1 2 3 4 5 UNITED STATES DISTRICT COURT EASTERN DISTRICT OF WASHINGTON 6 7 STATE OF WASHINGTON, NO: 2:08-CV-5085-RMP 8 Plaintiff, AMENDED CONSENT DECREE and 9 BETWEEN DEPARTMENT OF STATE OF OREGON, **ENERGY AND STATE OF** WASHINGTON 10 Plaintiff-Intervenor, 11 v. ERNEST MONIZ, Secretary of the 12 United States Department of Energy, 13 and the UNITED STATES DEPARTMENT OF ENERGY, 14 Defendants. 15 BEFORE THE COURT are the Department of Energy's and the State of 16 Washington's Motions to Amend Consent Decree, ECF Nos. 76 and 75. For the 17 18 reasons set forth in the corresponding Opinion, the Court hereby orders that the 19 20

Consent Decree between the Department of Energy and the State of Washington,<sup>1</sup> **ECF No. 59**, be modified as follows:

#### I. Part IV

Part IV of the Consent Decree, ECF No. 59 at 4–9, is hereby **VACATED** and is **SUPERSEDED** by the following:

### IV. WORK TO BE PERFORMED AND SCHEDULE

## A. Waste Treatment Plant (WTP) Construction and Startup.

- 1. In accordance with Appendix A to this Decree, DOE shall achieve "Hot Start of Waste Treatment Plant" by December 31, 2033, and achieve "initial plant operations" of the WTP no later than December 31, 2036.
- 2. "Hot Start of Waste Treatment Plant" means the initiation of simultaneous operation of the Pretreatment (PT) Facility, High-level Waste (HLW) Facility and Low-activity Waste (LAW) Facility (including as needed the operations

The State of Washington is also referred to as "Ecology," shorthand for the Washington State Department of Ecology, throughout the following Consent Decree modifications. The Court refers to the State of Washington as "Ecology" so the following modifications remain consistent with the remaining, unmodified Consent Decree sections. *See* ECF No. 59. This footnote is for explanatory purposes only, and does not constitute part of the modified Consent Decree.

of the Analytical Laboratory (LAB) and the Balance of Facilities) treating Hanford tank wastes and producing a waste glass product.

- 3. "Initial plant operations" under this Decree is defined as, over a rolling period of at least 3 months leading to the milestone date, operating the WTP to produce high-level waste glass at an average rate of at least 4.2 Metric Tons of Glass (MTG)/day, and low-activity waste glass at an average rate of at least 21 MTG/day.
- 4. Each milestone set forth in Appendix A shall be completed by the specified date for that milestone in Appendix A. In the event that the State seeks to enforce an interim milestone in Appendix A, it shall be a defense to such enforcement (such that failure to meet the interim milestone by that date will not constitute a violation of the Consent Decree) if DOE demonstrates that it will (a) complete the interim milestone as soon as practicable and (b) notwithstanding the missed interim milestone date, achieve WTP hot start by December 31, 2033, and initial plant operations of the WTP no later than December 31, 2036, as required in paragraph 1 above.

# B. Single-shell Tank (SST) Waste Retrievals.

1. In accordance with Appendix B, no later than March 31, 2024, DOE shall complete retrieval of tank waste from the three (3) remaining SSTs in Waste Management Area C for which waste has not yet been retrieved.

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- 2. In accordance with Appendix B, no later than March 31, 2024, DOE shall complete retrieval of tank waste from nine (9) additional SSTs selected by DOE.
- 3. For purposes of paragraph 2 above, the tanks shall be selected by DOE after consultation with Ecology. The selected tanks shall include only 100 series tanks (excluding tank S-102), with consideration given to optimizing WTP waste feed blending and addressing tanks that pose a high risk due to tank contents, previous leaks, or the risk of future leaks. Once tanks have been selected, DOE may substitute alternative tanks, but such substitution shall be subject to the consultation and selection criteria of this paragraph.
- 4. In accordance with Appendix B, no later than December 31, 2020, DOE shall complete retrieval of five (5) SSTs selected by DOE from the remaining C, A, and AX-Farm SSTs. Should DOE fail, for whatever reason, to satisfy Milestone B-3, Washington may petition the Court to order DOE begin immediate construction of one or more new double-shell tanks (DST) to facilitate the remaining retrieval process. Should Washington so petition, the parties shall adhere to the following briefing schedule:
  - a. DOE will have fourteen (14) days from the filing of Washington's petition to file a responsive memorandum.
  - b. Washington will have seven (7) days from the filing of DOE's

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responsive pleading to file a reply memorandum.

