



Filing Receipt

Received - 2022-01-04 02:47:01 PM

Control Number - 52485

ItemNumber - 85

**SOAH DOCKET NO. 473-22-1073
DOCKET NO. 52485**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
PUBLIC SERVICE COMPANY TO §
AMEND ITS CERTIFICATE OF §
CONVENIENCE AND NECESSITY TO § OF
CONVERT HARRINGTON §
GENERATING STATION FROM COAL §
TO NATURAL GAS § ADMINISTRATIVE HEARINGS**

**SOUTHWESTERN PUBLIC SERVICE COMPANY’S
RESPONSE TO TEXAS INDUSTRIAL ENERGY CONSUMERS’
SECOND REQUEST FOR INFORMATION
QUESTION NOS. 2-1 THROUGH 2-7**

(Filename: SPSRespTIEC2nd.doc; Total Pages: 14)

I. WRITTEN RESPONSES 2

II. INSPECTIONS. 3

RESPONSES 5

QUESTION NO. TIEC 2-1:..... 5

QUESTION NO. TIEC 2-2:..... 6

QUESTION NO. TIEC 2-3:..... 9

QUESTION NO. TIEC 2-4..... 10

QUESTION NO. TIEC 2-5:..... 11

QUESTION NO. TIEC 2-6:..... 12

QUESTION NO. TIEC 2-7:..... 13

CERTIFICATE OF SERVICE 14

EXHIBITS ATTACHED:

- Exhibit SPS-TIEC 2-6(CONF) *(provided in non-native format)*
- Exhibit SPS-TIEC 2-7 *(provided in native format)*

**SOAH DOCKET NO. 473-22-1073
DOCKET NO. 52485**

APPLICATION OF SOUTHWESTERN	§	BEFORE THE STATE OFFICE
PUBLIC SERVICE COMPANY TO	§	
AMEND ITS CERTIFICATE OF	§	
CONVENIENCE AND NECESSITY TO	§	OF
CONVERT HARRINGTON	§	
GENERATING STATION FROM COAL	§	
TO NATURAL GAS	§	ADMINISTRATIVE HEARINGS

**SOUTHWESTERN PUBLIC SERVICE COMPANY’S
RESPONSE TO TEXAS INDUSTRIAL ENERGY CONSUMERS
SECOND REQUEST FOR INFORMATION
QUESTION NOS. 2-1 THROUGH 2-7**

Southwestern Public Service Company (“SPS”) files this response to the Texas Industrial Energy Consumers’ (“TIEC”) Second Request for Information, Question Nos. 2-1 and 2-7. SPS has provided notice, by email, to all parties that SPS’s Responses to TIEC’s Second Request for Information and accompanying exhibits (excluding voluminous and exhibits provided pursuant to the protective order) have been filed with the Commission and are available for download from the Commission’s Interchange website.

I. WRITTEN RESPONSES

SPS’s written responses to TIEC’s Second Request for Information are attached and incorporated by reference. Each response is stated on or attached to a separate page on which the request has been restated. SPS’s responses are made in the spirit of cooperation without waiving SPS’s right to contest the admissibility of any of these matters at hearing. In accordance with 16 Tex. Admin. Code § 22.144(c)(2)(A) (“TAC”), each response lists the preparer or person under whose direct supervision the response was prepared and any sponsoring witness. When SPS provides certain information sought by the request while objecting to the provision of other

information, it does so without prejudice to its objection in the interests of narrowing discovery disputes under 16 TAC § 22.144(d)(5). Pursuant to 16 TAC § 22.144(c)(2)(F), SPS stipulates that its responses may be treated by all parties as if they were made under oath.

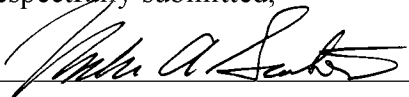
II. INSPECTIONS

If responsive documents are more than 100 pages but less than eight linear feet in length, the response will indicate that the attachment is voluminous (“(V)”) and, pursuant to 16 TAC § 22.144(h)(2), the exhibit will be made available for inspection at SPS’s voluminous room at 600 Congress Avenue, Suite 2000, Austin, Texas 78701; telephone number (512) 721-2700. Voluminous exhibits will also be provided via email through Coffin Renner LLP’s file sharing link.

