

UNITED STATES DISTRICT COURT

for the

Eastern District of Virginia

Federal Energy Regulatory Commission

Plaintiff

Powhatan Energy Fund, LLC, Houlian "Alan" Chen, HEEP Fund, Inc., and CU Fund, Inc.

Defendant

Civil Action No. 3:15-cv-00452 (MHL)

SUBPOENA TO PRODUCE DOCUMENTS, INFORMATION, OR OBJECTS OR TO PERMIT INSPECTION OF PREMISES IN A CIVIL ACTION

To: PJM Interconnection, L.L.C. c/o Christopher C. O'Hara, 2750 Monroe Boulevard, Audubon, PA 19403

(Name of person to whom this subpoena is directed)

Production: YOU ARE COMMANDED to produce at the time, date, and place set forth below the following documents, electronically stored information, or objects, and to permit inspection, copying, testing, or sampling of the material: See Schedule A, attached hereto and incorporated as if fully set forth herein.

Table with 2 columns: Place (Skadden, Arps, Slate, Meagher & Flom LLP) and Date and Time (January 6, 2021 at 5:00 p.m.)

Inspection of Premises: YOU ARE COMMANDED to permit entry onto the designated premises, land, or other property possessed or controlled by you at the time, date, and location set forth below, so that the requesting party may inspect, measure, survey, photograph, test, or sample the property or any designated object or operation on it.

Table with 2 columns: Place and Date and Time (empty)

The following provisions of Fed. R. Civ. P. 45 are attached – Rule 45(c), relating to the place of compliance; Rule 45(d), relating to your protection as a person subject to a subpoena; and Rule 45(e) and (g), relating to your duty to respond to this subpoena and the potential consequences of not doing so.

Date: December 7, 2020

CLERK OF COURT

OR

Handwritten signature of Patrick R. Hanes

Signature of Clerk or Deputy Clerk

Attorney's signature

The name, address, e-mail address, and telephone number of the attorney representing (name of party)

Powhatan Energy Fund, LLC, who issues or requests this subpoena, are: Patrick R. Hanes; Williams Mullen; Williams Mullen Center, 200 South 10th Street, Suite 1600, Richmond, VA 23219; phanes@williamsmullen.com; 804-420-6455

Notice to the person who issues or requests this subpoena

If this subpoena commands the production of documents, electronically stored information, or tangible things or the inspection of premises before trial, a notice and a copy of the subpoena must be served on each party in this case before it is served on the person to whom it is directed. Fed. R. Civ. P. 45(a)(4).

Civil Action No. 3:15-cv-00452 (MHL)

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 45.)

I received this subpoena for *(name of individual and title, if any)* PJM Interconnection, L.L.C.
on *(date)* December 7, 2020

I served the subpoena by delivering a copy to the named person as follows: by Federal Express
_____ on *(date)* December 7, 2020 ; or

I returned the subpoena unexecuted because: _____

Unless the subpoena was issued on behalf of the United States, or one of its officers or agents, I have also tendered to the witness the fees for one day's attendance, and the mileage allowed by law, in the amount of \$ _____.

My fees are \$ _____ for travel and \$ _____ for services, for a total of \$ 0.00.

I declare under penalty of perjury that this information is true.

Date: December 7, 2020



Server's signature

Patricia A. Neil, Executive Assistant
Printed name and title

Skadden, Arps, Slate, Meagher & Flom LLP
1440 New York Avenue, NW
Washington, DC 20005
Server's address

Additional information regarding attempted service, etc.:

Federal Rule of Civil Procedure 45 (c), (d), (e), and (g) (Effective 12/1/13)

(c) Place of Compliance.

(1) For a Trial, Hearing, or Deposition. A subpoena may command a person to attend a trial, hearing, or deposition only as follows:

- (A) within 100 miles of where the person resides, is employed, or regularly transacts business in person; or
- (B) within the state where the person resides, is employed, or regularly transacts business in person, if the person
 - (i) is a party or a party's officer; or
 - (ii) is commanded to attend a trial and would not incur substantial expense.

(2) For Other Discovery. A subpoena may command:

- (A) production of documents, electronically stored information, or tangible things at a place within 100 miles of where the person resides, is employed, or regularly transacts business in person; and
- (B) inspection of premises at the premises to be inspected.

(d) Protecting a Person Subject to a Subpoena; Enforcement.