- c. The Court will issue an order as expeditiously as possible concerning whether DOE, in recognition of DOE's noncompliance with Milestone B-3, will be required to construct additional DSTs.
- 5. To safeguard against a hypothetical two-year outage of the 242-A Evaporator, which would result in a minimum of a two-year delay in retrieval of remaining SSTs, DOE must purchase and have available by December 31, 2016, a spare A-E-1 reboiler for the 242-A Evaporator.
- 6. a. At least 180 days before DOE plans to initiate the installation of equipment for retrieval of waste from a tank or set of tanks covered by Section IV-B of this Decree, DOE shall submit to Ecology, for its approval, a Tank Waste Retrieval Work Plan (TWRWP) that sets out in a Part 1 and a Part 2 of the TWRWP the information required in Part 1 and Part 2 of Appendix C. The TWRWP shall be deemed approved if Ecology notifies DOE of its approval or if 60 days have elapsed after the date DOE submitted the TWRWP to Ecology and Ecology has not disapproved the TWRWP within that 60-day period.
  - b. In the event of a disapproval by Ecology, within 30 days of such disapproval, DOE shall submit a revised TWRWP for a tank or set of tanks covered by Section IV-B of this Decree addressing Ecology's comments.

If DOE and Ecology cannot resolve the concern(s) raised by Ecology within 60 days of Ecology's initial disapproval, the Parties shall utilize Section IX of the Decree and the Court shall resolve their dispute under Section IX of the Decree regarding the disputed elements of Part 1 or Part 2 of the TWRWP. Once the TWRWP is established for a tank or set of tanks covered by Section IV-B (either by approval of Ecology or after dispute resolution by the Court under Section IX of the Decree), DOE may start and carry out tank waste retrieval activities for the tank(s) addressed by the TWRWP.

c. Notwithstanding the provisions of Section IX-C, any period of delay in resolving a dispute regarding approval of a TWRWP beyond 180 days after DOE submits a TWRWP for a tank or set of tanks covered by Section IV-B to Ecology shall extend by a corresponding period the affected milestones in this Decree, but only for that portion of time that this corresponding period extends beyond the date DOE planned to initiate the installation of equipment for tank waste retrieval from that tank or set of tanks covered by Section IV-B of the Decree. For purposes of this paragraph, "affected milestones" are defined as Section IV-B-1, Section IV-B-2, Milestone B-1 in Appendix B, Milestone B-2 in Appendix B, or Milestone B-3 in Appendix B, involving the tank or set of tanks addressed in the TWRWP. Ecology may petition the Court to argue that an extension under this default schedule adjustment should not

apply due to the delay in establishing a TWRWP (either by approval of Ecology or after dispute resolution by the Court under Section IX of the Decree). In any such petition, the Court should determine whether, notwithstanding the delay in establishing the TWRWP, DOE can still meet the scheduled date in the affected milestones by exercising reasonable diligence under the circumstances. The Court may consider any allegation concerning whether DOE or the State failed to exercise reasonable diligence in producing or reviewing the TWRWP and resolving any disputes.

- d. Nothing in paragraph 4 shall affect DOE's right to relief under Section VI, VII, VIII, and IX of the Decree, to the extent such relief would otherwise be available.
- 7. When DOE completes retrieval of waste from a tank covered by this Decree, DOE will submit to Ecology a written certification that DOE has completed retrieval of that tank. For purposes of this Consent Decree, "complete retrieval" means the retrieval of tank waste in accordance with Part 1 of Appendix C and with the retrieval technology/systems that were established by Part 1 of the TWRWP either by approval of Ecology or after dispute resolution by the Court under Section IX of the Decree.

