

Regional Water Quality Control Board
Central Valley Region

Response to Written Comments for
Tentative Waste Discharge Requirements
for
City of Clovis
Clovis Municipal Solid Waste Landfill, Fresno County

This document contains the responses to written comments received from interested parties regarding the proposed tentative Waste Discharge Requirements (WDRs) for the City of Clovis, City of Clovis Municipal Solid Waste Landfill, Fresno County for construction, operations, and corrective action. The Tentative WDRs, R5-2016-XXXX, were prepared to corrective action requirements. Currently, WDRs Order R5-2011-0050 regulate the Facility.

The Tentative WDRs were circulated on 7 April 2016 for public comment, ending on 9 May 2016.

Comments submitted during the comment period were received from the following:

- A. Mr. Scott Redelfs, City of Clovis, 9 May 2016.
- B. BSK Associates, on behalf of the City of Clovis, 9 May 2016.

RESPONSE TO COMMENTS

The proposed additional language in underlined and the proposed deletion of language is shown in ~~striketrough~~ format.

Waste Discharge Requirements (comments)

Comment 1:

WDR No. 5, Page 2 – Omit/change last sentence: “Side-Slopes lined with a single layer of 80-mil HDPE geomembrane.”

City Comment: The side-slopes of the liner within Stage I are also 60-mil double-sided textured HDPE geomembrane.

Response 1: Comment acknowledged. The 80-mil HDPE reference will be changed to 60-mil double-sided textured HDPE geomembrane.

Comment 2:

WDR No. 5, Page 3 – Omit/change fist sentence: “A new performance demonstration is required for this expansion.”

City Comment: Future expansion areas will be lined in the same or similar manner as Stage I with a composite liner composed of a HDPE liner and a low permeability layer that meets the performance criteria of the state and federal regulations (See Finding 53).

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Response 2: Per Central Valley Water Board's 3 June 2009 letter titled *Review of Liner Performance Demonstration Work Plan, City of Clovis, Fresno County*, at the bottom of page 2 of Staff's review it states the following: *...the Work Plan indicates that the performance demonstration is to cover only a 12-acre portion, delineated as the Stage I Expansion Area along the western side of the intended 28-acre eastern expansion area... ...Subsequent expansion of the remaining 28-acre eastern expansion area would require submission of another performance demonstration as application for revised waste discharge requirements. Alternatively, if the performance demonstration covers the entire 28-acre expansion area, the revised waste discharge requirements will provide coverage for construction of the 28-acre area.*

Vector Engineering, Inc. responded in a letter dated 19 June 2009 (on page 14) with: *...An additional comment was provided by the RWQCB regarding the 28-acre eastern expansion area. This area will not be modeled at this time...*

Therefore, no change will be made to Finding No. 5 as future expansion areas will need a new performance demonstration.

Comment 3:

WDR No. 14, Page 5 – Make the following revision to the second to last sentence in the first paragraph: "Therefore, leachate and landfill gas condensate from composite lined units with an LCRCs may be returned to the unit from where they came **any lined unit**."

Response 3:

Per Title 27, Section 20340(g), SWRCB Resolution No. 93-62, and 40 CFR 258.80, leachate from a municipal solid waste landfill (MSW landfill) must be returned to the unit from which it came. Therefore, no change will be made to Finding No.14.

Comment 4:

WDR No, 48, Page 10 – Omit last sentence: "A new liner performance demonstration..."

City Staff Comment: Replace with "Future expansion areas will be lined in the same or similar manner as Stage I with a composite liner composed of a HDPE liner and a low permeability layer that meets the performance criteria of the state and federal regulations (See Finding 53)."

Response 4: See Response 2 above. A change was made to the reference document. Finding 48 will be revised as follows:

Central Valley Water Board reviewed the Groundwater and Contaminant Transport Model of the Landfill Expansion Liner Performance Evaluation Report, dated January 2011. Liner Performance Demonstration Work Plan, dated December 2008. Per Staff's review letter dated 3 June 2009, the performance demonstration covered only a 12-acre portion delineated as the Stage I expansion area along the western side of the intended 28-acre eastern expansion area. Implementation and approval of the performance demonstration warranted the issuance of waste discharge requirements for construction of a waste management unit expansion that incorporates the modeled area

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only. A new liner performance demonstration for the Stage II Area, and each subsequent proposed future area is required to be submitted and approved by Central Valley Water Board prior to submittal of the construction documents for Stage II or Stage III (See Finding 62).

Comment 5:

WDR No. 53, Page 11 – Correction to last sentence: “prepared subgrade overlain by an ~~8-mil~~ **60-mil** thick HDPE geomembrane.”