(1) Avoiding Undue Burden or Expense; Sanctions. A party or attorney responsible for issuing and serving a subpoena must take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena. The court for the district where compliance is required must enforce this duty and impose an appropriate sanction—which may include lost earnings and reasonable attorney's fees—on a party or attorney who fails to comply.

(2) Command to Produce Materials or Permit Inspection.

(A) *Appearance Not Required.* A person commanded to produce documents, electronically stored information, or tangible things, or to permit the inspection of premises, need not appear in person at the place of production or inspection unless also commanded to appear for a deposition, hearing, or trial.

(B) *Objections.* A person commanded to produce documents or tangible things or to permit inspection may serve on the party or attorney designated in the subpoena a written objection to inspecting, copying, testing, or sampling any or all of the materials or to inspecting the premises—or to producing electronically stored information in the form or forms requested. The objection must be served before the earlier of the time specified for compliance or 14 days after the subpoena is served. If an objection is made, the following rules apply:

- (i) At any time, on notice to the commanded person, the serving party may move the court for the district where compliance is required for an order compelling production or inspection.
- (ii) These acts may be required only as directed in the order, and the order must protect a person who is neither a party nor a party's officer from significant expense resulting from compliance.

(3) Quashing or Modifying a Subpoena.

(A) *When Required.* On timely motion, the court for the district where compliance is required must quash or modify a subpoena that:

- (i) fails to allow a reasonable time to comply;
- (ii) requires a person to comply beyond the geographical limits specified in Rule 45(c);
- (iii) requires disclosure of privileged or other protected matter, if no exception or waiver applies; or
- (iv) subjects a person to undue burden.

(B) *When Permitted.* To protect a person subject to or affected by a subpoena, the court for the district where compliance is required may, on motion, quash or modify the subpoena if it requires:

- (i) disclosing a trade secret or other confidential research, development, or commercial information; or

- (ii) disclosing an unretained expert's opinion or information that does not describe specific occurrences in dispute and results from the expert's study that was not requested by a party.

(C) *Specifying Conditions as an Alternative.* In the circumstances described in Rule 45(d)(3)(B), the court may, instead of quashing or modifying a subpoena, order appearance or production under specified conditions if the serving party:

- (i) shows a substantial need for the testimony or material that cannot be otherwise met without undue hardship; and
- (ii) ensures that the subpoenaed person will be reasonably compensated.

(e) Duties in Responding to a Subpoena.

(1) Producing Documents or Electronically Stored Information. These procedures apply to producing documents or electronically stored information:

(A) *Documents.* A person responding to a subpoena to produce documents must produce them as they are kept in the ordinary course of business or must organize and label them to correspond to the categories in the demand.

(B) *Form for Producing Electronically Stored Information Not Specified.* If a subpoena does not specify a form for producing electronically stored information, the person responding must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms.

(C) *Electronically Stored Information Produced in Only One Form.* The person responding need not produce the same electronically stored information in more than one form.

(D) *Inaccessible Electronically Stored Information.* The person responding need not provide discovery of electronically stored information from sources that the person identifies as not reasonably accessible because of undue burden or cost. On motion to compel discovery or for a protective order, the person responding must show that the information is not reasonably accessible because of undue burden or cost. If that showing is made, the court may nonetheless order discovery from such sources if the requesting party shows good cause, considering the limitations of Rule 26(b)(2)(C). The court may specify conditions for the discovery.

(2) Claiming Privilege or Protection.

(A) *Information Withheld.* A person withholding subpoenaed information under a claim that it is privileged or subject to protection as trial-preparation material must:

- (i) expressly make the claim; and
- (ii) describe the nature of the withheld documents, communications, or tangible things in a manner that, without revealing information itself privileged or protected, will enable the parties to assess the claim.

(B) *Information Produced.* If information produced in response to a subpoena is subject to a claim of privilege or of protection as trial-preparation material, the person making the claim may notify any party that received the information of the claim and the basis for it. After being notified, a party must promptly return, sequester, or destroy the specified information and any copies it has; must not use or disclose the information until the claim is resolved; must take reasonable steps to retrieve the information if the party disclosed it before being notified; and may promptly present the information under seal to the court for the district where compliance is required for a determination of the claim. The person who produced the information must preserve the information until the claim is resolved.

(g) Contempt.

