NPDES) program, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), launched the IPP, PFAS Initiative in February 2018. This initiative aims to reduce and eliminate certain PFAS from industrial sources that may pass through municipal WWTPs and enter lakes and streams, potentially causing fish consumption advisories or polluting public drinking water supplies. The program was developed after EGLE identified a WWTP passing through perfluorooctane sulfonate (PFOS) from an industrial user discharging to their system to the Flint River at concentrations far exceeding the state's water quality value (see discussion below on *PFAS Regulation in Michigan Surface Waters*) in June 2017. This effort is just one part of a comprehensive, multi-media approach by the State of Michigan to address PFAS in the environment. For more information on the larger program, visit **Michigan.gov/PFASResponse**.

Although not covered in this report, three WWTPs that are permitted to discharge to groundwater were also required to undertake the IPP PFAS Initiative. Groundwater discharges in Michigan are regulated by state law. For more information about how Michigan is addressing PFAS in groundwater discharges, see the **Compliance Strategy for Addressing PFAS from Public and Private Municipal Groundwater Discharges (michigan.gov)**.

PFAS Regulation in Michigan Surface Waters

EGLE determines the concentration of substances in surface waters that would not be expected to cause adverse effects to human health, aquatic life, and wildlife using the methodology described in Michigan's state laws and rules, Rule 323.1057 ("Rule 57") of the Part 4, Water Quality Standards (WQS), administrative rules promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The Part 4 rules include a narrative method to develop water quality values (WQV) protective of human health and aquatic life. On August 2, 2020, the US Environmental Protection Agency approved the revision to Michigan's Part 4 Rules, including Rule 57 (R 323.1057), Toxic Substances. Due to limited studies and data on PFAS, the only PFAS that have Michigan Rule 57 values are PFOS, perfluorooctanoic acid (PFOA), perfluorobutanesulfonic acid (PFBS), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS) as listed below in Table 1. These values were established in March 2014 for PFOS, May 2011 (revised July 2022) for PFOA, July 2022 for PFBS, and October 2023 for PFNA and PFHxS. The most stringent values are the human noncancer values, which are based on human fish and water consumption. Values for protection of aquatic life (the other three values) are much less restrictive.

Dischargers are regulated with water quality-based effluent limits that are based on the most restrictive criteria for their receiving waters.

For more information about WQVs, see the Rule 57 Water Quality Values webpage.

Table 1. Michigan Rule 57 Water Quality Values for PFAS

PFAS, ng/l or ppt*	Human Noncancer Value (nondrinking water source)	Human Noncancer Value (drinking water source)	Final Chronic Value	Final Acute Value	Aquatic Maximum Value
PFOS	12	11	140,000	1,600,000	780,000
PFOA	170	66	880,000	15,000,000	7,700,000
PFBS	670,000	8,300	24,000,000	240,000,000	120,000,000
PFNA	30	19	–	–	–
PFHxS	210	59	–	–	–

(*) ng/l=nanograms per liter, ppt=parts per trillion. These units are considered equivalent.
(-) Aquatic Life Values for PFNA and PFHxS are currently under development.

Due to the relatively low criteria and the historical use of PFOS containing chemicals in Michigan, PFOS has been the regulatory driver for surface water discharges. As of January 2025, effluent sampling has determined that 44 WWTPs with IPPs have exceeded Michigan's WQV for PFOS at least once since the start of the IPP PFAS Initiative. Two WWTPs have exceeded the 66 ppt WQV for PFOA but did not have the potential to exceed the site-specific water quality-based effluent limit. Three WWTPs have been found to exceed the 170 ppt WQV for PFOA. One of the three WWTPs exceeded the site-specific water quality-based effluent limit for PFOA. None of the WWTPs with IPPs have been found to exceed their applicable WQV for PFBS, PFNA, and PFHxS. Note that EGLE is using the WQVs as screening levels for the statements above, but any regulatory controls would use water quality-based effluent limits, which take site-specific conditions into account. EGLE has therefore focused its efforts on reducing PFOS in WWTP effluent.

IPP PFAS Initiative Implementation

To date, EGLE has required 102 WWTPs with required IPPs to evaluate their industrial users as potential sources of PFOS and PFOA. While some non-IPP WWTPs have undergone PFOS source investigations, this document strictly summarizes the efforts of the IPP WWTPs and does not include the findings from non-IPP WWTP investigations. It should be noted that in Michigan, municipalities act as

IPP Control Authorities, even for WWTPs of less than five million gallons per day (MGD) in design flow, meaning that IPP compliance and enforcement is implemented locally. EGLE began the IPP PFAS Initiative with a series of regional meetings and a webinar for municipal WWTP staff to inform them about PFAS, suggest potential sources for evaluation, and outline EGLE's expectations for actions under the initiative (to learn more, see the IPP PFAS Initiative webpage.

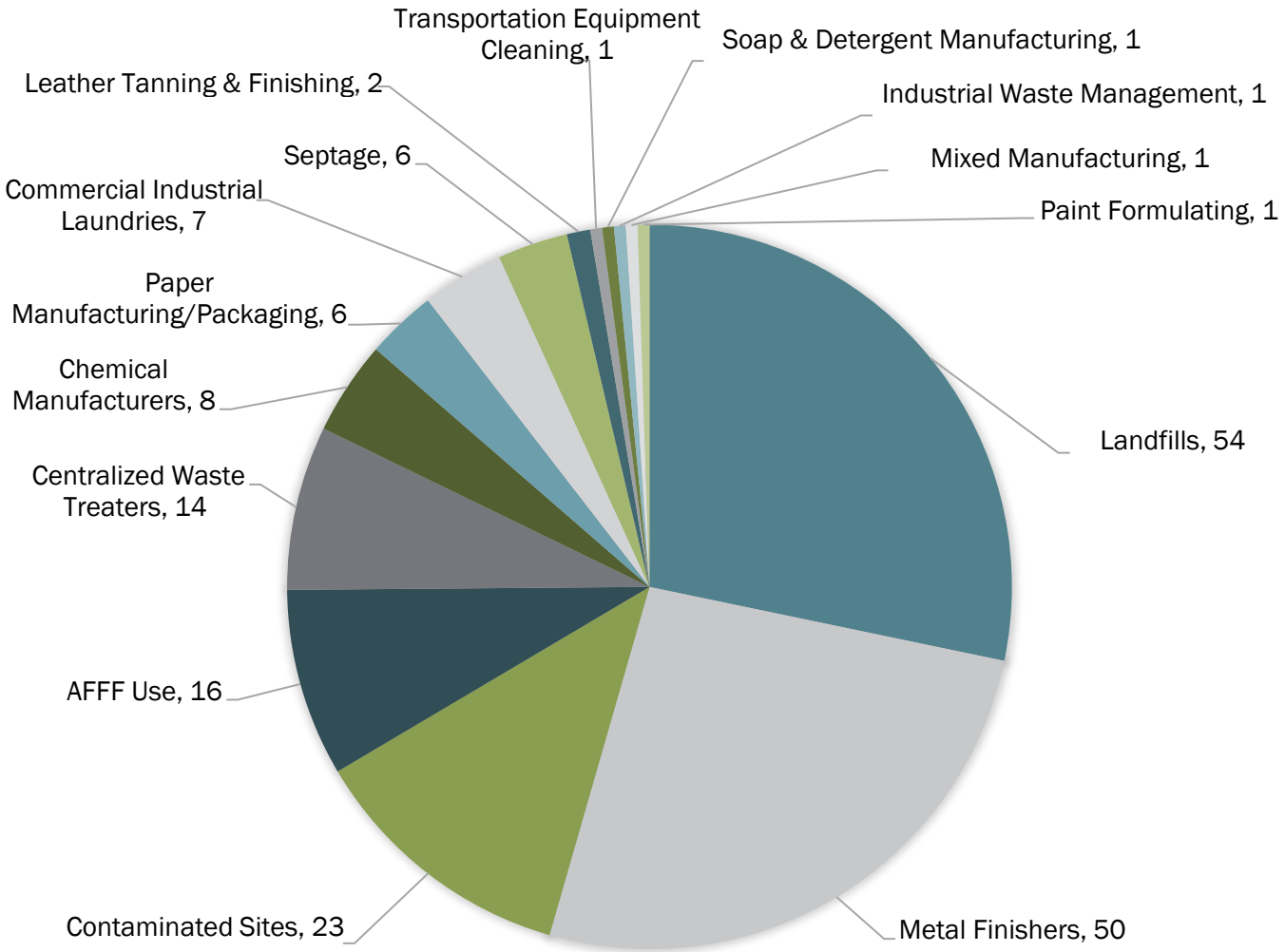
Based on literature reviews and knowledge of Michigan, EGLE highlighted the following industrial categories as potential sources of PFOS and/or PFOA to WWTPs: metal finishers and electroplaters utilizing fume suppressants, tanneries, leather and fabric treaters, paper and packaging manufacturers, landfill leachate, centralized waste treaters, and sites where aqueous film forming foam (AFFF) was used. WWTP staff were asked to evaluate these potential sources via records review and interviews with industry staff and then sample the effluent of those industries that were likely to have used PFOS and/or PFOA in the past or were currently using some type of PFAS-containing chemical in their processes.

FINDINGS: SIGNIFICANT AND OTHER SOURCES AND VARIABLE IMPACTS

Significant Sources

Significant sources of PFOS identified in the IPP PFAS Initiative were similar to those identified in literature reviews. EGLE's WRD defined *sources* as those industrial users with discharges greater than 12 ppt PFOS, which was used as a screening level. For this document, significant sources will be referred to generally as "sources." The majority of PFOS sources to WWTPs were landfills that accepted industrial wastes containing PFOS (54), metal finishers with a history of fume suppressant use (50), and contaminated sites associated with industries or activities with PFOS usage (23). Other sources found included facilities which historically or currently used and/or trained with AFFF (16), centralized waste treaters or CWTs (13), chemical manufacturers (8), paper manufacturing/packaging (6), commercial industrial laundries (6), septage (5), leather tanning and finishing (2), and transportation equipment cleaning (1). It should be noted that there were facilities in all these sectors that discharged PFOS at concentrations less than the PFOS screening level. Some potential sources suggested by literature were likely absent since those industries are not prevalent in Michigan. Figure 1 shows the number of PFOS source types by number in each sector. Note that this simple count does not indicate concentrations of PFOS in nondomestic user effluent or impact on WWTP effluent. It also should be noted that several sources were found by other means than the IPP PFAS Initiative, i.e., other reports or communications.

Figure 1. Significant Sources of PFOS to WWTPs, Number by Industrial Type



Effluent discharged by municipal WWTPs without significant industrial sources typically met WQVs, leading EGLE to conclude that general consumer use of products with PFAS coatings and/or ingredients (residential laundering, cleaning carpets, etc.) is generally considered a lower risk based on flow, concentrations, and other factors compared to significant industrial discharges. As of January 2025, 48 IPP WWTPs without known sources of PFOS were meeting the water quality standard for PFOS. There are three IPP WWTPs that have not yet identified source(s) of PFOS and sometimes exceed water quality values. In at least two of these cases, discharges may be related to historical contamination impacting WWTP collection and treatment systems.

As of January 2025, 45 WWTPs with known sources of PFOS were meeting WQVs, while 6 WWTPs with known sources were not yet meeting WQVs. Sources of PFOS to WWTPs in Michigan are shown in Table 2, which lists the total numbers of facilities evaluated in each general industrial type, the numbers of facilities per type and subtype found to be sources and the percentages of facilities discharging PFOS within their industry types and subtypes, and the ranges of concentrations found in wastewater discharged to sanitary sewers above the IPP PFAS Initiative screening level of 12 ppt. The

concentration ranges shown include those prior to pretreatment or reduction efforts. The percentages by source type relate to the same line of the table. For example, 54 of the 64 landfills (or 84 percent of all landfills evaluated) were found to be sources of PFOS, with 100 percent of active Type II landfills and 79 percent of closed Type II landfills found to be sources.

Table 2. Significant Sources of PFOS to WWTPs in Michigan

Industrial Type/Subtype	Total Number Evaluated[1]	Number (%) Sources by Type/Subtype [2]	PFOS Effluent Range Exceeding Screening Level of 12 ppt
Landfills	64	54 (84%)	13-9,800
• Type II Sanitary Landfills	52	47 (90%)	13-9,800
○ Active	28	28 (100%)	14-9,800
○ Closed	24	19 (79%)	13-3,000
• Type III Sanitary Landfills	11	6 (55%)	13-9,410
○ Active	3	1 (33%)	33-110
○ Closed	8	5 (63%)	13-9,410
• Hazardous Waste Landfill	1	1 (100%)	13-480
Metal Finishers	323[3]	50 (15%)	19-240,000
• Chrome Platers	51	35 (68%)	30-240,000
• Chromate Conversion Coaters[4]	27	6 (22%)	33-9,950
• Other Types Metal Finishers or Unknown	242	9 (4%)	19-270
Contaminated Sites	47	23 (49%)	14-220,000
• Metal Finishers	10	5 (50%)	14.5-8,000
• Miscellaneous	15	4 (27%)	14-33
• Closed Landfills	8	4 (50%)	13-9,410
• Paper Manufacturing	4	4 (100%)	17-140
• Mixed Manufacturing	5	3 (75%)	16-39,000
• Paint or Chemical Manufacturing	4	2 (50%)	130-220,000
• Leather Tannery	1	1 (100%)	19-514
AFFF Use	21	16 (76%)	13-65,000
• Airport	8	5 (63%)	22-65,000
• Miscellaneous	5	5 (100%)	13-39,000
• Military	5	3 (60%)	17-65,000
• Chemical Manufacturing	1	1 (100%)	630-3,300
• Metal Finishing	1	1 (100%)	14.79-54.18
• Petroleum Refinery	1	1 (100%)	13-970
Centralized Waste Treaters (CWTs)	16	14 (88%)	13-53,000
Chemical Manufacturers	25	8 (32%)	13-4,600,000
Paper Manufacturing, Packaging	17	6 (35%)	13-810
Commercial Industrial Laundries	23	7 (26%)	13-98

Industrial Type/Subtype	Total Number Evaluated[1]	Number (%) Sources by Type/Subtype [2]	PFOS Effluent Range Exceeding Screening Level of 12 ppt
Septage	6	5 (83%)	13-160
Leather Tanning and Finishing	4	2 (50%)	13-83
Transportation Equipment Cleaning	4	1 (25%)	15-640
Soap and Detergent Manufacturing	1	1 (100%)	16-60
Industrial Waste Management	2	1 (50%)	14-27
Mixed Manufacturing	1	1 (100%)	16-240
Paint Formulating	1	1 (100%)	25-180

[1]Estimated based on industries surveyed and sampled from 2018-2023 during the IPP PFAS Initiative. Number of facilities per subcategory may be underestimated for some categories since sewer users that did not meet local screening criteria may not have been sampled. The information presented in this document has been compiled from many sources including, but not limited to, compliance submittals, laboratory reports, voluntary surveys, emails, internet searches, and personal communications. These sources contained variable levels of detail. This document represents our best effort to compile, organize, and summarize this information through December 2023.

[2]*Significant Sources* are those exceeding the screening level of 12 ppt PFOS and are considered a source of PFOS by the WWTP regulating their discharge.

[3]Estimated based on 2022 WWTP IPP Annual Report data and industries surveyed and sampled from 2018-2023 during the IPP PFAS Initiative.

[4]Excludes chromate conversion coaters that also perform chrome plating.

Variable Impacts on WWTPs and Receiving Streams

Since both WWTPs and industrial sources of PFOS vary in size, some WWTPs with sources have been able to meet Michigan's WQVs while others have not. The highest concentrations of PFOS in WWTP effluent, indicative of significant pass through of pollutants from industrial users, were found primarily in small to medium-sized (0.19 to 2 MGD) WWTPs with one or more industrial sources discharging PFOS-contaminated process wastewater that made up a significant portion (around five percent) of WWTP flow. Loading is important; lower concentrations at higher flows may also cause or contribute to pass through of pollutants. Pass through from WWTPs is sometimes intermittent when sources discharge low volume but high strength batches, especially for smaller WWTPs.

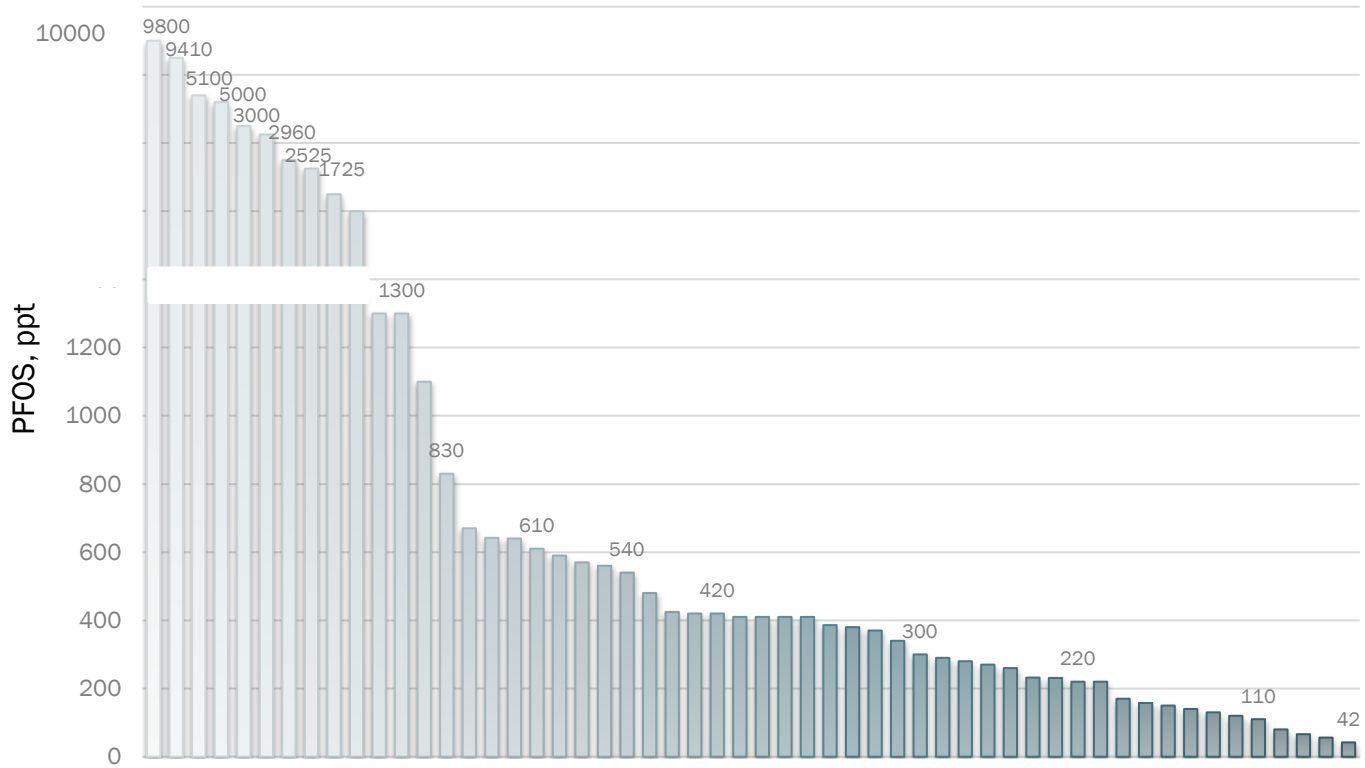
Similarly, EGLE has found that in-stream PFAS concentrations may vary widely due to the intermittent nature of some source discharges (i.e., point sources as well as storm water and groundwater discharges from contaminated sites, some of which may not yet be identified) as well as seasonal stream flow variation and size of the receiving stream. Accumulations of PFOS found in fish tissue may be the best indication of long-term average concentrations in lakes and streams. Fish tissue sampling resulted in more restrictive fish consumption advisories downstream from two WWTPs that were found to be passing through PFOS from significant industrial sources.

DISCUSSION OF SOURCES

Landfill Leachate

Sanitary landfills and hazardous waste landfills that accept or have accepted industrial wastes containing PFOS and discharge leachate, or truck leachate, to WWTPs are a significant source. In Michigan, sanitary landfills are classified as either Type II or Type III landfills. A Type II landfill is a municipal solid waste landfill which receives household waste but may also receive other types of nonhazardous wastes such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial nonhazardous solid waste. A Type III landfill is any landfill that is not a municipal solid waste landfill or hazardous waste landfill and includes all of the following: construction and demolition waste landfill; industrial waste landfill; a landfill that accepts waste other than household waste, municipal solid waste incinerator ash, or hazardous waste from conditionally exempt small quantity generators; coal ash landfill; and an existing coal ash impoundment that is closed or is actively being closed as a landfill. Hazardous waste landfills receive non-liquid hazardous waste. Leachate from 47 Type II sanitary landfills, six Type III sanitary landfills, and one hazardous waste landfill have been identified as significant sources, with concentrations ranging from 13 to 9,800 ppt PFOS. Figure 2 below shows the highest PFOS concentration in leachate for the 47 landfills. Only nine of the 54 landfills, or 17 percent, were discharging PFOS concentrations greater than 1000 ppt. Included in the number of active Type II landfills counted in Table 2 is a facility that receives leachate from three separate landfills.

Figure 2. Highest Leachate PFOS Concentrations by Landfill



The impact to a WWTP from leachate is dependent on the amount of leachate received, the concentration of PFOS in the leachate, and the overall volume of sanitary sewage treated by the WWTP. Municipal WWTPs are not designed to remove PFOS from wastewater, but if the leachate volume is small compared to the volume of sanitary sewage received by the WWTP, the acceptance of leachate may not result in PFOS passing through at concentrations above the WQV. The range of volume of leachate discharged or hauled daily to WWTPs can be from the thousands to the hundreds of thousands of gallons. For this reason, smaller WWTPs are more likely to pass through PFOS when receiving landfill leachate. There are WWTPs in Michigan where landfill leachate is their primary source of PFOS. Like WWTPs, landfills are passive receivers, not generators, of PFAS due to their acceptance of waste containing PFAS. EGLE recognizes the importance of the relationship between WWTPs, who accept landfill leachate, and landfills, who accept WWTP residuals/sludge. Current industrial waste and WWTP residuals disposed at landfills would theoretically have lower concentrations of PFOS and PFOA compared to what was historically disposed.

Some WWTPs have restricted the volume of landfill leachate accepted rather than require pretreatment to meet the WQV. Furthermore, some landfills have tried various ways to reduce the volume of leachate generated to therefore minimize the loading to the WWTP. It is unclear if these approaches will be successful over the long term. EGLE has recommended or required that local limits be developed for PFOS (and evaluated for the other PFAS with WQVs) to ensure the leachate accepted does not result in pass through of PFAS. As local limits are adopted by municipalities, the volume and/or concentration of leachate accepted by the WWTPs may be impacted.

In 2018, the Michigan Waste and Recycling Association conducted a statewide study to determine levels of PFOS and PFOA in leachate of 32 active municipal solid waste landfills. All the leachate samples collected had detectable levels of PFOS and PFOA. The concentration range of PFOS and PFOA identified in the study aligns with the findings of the IPP PFAS Initiative.

Metal Finishing

Facilities that conduct metal finishing (including electroplaters) are a significant PFOS source for many WWTPs in Michigan. They are categorized by federal regulation according to specific core processes that change the surface of an object to improve its appearance and/or durability and are regulated under 40 Code of Federal Regulation (CFR), Parts 413 and 433. Michigan has historically been home to a number of metal finishers associated with automobile manufacturing as well as other industries. In August 2020, the majority of sources at six of the ten WWTPs discharging at 50 ppt or greater PFOS were metal finishers. Five of those six WWTPs had a single chrome plating metal finisher source and were WWTPs of medium size (less than 2.5 MGD discharge). The remaining WWTP was larger (43 MGD) and had multiple sources, the majority of which were chrome plating metal finishers. Since that time, chrome platers have been found to be sources of PFOS and have played a significant role in reduction of PFOS discharged to surface waters in the state through the installation of pretreatment and other actions.

This finding aligns with known uses of PFAS. The United States Environmental Protection Agency (USEPA) allowed for use of PFOS-based fume suppressants as a control technology for hexavalent chromium emissions under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for chromium electroplating in 1995. Hexavalent chromium is a known hazardous compound and human studies have established that inhaled hexavalent chromium is a human carcinogen, resulting in an increased risk of lung cancer. Adding fume suppressants to the plating bath reduces the surface tension and, subsequently, the ability for hexavalent chromium to be released into the air. Fume suppressants are widely used across the industry due to their effectiveness in reducing hexavalent chromium emissions and their relative costs compared to other available control technologies. The USEPA did not ban the use of PFOS-based fume suppressants in chrome electroplating tanks until September 2015.

The following discussion about types of metal finishers is based on information gleaned from WWTP investigations, surveys, IPP submittals, and company webpages. Of the approximately 322 metal finishers discharging to WWTPs in Michigan, the effluent of 276 was sampled at least once as part of the IPP PFAS Initiative. Metal finishers sampled included those conducting one or more of the following processes: chrome plating (both hexavalent and trivalent chromium and decorative and hard chrome plating), chromate conversion coating, aluminum anodizing, copper plating, phosphate coating, passivating, and powder coating. Not all metal finishers were able to be tallied by type. A number of metal finishers were sampled where the specific processes used were not reported to EGLE. Some metal finishers were not sampled because they did not meet screening criteria to be considered a likely source of PFOS.

In general, metal finishers that had a history of using fume suppressants were found to discharge PFOS. Of the approximately 323 metal finishers discharging to WWTPs during the period of this report, only 50 (15 percent) were found to be discharging PFOS greater than the screening criteria, with 23 (7 percent) discharging greater than 1,000 ppt PFOS. Forty-one of the 50 metal finishers (82 percent) considered to be sources of PFOS were known to use hexavalent chromium and/or trivalent chromium in their current or past processes. Nine reported no known chromium use or no information on processes was provided to EGLE.

Chrome Platers

Decorative chrome plating, hard chrome plating, and chromate conversion coating, all using hexavalent chromium in their process, appear to be the predominant types of metal finishing that are sources of PFOS to WWTPs. Chrome platers either using or previously using hexavalent chromium were the most significant source of PFOS among metal finishers. PFOS-containing fume suppressants were often used to control air emissions related to the use of hexavalent chromium prior to the September 2015 ban. Chrome plating involves electroplating a thin layer of chromium to provide corrosion resistance, increase surface hardness and/or provide a decorative finish. Hard chrome plating is used to improve corrosion and abrasion resistance and is generally a thicker plating than decorative chrome plating, which is generally thinner and used for cosmetic purposes, such as plating plastic with a shiny chrome surface. Decorative chrome plating deposits a 0.003-2.5-micron chrome layer in less than five minutes

with an electrical current range of 540-2,4000 amperes; hard chrome plating deposits a 1.3-760-micron layer in 20 minutes to 36 hours with an electrical current range of 1,600-6,500 amperes.

In either type of chrome plating, the electrical current generates chromium fumes. The temperature of chromic acid etch tanks and chrome plating tanks is also a factor. These tanks are heated (up to approximately 160 degrees Fahrenheit for some applications) and water constantly evaporates and must be replenished. In addition, chromium fumes may be generated from chrome plating and chromic acid etch tanks when aerated to prevent settling of chromium in the bottom of the tanks.