If a response or the responsive documents are provided pursuant to the protective order in this docket, the response will indicate that it or the attachment is either confidential (“CONF”) or highly Sensitive (“HS”) as appropriate under the protective order. Access to Confidential and Highly Sensitive materials will be available on SPS’s file sharing platform to all parties that have signed and filed the certification under the protective order entered in this docket. Confidential and Highly Sensitive responsive documents will also be made available for inspection at SPS’s voluminous room, unless they form a part of a response that exceeds eight linear feet in length; then they will be available at their usual repository in accordance with the following paragraph. Please call in advance for an appointment to ensure that there is sufficient space to accommodate your inspection.

If responsive documents exceed eight linear feet in length, the response will indicate that the attachment is subject to the FREIGHT CAR DOCTRINE, and, pursuant to 16 TAC § 22.144(h)(3), the attachment will be available for inspection at its usual repository, SPS's offices in Austin, Texas, unless otherwise indicated. SPS requests that parties wishing to inspect this material provide at least 48-hour notice of their intent by contacting Stephanie Tanner at Coffin Renner LLP PC, 1011 West 31st Street, Austin, Texas 78705; telephone number (512) 879-0900; facsimile transmission number (512) 879-0912; email address stephanie.tanner@crtxlaw.com. Inspections will be scheduled to accommodate all requests with as little inconvenience to the requesting party and to SPS's operations as possible.

Respectfully submitted,



XCEL ENERGY SERVICES INC.
Mark Walker
State Bar No. 20717318
919 Congress Ave., Suite 900
Austin, Texas 78701
(512) 236-6926
(512) 236-6935 (Fax)
mark.a.walker@xcelenergy.com

COFFIN RENNER LLP
Mark A. Santos
State Bar No. 24037433
Kate Norman
State Bar No. 24051121
C. Glenn Adkins
State Bar No. 24103097
1011 West 31st Street
Austin, Texas 78705
(512) 879-0900
(512) 879-0912
mark.santos@crtxlaw.com
kate.norman@crtxlaw.com
glenn.adkins@crtxlaw.com

ATTORNEYS FOR
SOUTHWESTERN PUBLIC SERVICE COMPANY

*SOAH Docket No 473-22-1073
PUC Docket No. 52485
Southwestern Public Service Company's Response to
TIEC's Second Request for Information*

RESPONSES

QUESTION NO. TIEC 2-1:

Referring to the Direct Testimony of Ben Elsey, provide all workpapers and analyses in live Excel format supporting the NPVs for each scenario shown in Tables BRE-2 and BRE-3. If these workpapers were previously provided, identify with specific cell references where these values can be found.

RESPONSE:

Please refer to Exhibit SPS-SC 1-3(i)(CONF) and the EnCompass output files EO_SPS_2021_CCN_FL_400TRX_2021-06-21.xlsb and EO_SPS_2021_CCN_PL_400TRX_2021-06-21.xlsb. The supporting data for the NPVs for each scenario shown in Tables BRE-2 and BRE-3 can be found on the 'PVSC-PVRR Total' tab, cells B3 through AK9.

Preparer: Ashley Gibbons
Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-2:

Referring to SPS' s response to TIEC 1-5, identify where all cost components for each replacement resource considered in the 2021 economic analysis can be found in the file 'SPS ReferenceCase 1H21 2021-06-21.xlsx'.

RESPONSE:

The methodology and cost components used for each replacement resources are dependent upon several factors, including: technology type, ownership structure, and whether the resource is a 'generic' resource or a resource proposed in SPS's request for information.

Generic Thermal Replacement Resources

The cost components for each 'generic' thermal replacement resource can be found at the following cell references in the file SPS_ReferenceCase_1H21_2021-06-21.xlsx.

Technology Type	Cost Component	Worksheet	Cell Reference	Unit of Measure
Combustion Turbine	Installed Cost	TimeSeriesDatedChanges	E378	\$(0,000)
Combustion Turbine	Annual CapX	TimeSeriesDatedChanges	E374	\$(0,000)
Combustion Turbine	Fixed O&M	TimeSeriesDatedChanges	E375	\$(0,000)
Combustion Turbine	Gas Demand	TimeSeriesDatedChanges	E376	\$(0,000)
Combustion Turbine	Start Cost	Resource	AE40	\$
Combined Cycle	Installed Cost	TimeSeriesDatedChanges	E260	\$(0,000)
Combined Cycle	\$200/kW Transmission Adder	TimeSeriesDatedChanges	E65	\$(0,000)
Combined Cycle	\$400/kW Transmission Adder	TimeSeriesDatedChanges	E129	\$(0,000)
Combined Cycle	\$600/kW Transmission Adder	TimeSeriesDatedChanges	E137	\$(0,000)
Combined Cycle	Annual CapX	TimeSeriesDatedChanges	E242	\$(0,000)
Combined Cycle	Fixed O&M	TimeSeriesDatedChanges	E258	\$(0,000)
Combined Cycle	Gas Demand	TimeSeriesDatedChanges	E259	\$(0,000)
Combined Cycle	Start Cost	TimeSeriesDatedChanges	E7739:E7752	\$