The court for the district where compliance is required—and also, after a motion is transferred, the issuing court—may hold in contempt a person who, having been served, fails without adequate excuse to obey the subpoena or an order related to it.

SCHEDULE A

SCHEDULE A

DEFINITIONS FOR SUBPOENA REQUESTS

1. Unless otherwise stated, the language set forth in Rule 34(a)(1) of the Federal Rules of Civil Procedure are adopted and incorporated herein.

2. “All,” “any,” and “each” individually shall each be construed as encompassing all, any, and each, collectively.

3. “And” and “or” shall be construed either disjunctively or conjunctively as necessary to bring within the scope of these requests for documents (“Requests”) all responses that might otherwise be construed to be outside of their scope.

4. “*Black Oak* proceeding” means the proceeding in FERC Docket No. EL08-14.

5. “Civil action” means the above-captioned action, which began when FERC filed its Petition for an Order Affirming the Federal Energy Regulatory Commission’s May 29, 2015 Order Assessing Civil Penalties Against Powhatan Energy Fund, LLC, HEEP Fund, Inc., Houlian “Alan” Chen, and CU Fund, Inc. in the United States District Court for the Eastern District of Virginia on July 31, 2015.

6. “Clear” or “cleared” refer to a bid being accepted by PJM.

7. “Commission,” “FERC,” and “Plaintiff” mean (a) Plaintiff Federal Energy Regulatory Commission and all of its offices, committees, divisions, or units and (b) all of its current or former representatives.

8. “Communication(s)” includes any transmission of information (in the form of facts, ideas, inquiries, or otherwise) between or among two or more persons, whether orally or in writing or by any means or media, including telephone calls, in-person conversations, electronic mail and other electronic communications, correspondence, instant messages, text messages, and all

documents (whether in the form of writings, video recordings, audio recordings, or otherwise) memorializing or reflecting the communication.

9. “Consider” or “consideration” are used in their customary and broadest sense, and mean in whole or in part to analyze, assess, consider, contemplate, evaluate, examine, review, scrutinize, study, or take into account in any way.

10. “Court” means the United States District Court for the Eastern District of Virginia.

11. “Day-ahead and real-time prices” refers to hourly locational marginal prices in PJM’s Day-Ahead Energy Market and Real-Time Energy Market and all components of such prices, including the system energy price, the congestion price, and the marginal loss price.

12. “Defendants” means, inclusively, any combination of the defendants in this civil action (Powhatan Energy Fund, LLC, Houlian “Alan” Chen, HEEP Fund, Inc., and CU Fund, Inc.), including any single defendant and, regardless of the plurality or singularity of the term’s use in any Request, shall not be construed to limit any Request to a single defendant or combination of defendants.

13. “Document(s)” refers to all writings and recordings of every type in your possession, control, or custody, including but not limited to Electronically Stored Information, paper, memoranda, correspondence, letters, written communications, email, instant messages, text messages, computer screenshot images, testimony and exhibits, reports (including drafts, preliminary, intermediate, and final reports), surveys, analyses, studies (including economic and market studies), summaries, compilations, comparisons, tabulations, charts, books, pamphlets, photograph forms (including microfilm, microfiche, prints, slides, negatives, videotapes, motion pictures, and photocopies), drawings, sketches, maps, sheets, ledgers, transcripts, vouchers, accounting statements, budgets, work papers, engineering diagrams, graphs, blueprints, manuals,

instructions, legal pleadings, calendars, diaries, travel records, records of oral communications, notes, agendas, meeting minutes, videotapes, audiotapes, films and sound reproductions, slides, transparencies, diskettes, computer memory, agreements, stored recordings, and all other records, written, electronic (including information on electronic or magnetic storage devices), mechanical, or otherwise, and drafts, attachments or appendices of any of the above. “Documents” includes every copy of a document that contains handwritten or other notations or that otherwise does not duplicate the original.

14. “Electronically Stored Information” or “ESI” means (a) information that is generated, received, processed, or recorded by computers or other electronic devices; (b) internal or external web sites; (c) output resulting from the use of any software program, including word processing documents, spreadsheets, database files, charts, graphs and outlines, electronic mail, AOL Instant Messenger™ (or similar instant messaging program) or bulletin board programs, operating systems, source code, PRF files, PRC files, batch files, ASCII files, and all miscellaneous media on which they reside; (d) activity listings of electronic mail receipts and/or transmittals; and (e) any and all items stored on computer memories, hard disks, floppy disks, CD-ROM, magnetic tape, microfiche, or in any other vehicle for digital data storage or transmittal, such as, without limitation, a personal digital assistant, e.g., Palm Pilot, Blackberry, or similar device, and file folder tabs, or containers and labels appended to, or relating to, any physical storage device associated with each original or copy of all Documents requested herein.