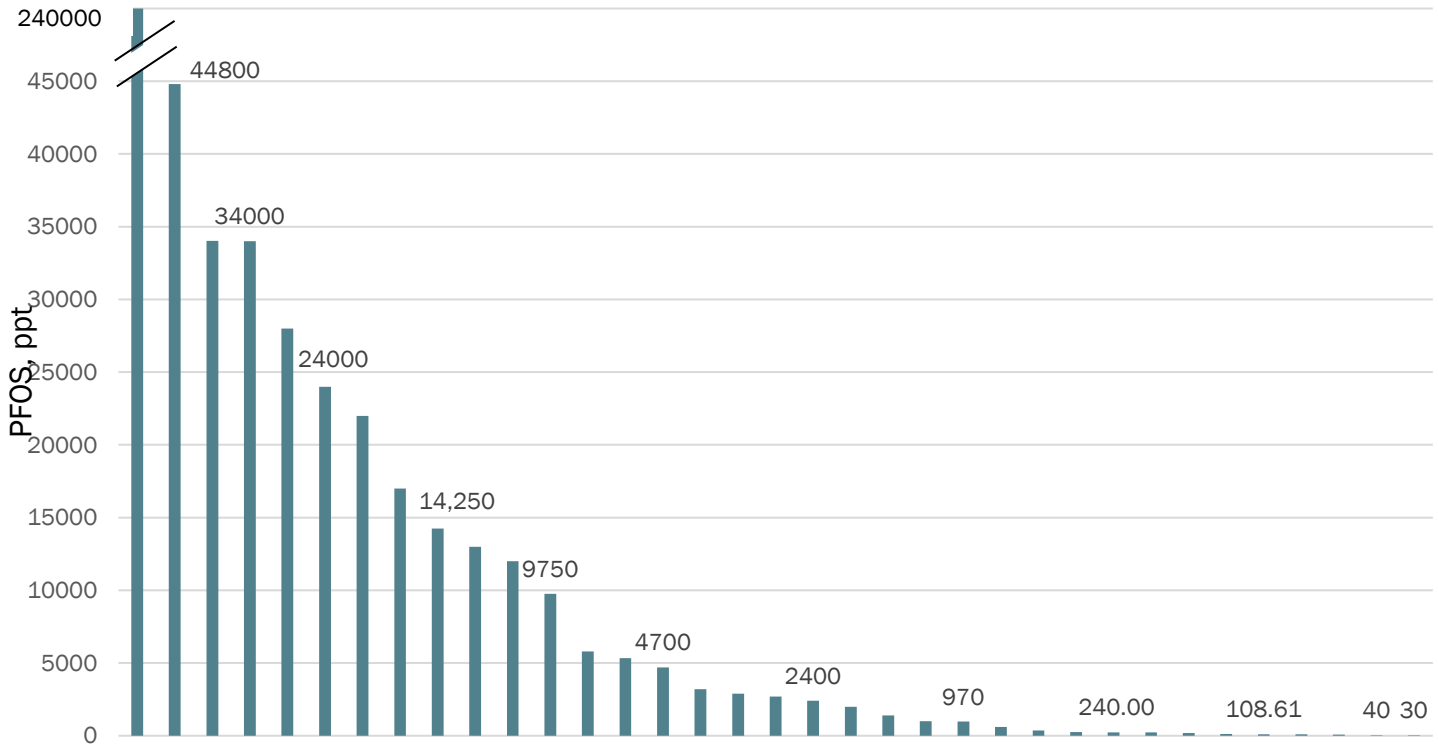
Decorative chrome platers that plate on plastic typically etch plastic parts with chromic acid, which is hexavalent chromium, to prepare them for plating. Several of the decorative chrome platers in Michigan use chromic acid etch baths and fume suppressants to control associated air emissions. Plating on plastics (also referred to as POPs) is a growing sector of the industry. Plating on plastic allows for both lower costs for raw materials and lower weight parts, which may be attractive to certain industrial customers.

Of the approximately 51 chrome platers in Michigan that discharge to a WWTP, 35 (68 percent) were found to be sources of PFOS. Most, if not all, of the chrome platers either use or used hexavalent chromium, although many use trivalent chromium as well. Due to employee safety concerns, environmental hazards and the associated increased costs, there has been a movement to replace hexavalent chrome with trivalent chrome in decorative chrome plating. Trivalent chromium has a relative inability to cross cell membranes compared to hexavalent chromium (USEPA, August 1998). Therefore, the trivalent chromium process is considered significantly less toxic, which makes it subject to both less regulations and operation costs than hexavalent chromium. However, trivalent chromium generally cannot be used for hard chrome plating because there are limits to the thickness that can be achieved. There are also differences in the plating color as well as additional costs for new equipment, chemicals, testing, and maintenance for manufacturers (TURI, 2012).

The chrome platers that were not found to be sources of PFOS most likely chose mechanical controls (such as enclosed lines, air jet systems, etc. along with large capacity scrubbers) to manage hexavalent chromium rather than fume suppressant chemicals containing PFAS (typically used in conjunction with scrubbers). In at least one case, a decorative chrome plating facility was found to be a source of PFOS that was built after the 2015 PFOS ban, and PFOS-based fume suppressants were never used at that facility, although fume suppressants containing other PFAS, specifically 6:2 fluorotelomer sulfonic acid (FTS), are used.

PFOS discharges from chrome platers found to be sources of PFOS varied widely, but concentrations at some were significant. See Figure 3 to see the range of highest effluent PFOS results, most prior to effective pretreatment. Since these samples were taken, most chrome platers have installed pretreatment for PFOS and/or conducted cleaning/equipment replacement. More recent effluent results either meet local requirements or show significant reductions.

Figure 3. Highest Effluent PFOS Sampled, by Chrome Plating Facility Sources

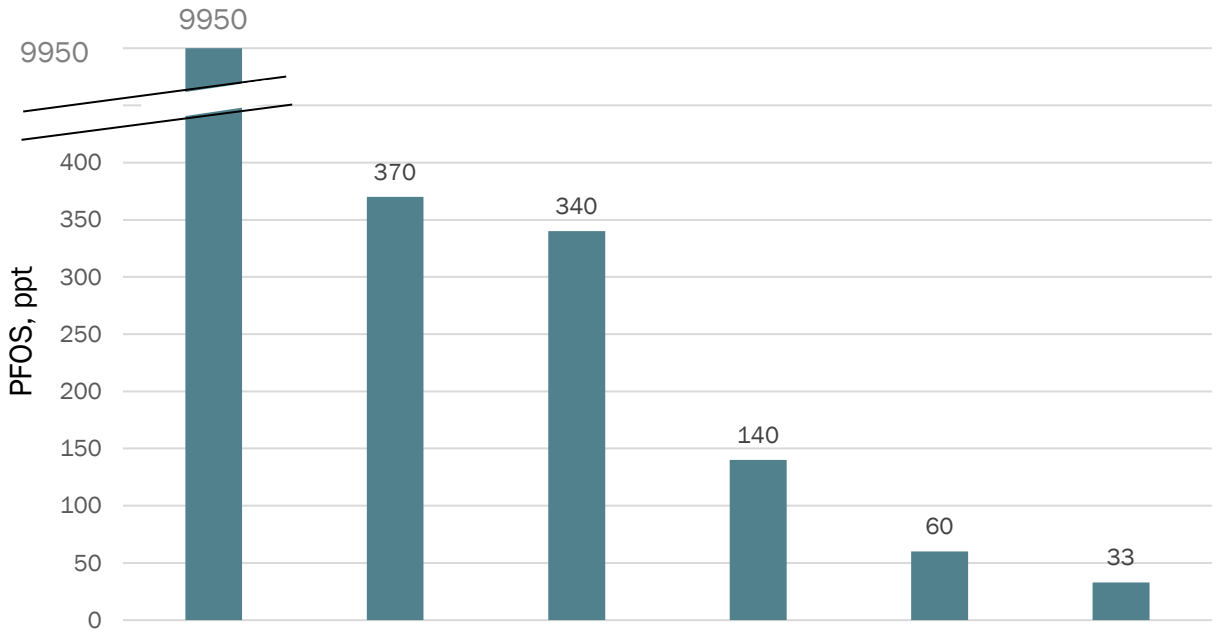


Chromate Conversion Coaters

Six metal finishers that conduct chromate conversion coating (and do not also conduct chrome plating) were found to be sources of PFOS to WWTPs, but concentrations of PFOS were generally much lower than those for chrome platers. Chromate conversion coating is an extra step used to inhibit corrosion, act as a primer, or provide a decorative finish. The process uses chromate, which is hexavalent chromium, to create a micro-coating from a chemical reaction with the base metal. See Figure 3 below for highest effluent results for six factories conducting chromate conversion coating that exceeded screening levels and are considered to be sources of PFOS by the WWTPs accepting their effluent.

Many chromate conversion coaters have reduced effluent concentrations over time. Some have eliminated source lines or conducted cleaning and/or replacement of equipment. One facility stopped accepting parts to process that were believed to be contaminated with PFOS. One chromate conversion coater thought that the source of PFOS was a PTFE lubricant which had been eliminated. They subsequently replaced associated equipment and their PFOS was reduced below the screening level of 12 ppt. The three chrome platers that also conduct chromate conversion coating are excluded from this discussion and Figure 4 since concentrations of PFOS are likely associated with chrome plating rather than chromate conversion coating.

Figure 4. Highest PFOS Effluent Sampled by Chromate Conversion Coating Facility Sources



Conclusions and Discussion, Metal Finishers

Based on data we have seen from a range of sources, it appears that the PFOS found in chrome plating (and to a lesser extent chromate conversion coating) wastewater originates from historical use of fume suppressants (also called demisters, defoamers, surfactants, mist suppressants, etc.). These chemicals were lawful to use until September 2015 and were used to protect worker health and safety as well as contribute to product quality. After September 2015, PFOS-based fume suppressants were prohibited from being added to chromium electroplating and anodizing tanks under the 2012 revisions of the National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (ESHAP) (40 CFR Part 63, Subpart N). These rules define PFOS-based fume suppressants as those containing one percent or greater PFOS by weight.

The NESHAP revision was developed concurrently with a national effort to phase out the manufacture and use of long-chain PFAS, including PFOS and PFOA, under the USEPA's *2010/2015 PFOA Stewardship Program* due to concerns about the impact of PFOA and long-chain PFAS on human health and the environment. The NESHAP regulation does not prohibit PFOS-based fume suppressants for chromate conversion coating, but these products are generally not available due to the stewardship program phase out.

The conclusion that PFOS currently found in wastewater is from historical use of PFOS-containing chemical products is supported by the findings of a study published in June 2020 by EGLE and the USEPA Office of Research and Development (ORD) to research the question of whether chemicals currently used by chrome platers might be contributing to PFOS concentrations observed in their effluent. EGLE sampled nine different fume suppressant products and effluent (prior to pretreatment for PFOS) from 11 chrome platers and sent samples to the USEPA ORD for detailed analysis. USEPA

researchers did not find PFOS or PFOS precursors in currently used fume suppressants, although most contained PFAS, primarily 6:2 FTS. However, PFOS was found in chrome plater effluent, leading EGLE to conclude that PFOS originates from historical use of PFOS-containing fume suppressants. For more information about this study, refer to **Targeted and Non-Targeted Analysis of PFAS in Fume Suppressant Products at Chrome Plating Facilities**.

EGLE did not find that metal finishers were using fume suppressants containing PFOS after the 2015 USEPA ban. In 2018 EGLE's Air Quality Division (AQD) inspected all 58 chrome platers then subject to regulation under 40 CFR Part 63, Subpart N. This rule limits the addition of PFOS-based fume suppressants after September 2015. The AQD did not find any chrome platers in violation of this federal requirement. About half of the inspected sources subject to Subpart N were found to still use PFAS-based fume suppressants, likely 6:2 FTS as discussed above and in the USEPA/EGLE study *Targeted and Non-Targeted Analysis of PFAS in Fume Suppressant Products and Effluent Samples*.

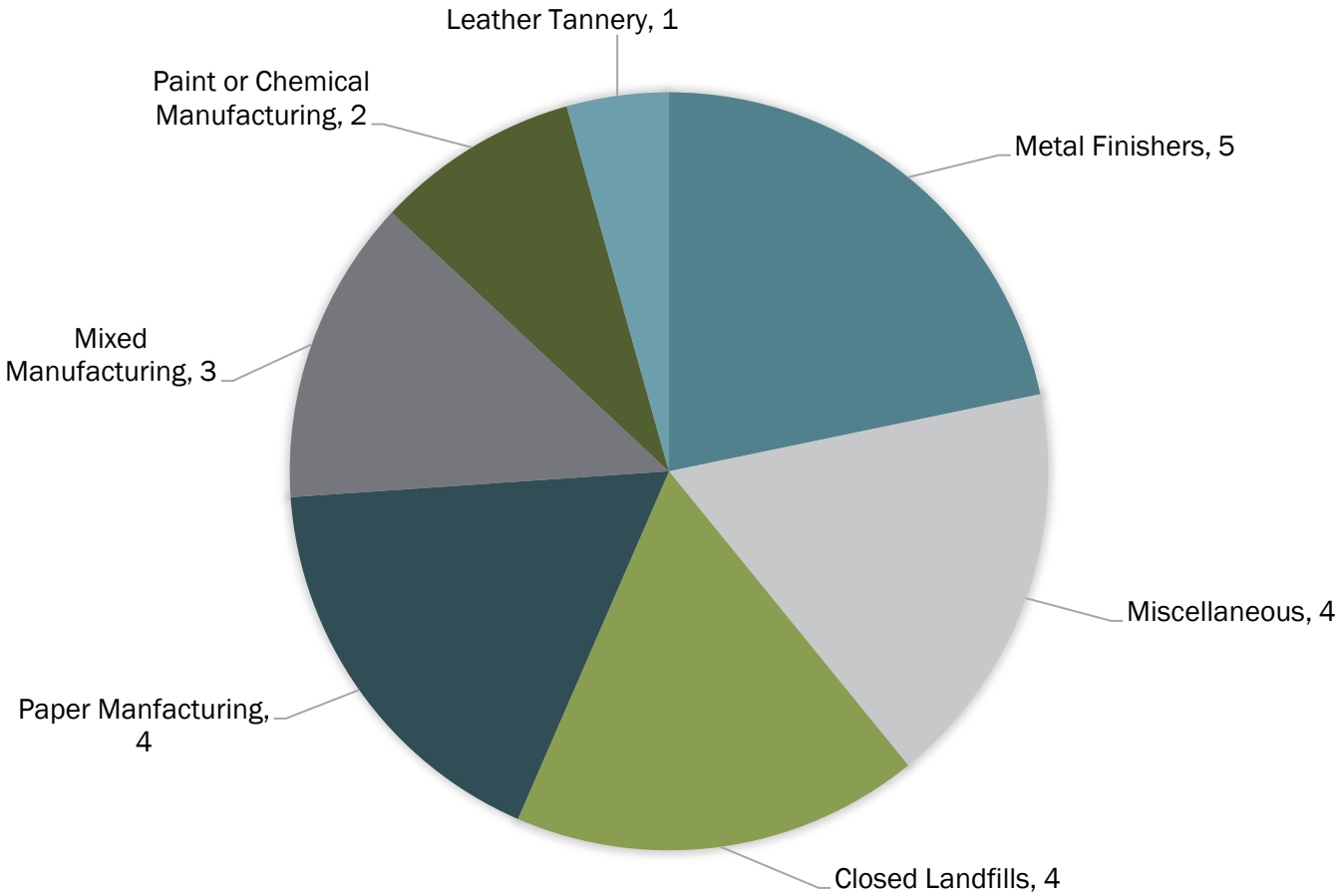
It should be emphasized that some chrome platers did not use PFOS-containing chemicals to control fumes and have not been found to be sources of PFOS to WWTPs. PFAS-based fume suppressants are not the sole mechanism for complying with the NESHAP. In an EGLE survey, nearly half of the chrome platers regulated under the NESHAP utilized mechanisms other than chemical fume suppression. These include enclosures and physical controls such as scrubbers and composite mesh pad scrubbers, physical fume suppression via plastic balls, and non-PFAS based chemicals. Some platers have substituted trivalent chromium, which has lower toxicity, for hexavalent chromium or have avoided chromium altogether.

Contaminated Sites

Forty-seven contaminated sites were evaluated for PFOS by WWTPs. Contaminated sites evaluated included facilities that actively pump treated and untreated groundwater into sanitary sewers as well as sites where contaminated groundwater reached the sanitary sewers via infiltration or inflow. Contaminated sites include facilities that no longer have industrial operations as well as active industrial sites, some with new owners and processes and some that have had the same operations for decades. The wastewater from these sites is all related to contaminated groundwater from previous industrial activities rather than process wastewater from current operations. The sites were contaminated by a wide range of industrial activities. The 23 confirmed sources included 5 contaminated groundwater from former metal finishers, 4 closed landfills, 4 former paper manufacturing sites, 3 mixed manufacturing sites, 2 former paint and/or chemical manufacturers, and 1 former leather tannery. Table 2 includes a miscellaneous category with 15 difficult to categorize sites that were evaluated by WWTPs. Four of the 15 miscellaneous sites were confirmed as sources which are construction dewatering sites. Also included in the miscellaneous category are four WWTPs that conducted sanitary sewer monitoring to evaluate potential PFOS/PFOA infiltration due to general concerns about contaminated sites but did not confirm any sources. It is worth noting that some of the identified sources of PFOS are due to infiltration/inflow of contaminated groundwater into sanitary sewers rather than pump and treat operations. These sources were identified as part of contaminated site investigations under the IPP PFAS Initiative.

The general types of contaminated sites found to be sources of PFOS are shown below in Figure 5.

Figure 5. Number of Contaminated Sites by Type that are Significant Sources of PFOS to WWTPs



Miscellaneous

As mentioned above, the miscellaneous category includes 15 facilities that were difficult to categorize. Besides the four WWTPs included in the category, the other 11 facilities consist of various groundwater cleanups or groundwater remediation projects. The four sites that are sources of PFOS to WWTPs were short term construction dewatering projects. The exact reasons why PFOS was detected at elevated concentrations in these particular areas is unknown, but all were in areas where there was historical industrial activity.

Metal Finishers

Ten former metal finishing operations were evaluated by the WWTPs and five were found to be a source of PFOS. Four of the five are facilities which conducted chrome plating operations. The fifth source manufactured military components like take engines and transmissions. Many of these facilities had existing pump and treat groundwater systems in place due to other pollutants of concern prior to being sampled for PFAS.

Closed Landfills

The majority of the count for this category includes landfills that were specifically located at an industrial facility; three of which are counted under the closed Type III sanitary landfill category. Two of the facilities are also counted under the closed Type II sanitary landfill category. These eight closed landfills have been included in the contaminated sites section since the WWTPs they discharge to regulate them as contaminated sites. Of the eight facilities, four were found to be a source of PFOS and they are associated with receiving waste from various historic industrial activity.

Mixed Manufacturing

Some contaminated sites in Michigan have a complicated history and the origins of PFOS discharges are unclear as they may stem from multiple sources. Because of this, we have classified five facilities under mixed manufacturing, with three of them being a source of PFOS. One is a 413-acre former manufacturing complex operated from 1904 to 2010. PFAS contamination has been documented at the site in the last few years, including PFOS at 34,000 ppt infiltrating into the sanitary sewer. Since significant amounts of groundwater infiltrate into the sanitary sewers at the site, the site contributes significant loadings of pollutants. It is the primary known source of PFOS to the WWTP. Various former operations that may be contributing PFOS to sanitary sewers include metal finishing and associated pretreatment of wastewater, fire-fighting training, and paint/enameling operations. Although not the focus of this discussion, it should be noted that PFAS contaminates soils, groundwater, and storm water runoff at this site.

Another source facility is a 315-acre former manufacturing complex operated from 1941 to the early 2000s. Operations included machining, metal cleaning, metal plating, painting, and assembly of metal parts and products for war armaments and automotive transmissions. Due to the wide variety of historic industrial processes at the facility, the exact source of PFOS to the WWTP is unknown.

The third facility was a former manufacturer of coil springs and bumpers from 1954 to the early 2000s. There were plating operations and fire training operations at the site, which are the likely source of PFOS to the WWTP.

Paper Manufacturing

Contaminated sites can also impact WWTPs when PFAS contaminates the drinking water source that, following use, is discharged into the sanitary sewers as municipal, commercial, and industrial wastewater. For example, a WWTP eliminated a significant source of PFOS when a municipal well was found to be contaminated by a former paper manufacturer using a 3M product for coating paper. The municipality was able to switch to an alternative source and this resulted in a significant reduction of PFOS loading to the sanitary sewers.

Three other paper manufacturers are sources of PFOS to WWTPs, two of which are no longer in business. These three facilities likely used PFOS as part of past specialty paper making processes.

Paint or Chemical Manufacturing

The four facilities under the paint or chemical manufacturing category are all pump and treat groundwater cleanups. Two of them were found to be sources of PFOS. One of the sources is a chemical manufacturer that has been in operation since the late 1800s. The PFOS is believed to have been from the historical manufacturing of automotive paint, container coatings, and furniture finishes in the 1980s and 1990s. The other source is a paint manufacturing facility where historical operations included formulating paints and filling spray cans with 3M Scotchgard.

Leather Tannery

One WWTP receives PFOS when groundwater contaminated by leather tannery waste enters sanitary sewers located in the zone of contamination through cracks in the sewers. PFOS loadings to the WWTP are likely affected by seasonal groundwater fluctuations. The impacted municipality is currently undertaking an investigation to better understand the extent and nature of the inflow and infiltration of the contaminated groundwater.

AFFF Use

Sometimes floor drains, sanitary sewer lines, and pump stations have become contaminated by the historic or current use of AFFF, causing discharges of PFOS above screening levels to sanitary sewers. AFFF is used to extinguish highly flammable liquid fires where gasoline, oil, and jet fuel is present. The WWTPs have evaluated a total of 21 facilities based on knowledge of past and/or current use of AFFF. Of those evaluated, 16 facilities were found to be sources of PFOS including 5 miscellaneous facilities, 5 airports, 3 military installations, 1 chemical manufacturer, 1 former metal finisher, and 1 petroleum refinery. See Figure 6 below.

Airport

At least one WWTP is receiving PFOS from a fire station where a floor drain and sanitary sewer were contaminated by a firetruck containing AFFF that had a leaky valve. Although the valve was fixed and AFFF and contaminated fire truck water disposed of off-site, it appears that sanitary sewer lines contain residual PFOS that continue to discharge PFOS to the WWTP. This community plans to clean the drain and sanitary sewer to reduce PFOS.

The use of AFFF at commercial airports is a source of PFOS to WWTPs. At one commercial airport that only has a sanitary wastewater discharge to a WWTP, the elevated levels of PFOS detected are thought to be from the historical use of AFFF on the airport property which has infiltrated into the sanitary sewers. A second commercial airport was identified that discharges a mixture of sanitary and de-icing fluid wastewaters. As is the case at the other airport, the use of AFFF on the airport property is believed to have infiltrated the sanitary sewer resulting in elevated levels of PFOS being discharged to two separate WWTPs.

Military

The historical and current use of AFFF at military installations is another source of PFOS to WWTPs. At one facility, when the fire suppression system (which contained AFFF) was tested, the foam was discharged to the sanitary sewer system. Over time, this practice has contaminated the sanitary lines. The facility does discharge a small volume of process wastewater; however, most of the discharge is sanitary wastewater. It is believed that the source of PFOS to the WWTP as this site is due to the AFFF-contaminated sewer lines.

A former air force base with contaminated soils and groundwater from repeated training exercises using AFFF has been found to be a source of PFOS to the sanitary sewers in another community, with 82 to 456 ppt PFOS found in nearby sanitary sewers. Contaminated groundwater from the former air force base has migrated off-site and impacted residential wells and surface waters. In addition, AFFF was used on several fires in the area, creating other contaminated areas.

Miscellaneous

The use of AFFF at the petroleum refinery along with the use of AFFF to extinguish a fire at a scrapyard facility upstream of the refinery caused foaming events to occur out of a sewer manhole during periods of heavy rainfall. The foam entered road drains that lead to the combined sanitary/stormwater water system for the same WWTP as mentioned in the Petroleum Refinery section. This is one of the sources included in the miscellaneous category.

Another facility is a former automotive manufacturing facility. The property contained a former fire-fighting training area where AFFF is believed to have been used. The facility is also counted and is further discussed under the Contaminated Sites section.

A fire department is another facility counted under the miscellaneous category. The property historically contained a fire training tower which is believed to have been used for AFFF training. There were also AFFF containers stored in the tower which were suspected to have leaked over the years. The tower was demolished in early 2020. The collection system in this area has been impacted due to contaminated groundwater.

The fourth facility is a State of Michigan owned complex which houses offices and workstations for various government agencies. It was determined that a portion of sanitary sewer was being impacted by contaminated groundwater near the Michigan State Police Training Facility. It is believed that past fire training activities using AFFF is the likely cause of contamination.

Chemical Manufacturing

At a chemical manufacturing facility, the source of PFOS appears to be from the use of AFFF, instead of from the manufacturing process. The training with AFFF was conducted on site due to the nature of chemicals that are stored on the premises. The use of AFFF has contaminated the groundwater, which is pumped and discharged to a WWTP, along with other process wastewater.

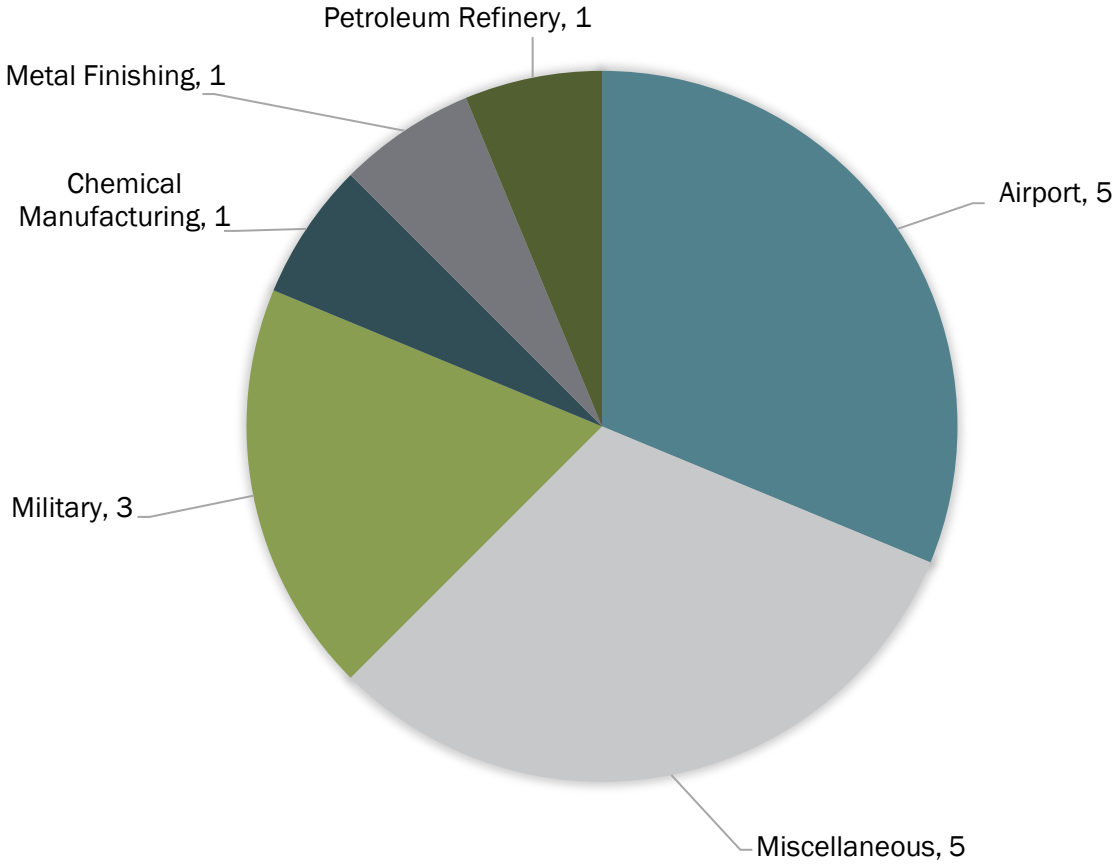
Metal Finishing

The use of AFFF at a former metal finisher is the source of PFOS to one WWTP. The metal finisher manufactured fire protection systems, mainly sprinklers and valves, and conducted testing of fire suppression foam. Records from the facility indicated AFFF manufactured by 3M was used in the testing from 1998/1999 until 2001.

Petroleum Refinery

WWTPs can also receive PFOS via inflow of contaminated storm water run-off into sanitary sewers. WWTPs with combined sanitary and storm water systems could be impacted by storm water contaminated by PFOS. A WWTP is receiving storm water contaminated with PFOS due to a petroleum refinery's use of AFFF in a fire training area. This facility is located within a section of combined sewers that discharge to the WWTP. The AFFF usage contaminated the surrounding ground and entered an on-site drainage ditch.

Figure 6. Number of AFFF Users by Type that are Significant Sources of PFOS to WWTPs



Centralized Waste Treaters

Centralized Waste Treaters (CWT) treat wastewater and industrial process by-products that come from other industries. These facilities receive a wide variety of hazardous and non-hazardous industrial waste for treatment. If a CWT receives waste from sources of PFOS such as landfill leachate, plating waste, and/or paper sludge, PFOS may be discharged to the receiving WWTP if adequate treatment is not used. Fourteen of the sixteen CWTs in Michigan (88%) were found to be sources of PFOS, with a wide range of effluent results (13-53,000 ppt PFOS). Most CWTs in Michigan discharge to larger WWTPs. As indicated above, municipal WWTPs are not designed to remove PFOS; however, larger WWTPs typically receive larger volumes of sanitary sewage, which is typically low in PFOS. This may reduce PFOS concentrations in WWTP effluent, thereby lessening a CWT's potential impact on surface waters.