# C. Reporting.

1. Quarterly Reports. DOE shall, on a quarterly basis, submit to Ecology a

written report documenting WTP construction and startup activities and tank retrieval activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period and shall include:

- a. A brief description of project accomplishments and project issues encountered during the reporting period and/or expected in the next three (3) months;
- b. A definitive statement describing whether or not DOE has complied with milestones that have already come due as of the date of the report, and how any missed milestones may affect compliance with other milestones;
- c. Where applicable, a description of actions initiated or otherwise taken to address any schedule slippage;
- d. Budget/cost status;
- e. Copies of written directives given by DOE to the contractors for work required by this Decree, if requested by Ecology;
- f. A description of progress made towards resolving the five outstanding WTP technical issues; and
- g. An accounting of total labor hours expended on SST

retrieval, specifying the total percentage of hours worked utilizing self-contained breathing apparatus.

- h. If Ecology can demonstrate good cause for concluding that DOE has not been forthcoming in a Section IV-C-1 quarterly report, Ecology may petition the Court for an immediate hearing.
  - a. If the Court finds that good cause exists for Ecology's request for a hearing under Section IV-C-1-h, the Court will schedule a hearing within thirty days of ruling on Ecology's request.
    - i. Ecology will serve Oregon with any request for a hearing under Section IV-C-1-h.
  - b. During the IV-C-1-h hearing, DOE will be subject to examination by Ecology and the Court in open court with a public record, on any issues raised by Ecology concerning the sufficiency of DOE's progress and the adequacy of the quarterly report.
- 2. <u>Monthly reports</u>. DOE shall, on a monthly basis, submit to Ecology a written summary report (*e.g.*, approximately 10 to 15 pages in length) documenting WTP construction and startup activities and tank retrieval

activities covered by this Decree. This report may be combined with the reports already provided by DOE to Ecology pursuant to Section 4 of the HFFACO Action Plan. The monthly report shall address: (a) cost and schedule performance (earned value management system graphs) for each major activity; (b) significant accomplishments during the prior month; and (c) significant planned activities for the next month.

- 3. In the event DOE determines that a serious risk has arisen that DOE may be unable to meet a schedule as required in Section IV, the following procedure shall be initiated:
  - a. DOE shall notify Ecology of the serious risk no later than fourteen days after the risk is identified, specifying the Section IV milestone(s) that are at risk, a detailed description of the factors constituting the serious risk, and a preliminary recovery plan for remedying the serious risk.
  - b. Within thirty days of receiving notice of a serious risk, Ecology may request a meeting with DOE Hanford Site personnel to answer any questions Ecology may have concerning the serious risk as well as to discuss mitigation options, cooperative solutions, and problemsolving opportunities.
    - i. If Ecology requests a meeting as described in Section IV-C-

- 3-b, DOE will schedule and attend such a meeting within thirty days of Ecology's request.
- ii. Ecology will serve the State of Oregon with any request for a meeting under Section IV-C-3-b.
- c. If Ecology can demonstrate good cause for concluding that DOE or
  DOJ personnel have not been forthcoming, either in the Section IV C-3-a report or Section IV-C-3-b meeting, Ecology may petition the
  Court for an immediate hearing.
  - i. If the Court finds that good cause exists for Ecology's request for a hearing under Section IV-C-3-c, the Court will schedule a hearing within thirty days of ruling on Ecology's request.
  - ii. Ecology will serve Oregon with any request for a hearing under Section IV-C-3-c.
  - iii. During the IV-C-3-c hearing, DOE personnel will be subject to examination by Ecology and the Court in open court with a public record, on any issues raised by Ecology relating to DOE's duties under the Consent Decree as well as address the serious risk(s) as reported under Section IV-C-3 and any allocation of funding and resources.