15. “IMM” means (a) Monitoring Analytics, LLC, PJM’s independent market monitor, and all of its offices, committees, divisions, or units and (b) all of its current or former representatives.

16. “Includes” or “including” means “includes” or “including” without limitation.

17. “Leg” refers to UTC bid(s) in a single direction between two pricing points. In a paired trade between pricing points A and B, the UTC bid(s) from pricing point A to pricing point B would be the first leg and the UTC bid(s) from pricing point B to pricing point A would be the second leg.

18. “MLSA” means marginal loss surplus allocation.

19. “MW” means megawatt.

20. “Paired trade” means a trade in which a PJM market participant submits matched volumes of UTC bids in opposite directions between the same two pricing points.

21. “Person” means any natural person, corporation, partnership, professional corporation, limited liability company, proprietorship, joint venture, trust, company, association, group, governmental agency in whatever form, and any other form of legal entity, and their agents, representatives, successors, assigns, parents, branch offices, subsidiaries, employees, and related persons or entities.

22. “PJM” means (a) PJM Interconnection, L.L.C. and all of its offices, committees, divisions, or units and (b) all of its current or former representatives.

23. “Refer to,” “referring to,” “relate to,” “relating to,” “reflect,” or “reflecting” are used in their customary and broadest sense, and mean in whole or in part alluding to, analyzing, concerning, constituting, containing, dealing with, embodying, describing, discussing, identifying, memorializing, mentioning, noting, pertaining to, recording, referring to, reflecting, stating, studying, tending to support, tending to discredit, or being probative of in any way.

24. “Referrals of Potential Violations” means your August 16, 2010 Confidential Referral of Potential Violations of FERC Market Rule (from Jacquelynn Hugee to Norman C. Bay) and the oral referral you made to FERC’s Enforcement Hotline on July 29, 2010.

25. “Relevant Period” means June 1, 2010 through August 3, 2010.
26. “Representative” or “representatives” means, both collectively and individually any person, agent, director, officer, employee, partner, owner, member, attorney, corporate parent, subsidiary, or affiliated entity, acting or purporting to act on behalf of another person.
27. “Tariff” refers to PJM’s Open Access Transmission Tariff, Operating Agreement, and Reliability Assurance Agreement.
28. “UTC” means the up-to congestion product in PJM.
29. “You” and “your” refer to PJM.

INSTRUCTIONS

1. These Requests shall be deemed continuing and any document requested herein that is presently unavailable, but which becomes available to you up to the conclusion of the civil action, must be produced in a supplemental document production pursuant to Federal Rule of Civil Procedure 26(e).

2. These Requests apply to all documents in your possession, custody, or control, regardless of the location of such documents, and includes documents within the possession, custody, or control of your officers, agents, employees, experts, consultants, attorneys, and representatives, wherever located.

3. The documents requested herein are to be produced as they are kept in the usual course of business or organized and labeled to correspond to the numbered paragraphs and/or categories of a particular requests. If there are no documents responsive to a particular numbered paragraph and/or category, so state in writing.

4. Unless otherwise stated herein, all documents produced in response to these Requests shall be produced in accordance with the Electronically Stored Information Production Protocols, attached hereto as Exhibit 1.

5. If any document responsive to these Requests is withheld under a claim of privilege or upon any other ground, provide a log identifying as to each document or communication the privilege being asserted and provide the following information in sufficient detail to permit the Court to rule on your claim:

- (a) the nature of the privilege (including work product) that is being claimed and, if applicable, the rule or law governing such claim;

- (b) the date, author(s) and their title(s) or position(s), primary addressee(s) and their title(s) or position(s), and secondary addressee(s) or person(s) copied and their title(s) or position(s), and the relationship of those person(s) to the author(s) of the document or communication;
- (c) a brief description sufficient to identify the type, subject matter, and purpose of the document or communication;
- (d) all persons to whom the contents of the document or communication have been disclosed;
- (e) the party who is asserting the privilege;
- (f) a detailed, specific explanation as to why the document or communication (or portion thereof) is privileged or otherwise immune from discovery, including a presentation of all factual grounds and legal analyses in a non-conclusory fashion; and
- (g) the number of pages in the document or communication.