Chemical Manufacturers

A small percentage of chemical manufacturers sampled had levels of PFOS above the screening levels. The PFOS ranged from 13 to 4,600,000 ppt. Included in this category are facilities classified under 40 CFR Part 414, *Organic Chemicals, Plastics, and Synthetic Fibers* (OCPSF) along with facilities which produce chemical formulations not regulated under the OCPSF category. Three out of the eight facilities

with levels of PFOS above the screening levels in their discharge manufacture chemical compounds that are used by the metal finishing industry. Another facility manufactures synthetic lubricating oils and greases and uses a synthetic fluoropolymer of tetrafluoroethylene in the manufacturing process. The remaining three facilities manufacture specialty chemicals to be used in a variety of industries. None of the eight facilities classified as sources are regulated under the OCPSF category.

Paper, Cardboard and Packaging Manufacturers

Manufacturers of paper, cardboard and packaging products have been found to discharge low to moderate concentrations of PFOS (13 to 810 ppt) under the IPP PFAS Initiative. Included in this category are facilities classified under 40 CFR Part 430, *Pulp, Paper, and Paperboard Point Source Category* along with facilities which produce paper products not regulated under the federal category. These facilities are currently active or were active during the years of the initiative. Of seventeen sources evaluated, six were found to have discharges of PFOS above the screening level. Of the six sources, three are classified under 40 CFR Part 430. Most paper/cardboard manufacturers under the IPP PFAS Initiative are still attempting to identify the source of PFOS in their discharge; however, at three facilities the PFOS source is believed to be the use of recycled paper and/or cardboard used in the manufacturing process.

In other paper manufacturing cases, it is believed that previously used paper coatings contained PFOS. Previous use of PFOS-containing coatings is a "legacy" issue similar to the chrome plating industry's use of fume suppressants containing PFOS. Residual PFOS contamination from previous use is still impacting current discharges of PFOS. These findings are consistent with recent literature on PFAS in paper manufacturing. One paper making facility used a PFOS process chemical from 3M in combination with a starch during the paper making process from 1980 to 1989. The process wastewater along with any unused or excess product was discharged to the sanitary sewer system. The facility ceased discharging process wastewater to the WWTP in 1989 and has only been discharging sanitary wastewater. However, due to the 1980s-era process wastewater discharge, residual PFOS has remained in the sewer lines resulting in PFOS from the facility's sanitary wastewater discharging to the WWTP.

Some paper manufacturing companies have operated their own landfills for their waste products. These landfills produce leachate containing PFOS that is often discharged to WWTPs. The on-site landfill at one former paper manufacturing facility, which discharged to a WWTP, counted as a closed Type III landfill, had PFOS concentrations ranging from 13 to 290 ppt.

Commercial Industrial Laundries

Seven out of the twenty-three commercial industrial (including medical clothing and linens) laundry facilities were found to discharge concentrations (13 to 98 ppt) of PFOS under the IPP PFAS Initiative. Two of these facilities were laundering articles of clothing that were likely treated with a PFAS-based stain and/or dirt resistant coating. After discontinuing the practice of laundering those articles of clothing, the level of PFOS in the effluent decreased to below PFOS screening levels. At least one facility was laundering items used by manufacturers that were sources of PFOS. These items are now dry cleaned and PFOS concentrations so far have been below screening levels. The exact source of the PFOS at the other four laundry facilities is unknown at this time; however, they all accept garments from various industry sectors that may be the pathway for PFAS entering the waste stream at the laundries.

Septage

Septage waste consists only of food establishment septage, domestic septage, domestic treatment plant septage, sanitary sewer cleanout septage, or any combination of these. Domestic waste is human and/or household waste. Septage hauled by truck to IPP WWTPs as well as wastewater from septage receiving stations and septage pretreatment facilities are included in this industrial type. Five of the six septage haulers/facilities evaluated were found to be sources of PFOS. Septage from those five sources ranged from 13 to 160 ppt PFOS. IPP WWTPs that accept septage are taking septage PFAS loadings into account when developing PFAS local limits (limits for industries).

Leather Tanning and Finishing

Included in this category are one facility classified under 40 CFR Part 425, *Leather Tanning and Finishing*, two that are wholesale tanneries for taxidermists not covered by 40 CFR Part 425, and one which is a research and development facility that manufactures a variety of interiors for automotives but is not categorized under the federal regulation. Two of the facilities were found to be sources of PFOS with concentrations ranging from 14 to 83 ppt. One of the sources is a facility that processes previously tanned hides and skins into finished leather for the automotive industry. According to the facility, they were able to trace the source of PFAS to Teflon-coated parts from the spray booths. The PFOS levels decreased from their discharge after removing the Teflon-coated parts. The other facility has reviewed their chemical inventory, none were identified as the source of PFOS, and their investigation is ongoing into their source of PFOS at the time of this writing. The two wholesale tanneries for taxidermists were not found to be sources of PFOS.

Transportation Equipment Cleaning

Four facilities classified under the federal regulation of *Transportation Equipment Cleaning* (40 CFR Part 442) were sampled as part of the Initiative. One of the facilities was found to be a source of PFOS with concentrations ranging from 15 to 640 ppt. The facility cleans tank trucks and intermodal tank containers which have been used to transport chemical or petroleum cargos.

Soap and Detergent Manufacturing

One Soap and Detergent Manufacturer (no pretreatment standards for this industrial category) found concentrations of PFOS above the screening level ranging from 16-60 ppt PFOS. After conducting in-plant sampling, the factory found that intermittent PFOS discharges originated from their Research and Development laboratory, which was testing cleaning products on various carpet samples and disposing of the resultant wastewater along with soap manufacturing wastewater. This facility now segregates their Research and Development wastewater and sends it offsite for pretreatment and disposal and is no longer considered a source of PFOS by their WWTP.

Industrial Waste Management

Included in this category are two facilities which receive, treat, and dispose of industrial waste. One facility is a source of PFOS with concentrations ranging from 14 to 27 ppt, specializing in non-hazardous liquid waste management. The facility provides services to restaurants, grocery and convenience stores, food processing industries, and automotive industries. The precise source or sources of PFOS within this facility are unknown at this time.

Mixed Manufacturing

One facility which discharges wastewater from stamping and truck body operations is a source of PFOS with concentrations ranging from 16 to 240 ppt. The precise source or sources of PFOS within this facility are unknown at this time.

Paint Formulating

One facility classified under 40 CFR Part 446, *Paint Formulating*, is a source of PFOS with concentrations ranging from 25 to 180 ppt. The facility's products include industrial paints and coatings for a wide range of industrial sectors. The precise source or sources of PFOS within this facility are unknown at this time.

Plastic Product Manufacturers

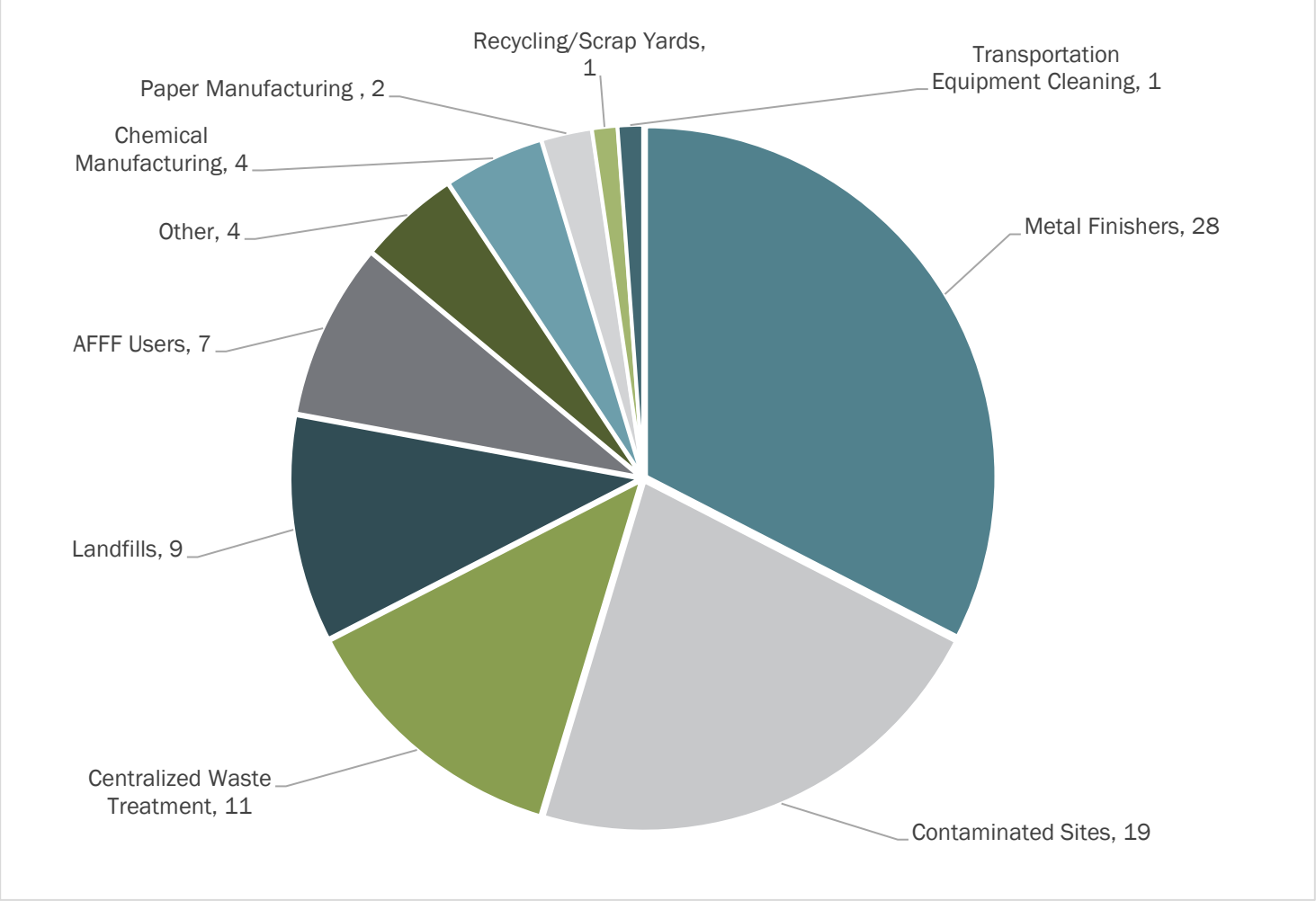
For the purposes of this document, this industry type includes plastic injection molding, unlaminated plastics profile shape manufacturing, plastics molding and forming, and a resealable plastic bag manufacturer. Industries that etch, coat, or plate plastic products (as well as create plastic parts or products prior to plating) are counted as metal finishers rather than this industry type. Six facilities were evaluated within this category, with four monitored for PFAS. None of the plastic product manufacturers were determined to be sources of PFOS.

PFOS TREATMENT AND REDUCTION

EGLE has encouraged pretreatment and reduction at the source, since it is generally more efficient and effective to treat or reduce pollutants at the lower volume, concentrated source than to treat the higher volume, more dilute wastewater at the WWTP. At least one WWTP in Michigan tried to augment its treatment for PFOS by increasing the powder activated carbon dosing in its secondary treatment tanks from 4,460 lbs/day to 7,400 lbs/day, but the effort was not determined to significantly reduce effluent PFOS. To date, all effective treatment or reduction has been conducted at the source rather than at the municipal WWTP.

EGLE currently counts 86 sources of PFOS have installed pretreatment and/or conducted other activities to reduce PFOS discharged to WWTPs. These activities include cleaning or replacement of equipment, disconnecting contaminated tanks/pipes/sewers/process lines, and/or reducing or eliminating discharges to specific WWTPs. Figure 7 below shows the number of facilities by industry sector or type that have taken part in PFOS pretreatment and reduction activities, including 28 metal finishers, 19 contaminated sites, 11 centralized waste treaters, 9 landfills, 7 AFFF users, 4 chemical manufacturers, 4 others, 2 paper manufacturers, 1 recycling/scrap yard, and 1 transportation equipment cleaner. Other industrial sectors that have installed pretreatment or conducted cleaning/reduction activities include a food industry drain cleaner, a waste to energy facility, automotive mirror production, and aluminum forming. In general, industries with existing pretreatment for other pollutants installed pretreatment for PFOS more readily.

Figure 7. PFAS Pretreatment/Reduction by Industry Type, Number Each Sector

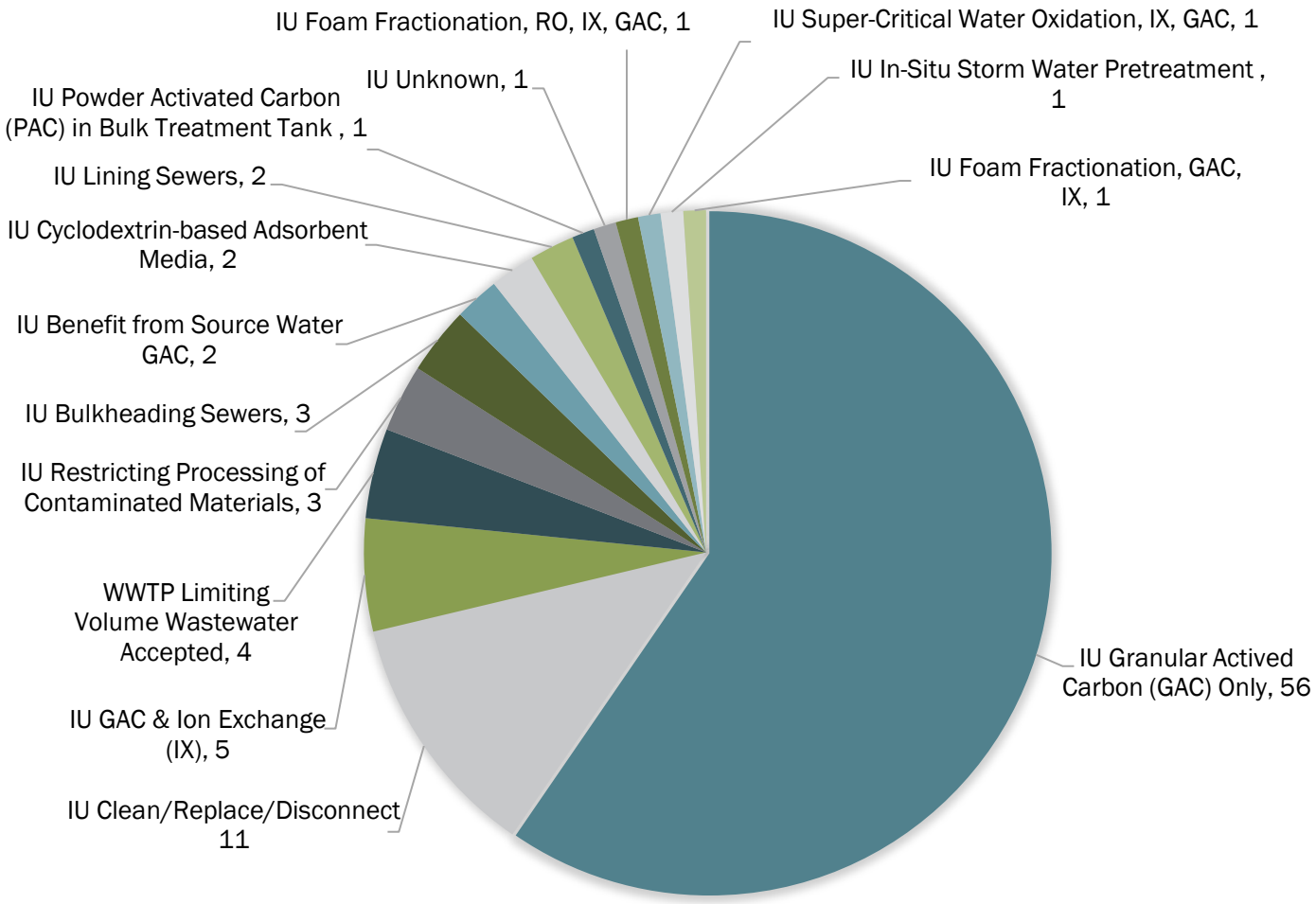


As seen in Figure 7, PFOS is being managed at the source by both pretreatment and/or reduction efforts at 82 facilities in Michigan. For complex facilities with higher concentrations of PFOS, pretreatment has generally been needed to reduce PFOS to acceptable levels. Pretreatment has been installed at the source for discharges ranging in volume from 5,000 gallons discharged four times a year to 400,000 gallons per day. These initiatives have resulted in significant PFOS reductions in WWTP effluent and biosolids. See Table 3 for highlights in source reduction under the IPP PFAS Initiative.

A variety of pretreatment systems and/or reduction efforts have been used at PFOS sources, both by industries and WWTPs, as shown in Figure 8. Note that the Methods in Figure 8 have been implemented by facilities discharging PFOS unless otherwise noted. The 86 industrial users (IUs) discussed above, joined by 4 WWTPs, have employed 94 pretreatment or PFOS reduction methods. Note that some facilities have used more than one pretreatment or reduction method and are therefore counted more than once. For example, one facility did extensive cleaning and is also restricting the processing of parts that were believed to be contaminated and is therefore counted twice. In addition,

the count includes temporary pretreatment systems, such as those used for dewatering during construction activities. As of the writing of this report, the top three pretreatment/reduction methods are granular activated carbon (GAC), cleaning/replacement and/or disconnection of contaminated equipment or processes, and GAC and ion exchange (IX). The remainder of this section discusses the PFOS pretreatment and reduction methods in more detail.

Figure 8. PFAS Reduction Methods, by Number of Facilities Using



GAC pretreatment systems are currently predominant at 60% (56) of the 94 pretreatment/reduction methods. GAC is typically used as a filter in a series of two or more tanks. Change out of GAC media may be needed frequently to control PFOS levels, and there have been issues with media fouling due to other pollutants in wastewater (e.g. iron) and interference with other treatment chemicals used, such as polymers used as coagulants.

Other methods have been successfully used to reduce PFOS discharged to WWTPs. In less complicated facilities and situations, especially those without extensive contamination and/or relatively lower levels of PFOS, cleaning, replacing contaminated equipment, and disconnecting contaminated processes has been effective. As of the writing of this report, 12% (11) of facilities with successful PFOS reduction cleaned and/or replaced equipment and/or disconnected contaminated process lines.

It should be noted that at least two chrome platers with high levels of PFOS conducted extensive cleaning of tanks, pits, and equipment associated with their plating lines. Both efforts may have resulted in some PFOS reduction, but pretreatment remained necessary prior to discharge. These facilities are not counted within the "clean, replace, disconnect" category in Figure 8 since pretreatment is the primary method of PFOS reduction. Cleaning may be problematic at industries with high concentrations of PFOS and complicated systems, since PFOS may be found in etch tanks, plating tanks, rinse tanks, secondary containment pits, parts racks, air pollution control equipment (which may return contaminated liquids to plating tanks and/or pretreatment systems), and associated pipes, ducts, and valves. In addition, cleaning may not reduce PFOS to acceptable levels, and equipment and surfaces may require replacement. It is expensive to clean and/or replace all affected equipment, especially if done all at once to prevent recontamination.

Five facilities, including 3 centralized waste treaters and 2 landfills, have used GAC followed by an ion exchange system, with ion exchange typically used for "polishing" or final pretreatment. Some facilities have abandoned the use of ion exchange units reportedly due to the success of GAC alone, the additional operational knowledge needed to successfully operate this system, and cost.

Landfill leachate volumes discharged to specific WWTPs have been reduced or eliminated at 4 WWTPs. Two WWTPs who accepted landfill leachate addressed the PFAS loading by limiting the volume of wastewater received each day from the landfill. These WWTPs conducted an informal maximum allowable headworks loading evaluation to determine the amount of leachate they can receive without passing through PFOS above the water quality value. Two other WWTPs stopped accepting landfill leachate altogether to reduce PFOS levels in their effluent.

Unable to find any PFAS use at their facilities, three industries investigated materials that they were receiving from other facilities for processing and concluded these items were their PFAS source. Two metal finishers concluded that parts they were accepting from specific customers were contaminated and stopped accepting them. An industrial laundry suspected that gloves from certain customers (likely metal finishers known to be sources of PFOS) and switched to dry cleaning the items to reduce PFOS in wastewater discharged to the WWTP.

Three facilities addressed PFOS-contaminated groundwater that was infiltrating into sanitary sewers by bulkheading sections of the sanitary sewer. In one case, contamination was near the end of a sewer line owned by the facility that has limited discharge and can be hauled for disposal. This sewer user subsequently lined the sanitary sewer to prevent infiltration of contaminated groundwater and is now planning to reroute the sewer to avoid the contaminated area. In the other situation, a large, vacant contaminated site was able to bulkhead a sewer segment in an area with significant contaminated groundwater infiltration. Two other facilities lined leaky sanitary sewers to prevent PFOS-contaminated groundwater from infiltrating. It should be noted that bulkheading and lining sanitary sewers will require maintenance and may be a temporary measure, since contaminated groundwater may travel and find a way to enter downgradient sanitary (or storm) sewers if the source is not cleaned up.

Two facilities' effluent was positively impacted by its source water being treated by GAC, one treated by their municipality and the other their own private well.

Two chrome platers are now using cyclodextrin-based adsorbent media to treat their effluent for PFOS.

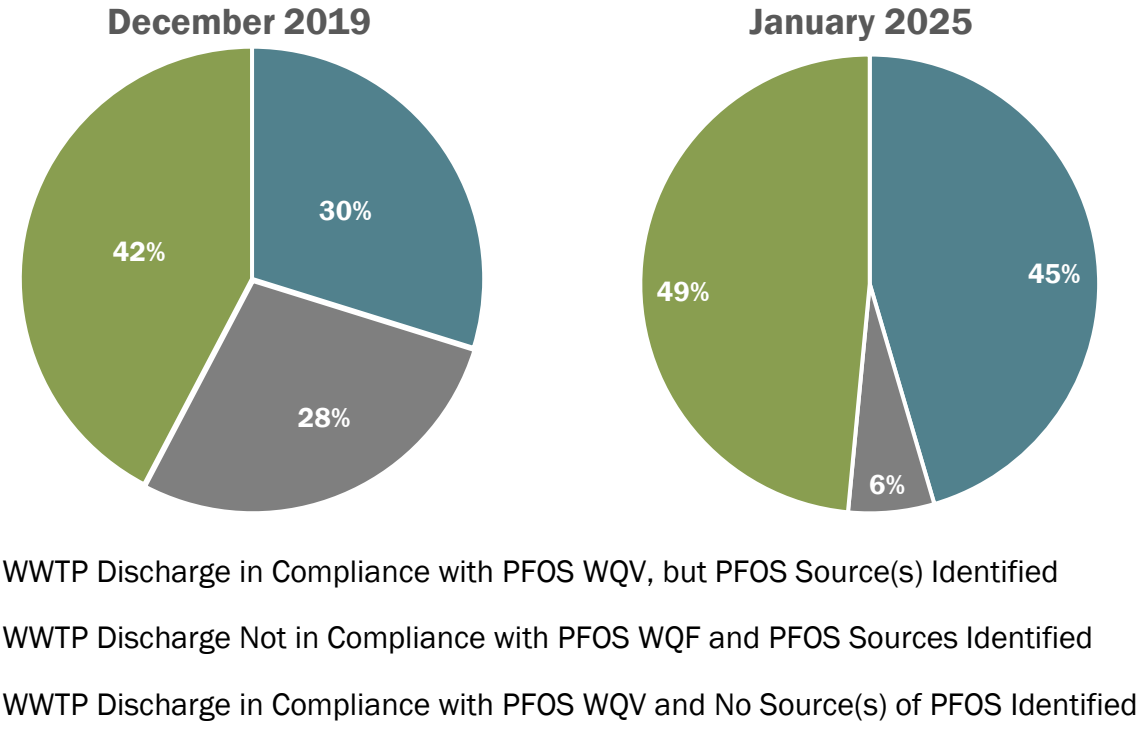
One facility, a chrome plater, added powdered activated carbon or PAC to their bulk pretreatment tanks prior to their filter press. This same facility also benefited by having treatment installed on the water source used in their process.

A number of PFOS pretreatment technologies are unique in Michigan. The facility mentioned in the petroleum refining section under AFFF use above is using an in-situ treatment technology installed near an open-air stormwater drain to address contaminated stormwater before it enters a combined sewer system. One CWT is using foam fractionation to treat landfill leachate, which is followed by GAC, reverse osmosis, and an ion exchange system if test results show further pretreatment is needed. A landfill has installed a foam fractionation, GAC, and ion exchange system to treat their leachate. Another is processing waste AFFF with Super-Critical Water Oxidation, ion exchange resin, and GAC. One facility has not disclosed its pretreatment type.

EFFECTIVENESS OF IPP PFAS INITIATIVE

Through the IPP PFAS Initiative, EGLE has successfully identified WWTPs that received PFOS from industrial and non-domestic wastewater dischargers. EGLE has incorporated the IPP PFAS Initiative requirements into NPDES permits as they are reissued and effectively worked with WWTPs that have exceeded the PFOS water quality value to implement source reduction to decrease the PFOS concentrations in the influent, effluent, and biosolids/sludge. About two years into the start of the IPP PFAS Initiative, 28% percent of the IPP WWTPs were exceeding the PFOS WQV at some point in time and had identified at least one PFOS source. Seven years into the implementation of the IPP PFAS Initiative, the percentage of IPP WWTPs in exceedance of the PFOS WQV has dropped to 6% (Figure 9).

Figure 9. IPP WWTP Compliance Status with the PFOS Water Quality Value (WQV) December 2019 vs. January 2025



Seven years into implementation, there is significant evidence to support that utilizing the established authorities under the IPP to identify and control industrial and non-domestic sources of PFAS (specifically PFOS) to WWTPs is highly effective at reducing the discharge of this pollutant into the environment. Key to this effort is the existence in Michigan of enforceable water quality values for PFOS, PFOA, PFBS, PFHxS, and PFNA, with PFOS as the regulatory driver. Source reduction efforts have resulted in substantial drops in PFOS concentrations being discharged at the WWTPs as shown in Table 3. Likewise, there have been corresponding reductions in PFOS concentrations in biosolids.