- 4. Applicability of Federal Rule of Evidence 408. Federal Rule of Evidence 408 does not apply to the above reporting requirements as the reports are not an offer of compromise but instead constitute mandatory elements of a negotiated Consent Decree.
  - a. If Ecology can demonstrate good cause for concluding that DOE or DOJ have not satisfied the reporting requirements as described above on the basis of Federal Rule of Evidence 408, Ecology may petition the Court for an immediate hearing.
    - i. If the Court finds that good cause exists for Ecology's request for a hearing under Section IV-C-4-a, the Court will schedule a hearing within thirty days of ruling on Ecology's request.
    - ii. Ecology will serve Oregon with any request for a hearing under Section IV-C-4-a.
    - iii. During the IV-C-4-a hearing, DOE will be subject to examination by Ecology and the Court, in open court with a public record, on any refusal to comply with the mandatory Consent Decree reporting requirements on the basis of Federal Rule of Evidence 408 or any other rule of evidence.

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# **D.** Regulatory Coordination

For the matters covered by this Decree, the Parties shall ensure, to the maximum extent possible, that any existing or required permit, order, or approval associated with constructing and operating the WTP, SST waste retrieval, and reporting is consistent with the requirements of this Consent Decree.

## II. Appendix A

Appendix A of the Consent Decree, ECF No, 59 at 27–32, is hereby **VACATED** and is **SUPERSEDED** by the following:

### APPENDIX A: WTP CONSENT DECREE

## MILESTONES, SCHEDULE, ASSUMPTIONS

# 1. WTP Construction and Startup

The milestones referred to in Section IV above are as follows:

Project	Description	Date
A-1	Achieve Initial Plant Operations for the Waste	
	Treatment Plan	12/31/2036
A-2	HLW Facility Construction Substantially	
Interim	Complete	12/31/2030
A-3	Start HLW Facility Cold Commissioning	
Interim		06/30/2032
A-4	HLW Facility Hot Commissioning Complete	
Interim		12/31/2033
A-5	LAB Construction Substantially Complete	12/31/2012
Interim		(COMPLETED)
A-6	Complete Methods Validations	
Interim		06/30/2032
A-7	LAW Facility Construction Substantially	
Interim	Complete	12/31/2020

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A-8	Start LAW Facility Cold Commissioning	
Interim		12/31/2022
A-9	LAW Facility Hot Commissioning Complete	
Interim		12/31/2023
A-12	Steam Plant Construction Complete	12/31/2012
Interim		(COMPLETED)
A-13	Complete Installation of Pretreatment Feed	
Interim	Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031
A-14	PT Facility Construction Substantially Complete	
Interim		12/31/2031
A-15	Start PT Facility Cold Commissioning	
Interim		12/31/2032
A-16	PT Facility Hot Commissioning Complete	
Interim		12/31/2033
A-17	Hot Start of Waste Treatment Plant	
		12/31/2033
A-18	Complete Structural Steel Erection Below	12/31/2009
Interim	Elevation 56' in PT Facility	(COMPLETED)
A-19	Complete Elevation 98' Concrete Floor Slab	
Interim	Placements in PT Facility	12/31/2031
A-20	Complete Construction of Structural Steel to	12/31/2010
Interim	Elevation 14' in HLW Facility	(COMPLETED)
A-21	Complete Construction of Structural Steel to	12/31/2012
Interim	Elevation 37' in HLW Facility	(COMPLETED)

"Substantially complete" means that the Start-up Organization has certified that the facility and its subsystems are ready to be turned over to the Start-up Organization.

<sup>2</sup>Because under Milestones A-5 and A-7, the LAW and LAB facilities must be substantially complete several years before "Hot Start of the Waste Treatment Plant" equipment in those facilities that might become obsolete or require upkeep if installed at that early time would be installed later, such as: Communications