NOTE: If you claim the attorney-client privilege, the log shall also indicate whether the communication claimed to be privileged was made by the attorney or the client, and whether the communication or document has been communicated to any person other than the attorney and client involved. If the communication claimed to be privileged has been so communicated, identify such third person(s) by name and relationship to the client and the attorney, and indicate the date of such communication. Please produce the non-privileged portion(s) of the document or information, if the privileged portion of the document or information is capable of being excised, so that the remainder is no longer privileged.

6. If any document responsive to these Requests has been destroyed, discarded, or lost, each such document shall be identified by stating in detail: (a) the document type; (b) a specific description of the subject matter of the document; (c) the date of the document; (d) all authors and addressees; (e) the date of the document's destruction or discard; (f) the name of the document's custodian on the date of destruction or discard; (g) the identity of each person having knowledge or who had knowledge of the contents thereof; and (h) whether any copies of the documents (or parts thereof) presently exist, and, if so, the name of the custodian(s) of each copy.

7. All documents produced in response to these Requests shall be provided in their entirety, notwithstanding the fact that portions thereof may contain information not requested. All interim as well as final versions of the document shall be produced, and all versions or copies that are not identical to the original or other produced copy of the document, by reason of any alterations, marginal notes, comments, or material contained therein or attached thereto, or otherwise, shall be produced separately.

8. If any Request herein cannot be complied with in full, it shall be complied with to the extent possible with an explanation as to why full compliance is not possible.

9. To the extent that you possess or control materials that are responsive to any of the Requests because the materials were produced to you by the Defendants, you need not produce those materials. If you contend that any of the other responsive materials that you possess or control are already in the possession or control of the Defendants, please contact counsel for the Defendants for a meet and confer to discuss whether production is necessary.

10. If a Document is responsive to more than one Request, it is sufficient to produce it in response to the first Request to which it is responsive.

11. In construing these Requests, “and” and “or” are not intended as words of limitation. The terms “and” and “or” shall be construed either disjunctively or conjunctively as necessary to bring within the scope of the discovery request all responses that might otherwise be construed to be outside of its scope.

12. The use of the singular form of any word includes the plural and plural includes the singular; the masculine includes the feminine and the feminine includes the masculine; and any verbs in the present tense should be read to include the past, future, and imperfect tenses.

13. “All,” “each,” and “any” shall individually be construed as all, each, and any, collectively.

14. Unless otherwise stated, each Requests relates to the period from January 1, 2007 through present.

DOCUMENT REQUESTS

1. Provide all documents and communications relating to your Referrals of Potential Violations, including all documents and communications relating to whether you would refer specific market participants to FERC's Office of Enforcement, all documents and communications relating to the trades within the scope of your Referrals of Potential Violations, and all documents and communications relating to the allegations in your Referrals of Potential Violations.

2. Provide all documents and communications relating to any inquiries, investigations, administrative processes or proceedings, or civil penalty actions relating to the payment of MLSA to UTC traders by (a) PJM, (b) the IMM, or (c) FERC, including all documents and communications relating to any meetings, interviews, or discussions between you and the IMM or FERC in connection with inquiries, investigations, administrative processes or proceedings, or civil penalty actions relating to the payment of MLSA to UTC traders.

3. Provide all documents and communications relating to any complaint or inquiry made to PJM relating to the payment of MLSA to UTC traders, including information sufficient to determine the identity of the complainant or inquirer; the nature or subject matter of the complaint or inquiry (including the identity of any person whose conduct was the subject of the complaint or inquiry); and the resolution, if any, of the complaint or inquiry.

4. Provide all documents and communications relating to your consideration of filing a complaint with FERC under section 206 of the Federal Power Act regarding the trades within the scope of your Referrals of Potential Violations.

5. Provide all documents and communications from June 1, 2000 to present relating to your efforts to craft an MLSA distribution mechanism, including all documents and

communications relating to your consideration of the incentives created by such a distribution mechanism.

6. Provide all documents and communications relating to the changes to PJM's tariff proposed and accepted in FERC Docket No. ER10-2280, including all documents and communications relating to the purpose of and impetus for those changes and all documents and communications relating to potential alternative rule changes you considered in response to the trades within the scope of your Referrals of Potential Violations.