Table 3. Substantial Reductions in PFOS concentrations at IPP WWTPs

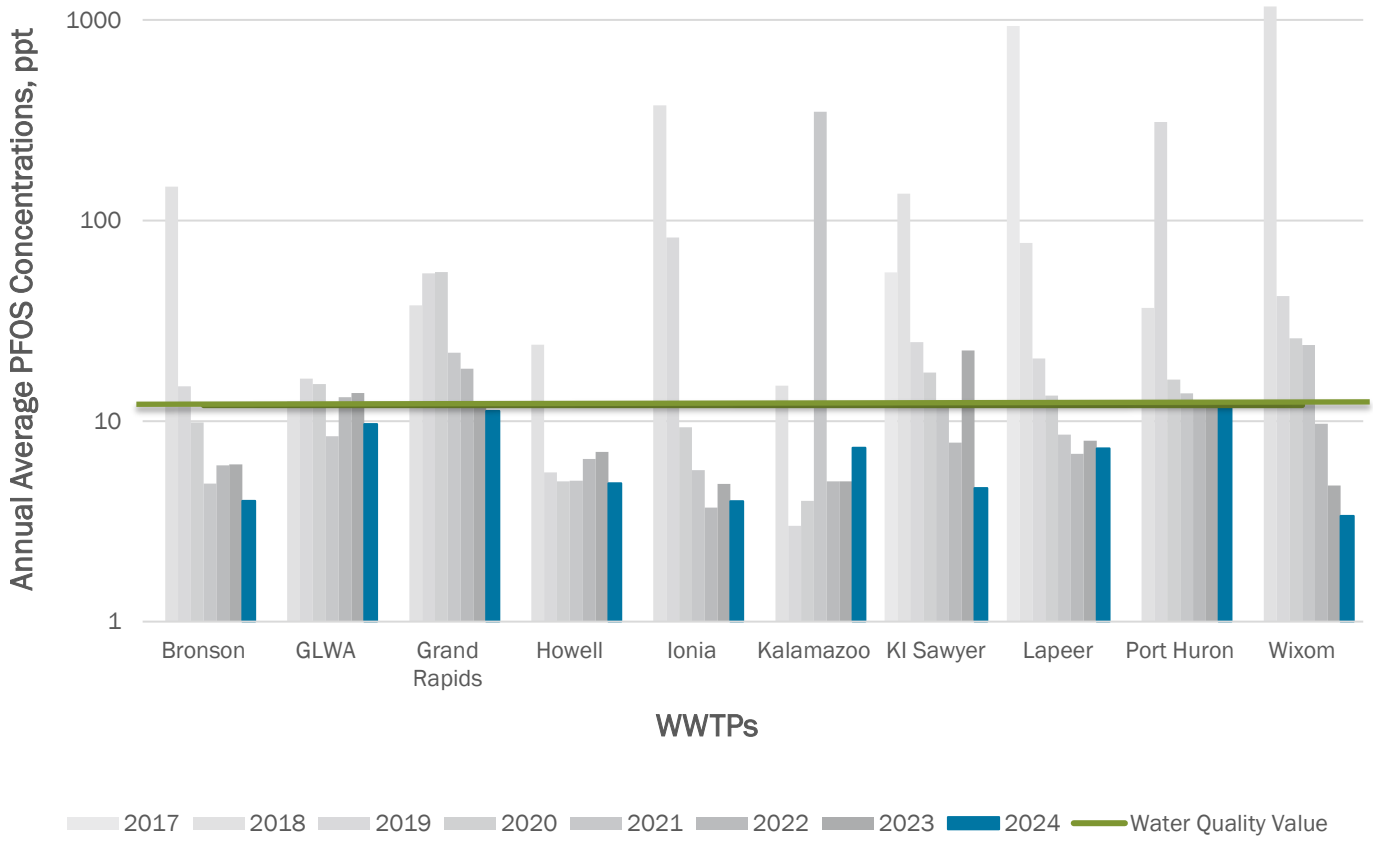
Municipal WWTP	PFOS, Effluent (ppt, most recent**)	PFOS Reduction in Effluent (highest to most recent)	PFOS, Biosolids (ppb, most recent**)	PFOS Reduction in Biosolids (highest to most recent)	Actions Taken to Reduce PFOS
City of Lapeer	5.1	99%	31	99%	Treatment (GAC) at source (1)
City of Wixom	3.1	99%	17	99%	Treatment (GAC) at sources (2)
City of Port Huron	13*	99%	17	78%	Elimination of PFOS sources (3)
City of Grand Rapids	6.4	98%	NA	NA	Treatment (GAC) at sources (13)
City of Bronson	2.67	99%	27	97%	Treatment (GAC) at source (1)
Ionia Regional Utilities Authority	<2	99%	18	99%	Treatment (GAC) at source (1)
City of Kalamazoo	3.5	99%	NA	NA	Treatment (GAC) at sources (2), change water supply
Marquette County – K. I. Sawyer	<3.7	99%	47	99%	Eliminate leak AFFF, sewer cleaning, haul impacted wastes
City of Howell	4.6	96%	14	78%	Treatment (GAC) at source (1)
Great Lakes Water Authority	7	87%	3.8	68%	Treatment (GAC) at sources (16)
City of Belding	3.1	78%	1	56%	No longer accepting landfill leachate
City of Warren	7.61	52%	NA	NA	Treatment (GAC) at sources (3)

* Greater than Water Quality Value

**Data and information received as of January 30, 2025

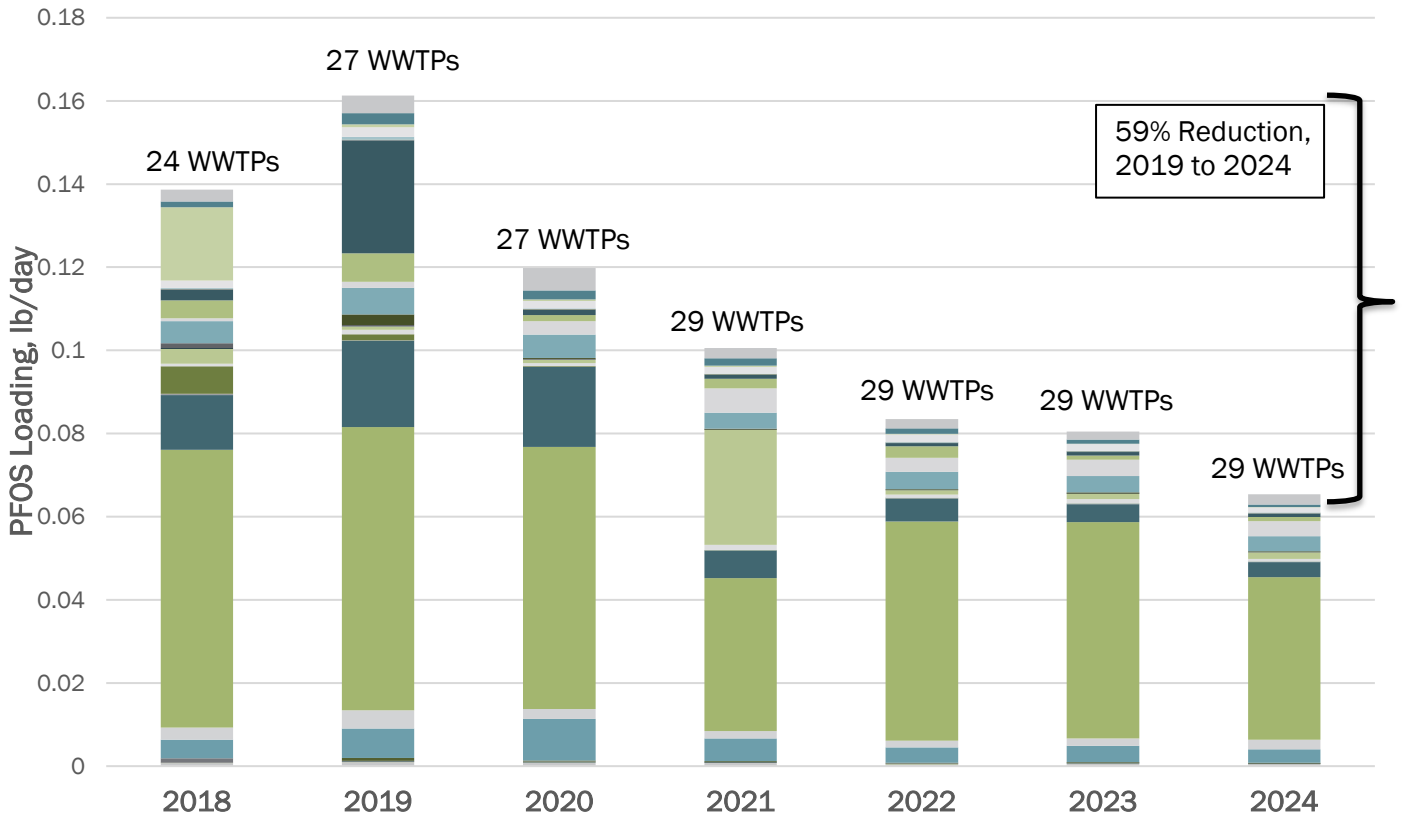
Figure 10 shows the annual average PFOS concentration reductions from 2017 to 2024 for ten of the WWTPs in Table 3. The chart shows the impact of ongoing efforts to reduce PFOS in effluent as well as setbacks, such as spills or recontamination, that sometimes occurred. Note that the chart is shown in log scale so that the impacts at each WWTP may be viewed. Please be aware that this chart shows annual average PFOS concentrations for WWTPs that vary in annual average flow from 180,000 to 494,000,000 GPD and does not reflect loadings discharged. PFOS loadings discharged for a larger number of WWTPs are explored in Figure 11.

Figure 10. Effluent Annual Average PFOS Concentrations, 10 IPP WWTPs (log scale)



Annual average PFOS loadings for WWTPs that have exceeded WQVs have been reduced by 59% from 2019 to 2024 as shown in Figure 11. The number of WWTPs known to be discharging effluent greater than WQVs over that period increased from 24 to 29 as additional data was gathered. Figure 11 shows the impact of additional PFAS data collection, spills, and (most importantly) source reduction efforts over time. WWTPs with only one PFOS exceedance that was not replicated in ongoing monitoring and no source reduction was conducted to explain the exceedance were not included.

Figure 11. PFOS Loading Reduction at IPP WWTPs Discharging to Surface Waters from 2018 to 2024



ONGOING EFFORTS AND NEXT STEPS

Implementation of IPP PFAS Controls

One tool a WWTP has to control the discharge of industrial wastewater containing PFAS is to develop technically based local limits. Local limits serve as concentration or mass-based effluent limit for various pollutants of concern which applies to the discharge of an industrial user to the sanitary sewer system. The development of a local limit for PFOS allows for a WWTP to determine how much PFOS loading from an industrial source it can receive and be in compliance with the WQV at their effluent discharge point. These local limits ultimately are enacted in an industrial user's discharge permit. Establishing a local limit also provides industrial sources a target level if additional pretreatment controls are needed prior to the discharge into the sanitary sewer. It is important to note that there are some IPP WWTPs which have been unable to pinpoint an industrial source of PFAS but are experiencing periodic exceedances of the PFOS WQV. In these situations, the development of a PFOS local limit is not warranted. These IPP WWTPs will need to continue their investigation of their collection system.

NPDES Permitting Strategy for PFAS

To address PFAS in municipal wastewater, EGLE developed a Municipal NPDES Permitting Strategy for PFAS. The goal of the strategy is to continue to identify, reduce, and eliminate PFAS at WWTPs. This strategy includes requirements for ongoing monitoring, reporting, and regulation of PFAS at WWTPs authorized to discharge under a NPDES permit. Going forward, EGLE will evaluate and adjust the permitting strategy according to ongoing research on this emerging contaminant as treatment technologies are improved and more effective best management practices are developed. The strategy was recently updated in November 2024. Read more about EGLE's **Municipal NPDES Permitting Strategy for PFAS**.

Land Application of Biosolids containing PFAS Interim Strategy

Through implementation of the IPP PFAS Initiative and additional statewide studies, the WRD was able to identify six WWTPs with high PFOS concentrations in their WWTP discharge and biosolids/sludge and prohibit land application from those facilities until sources of PFOS are controlled and concentrations in the residuals decrease. Screening of agricultural fields that received biosolids applications found significantly lower PFAS concentrations in various environmental matrices (soils, surface waters, etc.) associated with WWTPs with lower levels of PFAS in their biosolids as compared to those with elevated levels. Beginning in 2021, WRD has required WWTPs to sample their biosolids prior to land application and meet certain requirements. The strategy was updated in 2024 to include requirements for sampling prior to land application, notification of results to EGLE and farmers/landowners, and mitigation if necessary, depending on concentrations. Industrially impacted biosolids are prohibited from being land applied. To learn more about this effort and EGLE's statewide studies of municipal wastewater and sludge/biosolids, see the webpage **Michigan Biosolids PFAS-related information and links**.

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INTEROFFICE MEMORANDUM

TO:	Mayor Van Dorp and City Council Members
FROM:	Kevin Plockmeyer, ACM of Infrastructure/City Services and Finance
SUBJECT:	Community Enhancement Program
DATE:	September 4, 2026
CC:	City Council Work Study Agenda Items September 8, 2026

Background

At City Council's last meeting, the topic of the Community Enhancement Program was brought to Council's attention. It was indicated that staff would provide Council with an update of the program and where we stand. We intend for this memo to serve as an update to Council. We are not requesting any action at this point in time but want this memo to serve as a springboard for future conversations.

What the Community Enhancement Program Is

The Community Enhancement Program, or CEP, came out of the Macatawa Area Coordinating Council's Service Delivery Committee following a broader "Future Search" collaboration involving local governments, schools, nonprofits, and the private sector. Its basic premise was that certain assets serve the entire Holland/Zeeland area and that the participating communities could accomplish more by jointly supporting those assets than by addressing them independently.

The stated purpose of CEP is to support efforts that serve a public purpose and have an enduring positive effect on the quality of life and economic vitality of the greater Holland/Zeeland community. The committee initially identified approximately 30 regional assets and evaluated them based on factors that included:

- Public availability
- Regional recognition as a landmark
- Ability to attract or retain residents
- Ability to attract local and non-local visitors
- Economic-development impact
- Historical or cultural significance
- Environmental value
- Recreational value
- Educational value

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After evaluating the assets, the committee also considered whether collective action by the participating communities could make a meaningful difference. Based on that review, the following 12 assets were identified as potential candidates for regional support:

- Windmill Island Gardens
- Big Red Lighthouse
- Felt Mansion
- Holland Area Arts Council
- Dekker Huis Museum
- New Groningen School Museum
- Ottawa Beach Pump House Museum
- Holland Symphony Orchestra and Holland Chorale
- Macatawa Greenway Network
- The rural community, including recognition and education regarding the agricultural community's contributions to the area
- Regional nonmotorized pathway network
- Harbor dredging and waterfront enhancements

Other highly ranked assets included Holland State Park, Lake Michigan and the adjoining dunes, and Hope College. These were not included among the 12 funding candidates because they were considered to be operating from a position of strength and were not believed to require assistance through CEP. The July Fourth fireworks and Lake Macatawa/Macatawa Watershed were also highly regarded but were removed from further consideration because they were already receiving support on a regional basis.

Importantly, CEP is not simply an annual grant program in which each community receives its contribution back. It is intended to create a regional pool that can support projects benefiting regional assets. The framework allows projects that maintain or enhance an asset and provide a benefit to the general public. It also encourages projects that connect multiple assets and leaves room for unforeseen regional opportunities.

How the Funding Model Works

The original funding formula deliberately used several factors rather than relying only on population. The formula included:

- A population component of $0.20 per capita
- A base contribution of $2,150 for each participating community
- An additional $2,000 from communities with a taxable value greater than $500 million
- An adjustment recognizing the different property-tax-levying authority of cities and townships

Under the tax-levying adjustment, general-law townships contributed $100, charter townships contributed $500, and cities contributed $1,500. Under the overall formula, Zeeland's annual contribution was calculated at $6,775. The MACC also committed $25,000 from its reserves to

provide initial funding when the program was established. Zeeland staff recommended participating with an annual contribution of $6,775 beginning in Fiscal Year 2017-18.

Governance is regional as well. Each contributing jurisdiction appoints one representative to the CEP governing board and receives one vote. The MACC provides administrative coordination for the program. The framework recognized that sustained participation by the member communities would be important to creating a meaningful regional funding source.

Zeeland's City Council Decision Points

On November 7, 2016, Zeeland City Council formally approved participation in CEP and the City's annual contribution under the original framework was established at $6,775. That amount has essentially remained Zeeland's baseline commitment.

In August 2024, Council was advised that CEP was asking participating communities to consider additional contributions. A number of the other communities were reportedly considering the use of remaining American Rescue Plan Act funds for those contributions. Zeeland had already committed its ARPA funds to the downtown snowmelt project. That use of ARPA funding allowed the City to avoid assessing downtown businesses for the installation costs associated with the snowmelt improvements. Council agreed that the request for additional CEP funding deserved further discussion.

The issue returned during Council's September 2024 discussions. The historical CEP framework was provided again so Council could revisit the program's purpose, structure, and original funding arrangement. The question of additional CEP funding also surfaced during the 2025 goal-setting process. Staff subsequently brought the matter back to Council in February 2025. The specific supplemental contribution under discussion was $50,000. Staff's memorandum noted that Council's previous sentiment was not to provide the additional $50,000 because Zeeland had already used its ARPA allocation for snowmelt while some other CEP members still had ARPA funding available for CEP.

On February 17, 2025, City Council formally voted to respectfully deny the request for additional Community Enhancement funding for Fiscal Year 2024-25. The vote was unanimous. That decision did not withdraw Zeeland from CEP and did not eliminate the City's regular annual contribution. It was a decision not to make the extraordinary additional contribution.

Where Zeeland Is Today

Zeeland remains a CEP participant and continues funding the program at the original $6,775 annual level. The adopted Fiscal Year 2026-27 budget includes a $6,775 appropriation for the Community Enhancement Framework. Therefore, there has been no change in the City's regular participation following the February 2025 decision.

No immediate action is required. Zeeland remains a CEP participant at the original $6,775 annual funding level. The policy question for City Council is whether it remains comfortable with the existing annual participation or whether it wants to revisit the possibility of providing

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funding beyond the amount established under the original framework. For Council's reference, attached to this memo are copies of the memos from 2024 and 2025 to aid in your research on the topic. We look forward to Tuesday's discussion.

Kevin Plockmeyer, ACM of Infrastructure/City Services and Finance

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CITY COUNCIL MEMORANDUM

TO: Mayor Klynstra and City Councilmembers

FROM: Tim Klunder, City Manager

SUBJECT: Community Enhancement Framework Funding

DATE: February 12, 2025

CC: February 17 Council Agenda

BACKGROUND: During the City Council goal setting sessions, the question of providing the Community Enhancement Framework (CEP) with additional funding came up. While this was not added to Council's 2025 Strategic Action Plan, a commitment was made to have this on a future work/study session. That "future" meeting is happening on Monday, February 17, 2025.

This was an item that City Council actually discussed at your September 3, 2024 meeting (material provided at that meeting is attached). This discussion was the result of the question of extra funding being raised at your August 19, 2024 meeting. I was on medical leave during this period of time, but my understanding is the sentiment of City Council was to not provide an additional $50,000 to the CEP as the City of Zeeland had already dedicated its ARPA money to the downtown snowmelt project – there were indications that some of the other communities were considering the use of their ARPA funds to provide additional funding to CEP.

Although those discussions took place last year, no official action of City Council occurred. Thus, there may still be some uncertainty to the City of Zeeland's desire to provide additional funding to CEP. While it has been suggested that this be an item of discussion at the upcoming FY 25/26 budget discussions (not an inappropriate suggestion), we presume that CEP may want an initial response sooner.

Communities that have provided an additional $50,000 to the CEP are the City of Holland, Holland Charter Township, Laketown Township, and Park Township. The City of Zeeland

has not contributed additional funds. For reference, minutes of the last CEP meeting and project funding they supported last year is also attached.

The city has a long history of supporting regional efforts. This includes participation in the MACC, Airport Authority, Project Clarity, Macatawa Greenway, Lakeshore Advantage, the CEP since its inception, and others. We also support numerous other non-profit efforts in the Zeeland community (see attached budget for a list of supports in FY 24/25). As we are aware, there is never enough funding to support all of the requests.

If City Council is desirous to consider an additional request during the 25/26 budget, our team can certainly assist with that assessment. Again, that decision would have to come with direction on if City Council is desirous to increase its level of support for all non-profits beyond the $55,000 budget in FY 24/25, or if it would prefer to reassess the $55,000 allocation in FY 25/26.

In the meantime, our leadership team would suggest that City Council respectfully deny a request to provide additional funding from the FY 24/25 budget as (1) annual funding contributions have already been budgeted and (2) the city's ARPA funds were previously dedicated to the city's snowmelt project.

RECOMMENDATION: Move to respectfully deny a request to provide additional Community Enhancement Funds in FY 24/25.

Timothy R. Klunder, City Manager

ATTACHMENT 1

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

INTEROFFICE MEMORANDUM

TO: Mayor Klynstra and City Council Members

FROM: Kevin Plockmeyer, ACM of City Services/Infrastructure and Finance

SUBJECT: Community Enhancement Program

DATE: August 30, 2024

CC: City Council Work Study Items September 3, 2024

At City Council's last meeting, the topic of making an additional contribution to the Community Enhancement Program (CEP) was brought to your attention. At Monday's meeting, we would like to engage City Council in a conversation regarding this request. The remainder of this memo outlines the history of our involvement in the CEP and the background of the request.

Since Fiscal Year 2018, the City of Zeeland has been participating in the Community Enhancement Program. Per the attached memo and framework documentation, the CEP was established to "I*dentify and evaluate regional assets that contribute to making our community a wonderful place to live, work, play and learn. A driving reason for creating this Community Enhancement Program (CEP) Framework is the supposition that we can improve and support these regional asses by working together and funding appropriate projects*." The Community Enhancement Program and its framework went through a great deal of vetting prior to its approval and identified regional assets that could be positively impacted by this program and defined the funding model for this support. (I would encourage Council to review the framework as it has been some time since we have discussed the program.) Since its inception, the City of has contributed to this program per the amounts defined in the framework in the amount of $6,775 in Fiscal Years 2018-2021 and $6,794 in Fiscal Years 2022 – 2024.

As included in the attached matrix, the funds have been used to benefit a number of organizations, and there are never enough funds to satisfy all of the funding requests. Since this is the case, a request was made to the member organizations (Cities of Holland and Zeeland, Townships of Holland, Park, and Laketown) for additional contributions of $50,000 ranging from a one-time contribution to annual contributions for three years (the contribution request is attached). Based on feedback we have received from Jason Latham at the Macatawa Area Coordinating Council, all other members have elected to make this additional contribution.

From a budgetary perspective, the request for additional funding request came on the heels of the receipt of ARPA funding by the member organizations and the thought process by the CEP Committee was to use said funding for this request. As Council is aware, we dedicated our ARPA funding for our Main Avenue project, so this additional contribution would come need to come

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from alternative funding sources, and we have not figured this contribution into the FY25 budget.

At Monday night's meeting, we are not seeking formal Council action, but we would like to engage you in a discussion regarding this additional contribution request.

Kevin Plockmeyer, ACM of City Services/Infrastructure and Finance

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CITY COUNCIL MEMORANDUM

TO: Mayor Klynstra and City Councilmembers

FROM: Tim Klunder, City Manager

SUBJECT: Approve Participation in the Community Enhancement Program and Appoint a Representative to the Program

DATE: November 4, 2016

CC: November 7th Council Agenda

BACKGROUND: At various times throughout the development of the Community Enhancement Program Framework document (attached) I have informed City Council of the concept of developing a funding mechanism for regional assets in our community. Attached is the final framework that was developed by the MACC Service Delivery Team. The Service Delivery Team is a committee of the MACC Policy Committee that was developed following a Future Search Program that brought units of government, non-profits, schools and the private sector, together a number of years ago to find ways that we can continue to collaborate with one another.

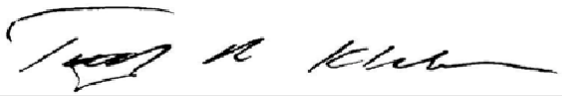
It is my understanding that the report was presented to the MACC Policy Committee (Mayor Klynstra is our rep) at their last meeting and the MACC Policy Committee endorsed the program and they approved using $25,000 of reserves from the MACC to seed the program. At Monday's meeting I am asking City Council to make a decision to participate in the program and to appoint a rep to the committee that will oversee the program.

The document is relatively short so I will not expound a great deal on the program within this memo. In summary, the program looks to "identify and evaluate regional assets that contribute to making our community a wonderful place to live, work, play and learn. A driving reason for creating this Community Enhancement Program (CEP) Framework is the supposition that we can improve and support these regional assets by working together and funding appropriate projects."

The list of current regional assets included in the document certainly went through a vetting process with a good deal of debate, as did the funding mechanism. While the end result may not be perfect, I do believe in the concept of supporting regional assets the larger community benefits from. Thus, staff's recommendation is that we do participate in the program with the understanding that our initial annual contribution would $6,775. We would suggest that our first payment come in the upcoming 2017/2018 Fiscal Year.

Finally, the MACC would like for us to appoint a representative that would serve on the committee that will oversee the Community Enhancement Program. Given that I have been involved with the development of the program framework I am willing to serve in this capacity. However, if there is a member of City Council that would have an interest in this I feel it would be appropriate to appoint that Councilmember as our representative.

RECOMMENDATION: Staff recommends that City Council move to participate in the Community Enhancement Program as proposed in the attached document and to appoint Tim Klunder as the city's representative to the program.



Timothy R. Klunder, City Manager

COMMUNITY ENHANCEMENT PROGRAM FRAMEWORK

Prepared by:

Macatawa Area Coordinating Council
Service Delivery Committee

Macatawa Area
Coordinating Council
A Cooperative Effort Among Units of Government

Questions or comments concerning this document can be referred to:

Steve Bulthuis, Executive Director

(616) 395-2688 sbulthuis@the-macc.org

COMMUNITY ENHANCEMENT PROGRAM FRAMEWORK

Prepared by:

Macatawa Area Coordinating Council
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Macatawa Area
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A Cooperative Effort Among Units of Government

Questions or comments concerning this document can be referred to:

Steve Bulthuis, Executive Director

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Table of Contents

Community Enhancement Program: To support efforts that serve public purposes (common good) and will have enduring positive effect on the quality of life and economic vitality of the greater Holland/Zeeland community.

Background

It is recognized that the 211 square-mile Holland/Zeeland area, home to approximately 124,000 people, offers a wonderful quality of life to its residents. Some of the area's most desirable qualities and characteristics, such as Lake Michigan and the adjoining dunes, are not of our own doing. Other qualities such as our strong industrial base, healthy urban and productive agricultural areas are the result of much hard work, ingenuity and optimistic long-range investment.

The desire to maintain, and enhance, our quality of life and economic vitality has lead the Service Delivery Committee (SDC) of the Macatawa Area Coordinating Council (MACC) to identify and evaluate regional assets that contribute to making our community a wonderful place to live, work, play and learn. A driving reason for creating this Community Enhancement Program (CEP) Framework is the supposition that we can improve and support these regional assets by working together and funding appropriate projects.

Committee members identified thirty assets and then went through an evaluation process ranking them based on nine attributes:

Publicly Available – Facility/service available to the general public. Fees and access limitations may apply.

Landmark – Creates regional awareness. Asset recognized by majority of residents if shown a picture and asked if they know what/where the picture represents

Attracts new/retains existing residents – Asset is a positive factor in the location decision of a prospective resident or keeping a resident in the area

Destination – Attracts both local and non-local visitors

Economic development impact – Asset makes a significant contribution to the creation of jobs and/or significantly stimulates the local economy

Historical/cultural significance – Recognized as historically or culturally significant by local residents

Environmental value – Provides environmental benefits to local residents through its very essence/being

Recreational value - Provides recreational benefits to local residents

Educational value - Provides educational benefits through programming, interpretative signage, etc. User gains new information/knowledge from experience.

After scoring each of the assets against these nine attributes, the ranked list, based on average score, was reviewed and a filtering question posed: ""Can the collective action of the nine cities/townships represented on the committee make a difference for these regional assets?". It was determined that some of the highest ranked assets on the list: Holland State Park, Lake Michigan/Dunes and Hope College would not be candidates that require attention as they are already operating from a place of strength. Others, such as the July Fourth Fireworks and Lake Macatawa/Macatawa Watershed were already being supported on a regional basis and were removed from further consideration.

However, it was determined that twelve of these regional assets could be positively impacted by the collective action of the committee. These are listed below:

- Windmill Island and Gardens
- Big Red Lighthouse
- Felt Mansion
- Holland Area Arts Council
- Dekker Huis Museum
- New Groningen School Museum
- Ottawa Beach Pump House Museum
- Holland Symphony/Holland Chorale
- Macatawa Greenway Network
- Rural Community (recognition/education/appreciation of rural/ag. contributions to area)
- Nonmotorized Pathway Network
- Harbor Dredging/Waterfront Enhancements

Financial Support – proposed funding model

Financial support is one way to maintain and enhance regional assets for the betterment of the area's residents. Seven cities and townships in the MACC area represented on the Service Delivery team, reviewed various funding scenarios to collectively fund an account at a level of $50,000 to support regional assets. A funding model was developed comprised of four components:

Population – Each participant contributes $0.20/capita

Base contribution – Each participant contributes $2,150

Taxable value > $500M – Each participant with a taxable value greater than $500M contributes $2,000

Ability to levy property taxes – Different participants have the ability to levy different levels of property taxes. Charter townships have the ability to levy five times the amount of property taxes that General Law townships can levy and cities have the ability to levy three times the amount that Charter Law townships can levy. So participants who are General Law townships contribute $100, Charter Law townships $500 and cities $1,500.

Utilizing the inputs described above, the following funding model was developed:

Community Enhancement Program
Option 8 - Population + Base + Taxable Value + Taxing Ability

Objective: To fund the Community Enhancement Program which seeks to support efforts that serve a public purpose and will have enduring positve effect on the quality of life and economic viatility of the greater Holland/Zeeland community.

