Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 7 - Discharge to an Intermittent Stream with Perennial Pools

Screen the Intermittent Characteristics of the Stream

Applicant Name:	**CMR ENERGY_ NUECES RIVER ABOVE HOLLAND DAM**
Permit Number, Outfall:	**001**
Segment Number:	**2105**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**900**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**200**	mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**200**	mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**1220**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**65.6**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**638**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 4500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L

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Screen the Intermittent Characteristics of the Stream

wastewater, considered water in the state.	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	1220	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	1220	≤	2500
Consider control measures if:	1220	>	2500

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate

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Screen the Intermittent Characteristics of the Stream

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **555.55556** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			**Data Source**
Cl CE - average effluent chloride concentration	65.6	mg/L	Permit application
Cl Csv - chloride screening value	555.55556	mg/L	Determined above

No control measures needed if:	65.6	≤	555.5556
Consider control measures if:	65.6	>	555.5556

No control measures needed for chloride

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value

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Screen the Intermittent Characteristics of the Stream

TDS Csv = TDS screening value
TDS CC = TDS criterion at the first downstream segment
SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **555.55556** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			**Data Source**
SO4 CE - average effluent sulfate concentration	638	mg/L	Permit application
SO4 Csv - sulfate screening value	555.55556	mg/L	Determined above

No control measures needed if:	638	≤	555.5556
Consider control measures if:	638	>	555.5556

Consider control measures for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 7 - Discharge to an Intermittent Stream with Perennial Pools

Screen the Intermittent Characteristics of the Stream

Applicant Name:	**CMR ENERGY_ NUECES RIVER ABOVE HOLLAND DAM**
Permit Number, Outfall:	**002**
Segment Number:	**2105**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**900**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**200**	mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**200**	mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**1890**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**592**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**722**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 4500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L

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Screen the Intermittent Characteristics of the Stream

wastewater, considered water in the state.	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	1890	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	1890	≤	2500
Consider control measures if:	1890	>	2500

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

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Screen the Intermittent Characteristics of the Stream

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **555.55556** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			**Data Source**
Cl CE - average effluent chloride concentration	592	mg/L	Permit application
Cl Csv - chloride screening value	555.55556	mg/L	Determined above

No control measures needed if:	592	≤	555.5556
Consider control measures if:	592	>	555.5556

Consider control measures for chloride

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
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Screen the Intermittent Characteristics of the Stream

TDS Csv = TDS screening value
TDS CC = TDS criterion at the first downstream segment
SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **555.55556** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			**Data Source**
SO4 CE - average effluent sulfate concentration	722	mg/L	Permit application
SO4 Csv - sulfate screening value	555.55556	mg/L	Determined above

No control measures needed if:	722	≤	555.5556
Consider control measures if:	722	>	555.5556

Consider control measures for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 7 - Discharge to an Intermittent Stream with Perennial Pools

Screen the Intermittent Characteristics of the Stream

Applicant Name:	**CMR ENERGY_ NUECES RIVER ABOVE HOLLAND DAM**
Permit Number, Outfall:	**003**
Segment Number:	**2105**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**900**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**200**	mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**200**	mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**1140**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**60.2**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**604**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 4500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L

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Screen the Intermittent Characteristics of the Stream

wastewater, considered water in the state.	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	1140	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	1140	≤	2500
Consider control measures if:	1140	>	2500

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

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Screen the Intermittent Characteristics of the Stream

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **555.55556** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			**Data Source**
Cl CE - average effluent chloride concentration	60.2	mg/L	Permit application
Cl Csv - chloride screening value	555.55556	mg/L	Determined above

No control measures needed if:	60.2	≤	555.5556
Consider control measures if:	60.2	>	555.5556

No control measures needed for chloride

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
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Screen the Intermittent Characteristics of the Stream

TDS Csv = TDS screening value
TDS CC = TDS criterion at the first downstream segment
SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **555.55556** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			**Data Source**
SO4 CE - average effluent sulfate concentration	604	mg/L	Permit application
SO4 Csv - sulfate screening value	555.55556	mg/L	Determined above

No control measures needed if:	604	≤	555.5556
Consider control measures if:	604	>	555.5556

Consider control measures for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 7 - Discharge to an Intermittent Stream with Perennial Pools

Screen the Intermittent Characteristics of the Stream

Applicant Name:	**CMR ENERGY_ NUECES RIVER ABOVE HOLLAND DAM**
Permit Number, Outfall:	**004**
Segment Number:	**2105**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**900**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**200**	mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**200**	mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**1290**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**82.5**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**656**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 4500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
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Screen the Intermittent Characteristics of the Stream

wastewater, considered water in the state.	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	1290	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	1290	≤	2500
Consider control measures if:	1290	>	2500

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

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Screen the Intermittent Characteristics of the Stream

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **555.55556** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			**Data Source**
Cl CE - average effluent chloride concentration	82.5	mg/L	Permit application
Cl Csv - chloride screening value	555.55556	mg/L	Determined above

No control measures needed if:	82.5	≤	555.5556
Consider control measures if:	82.5	>	555.5556

No control measures needed for chloride

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
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Screen the Intermittent Characteristics of the Stream

TDS Csv = TDS screening value
TDS CC = TDS criterion at the first downstream segment
SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **555.55556** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			Data Source
SO4 CE - average effluent sulfate concentration	656	mg/L	Permit application
SO4 Csv - sulfate screening value	555.55556	mg/L	Determined above

No control measures needed if:	656	≤	555.5556
Consider control measures if:	656	>	555.5556

Consider control measures for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 7 - Discharge to an Intermittent Stream with Perennial Pools

Screen the Intermittent Characteristics of the Stream

Applicant Name:	**CMR ENERGY_ NUECES RIVER ABOVE HOLLAND DAM**
Permit Number, Outfall:	**005**
Segment Number:	**2105**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**900**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**200**	mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**200**	mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**1500**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**207**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**654**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 4500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L

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wastewater, considered water in the state.	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	1500	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	1500	≤	2500
Consider control measures if:	1500	>	2500

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

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Screen the Intermittent Characteristics of the Stream

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **555.55556** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			**Data Source**
Cl CE - average effluent chloride concentration	207	mg/L	Permit application
Cl Csv - chloride screening value	555.55556	mg/L	Determined above

No control measures needed if:	207	≤	555.5556
Consider control measures if:	207	>	555.5556

No control measures needed for chloride

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride

Daily Average	=	N/A	mg/L
Daily Maximum	=	N/A	mg/L

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
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Screen the Intermittent Characteristics of the Stream

TDS Csv = TDS screening value
TDS CC = TDS criterion at the first downstream segment
SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **555.55556** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			**Data Source**
SO4 CE - average effluent sulfate concentration	654	mg/L	Permit application
SO4 Csv - sulfate screening value	555.55556	mg/L	Determined above

No control measures needed if:	654	≤	555.5556
Consider control measures if:	654	>	555.5556

Consider control measures for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate

Daily Average	=	556	mg/L
Daily Maximum	=	1,178	mg/L