7. Provide all documents and communications relating to the possibility that a single leg of a paired trade might not clear.

8. Provide all documents and communications from any time relating to the requirements and rules for UTC transactions during the Relevant Period, including any requirements or rules relating to (a) the amount or type(s) of risk to which a UTC trade must be exposed and (b) acceptable and unacceptable purposes for undertaking UTC trades.

9. Provide all documents and communications from any time prior to the end of the Relevant Period that provided PJM market participants with notice that PJM, the IMM, or FERC considered the trades within the scope of your Referrals of Potential Violations to be manipulative.

10. Provide all documents and communications from any time relating to the propriety or impropriety of PJM market participants taking MLSA payments into consideration when deciding whether to engage in UTC trades or other transactions in PJM markets, including all documents and communications relating to how much weight a PJM market participant could appropriately give to MLSA payments in deciding whether to engage in a UTC trade or other transactions in PJM markets.

11. Provide all documents and communications relating to the *Black Oak* proceeding, including all documents and communications relating to the incentives created by the FERC orders in that proceeding and all documents and communications relating to the implications of the orders in that proceeding for any inquiries, investigations, administrative processes or proceedings, or civil penalty actions relating to the payment of MLSA to UTC traders.

12. Provide all documents and communications relating to UTC trading by any Defendant at any time, including all documents and communications relating to the reservation of transmission by any Defendant or MLSA payments to any Defendant based on its UTC trading. This should include data reflecting for each UTC bid:

- (a) The company that placed the bid;
- (b) The bid date and hour;
- (c) The source and sink points;
- (d) The bid and cleared volume in MW;
- (e) The bid price;
- (f) Any associated transmission reservation;
- (g) All economic components of the trade, including day-ahead and real-time prices for the source and sink, the MLSA payment associated with the UTC trade, the cost to reserve transmission, and other charges; and
- (h) Any other information describing the UTC bid.

13. Provide all documents and communications relating to UTC bids and executed UTC transactions between December 1, 2007 and November 30, 2010, including all documents and communications relating to the reservation of transmission in connection with those bids and transactions and MLSA payments associated with those bids and transactions and including

documents and communications sufficient to determine the aggregate profitability of each company that traded UTC during the specified period. This should include data reflecting for each UTC bid:

- (a) The company that placed the bid;
- (b) The bid date and hour;
- (c) The source and sink points;
- (d) The bid and cleared volume in MW;
- (e) The bid price;
- (f) Any associated transmission reservation;
- (g) All economic components of the trade, including day-ahead and real-time prices for the source and sink, the MLSA payment associated with the UTC trade, the cost to reserve transmission, and other charges; and
- (h) Any other information describing the UTC bid.

14. Provide all documents and communications relating to any or all Defendants and any of their current or former representatives.

15. Provide all documents and communications relating to the process for placing UTC bids and executing UTC transactions during the Relevant Period.

16. Provide all preservation, retention, or destruction policies applicable to the documents, communications, and other materials requested herein at any point in time.

17. Provide all documents or communications relating to any breach, violation, or departure from any preservation, retention, or destruction policy that may have impacted the preservation or retention of any of the documents, communications, and other material requested herein at any point in time.

18. For any data you produce, provide documents (such as a legend or key) sufficient to explain or describe the data produced. For example, if you produce data in a spreadsheet format, produce documents sufficient to explain or describe the contents of each column or row.

EXHIBIT 1

EXHIBIT 1

ELECTRONICALLY STORED INFORMATION PRODUCTION PROTOCOLS

Section 1: Electronically Stored Information Production Format

1. Documents shall be produced as Bates-stamped image files in accordance with the specifications set out in Section 2, except for file types designated for native production in Paragraph 6 below. In addition to image files and native files, each production volume shall contain an image load file (OPT file), a metadata load file (DAT file), and document-level text files. *See Section 2* for details regarding each component of the production.

2. Every image must be branded with a unique Bates number and the numbers must be sequential within a given document. Bates numbers must begin with an alphabetic prefix, and the numeric portion must be zero-filled to a uniform length. Bates numbers may contain only alphanumeric characters, underscores, or hyphens.