Formulas:	Population contribution:	$0.20/capita
	Base contribution:	$2,150/unit
	Taxable Value >$500M:	$2,000
	Ability to levy prop taxes:	$100
		$500
		$1,500

Inputs:	Jurisdicttion	Population*	Pop. Contr. Per Capita $0.20	Base Contr. $2,150	Taxable Value Contr. $2,000	Taxing Ability Contr.	Revenue Generated
	City of Holland	33,742	$6,748	$2,150	$2,000	$1,500	$12,398
	City of Zeeland	5,626	$1,125	$2,150	$2,000	$1,500	$6,775
	Fillmore Township	2,732	$546	$2,150		$100	$2,796
	Holland Chtr Township	37,677	$7,535	$2,150	$2,000	$500	$12,185
	Laketown Township	5,710	$1,142	$2,150		$100	$3,392
	Park Township	18,658	$3,732	$2,150	$2,000	$100	$7,982
	Zeeland Chtr Township	10,762	$2,152	$2,150		$500	$4,802
		114,907	$22,980	$15,050	$8,000	$4,300	$50,330

* 2015 Census Bureau estimates

It is hoped that the funding made available through the CEP board can be used to leverage financial resources from other regional entities (e.g. West Coast Chamber, Holland Visitor and Convention Bureau, HZ Community Foundation), state/federal sources or private entities to achieve a deeper impact.

Should the CEP move to implementation the MACC will take responsibility for collecting, holding and disbursing funds at the direction of the CEP governing board.

Governance

It is expected that each contributing jurisdiction would appoint one representative to the CEP governing board and that representative would be eligible to cast one vote. Other governing procedures (bylaws, frequency of meetings, etc.) would need to be determined. It is recognized that sustained participation on the CEP is necessary in order to achieve maximum efficiency and benefit. Administrative matters of the board will be coordinated by the MACC.

Purposes and Uses of Funds

It is the intent to support activities/projects that maintain or enhance the asset and provide a benefit to the general public. Opportunities that allow for the utilization of multiple assets, or group assets together in a mutually beneficial way such as through a joint marketing effort, will be encouraged. Examples of such activities/projects include:

- Capital Projects
- Studies/Best Practice Review (urban/rural topics)
- Speakers on topics of public interest
- Special Exhibits
- Special Events
- Pilot Projects/Demonstrations
- Training

Allocation Process

Members of the CEP governing board will nominate projects for funding. While it is anticipated that the projects will be related to those regional assets noted earlier, it is recognized that unforeseen opportunities will present themselves and will also be considered. Projects will go through an evaluation process to ensure they are eligible from a legal, practical and area benefit standpoint.

Conclusion

This document represents the fifth revision to the CEP framework, and as such is the most current direction for the Community Enhancement Program. While there is likely to be some additional refinement, especially related to governing procedures (bylaws, frequency of meetings, etc.), it is acknowledged that this document represents the intended direction for the funding model, governance, purposes/uses of funds and allocation process.

CEP Exec Summary of Awarded Projects

(as of 12/27/23)

Date	Awardee	Project	$ Requested	$ Awarded	Location of Project if relevant
CY 2020					
3/11/2020	Future Search 2020	develop website, puclication and video for Future Search 2020 communications	$ 5,000.00	$ 5,000.00	
6/17/2020	Historic Ottawa Beach Society	hardware and development of the digital interactive museum display about Lakewood Farm and Zoo and Jenison Electric Park	$ 15,750.00	$ 7,500.00	Park Twp
4/15/2020	Holland Chorale	underwriting the 60th Anniversary Concert (held virtually due to COVID)	$ 5,000.00	$ 2,500.00	
6/17/2020	Holland Historical Trust	hiring summer interns for the museum's summer programs Spark Lab innovation center and Meet Up and Eat Up lunches (modified due to COVID)	$ 5,000.00	$ 5,000.00	
3/11/2020	Hope College Geological & Environmental Dept	collect and store fish samples from Lake Macatawa for future analysis	$ 6,000.00	$ 6,000.00	
6/17/2020	Tulip Time	defray 2020 budget shortfall caused by cancellation of Tulip time 2020 due to COVID, contingetn upon meeting the goal of $575,000	$ 10,000.00	$ 10,000.00	
CY2021					
6/9/2021	Boys & Girls Club	support the summer migrant programming and meals for children while their parents are working	$ 7,500.00	$ 7,500.00	
3/10/2021	Historic Ottawa Beach Society	completion of digital display funded in CY2020 (see above)	$ 8,000.00	$ 8,250.00	Park Twp
10/13/2021	Holland Chorale	Adventures in Harmony - an all-day clinic for high school singers culminating in a free concert	$ 5,000.00	$ 3,000.00	
6/9/2021	Holland Museum	support Summer Museum Council interns who are interested in pursuing careers in museums or related fields	$ 5,000.00	$ 5,000.00	City of Holland
3/10/2021	Holland Symphony	artist costs, arranger costs for music, travel and housing for the specified Marachi Group to perform at a free community concert	$ 6,000.00	$ 6,000.00	
6/9/2021	ODC Network	construction of the Nature Play Park on Window on the Waterfront	$ 5,000.00	$ 7,500.00	City of Holland
10/13/2021	Park Theatre Foundation	purchase of capitol food preparation/storage equipment	$ 9,438.84	$ 4,000.00	City of Holland
3/10/2021	Ready for School	expansion nof enrichment program for incoming kindergartners this summer	$ 5,000.00	$ 5,000.00	
10/13/2021	Zeeland Historical Society	establishment of a Zeeland Welcome Center for visitors and residents, to be housed in the Dekker Huis Museum	$ 5,000.00	$ 5,000.00	City of Zeeland
CY2022					
8/8/2022	Boys and Girls Club	Migrant Summer Club Program - transportation, academic help, games/activities/art	$ 10,000.00	$ 10,000.00	
1/13/2022	Holland Concert Jazz Orchestra	arranging a Jazz Soloist Competition for area high school students	$ 2,000.00	$ 2,000.00	
10/5/2022	Holland Chorale	the "Painted Piano Project" -- public performances, collaboration between visual and performing art, and ultimate donation to a commuity organization in need of a quality instrument	$ 6,950.00	$ 3,000.00	
3/9/2022	Holland Historical Trust	support Summer Museum Council interns who are interested in pursuing careers in museums or related fields	$ 5,000.00	$ 2,500.00	City of Holland
1/13/2022	Holland Symphony Orchestra	bringing the Mariachi band back to Holland for a free community concert	$ 6,000.00	$ 6,000.00	
1/13/2022	Macatawa Resource Center	purchase/install of equipment for a teaching kitchen	$ 10,000.00	$ 10,000.00	Holland Charter Twp
1/13/2022	Momentum	purchase of a bus to tranport members to/from programming	$ 5,000.00	$ 5,000.00	
10/5/2022	Park Theatre Foundation	attic insulation and wiring	$ 10,000.00	$ 5,000.00	City of Holland
11/21/2022	Park Township	installation of cabling for the proposed camera system at the lighthouse for real time monitoring of the swimming area at Holland State Park	$ 40,000.00	$ 10,000.00	Park Twp
1/13/2022	Park Township Fire Dept	purchase of Aqua eye equipment, a hand-held device used to assist in finding missing persons in the water	$ 3,500.00	$ 3,500.00	Park Twp
1/13/2022	Tulip Time	bringing a new Dutch costume and photography exhibit from the Netherlands	$ 10,000.00	$ 5,000.00	

CY2023					
8/2/2023	Holland Chorale	to help further collaboration in music programming with students at the Boys & Girls Club and/or other high school students, utilizing the Painted Piano donated to the B&G Club	$ 4,341.00	$ 1,600.00	
10/11/2023	Holland Historical Trust	production equipment needed to develop an introductory video for visitors to the Cappon House Visitors Center	$ 4,620.00	$ 900.00	City of Holland
1/18/2023	Holland Symphony Orchestra	underwriting a composer to arrange music for five ethnically and culturally diverse performers at the "Music Unite Us Project" free community concert	$ 6,000.00	$ 3,000.00	
3/15/2023	Holland Symphony Orchestra	underwriting artists, narrator and tech support for two educational concerts for area fourth grade students in the greater Holland area	$ 3,500.00	$ 3,500.00	
8/2/2023	Boys& Girls Club	program materials/staffing and transportation for the Northside Migrant After-School Migrant Summer Club	$ 10,000.00	$ 5,000.00	
10/11/2023	Graafschap Fire Dept	community/responder training and training materials	$ 5,902.00	$ 2,000.00	Laketown Twp
1/18/2023	HEARTSafe Community	costs involved in achieving designation for Holland as a HEARTSafe Community -- equipment/training	$ 6,500.00	$ 6,500.00	City of Holland
8/2/2023	HEARTSafe Community	purchase of PulsePoint technology to integrate with Ottawa County 911 center to alert CPR/AED-trained citizens of sudden cardiac events happening near them	$ 12,500.00	$ 12,500.00	
8/2/2023	Historic Ottawa Beach Society	completion of "Hotel Ottawa: Illuminating Hitory" and "Sparking Change: Innovation of the Electrical Revolution" exhibits at the Pump House Museum	$ 10,000.00	$ 2,500.00	Park Twp
8/2/2023	Holland Steelheaders	placement of the Port Sheldon Buoy, to ensure real-time marine observations on Lake Michiganfor for boaters, fishermen, pier walkers and beach goers	$ 5,000.00	$ 2,500.00	
8/2/2023	Macatawa Area Coordinating Council (MACC)	purchase of three E-bikes for MACC use, to evaluate and verify condition data for non-motorized trails in the greater community	$ 5,000.00	$ 5,000.00	
1/18/2023	Michigan Edge Mountain Biking Association (MEMBA)	building/installation of a shed at Riley Trails to store bikes , helmets , etc. for summer, and trail-grooming equipment for winter	$ 5,000.00	$ 5,000.00	Park Twp
1/18/2023	ODC Network	design/install of an educational and way-finding kiosk at the Poppen Woods trailhead	$ 10,000.00	$ 5,000.00	Zeeland Twp
1/18/2023	Tulip Time	costs of bringing a unique bicycle band from the Netherlands to Tulip Time for a free family event	$ 10,000.00	$ 5,000.00	
		Total to date	**$ 309,501.84**	**$ 209,250.00**	

Enhancing our Region's Quality of Life

November 6, 2023

Attn: Mayor Kevin Klynstra
City of Zeeland
21 South Elm Street
Zeeland, MI 49464

Dear Mayor Klynstra:

Thank you for participating in the Macatawa Area Coordinating Council's (MACC) Community Enhancement Program (CEP) these past five years. The CEP Board grants funding for proposals that serve public purposes (common good) and will have an enduring positive effect on the quality of life and economic vitality of the greater Holland/Zeeland Community. We seek to fund efforts that foster regional cooperation and cohesion.

Current members of the CEP include the City of Holland, City of Zeeland, Laketown Township, Holland Charter Township and Park Township. Several of our members have raised the idea of contributing extra funds to be used for statutorily allowed expenditures to the CEP. Proposals ranged from a $50,000 one-time contribution, to $50,000 annually for three years.

The question was raised whether the CEP could accept contributions above and beyond the required annual membership dues. MACC staff sought a legal opinion on the matter. The response received noted that the CEP Board, although a sub-committee of the MACC Policy Board, acts independently in regards to awarding grants and receiving funds.

Therefore, extra contributions to the CEP are acceptable.

If your governmental unit would like to contribute beyond annual membership dues, please prepare a check made payable to Macatawa Area Coordinating Council, with "for CEP" in the memo section, and mail to Macatawa Area Coordinating Council, 301 Douglas Avenue, Holland, MI 49424.

If you have any questions, please contact your CEP Representative Sally Gruppen or myself at (616) 395-2688, jlatham@the-macc.org.,

We appreciate your interest in assisting us in fostering regional collaboration in the Holland/Zeeland area.

Sincerely,

Jason Latham
Board Secretary, Community Enhancement Program
Executive Director, Macatawa Area Coordinating Council

Cc: Chris Brown, MACC Financial Manager

ATTACHMENT 2

PUBLIC RELATIONS

General Fund
Activity 267

Financial Summary	FY 22-23 Actual	FY 23-24 Budget	FY 23-24 Projected	FY 24-25 Budget	% Change From FY 23-24
Operating Costs	$ 55,395	$ 60,000	$ 60,000	$ 60,000	
Capital Outlay	-	-	-	-	
Total	$ 55,395	$ 60,000	$ 60,000	$ 60,000	0.00%

This activity accounts for promotional activity, other than marketing, of the City as a whole including such things as the Mayor's Coffee, contributions to special events within the City and other promotional gifts.

The expenses accounted for in this budget are outlined below. In total, the Public Relations budget for Fiscal Year 2024-2025 is $60,000.

<u>Community Promotion</u>	
Mayor's Holiday Coffee	$ 500
Promotional Gifts	$ 500
ASCAP Music License	$ 340
BMI (Broadcast Music Inc)	$ 310
Pumpkinfest Parade Candy, Shirts, etc.	$ 500
Christmas Parade Candy, Shirts, etc.	$ 500
Community Foundation Gala	$ 750
Miscellaneous	$ 500
Downtown Trick or Treat	$ 500
<u>Donations</u>	
Zeeland Historical Society	$ 12,000
Pumpkin Festival	$ 6,000
Outdoor Discovery/Macatawa Greenway	$ 5,000
Project Clarity	$ 10,000
Arts Council	$ 2,500
4th July Fireworks	$ 1,342
Tulip Time Festival	$ 500
Neighborhood Connections	$ 5,000
Community Enhancement Framework	$ 6,775
Lakeshore Leadership Council	$ 5,000

ATTACHMENT 3

Enhancing our Region's Quality of Life

Community Enhancement Program Board

January 22, 2025, 8:00 a.m.
Macatawa Area Coordinating Council Office
301 Douglas Ave, MI 49423

CEP Board

Russ TeSlaa, Chair
- Holland Twp
Stephen Spoelhof, Vice Chair
- ParkTwp
Sally Gruppen
- City of Zeeland
Gary Dewey
- Laketown Twp
Jay Peters
- City of Holland

MINUTES

Present: Gary Dewey, Jason Latham (MACC), Jay Peters (via phone), Stephen Spoelhof, Russ TeSlaa, Judy Visscher (MACC)

Absent: Sally Gruppen

I. **Approve October 23, 2024 meeting minutes**

***It was moved by Mr. Spoelhof, supported by Mr. Dewey to approve the October 23 meeting minutes. Motion approved.**

II. **Review new applications**

A. Macatawa Resource Center (MRC) – fund replacement of the MRC sign – asking for **$5,718**

***It was moved by Mr. Dewey, supported by Mr. Peters to approve $5,718 towards replacement of the MRC sign. Motion approved.**

Discussion ensued regarding the MRC in general, and its impact on the greater community. The Board agreed that MRC needs a better, bigger fundraising process. Mr. Spoefhof will get in touch with Disher Design to explore opportunities.

B. Holland Rotary – help fund the Holland Rotary Leaders for the 21st Century Conference – asking for **$10,000**

***It was moved by Mr. Dewey, supported by Mr. Peters to approve $5,000 towards helping fund the 2025 Holland Rotary Leaders for the 21st Century Conference. Motion approved.**

IV. **Administrative**

A. Financial Report - Ms. Visscher reported that we have $183,239.77 available for funding projects as of December 31, 2024, 2024.

B. Update on Extra Monetary Contributions – Ms. Visscher reported that Laketown Township, City of Holland and Park Township have contributed $50,000 each beyond annual dues. Holland Charter Township has relayed that they will contribute $50,000 in January 2025. No response has been received from the City of Zeeland regarding the clarification letter that was sent in October 2024.

C. Election of Officers -

***It was moved by Mr. Dewey, supported by Mr. Peters to**

keep the current officers: Chair Russ TeSlaa, Vice Chair Sally Gruppen and Secretary Jason Latham. Motion approved.

D. Bylaws revision – change annual election of officers from October meeting to January meeting

***It was moved by Mr. Spoelhof, supported by Mr. Dewey to approve changing the CEP bylaws to elect officers annually at the January meeting rather than the October meeting. Motion approved.**

V. **Other**

A. Requested change in use of funds for Park Township water safety project awarded in CY2022, from installation of cabling for a camera system on the lighthouse to installation of a blue kiosk system.

***It was moved by Mr. TeSlaa, supported by Mr. Spoehof to approve the change in project scope requested by Park Township. Motion approved.**

B. Black River naturescape – signage update – Ms. Visscher will check to see if a sign is in place, to let the general public know that the naturescape is available for community children to use. If it isn't, she will correspond with the project coordinators to remind them of the signage requirement stipulated in the award agreement.

C. Update on Fell in Love Farm award progress – Ms. Visscher reported that the applicant has not met the stipulations in the award agreement as of 1/22/25. It was agreed that she will send a letter to the applicant stating that due to no response on the requirements of the award, the award will be rescinded, and a new application will be needed if the project is still valid.

D. Reports to CEP member governments – The CEP Board requested that reports of projects awarded in the current and past year and final reports of projects awarded in the past be sent quarterly to the clerks//managers of the member governments. Mr. Latham also shared that an annual report to the general MACC Policy Board will be presented at the March meeting.

VI. **Adjournment & Next Meeting** - March (date TBD)

***It was moved by Mr. Dewey, supported by Mr. Spoelhof to adjourn the meeting Motion approved.**

Enhancing our Reigon's Quality of Life

Community Enhancement Program

of the Macatawa Area Coordinating Council (MACC)

Awards/Denials Made in CY2024

(detailed reports from awardees are available upon request)

Date Awarded	Organization	Project	Amount of Award
1/17/24	Black River Public School	Design/build and implement an outdoor learning landscape	$10,000
1/17/24	Momentum	Funding outings for members/lclients to area venues that charge admission	$3,400
1/17/24	Tulip Time	"Join the Dance" fund (help reduce cost of costumes needed for dancers)	$5,000
3/13/24	FellinLove Farm	Concrete pathway for wheelchairs to navigate the venue easier (award came with several stipulations prior to award being sent)	$7,000
3/13/24	Graafschap Fire Dept	Purchase of two (2) AED trainers for training responders and community	$3,377
3/13/24	Holland Chorale	Scholarships for students to become members of Holland Chorale (offset membership fee and cost of uniforms)	$1,600
3/13/24	Holland Symphony Orchestra	Bring Brazilian folk group "Choro das 3" to the free community concert and arranging the music	$6,000
8/14/24	Boys and Gils Club	Fund the Migrant After-School Club Program	$15,000
8/14/24	Lakeshore Advantage	Develop indoor mural visible from the street	$4,000
8/19/24	Park Theatre	Replacement of flooring in concession area and dance floor	$3,500
8/19/24	Velo Kids	Enhancement/upgrade of the Shred Shed at Riley Trails	$5,000
10/30/24	3Sixty – Tulip City Walls	Fund Community Artist Reception for 2025 festival (local governments and local artists to be invited)	$5,000
10/30/24	Lake Michigan Safety Association	Maintenance/placement of the Port Sheldon buoy	$3,000
10/30/24	Graafschap Fire Dept	Outfitting firefighters with PFAS-free, alternative PPE – requested $8,100	denied

301 Douglas Avenue, Holland, Michigan 49424
phone: (616) 395-2688 - *fax*: (616) 395-9411

www.the-macc.org
email: info@the-macc.org

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

INTEROFFICE MEMORANDUM

TO: Mayor Van Dorp and City Council Members

FROM: Kevin Plockmeyer, Interim City Manager

SUBJECT: Project Clarity Funding Request

DATE: September 4, 2026

CC: City Council Work Study Agenda Items September 8, 2026

Background

At City Council's August 17 meeting, representatives from the ODC Network and Project Clarity provided an update on the progress made within the Macatawa Watershed and introduced Project Clarity Phase III. Project Clarity was launched in 2013 as a community-wide effort to improve the health of the Macatawa Watershed and the water quality of Lake Macatawa and its tributaries. The Phase III plan is intended to build on the work completed during the first two phases and is proposed as a five-year initiative running from 2026 through 2030 with an overall budget of $7.65 million.

Following that presentation, the City received the attached funding request asking Zeeland to commit $20,000 per year for five years toward Project Clarity Phase III. The request indicates that approximately 75% of the campaign is expected to be funded by private-sector donors and philanthropic organizations, approximately 20% by local units of government, with the remainder anticipated from state and federal grants.

Zeeland's Funding History

The City has a long history of financially supporting Project Clarity. The City's original commitment began in Fiscal Year 2014-15 and consisted of $10,000 per year for five years. That original $50,000 commitment was completed in Fiscal Year 2018-19.

Beginning with Fiscal Year 2019-20, Project Clarity requested another five-year funding commitment. At that time, City Council elected not to make another multi-year commitment and instead determined that future requests would be considered on an annual basis through the City's budget process. The City continued providing $10,000 annually in the years immediately following that decision, and Project Clarity has remained part of the City's annual funding discussions.

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More recently, the adopted Fiscal Year 2025-26 budget included $10,000 for Project Clarity, and the adopted Fiscal Year 2026-27 budget again includes $10,000 for Project Clarity. Therefore, the City currently has $10,000 programmed for Project Clarity in the Fiscal Year 2026-27 budget.

Current Funding Request

Project Clarity is now requesting that the City increase its support to $20,000 per year for five years, for a total requested commitment of $100,000 toward Phase III. For Fiscal Year 2026-27, fully funding the request would represent an additional $10,000 above the amount currently programmed in the adopted budget. The request would also represent a return to a multi-year funding commitment rather than the annual funding approach the City has used since Fiscal Year 2019-20.

Council Direction

Staff is looking for direction from City Council on how it would like to address the request. Council could elect to entertain the request during the current fiscal year, including whether it wishes to provide the additional $10,000 for Fiscal Year 2026-27 and whether any support should be considered on an annual or multi-year basis. Alternatively, Council could maintain the $10,000 already programmed for Fiscal Year 2026-27 and consider the requested increase as part of the Fiscal Year 2027-28 budget process.

Staff does not have a recommendation regarding the request. We view the level and timing of Project Clarity funding as a policy and budget-priority decision for City Council and are seeking Council's direction on whether it would like staff to bring the request back for formal consideration now or wait until the next budget cycle.

_____

Kevin Plockmeyer, Interim City Manager

August 17, 2026

City of Zeeland
21 S Elm Street
Zeeland, MI 49464

Dear City Council Members,

I am writing to request that the City of Zeeland invest in Project Clarity Phase III, the next phase of our community's effort to restore and protect the Macatawa Watershed and Lake Macatawa. The enclosed plan details the full scope of this five-year, $7.65 million initiative. This letter is a direct request for the Township's partnership.

Phase III is a true public-private partnership. We expect 75% of the campaign to be funded by private sector donors and philanthropic organizations, with an additional 20% from local units of government and the remainder from state and federal grants. The private sector commitment is strong, and local government investment is essential to completing the funding model. Your participation signals that the municipalities within the watershed stand behind this work, and it positions the entire campaign to compete for state and federal grant dollars that require demonstrated local support.

The need is immediate. The first two goals of the plan, establishing a sustainable funding mechanism and implementing in-lake treatment to address decades of legacy phosphorus, require early funding to move forward. These priorities are the foundation upon which every other Phase III effort depends, and work is already underway.

We are requesting that the City of Zeeland commit $20,000 per year for five years toward Project Clarity Phase III. This investment will be leveraged significantly, every public dollar committed helps unlock private contributions and strengthens grant applications at the state and federal level, multiplying the City's impact well beyond its direct investment.

The return is direct and lasting for Zeeland residents: cleaner water, fewer algal blooms, reduced flooding, stronger property values, and a lake that meets state water quality standards.

Thank you for the opportunity to present to the Council and discuss this partnership in detail. The plan is ready, the private sector is stepping forward, and the City's commitment will help bring this effort to full strength.

Gratefully,

Travis Williams, CEO
ODC Network
Cell: 616-546-0244

Enclosures: Project Clarity Phase III Plan

ProjectClarity
Restoring the Macatawa Watershed

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

INTEROFFICE MEMORANDUM

TO:	Mayor Van Dorp and City Council Members
FROM:	Kevin Plockmeyer, Interim City Manager
SUBJECT:	Initiative Funding Budget Amendment
DATE:	September 4, 2026
CC:	City Council Work Study and Action Agenda Items September 8, 2026

Each year, as we complete our fiscal year-end process and gain a clearer picture of the City's final financial position, staff reviews actual results compared with the assumptions used when the budget was developed. When revenues exceed projections, expenditures come in below budget, or one-time revenues are received, we have historically brought those resources back to City Council for discussion regarding whether they should remain in fund balance or be directed toward identified capital needs and other priorities.

This is the same process we are following this year. It is not an indication that the City suddenly has additional money that needs to be spent, nor is there any requirement that these resources be allocated. Rather, our year-end financial position provides City Council with an opportunity to determine whether retaining these funds or strategically investing a portion of them in existing priorities represents the best long-term use of the resources.

At City Council's August 17 Work Study, we reviewed approximately $2.75 million in resources that were not contemplated when the Fiscal Year 2027 budget was developed. These resources consist of approximately $800,000 in General Fund fund balance above our original projection and approximately $1.95 million in unbudgeted Personal Property Tax reimbursement revenue received in May. Based on City Council's discussion at that meeting, staff identified the following three capital priorities for further consideration.

84th Avenue Reconstruction – $1,200,000

This funding would be used for the reconstruction of 84th Avenue with curb and gutter. The current engineer's estimate is approximately $1.113 million. Using available cash for this project would allow the City to preserve bonding capacity and help maintain the aggressive schedule necessary to complete the roadway prior to the anticipated opening of the JR Automation facility in late spring of 2027.

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Facilities Implementation Plan – Series 1 – $750,000

This funding would be used toward design and construction administration services associated with Series 1 of the City's Facilities Implementation Plan. Since our August Work Study discussion, we have received a proposal for these professional services, and the cost came in below the amount we initially anticipated.

The proposal represents a significant professional services contract, and while the City is not required to competitively bid professional services, we recognize that the size of the contract warrants discussion. Before bringing a formal contract award to City Council at a future meeting, staff would like to receive City Council feedback on whether Council is comfortable proceeding with the proposed firm or would prefer that the City solicit competitive proposals for this work.

For purposes of this budget amendment, the proposed $750,000 allocation would ensure that sufficient funding is available to move the project into the design phase once City Council has provided direction on the procurement approach.

City Park Improvement Fund – $800,000

Staff is recommending that the remaining $800,000 be allocated to the City Park Improvement Fund. Our primary focus for these resources would be the future reconstruction of Lawrence Park, which has been identified through previous capital planning efforts as the next logical major park improvement following completion of Hoogland Park.

We also know that Lawrence Park will not be the City's only upcoming park investment. The relocation and redevelopment of the former Bethel Church playground is another project that is beginning to take shape. Mead Johnson is taking the lead in advancing that project, but it is a collaborative effort involving a number of community partners, including Zeeland Public Schools, the Zeeland Board of Public Works, the former Bethel Church, and the City.

While the final scope and funding responsibilities for that project have not yet been established, we anticipate that some level of City participation may ultimately be necessary to help create a playground and public space that all of the project partners and the community can be proud of. Maintaining flexibility within the City Park Improvement Fund would allow us to support that project as details become clearer while continuing to move Lawrence Park forward.

In total, the proposed initiative funding allocations equal $2.75 million. We believe these allocations provide an opportunity to make meaningful progress on several significant capital needs while making prudent use of one-time resources. Just as importantly, these are investments in projects and infrastructure that have already been identified through the City's planning and budgeting processes rather than new ongoing programs or operating commitments.

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Recommendation:

That City Council approve the appropriate Fiscal Year 2027 budget amendments and fund transfers to allocate $1.2 million for the reconstruction of 84th Avenue, $750,000 for Facilities Implementation Plan – Series 1 design and construction administration, and $800,000 to the City Park Improvement Fund for Lawrence Park reconstruction and future park improvements.

_____

Kevin Plockmeyer, Interim City Manager/ACM of Infrastructure/City Services and Finance

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

INTEROFFICE MEMORANDUM

TO: Mayor Van Dorp and City Council Members

FROM: Kevin Plockmeyer, Interim City Manager

SUBJECT: Downtown Parking Lot Snowplow Contract

DATE: September 4, 2026

CC: City Council Work Study and Action Items September 8, 2026

On September 1, we accepted bids for snowplowing services for the downtown parking lots for the 2026–2027 season. The City received two bids with the following results:

- Site Work Solutions, Inc. – Truck Rate: $95/hour; Loader Rate: $155/hour
- Countryside Snowplowing – Truck Rate: $95/hour; Loader Rate: $145/hour

Both contractors submitted the same hourly truck rate; however, Countryside Snowplowing submitted a loader rate that is $10 per hour less than Site Work Solutions.