Generic Renewable and Battery Energy Storage Resources

Generic renewable resources are entered into EnCompass as a levelized cost of energy (“LCOE”) on a total \$/MWh basis. The LCOE is inclusive of all cost components, with the exception of transmission network upgrades, which vary by sensitivity analysis, and are described in more detail below. Renewable resources are available for selection in 10MW increments and the LCOE is dependent on the resources in-service date.

Generic battery energy storage resources are entered into EnCompass as a total levelized cost of storage (“LCOS”), inclusive of all cost components. The LCOS is entered into EnCompass as a fixed annual cost stream (\$,000), per each 10MW increment. The LCOS is dependent on the resources in-service date.

The LCOE for renewable resources and LCOS for battery energy storage resources can be found at the following cell references in the file SPS_ReferenceCase_1H21_2021-06-21.xlsx.

Technology Type	Cost Component	Worksheet	Cell Reference	Unit of Measure
Wind Generation	LCOE	TimeSeriesDatedChanges	E33415:E33442	\$/MWh
Solar Generation	LCOE	TimeSeriesDatedChanges	E8997:E9021	\$/MWh
Battery Energy Storage	LCOS	TimeSeriesDatedChanges	E150:E174	\$(0,000)

The LCOE for generic wind and solar replacement resources does not include transmission network upgrade costs, as these vary by each sensitivity. The transmission network upgrade adders for the \$200/kW, \$400/kW and \$600/kW sensitivity analyses are included in the files: Input_200TRX Adders_2021-04-12.xlsx, Input_400TRX Adders_2021-04-12.xlsx, and Input_600TRX Adders_2021-04-12.xlsx, respectively. Please refer to Exhibit SPS-SC 3-1(CONF) for these files.

The transmission network upgrade cost adders for renewable resources can be found at the following cell references:

Technology Type	Cost Component	Worksheet	Cell Reference	Unit of Measure
Wind Adder	Transmission Adder	TimeSeriesDatedChanges	E5:E29	\$/MWh
Solar Adder	Transmission Adder	TimeSeriesDatedChanges	E32:E56	\$/MWh

Request for Information – Renewable and Battery Energy Storage Proposals

Proposals received from SPS’s request for information that were subsequently advanced for computer modeling are entered into EnCompass on a bid-by-bid basis. The cost of each proposal can be located by searching for the unique bid number in column A of the

TimeSeriesDatedChanges worksheet.

Note: The file “Renewable Bid Summary” provided as part of Exhibit SPS-SC 1-4(e)(ii)(CONF) provides each proposal’s unique bid number.

Purchased Power Agreement (“PPA”) Proposals

PPA proposals that were received from the RFI were entered into EnCompass as a total LCOE on \$/MWh basis, inclusive of all cost components, with the exception of transmission network upgrade costs. If the PPA proposal included battery energy storage, the additional cost for the battery can be located by searching for the unique bid number in column A of the ‘resource’ worksheet. The battery adder is entered in column O on a (\$/kW-year) basis. Alternatively, the file ‘Renewable Bid Summary’ also contains the LCOE and additional battery energy cost.

Similar to the generic renewable resources, the LCOE for PPA proposals generally do not include additional transmission network upgrade costs, as these costs vary by sensitivity analysis. Please refer to the table above for the location of additional transmission network upgrade costs.

Note: One exception is PPA proposals that already possessed a fully costed generator interconnection agreement. The LCOE for such proposals is fully inclusive of all cost components, including transmission network upgrade costs.

Build-Own-Transfer (“BOT”) Proposals

BOT proposals that were received from the RFI were first converted to a total annual revenue requirement and entered into EnCompass as an annual fixed cost steam (\$0,000), inclusive of all cost components.