3. Document family groups, i.e., parent documents and their attachments, shall be produced together. Attachments shall follow their parent files sequentially in Bates numbering. Unprivileged, non-responsive parent documents must be produced if they contain any responsive attachments and unprivileged, non-responsive attachment documents must be produced if they are attached to a responsive parent or a parent containing a responsive attachment.

4. Hardcopy documents shall be scanned into single-page image files according to the specifications in Section 2. The producing party shall make good faith efforts to preserve physical and logical document unitization.

5. The text of each electronic document produced shall be provided in a single text file with the path to the text file provided in the “Text Path” field listed in the table in Section 3. The name of the text file shall be the Bates number of the first page of the document. Text shall

be extracted electronically from the native file unless the document has been redacted. For redacted documents, scanned documents, or documents where electronic text cannot be harvested, the text file shall be created using Optical Character Recognition (“OCR”). The producing party shall endeavor to generate accurate OCR and will utilize quality OCR processes and technology.

6. The following types of files shall be produced in native format unless a file is being produced in redacted form: (i) spreadsheets, e.g., MS Excel files or CSV files; (ii) presentation files such as Microsoft PowerPoint documents; and (iii) audio or video files. *See Section 2* for additional details regarding production of native files.

7. Absent unusual circumstances, electronic responses will be provided as follows: Microsoft Word for narratives, Excel for data, and Outlook “.MSG” file format for emails. If a responding party claims such unusual circumstances, it shall consult with the requesting party as soon as those circumstances present themselves, and shall provide a written explanation of the circumstances to the requesting party.

8. The metadata fields set forth in *Section 3* shall be produced in the metadata load file (DAT file).

9. If information from a database or other ESI that is impractical to produce must be produced, the producing party may query the database for such information and generate an exportable electronic file such as an Excel or CSV file. The first line of the report shall show the column headers for each field of data included.

10. The producing party shall make good faith and reasonable efforts to remove encryption from native files prior to production. If the producing party cannot remove the encryption from a file, the producing party will provide a placeholder TIFF image indicating that the file was encrypted.

11. The producing party may use software to exclude exact duplicate copies of a document (“Deduplicated Copies”) from their production as long as at least one copy of the document is produced and de-duplication shall be performed only at the document family level so that (i) attachments are not de-duplicated against identical stand-alone versions of such documents and vice versa, although each family member shall be hashed separately for purposes of populating the hash value field in Section 3; (ii) attachments to electronic communications (including, but not limited to, emails, text messages, instant messages, and communications via chat rooms) or other documents shall not be disassociated from the parent electronic communication or document even if they are exact duplicates of another document in the production; and (iii) paper documents shall not be eliminated as duplicates of responsive ESI. A party seeking to use criteria other than the industry standard hash values in Section 3 must discuss the issue with the receiving party and receive approval in writing before implementation. All custodians who were in possession of a de-duplicated document must be identified in the “All Custodians” field (*see* Section 3) listing all custodians who had a copy of each document.

Section 2: File Formats

Production Volumes

1. Production volume names shall consist of an alphabetic prefix followed by a 3-digit number, e.g., ABC001. Volume names shall be consecutive, e.g., ABC001, ABC002, etc.
2. A production volume shall be delivered on a single media item, i.e., CD, DVD, hard drive, or by means of an FTP site. A volume may not span multiple media items. If an FTP site is used to deliver a production volume, the production volume must remain available on the FTP site for at least 30 days from the date of production.

3. Each component of the production shall be stored under a top-level folder whose name clearly indicates its content, e.g., “Images,” “Text,” “Natives.”

4. No image, text, or native file subfolder shall contain more than 1000 items.

Image Files

1. Black-and-white images shall be captured in single-page, Group IV TIFF image files with a resolution of 300 DPI. Page size shall be 8.5 x 11 inches unless, in the reasonable judgment of the producing party, a particular item requires a different page size.

2. Color images shall be in JPEG files. Images must be produced in color only if color is necessary to understand the meaning of the document.

3. Each image file shall be named for the Bates number on the image. The producing party shall make reasonable efforts to avoid obscuring any part of the underlying image with a Bates number or confidentiality designation.

4. Image files shall faithfully represent the content of the corresponding native files except in the case of a redacted document where portions of the document are intentionally concealed.