Based on the bids received and our previous experience with Countryside Snowplowing, staff recommends continuing with Countryside for the 2026–2027 winter season. Countryside provided satisfactory service under last year's contract, and its pricing remains competitive, with the lowest loader rate and an equivalent truck rate.

RECOMMENDATION:

Accept the bid from Countryside Snowplowing and contract with them for downtown parking lot snowplowing services for the 2026–2027 winter season.

_____

Kevin Plockmeyer, Interim City Manager

Snowplowing of Municipal Parking Lots

Bid Tab Sheet

Tuesday, September 1, 2026 @ 10:30 AM

Bidder	Truck	Loader	Skid Steer
Site Work Solutions, Inc.	$95/hour	$155/hour	$105/hour
Countryside Snowplowing	$95/hour	$145/hour	N/A

SNOW PLOW BID SPECIFICATIONS FOR 2026-2027
FOR THE CITY OF ZEELAND

SPECIAL CONSIDERATIONS

1. All lots to be snow plowed seven (7) days per week.
2. Contractor shall submit a list of not less than 3 references.
3. Contractor shall submit a list of equipment owned and/or contracted by him (see following page).
4. The City of Zeeland reserves the right to terminate the contract if the contractor is found to be in violation of the specific requirements set forth by the city.
5. It is recommended that the Contractor meet with Mr. Mike Schreur subsequent to submitting the bid to go over the parking lots covered by the bid. Mike can be reached at 772-0887 or 772-0870.

SERVICES AND CHARGES

1. The Contractor agrees to furnish labor and equipment in accordance with the proposal form for the rates stated.
2. Charges will be based upon actual services rendered and invoiced at the rates stated.
3. The City of Zeeland will pay the contractor within 30 days of receipt of an invoice for services rendered.

REQUEST FOR BIDS ON 2026/2027 SNOWPLOWING CONTRACT FOR THE CITY OF ZEELAND, MICHIGAN

Please quote on snowplowing services for the City of Zeeland municipal parking lots per the guidelines and locations listed below.

BID GUIDELINES

The City of Zeeland reserves the right to refuse or accept any or all proposals, or portions of those proposals.

One SIGNED copy of the bid proposal should be submitted by TUESDAY, SEPTEMBER 1 at 10:30 am to:

CITY CLERK'S OFFICE
ZEELAND CITY HALL
21 SOUTH ELM ST., ZEELAND MI 49464

All bids will be submitted on the enclosed forms.

The contractor will submit a written certificate of insurance indicating that he carries Worker's Compensation Insurance.

The contractor will submit a written certificate of insurance for protection of public liability and property damage.

If the bidder does not have insurance to meet City standards, they may submit a bid and supply the proper insurance certificate after the opening of the bids and before the award of the contract.

BODILY INJURY AND PROPERTY DAMAGE-OTHER THAN AUTOMOBILES

The minimum limits shall be:

Bodily Injury Liability		Property Damage Liability	
Each Person	Each Accident	Each Accident	Aggregate
$500,000	$500,000	$500,000	$500,000

OR A COMBINED SINGLE LIMIT OF $1,000,000

Policies shall be written on a comprehensive form to include hired and non-hired vehicles. Bidder hereby agrees to furnish labor and equipment for the rate stated in accordance with the specifications stated.

SECTION 1. REQUIRED SERVICES

Snow will be removed from the designated parking lots and service driveways within the following specifications:

1. Snow plowing will be required during the early morning hours if snow has accumulated to a depth of two (2) inches or more.
2. If snow accumulated to two (2) inches or more during the hours of 7:00 AM to 6:00 PM, then snow should be plowed from open areas of parking lots and service driveways as practical with consideration to parked vehicles.
3. Snow will be plowed to a location within the designated site that is determined by the city. SEE ATTACHED MAPS.

SNOW PLOWING SITES

Municipal Parking Lots:

SITE	LOCATION	APPROX. SQ. FT.	TIME COMP.
NORTH LOT	N. OF MAIN AVE.	87,200	6:00 AM
SOUTH LOT	S. OF MAIN AVE.	63,700	6:00 AM

ALSO PLEASE GIVE PRICES ON THESE FOLLOWING PARKING LOTS:

1ST CRC LOT	CORNER OF E. MAIN AND CHURCH ST.	40,425	6:00 AM

(1ST CRC LOT MUCH BE PLOWED WITH EITHER A PICKUP OR ONE-TON TRUCK - NO FRONT LOADER)

2nd REFORMED	CORNER OF CHERRY	24,300 (including east drive)	6:00 AM

(2nd REFORMED LOT MUST BE PLOWED WITH EITHER A PICKUP OR ONE-TON TRUCK - NO FRONT LOADER)

QUOTATION FOR SERVICES

PARKING LOTS

We agree to furnish labor and equipment necessary to perform the specified services in return for the payment plan outlined. Anything over two inches of snow will be plowed. This extension will be for the 2026-2027 winter season.

Snow Plowing of Municipal Lots (north and south)	Truck	$ 95.00	Rate per hour
	Loader	$ 145.00	Rate per hour
Snowplowing for 1st CRC lots	Truck	$ 95.00	Rate per hour
Snowplowing for 2nd Reformed Lot	Truck	$ 95.00	Rate per hour

List of Equipment Owned:

see attached

List of Equipment Contracted:

none

Contractor will invoice the City of Zeeland one time per month for services rendered. Invoices will identify services performed on each parking lot and include the dates of services performed, the hours at the specified rate, and the amount of payment due for the city. The City of Zeeland agrees to make payment to the contractor within 30 days of receipt of invoicing for services that were performed.

ATTENTION: BIDS THAT ARE RETURN UNSIGNED WILL NOT BE VALID BIDS. PLEASE SIGN AND DATE YOUR BID. BID OPENING WILL BE AT ZEELAND CITY HALL ON TUESDAY, SEPTEMBER 1 AT 10:30 AM. YOU ARE NOT REQUIRED TO ATTEND THE BID OPENING.

SIGNATURE: _____

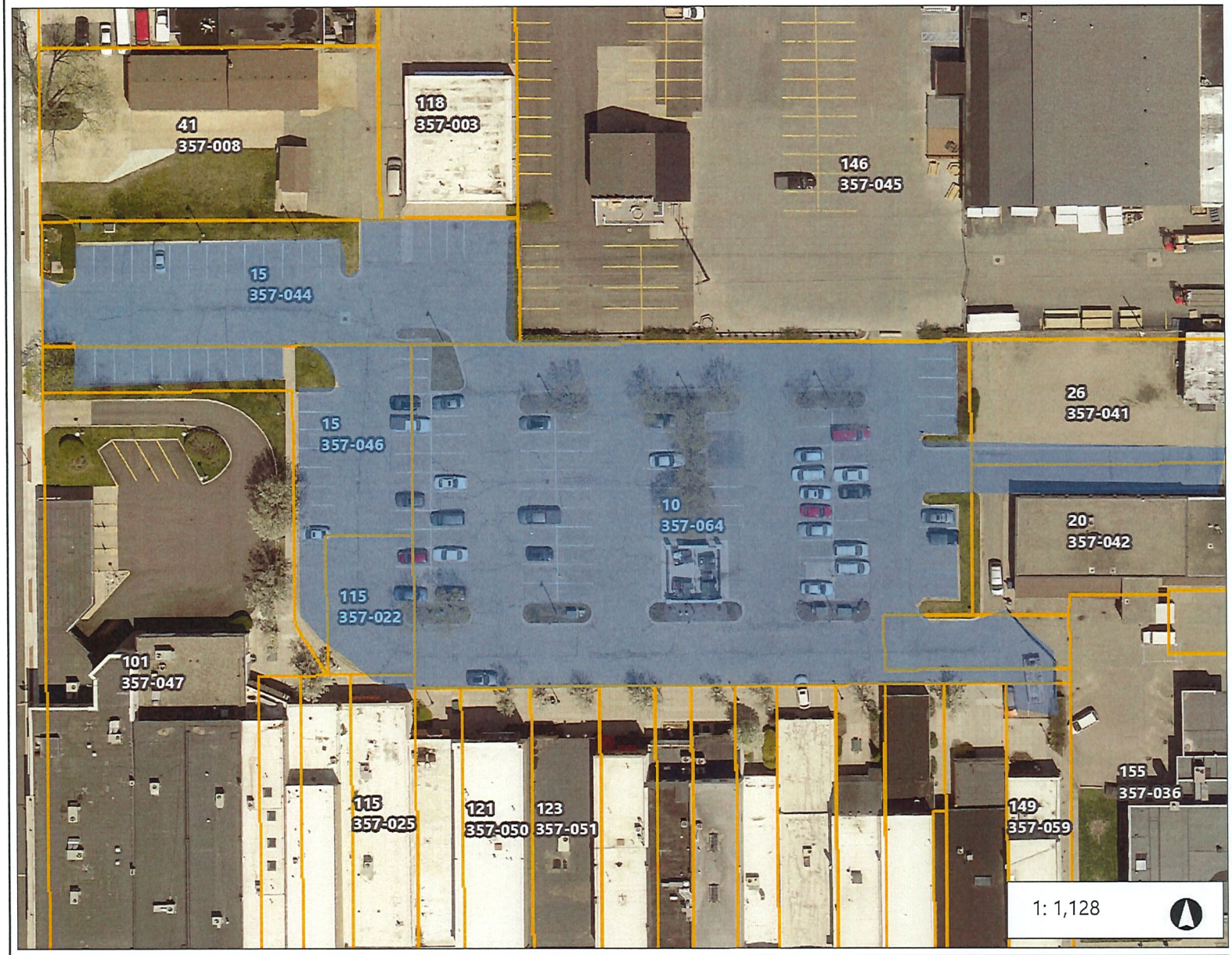
COMPANY NAME: Countryside Snowplowing, LLC

ADDRESS: 190 E 8th St Unit 1405 Holland MI 49422

BUSINESS PHONE: 616-396-1577 or 616-795-6981

Ottawa County
Geospatial Insights & Solutions

Property Mapping Printout



Legend

- Parcels

Notes

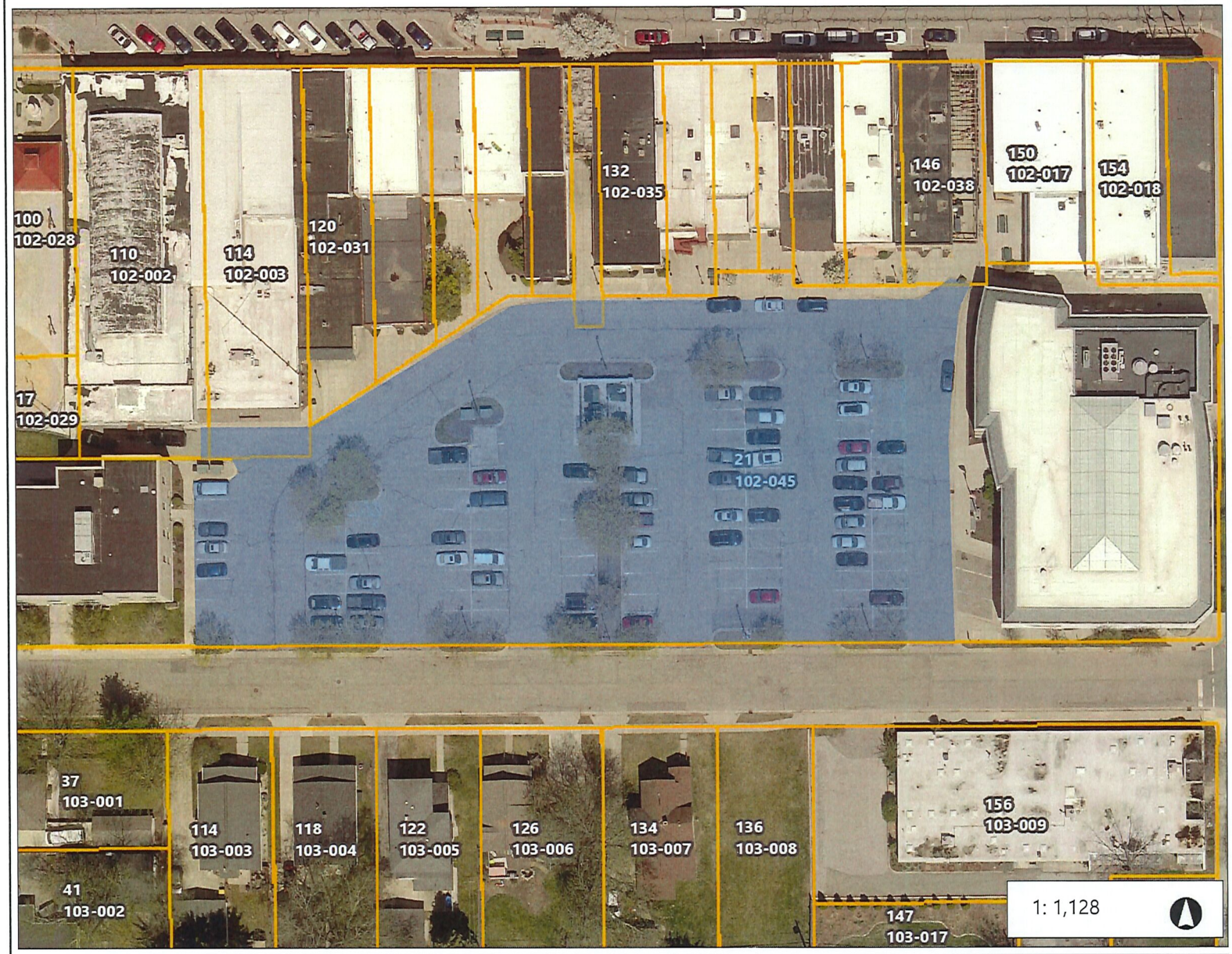
North Municipal Parking Lot
(North of Main Place retail stores)

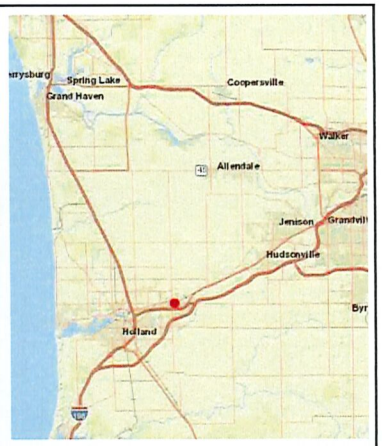
188.1 0 94.04 188.1 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

Ottawa County
Geospatial Insights & Solutions

Property Mapping Printout





Legend

- Parcels

Notes

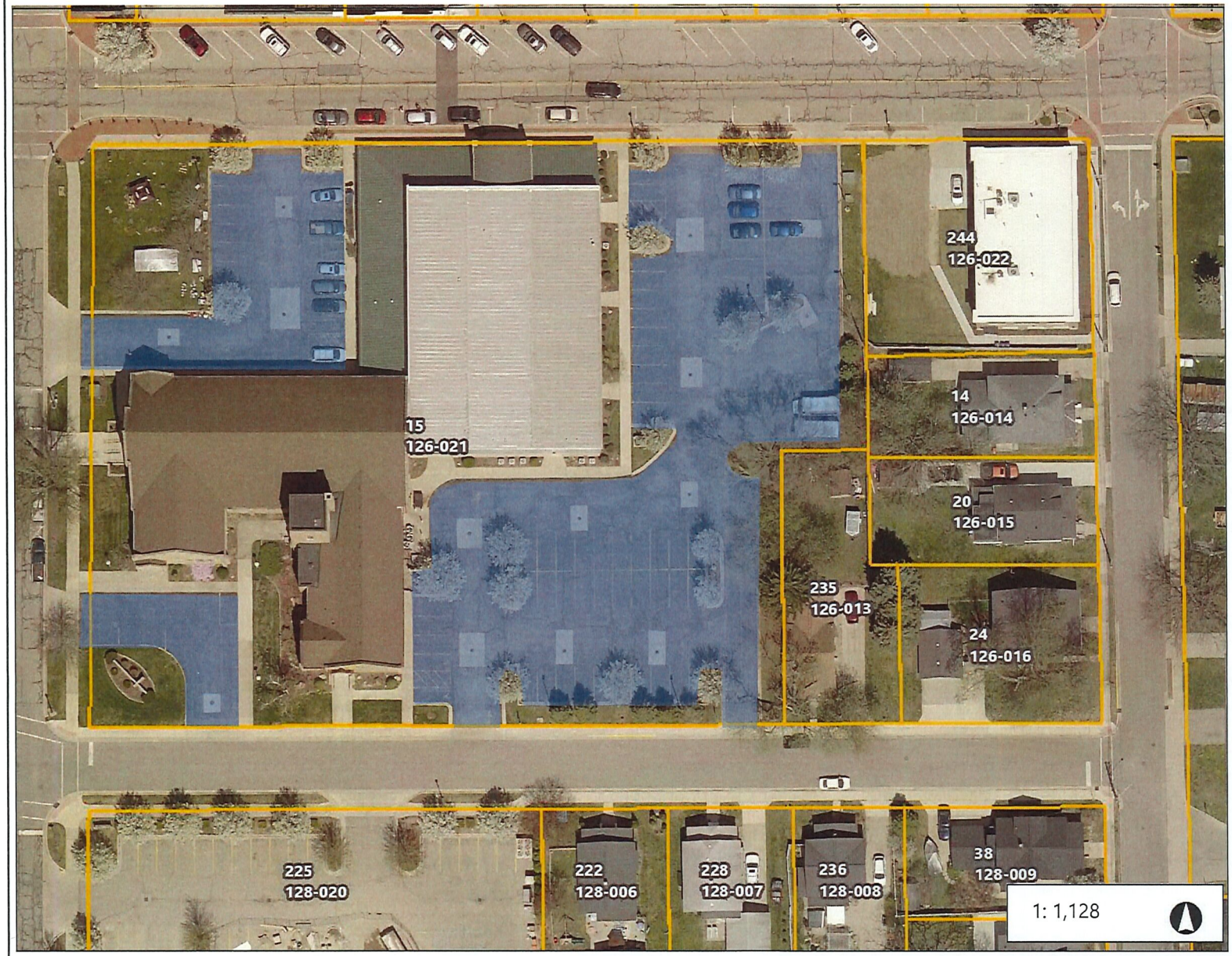
South Municipal Parking Lot
(South of Main Place)

188.1 0 94.04 188.1 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

Ottawa County
Geospatial Insights & Solutions

Property Mapping Printout



Legend

- Parcels

Notes

1st CRC Lot (all 3 lots)

188.1 0 94.04 188.1 Feet

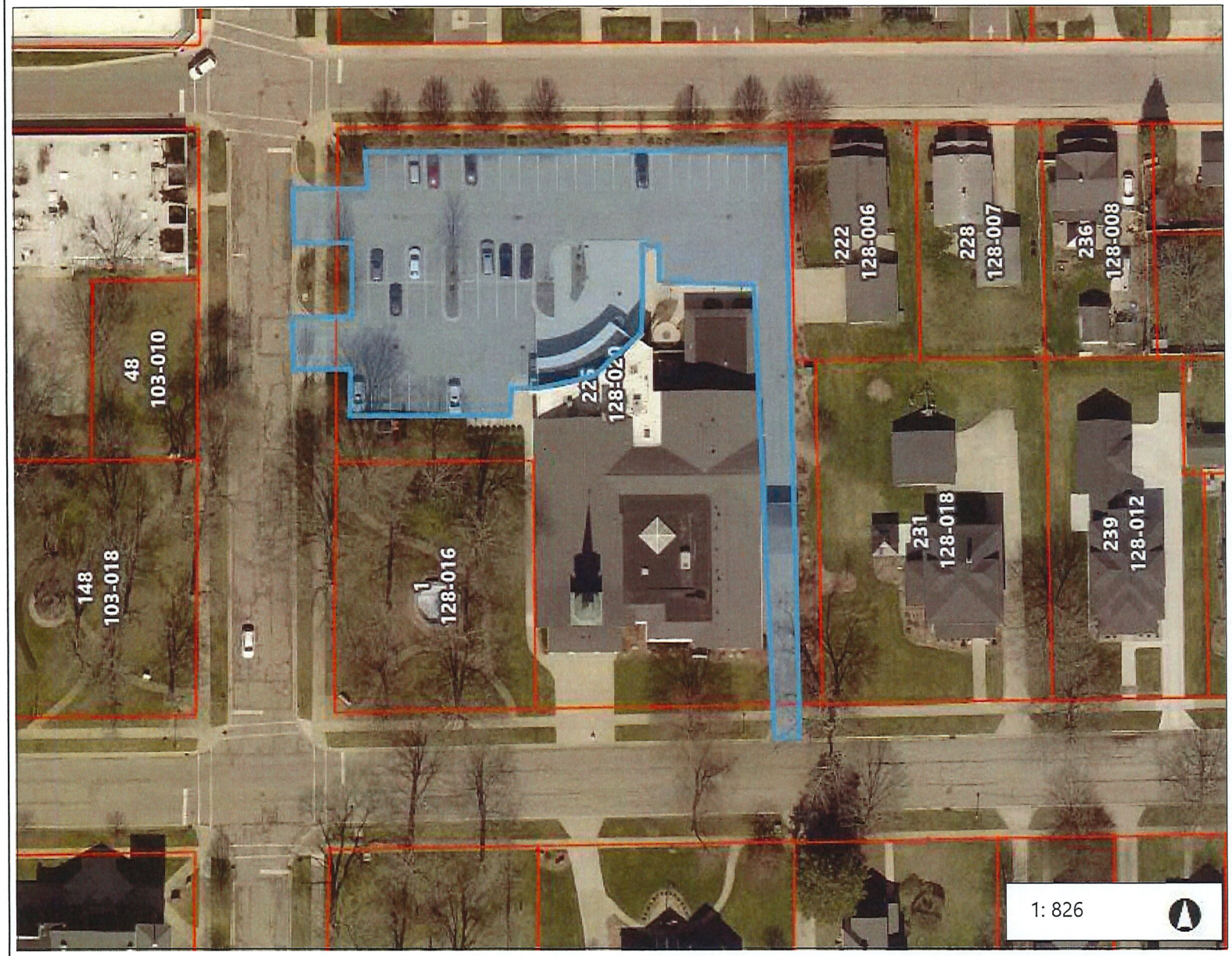
WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Ottawa County
Geospatial Insights & Solutions

Property Mapping Printout



Legend

- Parcels

Notes

137.7 0 68.84 137.7 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-6400 • FAX (616) 772-5352

INTEROFFICE MEMORANDUM

TO: Mayor Van Dorp and City Council Members

FROM: Kevin Plockmeyer, Interim City Manager

SUBJECT: Fiscal Year 2027 Asphalt Paving Contract

DATE: September 4, 2026

CC: City Council Work Study and Action Items September 8, 2026

Included in the Fiscal Year 2026-2027 budget is an allocation of $50,000 for bike path maintenance improvements throughout the City. As part of this year's program, staff identified five potential project areas and solicited bids for each area individually, allowing the City to select a combination of projects based on available funding.

Bids were opened on September 1, 2026, and three bids were received. Tulip City Asphalt Paving, Inc. submitted the low bid for each of the five project areas. After reviewing the proposed improvements and available funding, staff recommends proceeding with the following three areas:

- Royal Park Drive – Centerstone Court west to the west driveway of Mast Heating: $13,450
- Centennial Street – Roosevelt Avenue south to Garfield Street: $30,820
- Centennial Street – Garfield Street south to the Aurorium driveway: $10,700

The total recommended award is $54,970. While this amount is $4,970 above the $50,000 specifically budgeted for bike path maintenance improvements, staff anticipates that the additional cost can be accommodated within the overall activity budget without the need for a formal budget amendment.

We have worked with Tulip City Asphalt on numerous occasions and have been very satisfied with their performance. Based on their experience, competitive pricing, and status as the low bidder, staff recommends awarding the FY27 asphalt paving contract to Tulip City Asphalt Paving, Inc.

Recommendation

Award a contract to Tulip City Asphalt Paving, Inc. in the amount of $54,970 for bike path maintenance improvements on Royal Park Drive and Centennial Street as outlined above.

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_____
Kevin Plockmeyer, Interim City Manager

Asphalt Paving (Various Locations)

Bid Tab Sheet

Tuesday, September 1, 2026 @ 10:30 AM

			Centennial Street			
Bidder	**Midway Machine Path**	**Royal Park Drive**	**Roosevelt to Gentex**	**Roosevelt to Garfield**	**Garfield to Aurorium**	**TOTAL**
Site Work Solutions, Inc.	$ 25,260.00	$ 19,915.00	$ 42,440.00	$ 43,360.00	$ 15,800.00	$ 146,775.00
Tulip City Asphalt Paving, Inc.	$ 17,550.00	$ 13,450.00	$ 28,220.00	$ 30,820.00	$ 10,700.00	$ 100,740.00
Rieth-Riley	$ 47,912.30	$ 40,756.65	$ 59,970.45	$ 63,877.36	$ 37,155.45	$ 249,672.21

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BIDS ARE REQUESTED FOR THE FOLLOWING PROJECT:

ASPHALT PAVING
VARIOUS LOCATIONS
CITY OF ZEELAND, MICHIGAN

Sealed bids from contractors will be received at the Zeeland City Clerk's Office, 21 S. Elm St., Zeeland MI 49464 on or before Tuesday, September 1, 2026, at 10:30 AM. Bids will be opened and read aloud at that time and location.

All bids must be submitted in a sealed envelope clearly marked Asphalt Paving Bid.

The Owner reserves the right to waive informalities and to award bids in its own best interest.

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Bid Specifications
Asphalt Paving
Various Locations
City of Zeeland, Michigan

General Information and Instructions

1. The City of Zeeland will receive proposals from qualified contractors for asphalt paving in various locations throughout Zeeland, MI 49464.

2. Proposals must be mailed or delivered in person to the Zeeland City Clerk's Office, 21 South Elm Street, Zeeland, MI 49464. All proposals must be sealed in envelopes, clearly marked "Asphalt Paving Bid" and must be received prior to 10:30 AM, local time, on Tuesday, September 1, 2026. This will be a public bid opening. Evaluation of proposals and award will be at a later date; the contractor will receive a letter of intent prior to receipt of contract.

3. The schedule of Work Shall be as follows:

September 1, 2026 at 10:30 AM	Bids Due
September 8, 2026	Anticipated Award
May 31, 2027	Final Completion Date

4. Performance and Labor and Material Bonds will be required for the project.

5. Provide Liability Insurance and a Certificate of Insurance showing the City of Zeeland as additional insured with a liability coverage of at least $2,000,000. As is such, the successful bidder shall be required to hold the City of Zeeland harmless from any liability in connection with the required work.

6. Funding for the project is by the City of Zeeland and project does not require the payment of prevailing wages.

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7. The successful bidder shall comply with all ordinances of the City of Zeeland in conjunction with the performance of the project.

8. Please direct all questions to Mike Schreur at 616-772-0870 or mschreur@cityofzeeland.com.

9. The owner reserves the right to accept or reject any or all bids and to waive all irregularities in proposals. Proposals remain firm for sixty (60) days from the date of the Bid Opening.

Project Specifications

1. The attached bid form lists the locations the City wishes to complete as part of its 2027 asphalt paving program. Each area shall be bid individually, and pricing shall not be dependent upon the award of another area. The City may select any combination of areas based on available funding. The contract will be awarded to one contractor.

2. Contractor to Furnish Traffic Control for both Vehicular Traffic and Pedestrian Traffic as necessary.

3. All edges of removals must be sawcut.

4. The extent of removals and replacement will be identified by the City of Zeeland.

5. All asphalt shall be MDOT 13A for base course or MDOT 36A for top course or approved equal.

6. In areas that require full depth removal, existing aggregate base is the be compacted and fine graded as necessary prior to asphalt installation. If additional aggregate is necessary, it shall be MDOT 21AA.

7. In areas where an ADA ramp is required, a 5’ minimum width concrete approach will be installed with tactile domed warning plates. All concrete shall be MDOT Grade P1 or S2, 3500 PSI at 28 days,

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5%-7% air entrained per MDOT Standard Specifications. Tactile domed warning plates shall be red in color.

8. Where required, root barrier shall be 24" as manufactured by Deeproot or approved equal.

9. Place 4" of leveled topsoil to finished grade in disturbed areas. Topsoil shall be of good quality free of sticks, debris, rocks, etc. and suitable for the growing of grass.