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systems; Melter assembly and movement into the LAW building; Hi-purity piping tubing systems; Distributed control system (DCS); Selected instrumentation subject to damage or obsolescence; Penetration sealing and heating, ventilation, and air-conditioning (HVAC) balancing; Piping insulation; Selected architectural finishes/components subject to damage; Cable installation and other fire-load materials, which would cause the permanent plant fire protection systems to become required for fire protection; Fire detection system; Batteries; Master-slave Manipulators; Shield Windows; Carbon media in carbon bed adsorber; Highefficiency particulate air (HEPA) and other filters in HVAC systems. If DOE wishes to defer installation of equipment that is not substantially similar, then DOE shall seek approval from Ecology, with any dispute to be resolved under Section IX. The following items will not be considered substantially similar for purposes of delayed installation: All major civil, structural, piping, mechanical, and electrical power equipment installed and inspected; Electrical raceway installed except that required for systems/components not installed for obsolescence or maintenance considerations; All piping hydro-tested to confirm capability to meet design requirements; Buildings enclosed and weather-tight, as required by design; Interior partition walls completed except for penetrations and penetration sealing and caulking; Major instrumentation racks and associated tubing installed except for

"Start Cold Commissioning" means the introduction of feed simulants for the purpose of determining individual facility functionality.

"PT Facility Hot Commissioning Complete" means the point at which the PT Facility has demonstrated its ability to separate liquids from solids using radioactive materials to produce acceptable feed for high level waste (HLW) and low-activity waste (LAW) glass production.

"HLW Facility Hot Commissioning Complete" means the point at which the HLW facility has demonstrated its ability to produce immobilized HLW glass of acceptable quality.

"LAW Facility Hot Commissioning Complete" means the point at which the LAW facility has demonstrated its ability to produce immobilized LAW glass of acceptable quality.

## 2. WTP Construction and Startup Concerns and Assumptions

The milestones and schedule set forth in Section IV of the Decree and this Appendix thereto are based upon project planning that requires assumptions to be made and raises concerns about a broad range of circumstances and events, including unforeseen circumstances. Below is a non-exhaustive identification of some of the those portions subject to obsolescence or maintenance; Permanent lighting for the facilities complete.

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concerns and assumptions for the circumstances and events. The identification in this Appendix of certain circumstances and events and certain concerns and assumptions regarding circumstances and events does not create a presumption that any particular circumstance, event, concern, or assumption described in this Appendix will provide the basis for a good cause extension in any particular case. These concerns and assumptions are subject to the requirements for establishing good cause under Section VII-D, including the requirement that DOE exercise reasonable diligence.

- a. Unforeseen safety concerns that, because of the nature of the concerns and the time required to address them, may require that milestone dates and the schedule be extended. These concerns may include but are not limited to worker and public safety or impacts to the environment. Construction and start-up of the WTP involves unique characteristics and hazards including industrial, electrical, thermal, chemical, and radiological hazards.
- b. Because of the highly complex nature of the WTP, the milestones and schedule cannot anticipate all of the requirement changes and unknown technical obstacles that may be encountered and that may require time to remedy. These include but are not limited to difficulties in achieving the Maximum Achievable Control

Technology standards during performance testing, difficulties in adoption of laser ablation technologies resulting in extended sample turn-around times, integrated control software obsolescence, formation of hazardous mercury compounds in the evaporators, or technical issues that result from unforeseen tank waste characteristics.

- c. Although the milestones and schedule were developed assuming that equipment failures will occur and that time to respond will be required, these failures may take place more often and require more time to remedy than anticipated in development of the milestones and schedule. Examples may include but are not limited to components such as melters, agitators, compressors, material handling systems, crane systems, evaporators, and ultrafilters. Failures may occur during construction, testing, start-up, and operations. During WTP start-up and operations, failures in the Site infrastructure (e.g., Double-shell Tank system; 242-A Evaporator; Liquid Effluent Retention Facility, Effluent Treatment Facility, Integrated Disposal Facility, and the 222-S Laboratory) may occur.
- d. Although the milestones and schedule were based upon nominal delivery timelines developed through DOE and contractor

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experience, actual delivery times from suppliers of needed construction commodities and specialty equipment are affected by worldwide economic conditions and demand for the same or similar commodities and equipment; these conditions limit the ability of DOE and its contractors to secure required delivery dates to meet the milestones and schedule set forth above. Examples of these conditions include but are not limited to building steel, emergency diesel generators, piping and valves, and other commodities.