5. Redacted images shall clearly identify the location and extent of redacted information.

6. Documents with “track changes” enabled shall be produced with the tracked changes visible.

Native Files

1. A file produced in native format shall be named for its assigned Bates number.

2. A placeholder TIFF image named for the Bates number shall be produced with the native file.

3. Metadata and text, if available, shall be produced with the native file.
4. Audio recordings shall be provided in “.wav” or “.mp3” formats. For all audio recordings, provide a tab-delimited text file with at least the following fields: (i) audio file name; (ii) person calling; (iii) date of call; (iv) time of call; (v) duration of call; (vi) line recorded; (vii) person or number called; and (viii) any other meta-data or bibliographical information associated with call records that is maintained in the ordinary course of business.

Image Load Files

1. The name of the image load files shall mirror the name of the delivery volume, with files suitable for loading into a Relativity-compatible litigation support review database and have an .OPT extension, e.g., ABC001.OPT.
2. Every image in the delivery volume shall be reflected in the image load file.
3. The image key shall be named the same as the Bates number of the page.

Metadata Load Files

1. The name of the metadata load file shall mirror the name of the delivery volume and shall have a .DAT extension, e.g., ABC001.DAT.
2. The metadata load file shall be a delimited text file whose first line contains the names of the metadata fields.
3. The metadata load file shall use the following delimiters (commonly known as “Concordance default delimiters”):
 - (a) Field Delimiter: “¶” (ASCII 20)
 - (b) Text Qualifier: “þ” (ASCII 254)
 - (c) New Line Character Within a Field: “®” (ASCII 174)
 - (d) Multi Entry Delimiter: “;” (ASCII 59)

The delimiter for multiple values in a single field shall be the semicolon (ASCII 59).

4. Metadata fields that are not applicable to a document or are NULL shall be left with null values and not populated with fillers or spaces.

5. Date fields shall be produced in “mm/dd/yyyy” format. Dates should be valid calendar dates and not “zero” dates.

6. Time fields shall be produced in “hh:mm:ss” 24-hour format.

7. All attachments should sequentially follow the parent document/email.

Section 3: Metadata Fields

FIELD NAME	FIELD DESCRIPTION
Begin Bates	Bates number on first page of document
End Bates	Bates number on last page of document
Begin Attach	Bates number on first page of parent document
End Attach	Bates number on last page of last attachment
Parent Document ID	Document ID of Parent Document. Only populate for Child Documents.
Custodian	Person from whom files were collected
All Custodians	All custodians who possessed a copy of the document (including the name in the Custodian field) from whose files the item would have been produced if it had not been de-duplicated.
Confidentiality	Confidentiality designation
Record Type	Email, Email Attachment, Edoc, Edoc Attachment, Hard Copy
From	Electronic communication sender
To	Electronic communication addressee(s)
CC	Electronic communication copyee(s)

FIELD NAME	FIELD DESCRIPTION
BCC	Electronic communication blind copyee(s)
Date Sent	Date electronic communication was sent
Time Sent	Time electronic communication was sent
Date Received	Date electronic communication was received
Time Received	Time electronic communication was received
File Subject	Subject of file extracted from the properties of the native file
File Type	Description that represents the file type to the Windows Operating System. Examples are: Adobe Portable Document Format, Microsoft Word 2003 Document, Microsoft Office Word Open XML Format, etc.
File Name	Original file name
File Path	Folder in which electronic communication was stored, e.g., Inbox
File Author	Author(s) of file from entered Metadata
File Title	Title of file
File Extension	Three (or more) character extension of the document that represents the file type to the Windows Operating System. Examples are PDF, DOC, or DOCX.
File Date Created	Date file was created
File Time Created	Time file was created
File Date Last Modified	Date file was last modified
File Time Last Modified	Time file was last modified
Folder Path	The directory structure or path where the original file was stored on the party's source computer system, ending in the filename. Any container name (such as ZIP or PST containers) is included in the path.

FIELD NAME	FIELD DESCRIPTION
Conversation Index	The email thread created by the email system. This is a 44-character string of numbers and letters that is created in the initial email. It has 10 characters added for each reply or forward of an email.
Time Zone – Processed	Time zone used for e-discovery processing
Page Count	Number of images in the document
Hash Value	Document Hash Value (MD5/SHA-2/SHA1/SHA256 – Please specify which one you are delivering)
Native File	Path to produced native file. The linked file must be named per the Begin Bates value.
Text Path	Path to produced text file
Response to Request Number	Number of the Response(s) to which the file is responsive