10. Restoration of disturbed areas including fine grading, seed, and mulch. Seed to be MDOT Class A or approved equal.

11. All material, labor, trucking, equipment, insurance, and other project expenses are the responsibility of the contractor.

12. Contractor is responsible for contacting MISS DIG and locating utilities as necessary.

13. Wet-set ADA detectable warning pads will be provided by the City of Zeeland. The contractor shall install the pads and construct the associated concrete approaches in accordance with these specifications.

ZEELAND
FEEL THE ZEEL

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ASPHALT PAVING BID

I hereby submit the following bid for asphalt paving at the following locations:

1. Midway Machine Path - State Street to Innovation Drive
    a. Area Measures Approx. 511' x 10'
    b. Include Pump Station Drive, Approx. 46' x 30'
    c. Remove Existing Asphalt
    d. Fine Grade Existing Aggregate Base
    e. Install 2 1/2 inches of Asphalt (1 1/2 inches Base, 1 inch Top)
    f. Restoration as Necessary

    Total Bid for Area: $ 17,550.00

2. Royal Park Drive - Centerstone Court west to the west driveway of Mast Heating
    a. Area Measures Approx. 364' x 8'
    b. Remove Existing Asphalt
    c. Install four ADA pads with 5 feet of concrete approach at each driveway
    d. Fine Grade Existing Aggregate Base
    e. Install 2 1/2 inches of Asphalt (1 1/2 inches Base, 1 inch Top)
    f. Restoration as Necessary

    Total Bid for Area: $ 13,450.00

3. Centennial Street - Roosevelt Avenue north to the Gentex driveway
    a. Area Measures Approx. 989' x 10'
    b. Remove Existing Asphalt
    c. Install seven ADA pads with 5 feet of concrete approach at each driveway
    d. Fine Grade Existing Aggregate Base
    e. Install 2 1/2 inches of Asphalt (1 1/2 inches Base, 1 inch Top)
    f. Restoration as Necessary

    Total Bid for Area: $ 28,220.00

ZEELAND
FEEL THE ZEEL
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4. Centennial Street - Roosevelt Avenue south to Garfield Street
    a. Area Measures Approx. 933' x 10'
    b. Remove Existing Asphalt
    c. Install nine ADA pads with 5 feet of concrete approach at each driveway
    d. Fine Grade Existing Aggregate Base
    e. Install 2 1/2 inches of Asphalt (1 1/2 inches Base, 1 inch Top)
    f. Restoration as Necessary

    Total Bid for Area: $ 30,820.00

5. Centennial Street - Garfield Street south to the Aurorium driveway
    a. Area Measures Approx. 256' x 10'
    b. Remove Existing Asphalt
    c. Install two ADA pads with 5 feet of concrete approach at each driveway
    d. Fine Grade Existing Aggregate Base
    e. Install 2 1/2 inches of Asphalt (1 1/2 inches Base, 1 inch Top)
    f. Restoration as Necessary

    Total Bid for Area: $ 10,700.00

ZEELAND
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All work will be performed in accordance with the specifications as prepared and furnished by the City of Zeeland.

Bidder:

Tulip City Asphalt Paving, Inc.
Printed Name of Bidder

Dated: 8/31/26

By: _____
Signature of Authorized Representative

Craig Walters, Pres
Printed Name of Signer and Title

12983 Riley Street
Street Address

Holland MI 49424
City, State, and Zip

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EXHIBIT A - AREA 1

Midway Machine Path - State Street to Innovation Drive

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EXHIBIT B - AREA 2

Royal Park Drive - Centerstone Court west to the west driveway of Mast Heating

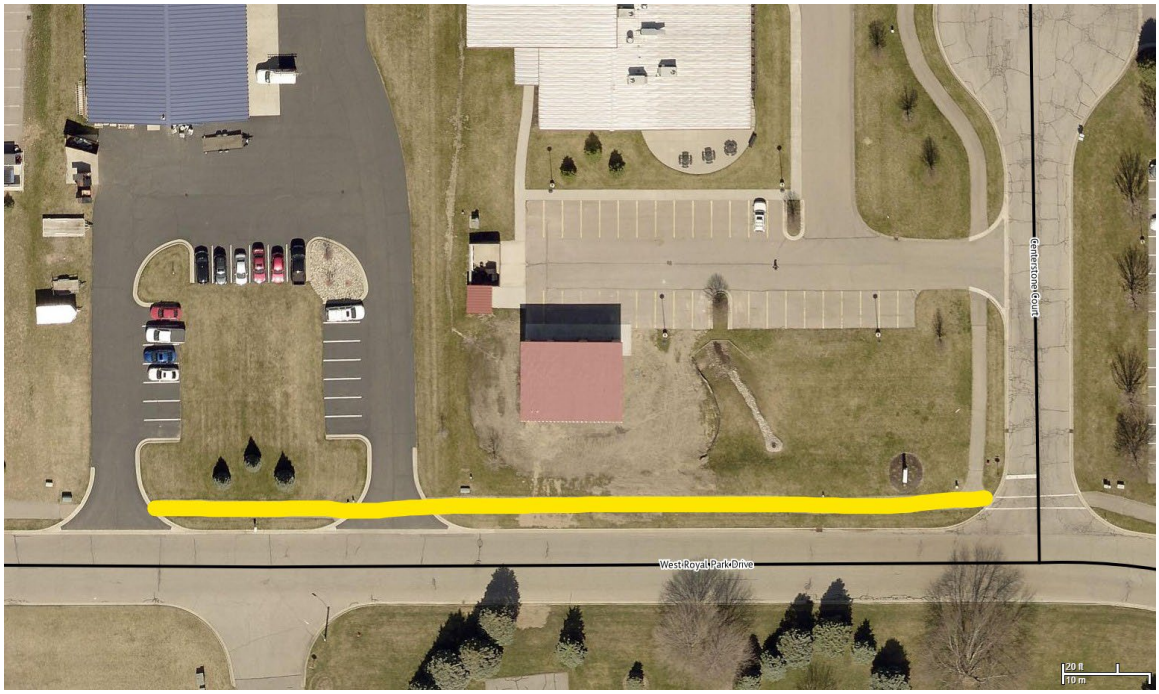

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EXHIBIT C - AREA 3

Centennial Street - Roosevelt Avenue north to the Gentex driveway

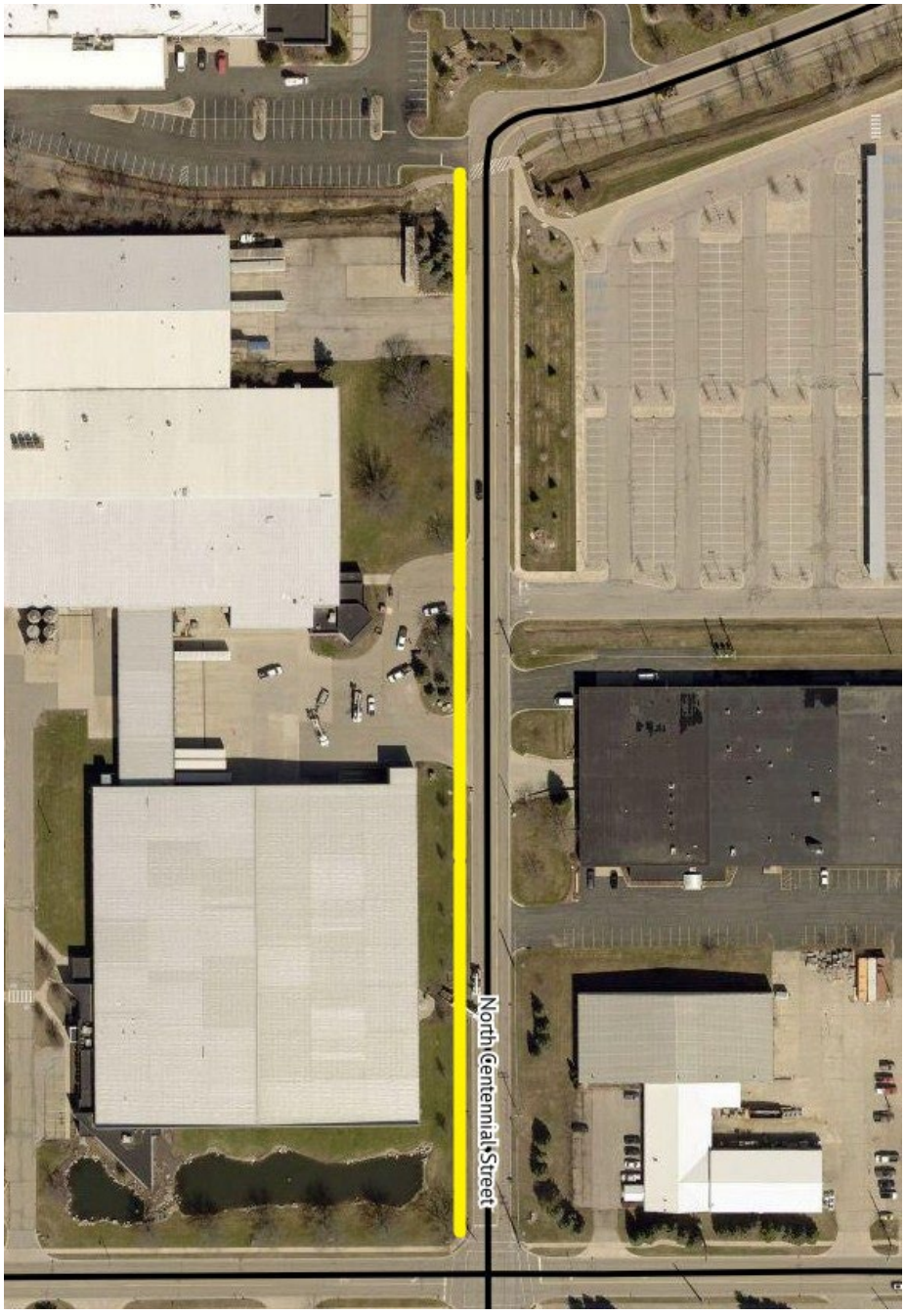

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EXHIBIT D - AREA 4

Centennial Street - Roosevelt Avenue south to Garfield Street

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EXHIBIT E - AREA 5

Centennial Street - Garfield Street south to the Aurorium driveway

CITY COUNCIL MEMORANDUM

TO: Mayor Van Dorp and Zeeland City Council

CC: Kevin Plockmeyer, Interim City Manager

FROM: Abby deRoo, City Marketing Director

SUBJECT: Match on Main Grant Agreement

DATE: September 3, 2026

Earlier this year, downtown communities were invited to pursue funding through the Match on Main grant program administered by the Michigan Strategic Fund (MSF) and Michigan Economic Development Corporation (MEDC). Downtown Zeeland submitted two applications. Mandu Escapes LLC, doing business as La Crème, requested assistance to outfit an on-street patio, and 3D Properties, owned by Mitch Bakker, requested assistance with the build-out of the retail storefront at 140 E. Main Avenue. Staff enthusiastically supported both applications.

The MSF has awarded the City of Zeeland up to $16,984 to support La Crème's request. The agreement is effective September 1, 2026, and the City will serve as the grantee and local administrator of this reimbursement-based award. La Crème is required to invest a minimum of 10% of the grant amount.

The selection, by the MEDC, of a Zeeland grant recipient is a privilege. Match on Main is a competitive statewide program, and this award reflects confidence in Zeeland's downtown, its local business community, and the City's continued commitment to thoughtful placemaking and economic vitality. This direct MEDC/State of Michigan investment in downtown Zeeland is exciting and will help a locally owned business make a visible, customer-focused improvement in the heart of the community.

The La Crème application proposes to create a semi-permanent outdoor crepe station and related patio activation along Main Avenue. The project is designed to expand La Crème's service capacity, make better use of its exterior space, improve pedestrian activity, and create a more welcoming place for customers to gather downtown.

Under prior ownership, La Crème operated an outdoor patio. The current application would restore that amenity while adding equipment and operational enhancements that support an expanded outdoor service model.

The proposed scope includes:

- Commercial crepe makers and a mobile refrigerated crepe cart/preparation station;
- Electrical upgrades, exterior/string lighting, an ordering-area umbrella, and removable patio barriers or planters;
- An additional point-of-sale device, menu boards, branded cups and crepe pouches, and a nonalcoholic beverage cooler; and
- Initial ingredients and supplies needed to launch the expanded outdoor service operation.

La Crème anticipates that the project will reduce congestion inside the restaurant, streamline ordering and service, support new seasonal offerings, and encourage customers to remain downtown longer. The

application also indicates an anticipated increase of approximately three to five part-time positions, as a result of the project.

Match on Main is a reimbursement grant. La Crème must first incur and pay eligible project costs. The City will then assemble and submit one final reimbursement request to MEDC, including receipts and proof of payment, evidence of the required business match, a final progress report, a signed company acknowledgment, and project completion photographs.

- Maximum State grant: $16,984.
- Minimum La Crème match: $1,698.40, equal to 10% of the maximum grant.
- Eligible costs must be incurred and paid between April 18, 2026 and September 1, 2027.
- The final reimbursement package is due to MEDC no later than September 15, 2027.
- After receiving grant funds, the City must disburse them to La Crème within 60 days.
- The City must complete required progress reporting and retain grant records for the period required by the agreement.

The City's role is administrative and pass-through in nature. Grant funds may be used only for costs approved under the agreement, and reimbursement remains subject to MEDC review and confirmation of compliance. City staff will coordinate with La Crème throughout implementation to document expenses, monitor deadlines, and prepare the required reports.

City Attorney Donkersloot has also drafted a separate grant agreement between the City of Zeeland and Mandu Escapes LLC that establishes the local requirements applicable to the business.

The proposed investment advances the goals of the Match on Main program and supports the City's downtown development objectives by helping a local, place-based business activate outdoor space, modernize operations, attract customers, and contribute to downtown vibrancy. The award brings outside resources into Zeeland while leveraging private investment from La Crème.

Recommendation:

Staff recommends that City Council approve the Match on Main Grant Agreement between the Michigan Strategic Fund and the City of Zeeland and authorize its execution and administration.

Staff recommends that City Council approve the related grant agreement between the City of Zeeland and Mandu Escapes LLC.

Abigail deRoo, City Marketing Director

Kevin Plockmeyer, Interim City Manager

MATCH ON MAIN PROGRAM
GRANT AGREEMENT

This Grant Agreement (this "Agreement"), effective as of September 1, 2026 (the "Effective Date"), is between the Michigan Strategic Fund (the "MSF"), whose address is 300 North Washington Square, Lansing, Michigan 48913, and City of Zeeland, a Michigan municipality, whose address is 21 S. Elm Street, Zeeland, Michigan 49464 (the "Grantee"). The MSF and Grantee are, individually, a "Party" and, collectively, the "Parties".

RECITALS

A. The Michigan Legislature enacted the Michigan Strategic Fund Act, MCL 125.2001 et. seq., (the "MSF Act") to authorize the Michigan Strategic Fund ("MSF") to provide incentives in the form of grants, loans, and other economic assistance for the development and improvement of Michigan's economy.

B. Pursuant to Section 7(c) of the MSF Act, MCL 125.2007(c), the MSF has the power to make grants, loans, and investments.

C. Under the control and direction of the MSF Board, staff of the Michigan Economic Development Corporation, a public body corporate (the "MEDC"), provides administrative services for the MSF.

D. On March 22, 2015, the MSF Board authorized the MSF Fund Manager to submit an application to the Michigan State Housing Development Authority ("MSHDA") for a Housing Development Fund ("HDF") grant to support community development activities (the "HDF Grant").

E. On January 25, 2017, MSHDA approved the MSF's application for the HDF Grant to support community development activities.

F. On February 27, 2024, the MSF Board approved the creation of the Match on Main Program ("Program") and its guidelines.

G. On February 27, 2024, the MSF Board allocated $750,000 from the HDF Grant to the Program.

H. On December 10, 2024, the MSF Board allocated an additional $1,500,000 from the HDF Grant to the Program.

I. On November 13, 2025, the MSF Board allocated an additional $1,500,000 from the HDF Grant to the Program.

J. Grantee applied for a Program award on April 18, 2026 ("Application"), to support reimbursement of certain eligible expenditures by Mandu Escapes LLC dba LaCreme ("Company"), a Michigan limited liability company whose project address is 111 E. Main Street, Zeeland, Michigan 49464 and is located within Grantee's traditional downtown, historic neighborhood commercial corridor, or area planned and zoned for concentrated commercial development ("Project").

K. On June 23, 2026, the MSF approved a grant award to Grantee in the amount of up to Sixteen Thousand Nine Hundred Eighty-Four Dollars ($16,984) to be disbursed under the terms of this Agreement (the "Grant").

L. Consistent with this Agreement, Grantee desires to disburse the Grant to the Company for reimbursement of Eligible Costs.

In consideration of the mutual duties and obligations of the Parties, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties agree:

ARTICLE I
DEFINITIONS

Section 1.1 Defined Terms. Except as otherwise defined in this Agreement, all capitalized terms in this Agreement shall have the respective meanings set forth on Exhibit A, which contains the defined terms for this Agreement.

Section 1.2 Construction of Certain Terms. Unless the context of this Agreement otherwise requires: (i) words of any gender include each other gender; and (ii) words using the singular or plural number also include the plural or singular number.

ARTICLE II
GRANT

Section 2.1 Grant Commitment. Subject to the terms and conditions of this Agreement, and in reliance upon the representations and warranties of Grantee set forth in this Agreement, the MSF agrees to make, and Grantee agrees to accept, the Grant.

Section 2.2 Grant Manager. The MSF Fund Manager shall designate a Grant Manager to administer this Agreement and monitor the performance of Grantee and Grant Disbursements under this Agreement. The Grant Manager may be changed at the discretion of the MSF Fund Manager. The initial Grant Manager is Catherine Abad, whose email address is abadc@michigan.org.

Section 2.3 Key Milestones. Grantee agrees to the Key Milestone set forth in Exhibit B. Key Milestone One allows for disbursement of up to the Maximum Grant.

Section 2.4 Grant Disbursement. Subject to the terms and conditions of this Agreement, including that the absence of a Default or Event of Default, payment of the Grant by the MSF shall be made to Grantee as follows:

(a) **Vendor Registration**. To receive payments under this Agreement, Grantee must register as a vendor with the State. All required payments will be made via electronic funds transfer. Grantee must register its account at the State Integrated Governmental Management Applications ("SIGMA") Vendor Self Service ("VSS") website (www.michigan.gov/VSSLogin.)

(b) **Reimbursement Request**. Grantee may receive a Grant Disbursement for Eligible Costs submitted to the Grant Manager in a Reimbursement Request pursuant to this Section 2.4 and the Key Milestone listed in Exhibit B. Grantee may only submit one Reimbursement Request per Key Milestone. The MSF's obligation to fund any portion of the Grant during the Term is subject to Grantee's satisfaction of the requirements of the corresponding Key Milestone and the corresponding approval of the Grant Manager as set forth in Section 2.4(c), and Grantee otherwise being in compliance with this Agreement.

(c) **Grant Manager Review**. The Grant Manager reviews the Reimbursement Request and determines Grantee's compliance with the Key Milestone. The Grant Manager shall, within thirty (30) business days of receipt of a Reimbursement Request and accompanying Supporting Documentation, do one or more of the following:

(i) request to review Grantee's records, request additional information, or request a site visit, or any combination thereof, all of which shall be determined in the sole discretion of the Grant Manager. Grantee shall comply with the written request within thirty (30) business days, to the satisfaction of the Grant Manager, or the Grant Manager shall reject the Reimbursement Request in the manner provided in Section 2.4(c)(ii).

(ii) reject the Reimbursement Request, which may be based on one or more of the following: (A) the failure of Grantee to demonstrate achievement of the applicable Key Milestone, (B) there is an outstanding Default or Event of Default, or (C) Grantee is otherwise not in compliance with this Agreement, and Grantee shall have thirty (30) business days from the date of the written reason to respond.

(iii) approve the Reimbursement Request, provided there is no Default or Event of Default, Grantee is otherwise in compliance with this Agreement, and Grantee has achieved all of its then required Key Milestones to the satisfaction of the Grant Manager.

If after receipt of a Reimbursement Request the Grant Manager requests to review Grantee records, requests additional information or otherwise conducts a site visit, the Grant Manager shall take the action set forth in Section 2.4(c)(ii) or Section 2.4(c)(iii), within an additional thirty (30) business days of the last to occur of: (A) the date Grantee provides the requested records and requested additional information or (B) the date the Grant Manager completes the site visit.

Section 2.5 Grantee Duties. In addition to all other obligations under this Agreement, Grantee agrees to undertake, perform, and complete all the following activities:

(a) **Nature of Grant**. The purpose of the Grant is to reimburse the expenditure of Eligible Costs by Companies through Grantee to support the creation and growth of place-based businesses located in select or master Michigan Main Street districts or essentials or certified Redevelopment Ready Communities® across the State; provide access to capital for place-based businesses, create and retain jobs, leverage private investment, and activate vacant or underutilized space; and provide Grantee with a business recruitment and retention tool as it works to grow and support its local entrepreneurial ecosystem.

(b) **Eligible Costs**. Grantee may seek reimbursement for any one or more, or any combination, of the following, which must have been incurred by the Company for the Project on or after April 18, 2026, through September 1, 2027, and actually paid by the Company to an independent third party (collectively "Eligible Costs"):

(i) Expenses for technical assistance items for design and layout of interior or exterior space, such as conceptual renderings of the interior or exterior floor plan, merchandise layout, other interior or exterior design concepts, and construction drawings, plans or specifications for interior or exterior space activation;

(ii) Expenses for interior building renovation items, including rehabilitation of floors, walls, ceiling, rooms, electrical improvements, lighting and lighting fixtures, furniture and display renovations, installation of permanent kitchen or other equipment, and/or fire suppression or other code compliance items;

(iii) Expenses for permanent or semi-permanent activation of an outdoor space, including a dining area, beer garden, or other place-based outdoor activation deemed acceptable by the Grant Manager. Exterior signage, doors and windows may be permitted if part of a larger outdoor space activation project;

(iv) Expenses for general marketing or technology to assist in connecting with customers (example: website upgrades or e-Commerce integration), operational changes (example: shifting from dine in to carry out), the purchase of a point-of-sale system, or inventory expenses for retail goods.

(c) **Ineligible Costs**. Ineligible costs include but are not limited to:

(i) Eligible Costs that will be or have been reimbursed by another MSF, MEDC, or federal program or agreement;

(ii) Any prohibited uses under this Agreement;

(iii) Exterior improvements that could be considered as general maintenance, repairs, landscaping, or other non-place-based outdoor activation;

(iv) Employee wages, salaries or benefits;

(v) Rent, mortgage, land contract or building or land lease payments, utilities, leases for equipment;

(vi) Machine or vehicle leases, vehicle payments;

(vii) Taxes, interest or insurance, professional fees;

(viii) Federal, state, or local application, licensing, permit or similar fees;

(ix) bank or other lender financing; interest; inspection fees or costs; credit card processing fees;

(x) Property acquisition;

(xi) Projects on residential property.

(d) **Reporting Requirements**. Grantee shall provide all necessary reporting documentation, in form and substance as required by the Grant Manager, all to the satisfaction of the Grant Manager. Reports must be submitted by the following date each year through the Term of the Grant. These dates may be modified in the sole discretion of the Grant Manager, notice of which shall be provided to Grantee:

(i) State Progress Report (see Exhibit E): October 1

In the event of any inconsistencies between the due dates in this Section and any Exhibit, this Section shall control.

(e) **Disbursement to Company**. Within sixty (60) days of receipt of Grant Funds, Grantee shall disburse all Grant funds to the Company.

ARTICLE III
REPRESENTATIONS AND COVENANTS OF GRANTEE

Grantee represents and warrants to the MSF from the Effective Date through the Term:

Section 3.1 Organization. Grantee is duly organized, validly existing and otherwise in good standing in the State and has the power and authority to enter into and perform its obligations under this Agreement.

Section 3.2 Grantee Authority. The execution, delivery and performance by Grantee of this Agreement has been duly authorized and approved by all necessary and proper action on the part of Grantee and will not violate any provision of law, or result in the breach, be a default

of, or require any further consent under any of Grantee's organizational and governing documents; or any agreement or instrument to which Grantee is a party, or by which Grantee or its property may be bound or affected. This Agreement is valid, binding, and enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, moratorium, reorganization or other laws or principles of equity affecting the enforcement of creditors' rights generally or by general principles of equity.

Section 3.3 Consent. Except as has been disclosed in writing to the MSF, or the Grant Manager, no consent or approval is necessary from any governmental or other entity, except the MSF, as a condition to the execution and delivery of this Agreement by Grantee or the performance of any of its obligations under this Agreement.

Section 3.4 Full Disclosure. Neither this Agreement, the Application, nor any written statements or certificates furnished by Grantee to the MEDC or the MSF in connection with the making of the Grant and Agreement contain any untrue statement of material fact, or to the best of Grantee's knowledge, omit any material fact necessary to make the statements true. There are no undisclosed facts, which materially adversely affect or, to the best of Grantee's knowledge, are reasonably likely to materially adversely affect the business or properties of Grantee or the ability of Grantee to perform its obligations under this Agreement.

Section 3.5 Litigation or Other Proceedings. To the knowledge of Grantee, there are no suits or proceedings pending or, to the knowledge of Grantee, threatened by or before any court, governmental commission, board, bureau, or other administrative agency or tribunal, which, if resolved against Grantee, would have a material adverse effect on the financial condition or business of Grantee or impair Grantee's ability to perform its obligations under the Agreement.

Section 3.6 Compliance with Laws or Contracts. Grantee is not and will not during the Term be in material violation of any laws, ordinances, regulations, rules, orders, judgments, decrees or other requirements imposed by any governmental authority, or be in material violation under any contracts, or other requirements for the Agreement, to which it is subject, and will not knowingly fail to obtain any licenses, permits or other governmental authorizations necessary to the ownership of its properties or to the conduct of its business, which violation or failure to obtain

are reasonably likely to materially and adversely affect its business, profits, properties or condition (financial or otherwise), or impair Grantee's ability to perform its obligations under this Agreement.

Section 3.7 Use of Grant Disbursements. Grantee shall not use any Grant Disbursements for the development of a stadium or arena for use by a professional sports team or development of a casino or property associated or affiliated with the operation of a casino as prohibited by the Act (see MCL 125.2088c(3)(a) and (b)), or to induce Grantee, a qualified business, or small business to leave the State of Michigan, or to contribute to the violation of internationally recognized workers' rights, of workers in a country other than the US, or to fund an entity incorporated in a tax haven country, as prohibited by the Act (see MCL 125.2088c(4)(c), (d), and (e)).

Section 3.8 Criminal or Civil Matters. Grantee affirms to the best of its knowledge that Grantee: (i) does not have any criminal convictions incident to the application for or performance of a state contract or subcontract; and (ii) does not have any criminal convictions or has not been held liable in a civil proceeding, that negatively reflects on Grantee's business integrity, based on a finding of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or violation of state or federal antitrust statutes.

Section 3.9 Conflict of Interest. Grantee affirms that there exists no actual or potential conflict of interest between Grantee, Grantee's Key Personnel or its Key Personnel's family, its business, or any financial interest and the performance by Grantee under this Agreement. Further, Grantee affirms that it has an internal conflict of interest policy in place to discover and avoid current or future conflicts of interest of the nature described in this section that may arise.

Grantee affirms that there exists no actual or potential conflict of interest between Grantee and its owners, officers, directors, managers, members, or employees and any of the Indemnified Persons and the performance by Grantee of its obligations under this Agreement. Grantee further affirms that neither Grantee, nor its owners, officers, directors, managers, members, or employees, have accepted, shall accept, have offered, or shall offer, directly or indirectly, anything of value to influence the Indemnified Persons.

Section 3.10 State Required Terms. Grantee shall comply with its representations, warranties, and obligations as required and set forth in Exhibit E.

Section 3.11 Taxes. To the extent applicable, Grantee is current, under an approved payment plan, or otherwise contesting in good faith, all federal, State of Michigan, local and real estate taxes. Unless contested in good faith and discharged by appropriate proceedings, or under an approved payment plan, Grantee shall, through the Term, promptly pay and discharge all such taxes, any assessments, and any governmental charges lawfully levied or imposed upon it (in each case, before they become delinquent and before penalties accrue).

Section 3.12 Change of Legal Status. Grantee shall (a) give the MSF written notice of any change in its name, its state organizational identification number, if it has one, its type of organization, its jurisdiction of organization, and (b) not make any change in its legal structure that would, as a matter of law, affect its surviving obligations under this Agreement, without the prior written consent of the MSF, which consent shall not be unreasonably withheld.