Please refer to SPS’s response to TIEC 2-7 for additional information regarding the cost and generation output assumptions SPS’s used when calculating the total revenue requirements for each proposal.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-3:

For each of the following input assumptions, identify the units in which each cost was provided in the file 'SPS_ReferenceCase_1H21_2021-06-21.xlsx':

- a. Natural gas prices
- b. Coal contract prices
- c. Coal spot market prices
- d. Market energy prices
- e. Replacement resource costs
 - i. Capital costs
 - ii. Variable O&M costs
 - iii. Fixed O&M costs
 - iv. Interconnection costs
- f. PPA costs

RESPONSE:

- a. Natural gas prices are provided as \$/MMBtu.
- b. For the purposes of the Harrington analysis, as described in SPS's response to TIEC 1-3(b), SPS include coal contracts, such as coal transportation and handling as a fixed O&M cost. These costs are referred to as 'fuel handling' costs in the file 'SPS_ReferenceCase_1H21_2021-06-21.xlsx' and are provided as \$(0,000).
- c. Coal fuel prices are provided as \$/MMBtu.
- d. Market energy prices are provided as \$/MWh.
- e. The data is provided using different units of measure depending on resource type and ownership structure. Please refer to SPS's response to TIEC 2-2.
- f. Purchased power agreements are generally provided as \$/MWh. However, if the PPA includes a fixed cost component this is provided as \$(0,000).

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-4

Referring to SPS's response to Sierra Club 1-3:

- a. Explain the differences between the files included in the folders "Encompass Locked Database" and "Encompass Optimize Database".
- b. Of the two folders, which results were ultimately used to inform SPS's final results in its economic analysis?

RESPONSE:

- a. The "Encompass Optimize Database" is the original database that contains all of the input files and scenario settings used to perform the modeling analysis. The "Encompass Locked Database" contains all the files in the "Encompass Optimize Database", plus additional capacity expansion plans that allow quick replication of our modeling results in the EnCompass output files.
- b. Please refer to subpart (a).

Preparers: Ashley Gibbons, Bixuan Sun
Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-5:

Provide in live Excel format the workpapers demonstrating how SPS developed its composite fundamentals forecast of natural gas prices from the individual third-party vendor gas forecasts.

RESPONSE:

Please refer to file Exhibit SPS-SC 1-4(a)(CONF).xlsx. For clarification, SPS provided seven files as part of Exhibit SPS-SC 1-4(a)(CONF) and the file Exhibit SPS-SC 1-4(a)(CONF).xlsx demonstrates how SPS developed its composite fundamental forecast.

Preparer: Ashley Gibbons

Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-6:

What heat rate does SPS assume for a new combined cycle gas turbine?

RESPONSE:

Please refer to Exhibit SPS-TIEC 2-6(CONF).

Preparer: Ben R. Elsey

Sponsor: Ben R. Elsey

QUESTION NO. TIEC 2-7:

Provide in live Excel format the workpapers showing how SPS derived the levelized cost of energy for wind and solar additions. Include all assumptions, including the installed cost, O&M costs, lifespan of resources, decommissioning costs, energy output, etc.

RESPONSE:

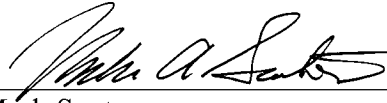
Please refer to the folder “LCOE” contained in Exhibit SPS-SC 1-4(e)(ii)(CONF) for the workpapers SPS used when calculating the levelized cost energy for build-own-transfer wind and solar projects received from SPS’s RFI. Each of the assumptions can be found on the tab “Inputs & Assumptions”.

Please refer to Exhibit SPS-TIEC 2-7 for the workpapers SPS used when calculating the levelized cost of energy for future ‘generic’ renewable resources.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

CERTIFICATE OF SERVICE

I certify that on the 4th day of January 2022, a true and correct copy of the foregoing instrument was served on all parties of record by electronic service and by either hand-delivery, Federal Express, regular First class mail, certified mail, or facsimile transmission.



Mark Santos

The following files are not convertible:

Edits.xlsm	Exhibit SPS-TIEC 2-7 - 2020-ATB-Data_RP
Storage_2020 ATB_2021-04-19.xlsm	Exhibit SPS-TIEC 2-7 - Generic
GenericCosts_2020 ATB_ZeroTRX_FlatPPA_2021-04-09.xlsm	Exhibit SPS-TIEC 2-7 -

Please see the ZIP file for this Filing on the PUC Interchange in order to access these files.

Contact centralrecords@puc.texas.gov if you have any questions.