- e. DOE's ability to meet the milestones and schedule is dependent upon multiple regulatory actions and can be adversely impacted by forces outside its control, including but not limited to, obtaining operating permits and decisions from regulatory agencies on a timely basis, or legal intervention by third-parties under existing agreements or statutory provisions.
- f. DOE's ability to meet the milestones and schedule assume that required staffing levels can be achieved and sustained. The availability of skilled professionals and craft can be adversely impacted by competing projects in the nuclear, mining, chemical, oil and gas, refining and petrochemical industries, both domestic and international, and by local and regional projects, as well.

# III. Appendix B

Appendix B of the Consent Decree, ECF No, 59 at 33–36, is hereby **VACATED** and is **SUPERSEDED** by the following:

#### **APPENDIX B:**

#### 1. Tank Waste Retrievals

Project	Description	Date
B-1	Complete retrieval of tank wastes from the following remaining SSTs in WMA-C: C-102, C-105, and C-111.	3/31/2024
B-2	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106, AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3, DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly.	3/31/2024
B-3	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank wastes in at least 5.	12/31/2020

## 2. Tank Retrieval Milestones and Schedule Concerns and Assumptions

The milestones and schedule set forth in Section IV of the Decree and this Appendix thereto are based upon project planning that requires assumptions to be made and raises concerns about a broad range of circumstances and events, including unforeseen circumstances. Below is a non-exhaustive identification of some of the concerns and assumptions for the circumstances and events. The identification in this Appendix of certain circumstances and events and certain concerns and assumptions regarding circumstances and events does not create a presumption that any particular circumstance, event, concern, or assumption described in this Appendix will provide the basis for a good cause extension in

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any particular case. These concerns and assumptions are subject to the requirements for establishing good cause under Section VII-D, including the requirement that DOE exercise reasonable diligence.

- a. Unforeseen safety concerns that, because of the nature of the concerns and the time required to address them, may require that the milestones and schedule be extended. These concerns may include, but are not limited to, worker and public safety or impacts to the environment. The wastes contained within each tank have their own unique characteristics and hazards.
- b. The wastes associated with each tank or group of tanks have their own unique characteristics. Because of this, the milestones and schedule cannot anticipate all of the requirement changes and technical obstacles that may be encountered and that may require time to remedy. These may include but are not limited to unknown physical, chemical, and radiological characteristics present in the wastes; differences between the assumed and actual configurations of the tanks and tank farms; changes to the hazardous waste management requirements; and significant changes in the nature and extent of assumed environmental contamination.

- c. Although the milestones and schedule were developed assuming that equipment failures will occur and that will require time to respond to, these failures may take place more often and require more time to remedy than anticipated in the development of the milestones and schedule. Examples may include but are not limited to failures in the Single-shell Tank waste retrieval systems, tank farms, and supporting infrastructure (e.g., Double-shell Tank system; 242-A Evaporator; Liquid Effluent Retention Facility, Effluent Treatment Facility, Integrated Disposal Facility, and the 222-S Laboratory).
- d. Although the milestones and schedule were based upon delivery timelines developed through DOE and Contractor experience, actual delivery times from suppliers of needed construction commodities and specialty equipment are affected by worldwide economic conditions and demand for the same or similar commodities and equipment; these conditions limit the ability of DOE and its Contractors to secure required delivery dates to meet the milestones and schedule. Examples of these conditions include but are not limited to specialized waste retrieval systems and components, piping and valves, and spare parts for aging tank systems.

- e. DOE's ability to meet the milestones and schedule is dependent upon multiple regulatory actions and can be adversely impacted by forces outside its control, including but not limited to, obtaining operating permits and decisions from regulatory agencies on a timely basis, or legal intervention by third-parties under existing agreements or statutory provisions.
- f. DOE's ability to meet the milestones and schedule assume that required staffing levels can be achieved and sustained. The availability of skilled professionals and craft can be adversely impacted by competing projects in the nuclear, mining, chemical, oil and gas, refining and petrochemical industries, both domestic and international, and by local and regional projects, as well.

#### IT IS SO ORDERED.

The District Court Clerk is directed to enter this Order and provide copies to counsel.

**DATED** this 11th day of March 2016.

s/Rosanna Malouf Peterson ROSANNA MALOUF PETERSON United States District Judge