Section 3.13 Use of Grant Funds. Grantee shall use the Grant funds only as permitted under this Agreement.

Section 3.14 Key Milestones. Grantee agrees to the Key Milestone set forth in Exhibit B. The Grant Manager determines compliance with Key Milestones.

Section 3.15 Company Match. Grantee shall verify the Company provides a matching commitment of at least ten percent (10%) of the Maximum Grant related to the Project in the form of cash or additional private financing (“Company Match”).

Section 3.16 Recovery by Grantee. In the event Grantee receives repayment for any reason, voluntarily or involuntarily, of any portion of any Grant funds from or on behalf of any Company, the amount received (not to exceed the amount of the Grant Disbursement paid to Grantee) less reasonable costs of collection, if any, shall be repaid to the MSF within thirty (30) calendars of receipt by Grantee.

Section 3.17 Failure to Disburse. In the event Grantee has received any Grant Disbursement and has not, within sixty (60) days of receipt of such Grant Disbursement, disbursed all such Grant monies to the Company as required by this Agreement, Grantee shall return to the MEDC the portion of the MEDC Grant monies not yet disbursed by Grantee.

Section 3.18 Access to Records. During the Term, and for seven (7) years thereafter, Grantee shall maintain reasonable records arising out of this Agreement and shall allow access to those records by the MSF, MEDC, or its authorized representative. This Section shall survive for seven (7) years following the end of the Term.

ARTICLE IV
REPRESENTATIONS AND COVENANTS OF THE MSF

The MSF represents and warrants to Grantee:

Section 4.1 Organization. The MSF is a public body corporate and politic within the State of Michigan created under the Act. The MSF has the power and authority to enter into and perform its obligations under this Agreement.

Section 4.2 Consent. Except as disclosed in writing to Grantee or as otherwise provided by law no consent or approval is necessary from any governmental authority as a condition to the execution and delivery of this Agreement by the MSF or the performance of any of its obligations under this Agreement. This Agreement is valid, binding, and enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, moratorium, reorganization or other laws or principles of equity affecting the enforcement of creditors' rights generally or by general principles of equity.

ARTICLE V
DEFAULT AND REMEDIES

Section 5.1 Events of Default. The occurrence of any one or more of the following events or conditions shall constitute an "Event of Default" under this Agreement, unless a written waiver of the Event of Default, or written forbearance, is signed by the MSF Fund Manager:

(a) any representation made by Grantee which is incorrect in any material respect, including, but not limited to, any representation or warranty provided in this Agreement, including Article III, any information provided in the Application, or any information provided in support of a Reimbursement Request;

(b) any material breach by Grantee of an obligation of Grantee under this Agreement, including failure to submit a Progress Report when due, which is not cured by Grantee to the reasonable satisfaction of the Grant Manager within ten (10) business days after written notice thereof by the Grant Manager or within such longer periods of time as indicated in this Agreement, or determined in writing and at the sole discretion of the MSF Fund Manager (applicable "Cure Period");

(c) Grantee's failure to timely meet the Reimbursement Request due date identified in Section 2.4(c), which failure is not cured by Grantee to the satisfaction of the Grant Manager within ten (10) business days after written notice thereof by the Grant Manager, or within such longer period of time as determined in writing and at the sole discretion of the MSF Fund Manager (applicable Cure Period);

(d) Grantee is in default, violation, breach, or non-compliance, of any kind or nature under any agreement or requirement, including submission of reports, with the MEDC or any department or agency within the State (including without limitation, the Department of Licensing and Regulatory Affairs, the Department of Environmental Quality, the Department of Treasury, the Michigan Strategic Fund, and the State Historic Preservation Office) which is not cured by Grantee to the satisfaction of the Grant Manager within ten (10) business days after written notice thereof by the Grant

Manager or within such longer period of time as determined in the sole discretion, and pursuant to the written notice, of the MSF Fund Manager (applicable Cure Period);

(e) Grantee's use of Grant funds for any purpose that is not an Eligible Cost.

Section 5.2 Available Remedies. Upon the occurrence, and during the continuance, of a Default or Event of Default under this Agreement:

(a) The MSF may immediately and without prior notice discontinue making any Grant Disbursement to Grantee.

(b) The MSF may immediately, after expiration of any applicable Cure Period without a cure, terminate this Agreement upon written notice of the MSF.

(c) After the expiration of any applicable Cure Period without a cure, Grantee shall repay to the MSF all previous Grant Disbursements made to Grantee.

(d) Any amounts due to the MSF under this Section 5.2 must be paid within 90 days of notification by the MSF and are subject to interest at a rate of one percent (1%) per month, prorated on a daily basis, beginning on the ninety-first (91st) day of nonpayment of any amounts owed to the MSF and continuing until all funds owed under this Agreement are paid in full to the MSF.

(e) All payments by Grantee shall be applied: (i) first to reimburse permitted costs and expenses; then (ii) to satisfy outstanding interest; then (iv) to satisfy any and all other outstanding amounts owed to the MSF.

(f) Notwithstanding anything to the contrary, the MSF reserves the right to require Grantee to pay the highest amount resulting from one or more of the same circumstances which give rise to more than one Event of Default; provided however, except as to any interest, costs and expenses as provided by this Agreement, in no event shall Grantee be required to repay the MSF any amount in excess of Grant Disbursements received by Grantee.

(g) No remedy described in this Agreement is intended to be the sole and exclusive remedy available to the MSF, and each remedy shall be cumulative and in addition to every other provision or remedy given herein or now or hereafter existing at law, in equity, by statute or otherwise. Grantee shall also pay all costs and expenses, including, without limitation, reasonable attorney's fees and expenses incurred by the MSF in successfully collecting any sums due the MSF under this Agreement, in enforcing any of its rights under this Agreement, or in exercising any remedies available to the MSF.

Section 5.3 Other Suspension. In the event the MSF becomes aware of a Default, the MSF may immediately and without prior notice suspend making any Grant Disbursements, until such time the MSF is satisfied otherwise. Grantee shall cooperate upon the request of the Grant Manager to provide additional information regarding the aforementioned event or circumstance.

ARTICLE VI

MISCELLANEOUS

Section 6.1 Notice. Any notice or other communication under this Agreement shall be in writing and sent by e-mail, or fax, or first-class mail, postage prepaid, or by courier to the respective Party at the address listed at the beginning of this Agreement or such other last known addresses, fax numbers or e-mail accounts, and shall be deemed delivered: (i) one business day after an e-mail, fax, or courier delivery or (ii) two business days after a mailing date.

Section 6.2 Entire Agreement. This Agreement, together with the Exhibits, sets forth the entire agreement of the Parties with respect to the subject matter, and supersedes all prior agreements, understandings, and communications, whether written or oral, with respect to the subject matter of this Agreement.

Section 6.3 Counterparts; Facsimile/Pdf Signatures. This Agreement may be signed in counterparts and delivered by fax or in .pdf form or other electronic format, and in any such circumstances, shall be considered one document and an original for all purposes.

Section 6.4 Severability. All the clauses of this Agreement are distinct and severable and, if any clause shall be deemed illegal, void, or unenforceable, it shall not affect the validity, legality, or enforceability of any other clause or provision of this Agreement. To the extent possible, the illegal, void, or unenforceable provision shall be revised to the extent required to render the Agreement enforceable and valid, and to the fullest extent possible, the rights and responsibilities of the Parties shall be interpreted and enforced to preserve the Agreement and the intent of the Parties. Provided, if application of this section should materially and adversely alter or affect a Party's rights or obligations under this Agreement, the Parties agree to negotiate in good faith to develop a structure that is as nearly the same structure as the original Agreement (as may be amended from time to time) without regard to such invalidity, illegality, or unenforceability.

Section 6.5 Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit, or describe the scope or intent of any provisions or sections of this Agreement.

Section 6.6 Governing Law. This Agreement is a contract made under the laws of the State, and for all purposes shall be governed by, and construed in accordance with, the laws of the State of Michigan.

Section 6.7 Relationship between Parties. Grantee and its officers, agents and employees shall not describe or represent themselves as agents of the State, the MSF, or the MEDC to any individual person, firm, or entity for any purpose.

Section 6.8. Successors and Assigns. The MSF may at any time assign its rights in this Agreement. Grantee may not assign any of its rights or obligations under this Agreement without the prior written approval of the MSF. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective permitted successors and permitted assigns.

Section 6.9 Waiver. A failure or delay in exercising any right under this Agreement will not be presumed to operate as a waiver unless otherwise stated in this Agreement, and a single or partial exercise of any right will not be presumed to preclude any subsequent or further exercise of that right or the exercise of any other right.

Section 6.10 Termination of Agreement. Except as to terms of this Article VI and Exhibit A, which shall survive indefinitely, and any provisions requiring repayment, which shall survive until all amounts due are paid in full, and except as to other terms and conditions which shall survive as provided in this Agreement, this Agreement shall terminate at the end of the Term. Provided however, any claims arising out of an Event of Default which event occurred during the Term shall be brought within seven years (7) years after the end of the Term of the Grant.

Section 6.11 Amendment. This Agreement may not be modified or amended except pursuant to a written instrument signed by both Parties.

Section 6.12 Publicity. At the request of the MSF or MEDC, Grantee will cooperate with the MSF or MEDC to promote the Project through one or more of the placement of a sign, plaque, media coverage or other public presentation acceptable to the Parties.

Section 6.13 Cooperation by the Parties. The Parties will cooperate and communicate with one another and use all reasonable efforts to cause the fulfillment of the intents and purposes of the Program and this Agreement.

(SIGNATURE PAGE FOLLOWS)

The Parties have executed this Agreement effective on the Effective Date.

The signatories below warrant that they are empowered to enter into this Agreement.

CITY OF ZEELAND

_____
By:
Its:

MICHIGAN STRATEGIC FUND

_____
By: Matthew Casby
Its: Fund Manager

EXHIBIT A

DEFINED TERMS

a) "**Agreement**" means this Agreement, including the Exhibits to this Agreement.

b) "**Application**" has the meaning set forth in Recital J.

c) "**Company**" has the meaning set forth in Recital J.

d) "**Company Acknowledgment**" means the written acknowledgment of the Company in support of Key Milestone Number One, in the form and substance set forth on Exhibit D.

e) **"Company Match**" has the meaning set forth in Section 3.15.

f) "**Cure Period**" has the applicable meaning set forth in Section 5.1.

g) "**Eligible Costs**" has the meaning set forth in Section 2.5(b).

h) "**Event of Default**" means any one or more of those events described in Section 5.1.

i) "**Exhibit**" means each of the documents or instruments attached to this Agreement.

j) "**Grant**" has the meaning set forth in Recital K.

k) "**Grant Disbursement**" means Grant funds paid to Grantee under this Agreement.

l) "**Grantee**" has the meaning set forth in the preamble.

m) "**Grant Manager**" has the meaning set forth in Section 2.2.

n) "**Indemnified Persons**" has the meaning set forth in Section E.6.

o) "**Key Milestone"** means those requirements set forth in Exhibit B.

p) "**Maximum Grant Amount**" means Sixteen Thousand Nine Hundred Eighty-Four Dollars ($16,984).

q) "**MEDC**" has the meaning set forth in Recital C.

r) "**MSF"** has the meaning set forth in the preamble.

s) "**Party**" or "**Parties**" has the meaning set forth in the preamble.

t) "**Program**" has the meaning set forth in Recital F.

u) "**Progress Report**" has the meaning set forth in Section E.1.

v) "**Project**" has the meaning in Recital J.

w) "**Reimbursement Request**" means a written request from Grantee for a Grant Disbursement in support of the applicable Key Milestone, in the form and substance set forth in Exhibit C.

x) "**State**" means the State of Michigan.

y) "**Supporting Documentation**" means such documentation that may be provided to, or requested by, the Grant Manager to support a Disbursement Request pursuant to the Key Milestone.

z) "**Term**" means from the Effective Date and, unless earlier terminated as provided by this Agreement through November 30, 2027.

EXHIBIT B
KEY MILESTONE ONE

Key Milestone Number One:

Subject to the terms and conditions of the Agreement, including the terms and conditions of Section 2.4 of the Agreement which include the required submission of a Grant Reimbursement Request, and any other information as may be required under the Agreement, a Grant Disbursement may be requested by Grantee:

Grant Disbursement: Up to the Maximum Grant Amount

By no later than September 15, 2027, Grantee must submit, and demonstrate to the satisfaction of the Grant Manager, all of the following, and must otherwise be in compliance with the Agreement:

1. A fully completed Grant Reimbursement Request in the form and substance set forth in Exhibit C, signed by Grantee, together with all required Supporting Documentation including copies of receipts or other documentary evidence of all Eligible Costs for which reimbursement is being sought;

2. A final Progress Report;

3. A fully completed Company Acknowledgment in the form and substance set forth on Exhibit D, signed by the Company; and

4. One or more photograph(s) of the Project reflecting the results of the Eligible Costs (such as a photograph of the improvements made to the Project, or a photograph of items purchased for the Project) evidencing project completion.

EXHIBIT C

KEY MILESTONE NUMBER ONE REIMBURSEMENT REQUEST

This Reimbursement Request is being delivered pursuant to Section 2.4 and Key Milestone Number One of the Grant Agreement dated as of the Effective Date (the "Grant Agreement"), by and between the Michigan Strategic Fund and Grantee. Capitalized terms in this Reimbursement Request not otherwise defined herein shall have the meanings ascribed to them in the Grant Agreement. The undersigned, in the name and on behalf of Grantee, hereby certifies, represents, and warrants, that as of the date of signing this Reimbursement Request:

1. Grantee has complied, and is in compliance, with all the terms, covenants, and conditions of the Grant Agreement.

2. No Event of Default (as defined in Section 5.1 of the Grant Agreement) exists, and no event which, with the giving of notice or the lapse of time, or both, would constitute such an Event of Default.

3. The representations and covenants of Grantee contained in Article III and Article IV of the Grant Agreement are true.

4. This Reimbursement Request is being submitted solely for Eligible Company related to the _____ located at _____.

5. Attached is the Company Acknowledgment, signed by the Company.

6. In addition to the amount otherwise spent by the Company on Eligible Costs, attached is a copy of Supporting Documentation received by Grantee from the Company evidencing that the Company has met the Company Match requirement.

7. Grantee requests a Grant disbursement in the amount of $_____.

The undersigned has the authority, and signs this Grant Reimbursement Request, on behalf of Grantee.

_____

_____
(Authorized Signature)

_____
(Print Name)

_____
(Title)

_____
(Date)

EXHIBIT D

COMPANY ACKNOWLEDGMENT

This Company Acknowledgment is being delivered pursuant to Section 2.3 and Key Milestone Number One of the Grant Agreement dated as of the Effective Date (the "Grant Agreement"), by and between the Michigan Strategic Fund (the "MSF"), and Grantee. Capitalized terms in this Company Acknowledgment not otherwise defined herein shall have the meanings ascribed to them in the Grant Agreement. The undersigned, in the name and on behalf of Company, hereby certifies, represents, and warrants, that as of the date of signing this Grant Reimbursement Request:

1. The Company affirms it has paid the Eligible Costs for the Project.

2. The Company affirms it has contributed the Company Match for the Project.

3. The Company will cooperate with Grantee's and/or the MSF's reasonable requests for information related to the Project, Eligible Costs, the Company Match, or arising out of the Grant Agreement.

4. At the request of the Michigan Economic Development Corporation ("MEDC"), the Company will cooperate with Grantee and the MEDC and MSF, to promote the Project through one or more of the placement of a sign, plaque, media coverage or other public presentation at the Project location, or other locations, acceptable to the Parties.

5. At the request of the MSF or MEDC, the Company will cooperate with Grantee and the MEDC and MSF, to permit a MSF or MEDC representative to visit the Project location and/or view the results of the Eligible Costs.

The undersigned has the authority, and signs this Company Acknowledgment, on behalf of the Company.

_____

_____
(Authorized Signature)

_____
(Print Name)

_____
(Title)

_____
(Date)

EXHIBIT E

STATE REQUIRED TERMS

Section E.1 Progress Reports. Beginning October 1, 2026, and continuing no later than October 1st of each calendar year during the Term, Grantee shall submit to the Grant Manager an annual Progress Report relative to the Project. The Progress Report shall be an all-encompassing report of the preceding twelve (12) months ending September 30, and submission of all data required for the MSF to comply with its annual reporting requirements to the Michigan legislature under the Act (see MCL 125.2009); including reporting for the previous twelve (12) months ending September 30:

(a) the amount of financial support other than State resources;

(b) the actual number of both new and retained full time jobs and the actual average annual salary for both the new and retained full time jobs for the Project;

(c) the actual amount of private investment attracted to the Project; and

(d) the total actual amount of square footage revitalized or added by the Project.

Section E.2 Confidentiality. In connection with the transactions contemplated by this Agreement, the MSF, the MEDC or their representatives may obtain, or have access to all information or data concerning the business, operations, assets, or liabilities of the Company. Under MCL 125.2005(10), the MSF Board has authority, upon the Company's request, to acknowledge financial or proprietary Company information as confidential. If the MSF acknowledges Company information as confidential (the "Confidential Information"), the MEDC and the MSF agree that they and their representatives will use the Confidential Information solely for the purpose of administering this Agreement, and that the Confidential Information will be kept strictly confidential and that neither the MEDC, the MSF, nor any of their representatives will disclose any of the Confidential Information in any manner whatsoever. However, the MSF or the MEDC may disclose Confidential Information: (i) to such of its representatives who need such information or data for the sole purpose of administering the MBDP and the transactions contemplated by this Agreement; (ii) to the extent required by applicable law (including, without limitation, the Michigan Freedom of Information Act); (iii) if, before the Effective Date, such information or data was generally publicly available; (iv) if after the Effective Date, such information or data becomes publicly available without fault of or action on the part of the MSF, the MEDC or its representatives; and (v) in all other cases, to the extent that the Company gives its prior written consent to disclosure. This Section shall survive indefinitely.

Section E.3 Access to Records and Inspection Rights. During the Term of the Grant, there will be frequent contact between the Grant Manager, or other MEDC, MSF or representative of the State, and the Company. Until the end of the Term of the Grant, to enable the Auditor General, the Department of Technology, Management and Budget (the "DTMB"), the MSF, or the MEDC to monitor and ensure compliance with the terms of this Agreement, the Company shall permit the Auditor General, the Chief Compliance Officer, the DTMB, the MSF, or the MEDC to visit the Company, and any other location where books and records of the Company are normally kept, to inspect the books and records, including financial records and all other information and data relevant to the terms of this Agreement, including the expenditure of the

Grant Disbursements; provided, however, that such audit right shall survive the end of the Term of the Grant by three (3) years. In connection with any such audit, the Company shall cooperate with the chief compliance officer, if contacted, as provided in MCL 125.2088i(6)(h). At such visits, the Company shall permit the Auditor General, the Chief Compliance Officer, the DTMB, the MSF, or any member, employee or agent of the MSF, the Chief Compliance Officer, the Grant Manager, or any employee or agent of the MEDC to make copies or extracts from information and to discuss the affairs, finances and accounts of the Company related to this Agreement with its officers, employees or agents. Notwithstanding anything to the contrary, any information and data that the Company reasonably determines is Confidential Information shall be reviewed by the Auditor General, the Chief Compliance Officer, the DTMB, the MSF, and the MEDC at the offices of the Company and the Auditor General, the Chief Compliance Officer, the DTMB, the MSF, or the MEDC shall have the right to remove, photocopy, photograph or otherwise record in any way any part of such books and records with the prior written consent of the Company, which consent shall not be unreasonably withheld.

Section E.4 Termination of Funding. In the event that the State Legislature or the State Government fails to provide or terminates the funding necessary for the MSF to fund the Grant, the MSF may terminate this Agreement by providing notice to the Company not less than thirty (30) calendar days before the date of cancellation provided, however, that in the event the action of the State Legislature or State government results in an immediate absence or termination of funding, this Agreement may be terminated effective immediately upon delivery of written notice to the Company. In the event of termination of funding, the MSF has no further obligation to make Grant Disbursements beyond the date of termination of this Agreement.

Section E.5 Non-Discrimination and Unfair Labor Practices. In connection with this Agreement, the Company agrees not to discriminate against any employee or applicant for employment, with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex (including sexual orientation and gender identity or expression as defined in Executive Directive 2019-09), height, weight, marital status, partisan considerations, physical or mental disability, or genetic information (as defined in Executive Directive 2019-09) that is unrelated to the individual's ability to perform the duties of the particular job or position. The Company further agrees that every subcontract or sub-recipient agreement entered into for performance of this Agreement will contain a provision requiring nondiscrimination in employment, as specified in this Agreement, binding upon each subcontractor. This covenant is required, as applicable under the Elliot Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq*., and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq*., and is consistent with Executive Directive 2019-09, and any breach thereof may be regarded as a material breach of this Agreement.

Under 1980 PA 278, MCL 423.321, *et seq*., the State shall not award a contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under MCL 423.322. The United States Labor Relations Board compiles this information. The Company shall not enter into a contract with a subcontractor, manufacturer, or supplier whose name appears in this register. Under MCL 423.324, the State may void any contract if, subsequent to the award of the contract, the name of the Company as an employer, or the name of a subcontractor, manufacturer, or supplier of the Company appears in the register.

Section E.6 Indemnification and Hold Harmless. Except for their respective obligations to process or disburse Grant Disbursements as required in this Agreement, the MSF, the State, the MEDC, its Executive Committee and their respective directors, participants, officers, agents and employees (collectively, the "Indemnified Persons") shall not be liable to the Company for any reason. The Company shall indemnify and hold the State, the MSF, and the MEDC and other Indemnified Person harmless against all claims asserted by or on behalf of any individual person, firm or entity (other than an Indemnified Person), arising or resulting from, or in any way connected with this Agreement or any act or failure to act by the Company under the Agreement, including all liabilities, costs and expenses, including reasonable counsel fees, incurred in any action or proceeding brought by reason of any such claim. The Company shall also indemnify the MSF, the MEDC and other Indemnified Person from and against all costs and expenses, including reasonable counsel fees, lawfully incurred in enforcing any obligation of the Company under this Agreement.

The Company shall have no obligation to indemnify an Indemnified Person under this Section if a court with competent jurisdiction finds that the liability in question was solely caused by the willful misconduct or gross negligence of the MSF, the MEDC or other Indemnified Person, unless the court finds that despite the adjudication of liability, the MSF, the MEDC or other Indemnified Person is fairly and reasonably entitled to indemnity for the expenses the court considers proper. The MSF, the MEDC and the Company agree to act cooperatively in the defense of any action brought against the MSF, the MEDC or another Indemnified Person to the greatest extent possible.

Performance of the Company's obligations contemplated under this Agreement is within the sole control of the Company and its employees, agents and contractors, and an Indemnified Person shall have no liability in tort or otherwise for any loss or damage caused by or related to the actions or failures to act, products and processes of the Company, its employees, agents or contractors. This Section shall survive indefinitely.

Section E.7 Jurisdiction. The parties shall make a good faith effort to resolve any controversies that arise regarding this Agreement. If a controversy cannot be resolved, the parties agree that any legal actions concerning this Agreement shall be brought in the Michigan Court of Claims or, as appropriate, Ingham County Circuit Court in Ingham County, Michigan. The Company acknowledges by signing this Agreement that it is subject to the jurisdiction of this court and agrees to service by first class or express delivery wherever the Company resides, in or outside of the United States. This Section shall survive indefinitely.

MATCH ON MAIN PROGRAM
SUB-GRANT AGREEMENT

(Mandu Escapes LLC Sub-Grant Agreement)

THIS SUB-GRANT AGREEMENT ("Agreement"), is effective as of September 8, 2026 (the "Effective Date"), and is a contract between the City of Zeeland (the "Grantor"), whose address is 21 S. Street, Zeeland, Michigan 49464, and Mandu Escapes LLC, a Michigan limited liability company, (the "Grantee"), whose address is 1971 E. Beltline Avenue NE, Ste. 106-715, Grand Rapids, Michigan 49525. As used in this Agreement, the Grantor and the Grantee are, individually, a "Party" and, collectively, the "Parties".

RECITALS

A. The Michigan Strategic Fund Board through the staff of the Michigan Economic Development Corporation created an MEDC Match on Main Program ("MoM Program") to provide MEDC funding to certain community development organizations across the State to deliver and administer grants to certain place-based small businesses.

B. The MEDC approved a MoM Program grant award to the Grantee ("MEDC Grant Funds") to be disbursed to eligible businesses. ***A copy of the Grant Agreement between the MEDC and Grantor is attached as Exhibit A ("Underlying Match on Main Program Grant Agreement")***.

C. Grantee has applied to the Michigan Strategic Fund to receive a grant award from Grantor for the MEDC Grant Funds, and Grantor has received a grant award in the amount of sixteen thousand nine hundred eighty-four ($16,984) dollars ("Sub-Grant Funds") which have been awarded to Grantee.

NOW, THEREFORE, the Parties agree as follows:

1. **Grant**. Subject to the terms and conditions of this Agreement, and in reliance upon the Grantee's affirmations which are set forth below, the Grantor agrees to make, and the Grantee agrees to accept, the Sub-Grant Funds. It is understood, however, that Grantor is subject to all of the terms and conditions of the Underlying Match on Main Program Grant Agreement. Thus, Grantor will provide the Sub-Grant Funds to Grantee as soon as institutionally possible for Grantor to distribute such funds after Grantor has received the MEDC Grant Funds.

2. **Grantee Affirmations.** Grantee affirms all of its representations in the application for assistance and request for Sub-Grant Funds (the representations which were made in the Business Application Worksheet shall constitute the request for assistance) that were submitted to Grantor on or about April 16, 2026 ("Application").

   a. Grantee affirms that the Sub-Grant Funds shall be used by the Grantee only for Eligible Costs as defined in the Underlying Match on Main Program MEDC/Grantor Grant.

b. Grantee affirms that it will timely provide to Grantor the information relative to the Grantee as outlined in Exhibits B, C, D and E of the Underlying Match on Main Program EDC/Grantor Grant, and other reasonably pertinent information requested by the Grantor.

c. Grantee further affirms and agrees that it shall provide information and shall permit both the Grantor and any representative of the State access to inspect its premises and its books and records so as to ensure that the Grantee has complied with all of the terms and conditions of the Grant Agreement between the MEDC and the Grantor.

3. **Repayment/Remedies**. Grantee is subject to repayment to the Grantor of an amount equal to the Sub-Grant Funds received by Grantee in the event that Grantee has made material misrepresentations to the Grantor in its Application, or the Grantee fails to otherwise comply with the requirements of this Agreement. Grantor further retains all rights and remedies allowed in law or equity, including seeking payment of its reasonable costs and expenses incurred enforcing its rights and remedies.

4. **Assignment**. Grantee may not assign any of its rights or obligations of this Agreement to any person or entity. Grantor may assign any of its rights and remedies hereunder to the MEDC upon the request of the MEDC.

5. **Written Notice**. All notices or other communications required or permitted to be given to a party to this Agreement shall be in writing and shall be (a) personally delivered; (b) sent by registered or certified mail, postage prepaid, return receipt requested; (c) sent by an overnight express courier service that provides written confirmation of delivery at the addresses shown above; or (d) by email if confirmation is provided that the email was received by the party to whom a notice is to be given.

6. **Counterparts/Facsimile/PDF Signatures**. This Agreement may be signed in counterparts and delivered by fax, in a PDF format or in another electronic format. In any of such circumstances, it shall be considered to be one document and an original for all purposes.

The undersigned have the authority to sign this on behalf of their respective Party effective on the Effective Date.

GRANTOR:

CITY OF ZEELAND

By: _____
Richard J. Van Dorp III, Its Mayor

By: _____
Kristen R. DeVerney, Its City Clerk

GRANTEE:

MANDU ESCAPES LLC

By:_____
Johanna Udo, Its Member

PERSONAL GUARANTEE

I, Johanna Udo, hereby personally guarantee that all of the obligations of Mandu Escapes LLC in the above referenced agreement will be fulfilled and that all grant funds which are received from the MEDC and the City of Zeeland will be used in accordance with the terms and conditions of the grant which has been awarded to the City of Zeeland and to Mandu Escapes LLC.

Dated: _____, 2026

_____
Johanna Udo

EXHIBIT A

COPY OF THE UNDERLYING
MATCH ON MAIN PROGRAM GRANT AGREEMENT
(See attached)