Response 5: Comment acknowledged. Finding 53 will be revised as follows:

In January 2011, the Discharger submitted a Report of Waste Discharge in the form of a *Groundwater and Contaminant Transport Model of the Landfill Expansion Liner Performance Evaluation Report*, requesting approval of an engineered alternative to the prescriptive standard for liner requirements for Stage I at the facility. The engineered alternative liner that was approved ~~proposed by the Discharger~~ for the bottom liner of the future landfill modules Stage I consists of, in ascending order: engineered subgrade; geosynthetic clay liner (GCL); 60-mil HDPE geomembrane; and a double sided geocomposite drainage net. The components for the side slope liner of ~~the future landfill modules~~ Stage I consists of, in ascending order: prepared subgrade overlain by an ~~8-mil~~ 60-mil thick HDPE geomembrane.

Comment 6:

WDR No. 86 B2, Page 18 – Grammatical error on 3rd line “... has ~~demonstrates~~ **demonstrated** it meets...”

Response 6: Comment acknowledged.

Comment 7:

WDR No. 86 D1, Page 19 – Add the following to the first sentence: “Prior to submitting Construction Plans for expansion of Stage II and III (future units), a Liner Performance Demonstration must be prepared and submitted for review and approval ***should the design deviate from that of the Stage I Liner design.***”

Response 7:

See Comment 2. No change will be made to D.1 as proposed, however “by the Executive Officer was added, D.1 will be revised to read:

“Prior to submitting Construction Plans for ~~expansion of~~ Stage II and III (future units), a Liner Performance Demonstration must be prepared and submitted for review and approval by the Executive Officer.”

Comment 8:

WDR No. 6, Page 3: On-Site facilities at the City of Clovis MSW Landfill include: an active landfill gas extraction system, a landfill gas flare, a water supply well, storm lined pond, and office.

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BSK Associates Comment: On-Site facilities at the City of Clovis MSW Landfill include: an active landfill gas extraction system, a landfill gas flare, **a two water supply wells**, storm lined pond, **scale house** and office. In addition to the on-site facilities there are rock crushing and screening of materials operations.

Response 8:

Comment acknowledged. Finding 6 will be revised to read:

On-site facilities at the City of Clovis MSW Landfill include: an active landfill gas extraction system, a landfill gas flare, two-a water supply wells, storm water lined pond, scale house and office. In addition, other activities to the on-site facilities include rock crushing and screening of materials operations. The soil will be stockpiled and used for daily cover, and some rock will be used for miscellaneous projects around the landfill.

Comment 9:

WDR No. 17, Page 5: There are is one industrial supply well within one mile of the site.

BSK Associates Comment: There ~~are~~ is one industrial supply well within one mile of the site.

Response 9: Comment acknowledged. Finding 17 will be revised.

Comment 10:

WDR No. 10, Page 4: The Discharger proposes to continue to discharge nonhazardous solid waste and dewatered sewage and water treatment sludge to lined Class III landfill units, with a leachate collection and removal system at the facility.

BSK Associates Comment: The material received from the surface water treatment plant is not considered a sludge but screenings that are fine grit material separated by means of a screen. Sludge is precipitated solid matter produced by sewage treatment processes. Revise to state: The Discharger proposes to continue to discharge nonhazardous solid waste and dewatered sewage **sludge** and water treatment **screenings sludge** to lined Class III landfill units, with a leachate collection and removal system at the facility.

Response 10: Comment acknowledged. Finding 10 will be revised to read:

The Discharger proposes to continue to discharge nonhazardous solid waste and dewatered sewage sludge and water treatment screenings sludge to lined Class III landfill units, with a leachate collection and removal system at the facility. These classified wastes may be discharged only in accordance with Title 27, Resolution 93-62, and Subtitle D as required by this Order.

Comment 11:

WDR No. 24, Page 6: A storm water retention basin is located east of the landfill as shown on Attachment B.

BSK Associates Comment: A storm water retention basin is located **east west** of the landfill as shown on Attachment B.

Response 11: Comment acknowledged. Finding 24 will be revised.

Comment 12:

WDR No. 30, Page 6: The direction of groundwater flow is generally toward the south beneath the western half of facility, and toward the southwest beneath the eastern half of the site.

BSK Associates Comment: The direction of groundwater flow is generally toward the south beneath the ~~western half of~~ facility, ~~and toward the southwest beneath the eastern half of the site.~~

Response 12: Comment acknowledged. Finding 30 will be revised in the WDRs and Information Sheet to read:

The first encountered groundwater is unconfined within the upper geologic unit. The direction of groundwater flow is generally toward the south beneath the ~~western half of facility. and toward the southwest beneath the eastern half of the site.~~ The average groundwater gradient is approximately 0.015 feet per foot. The average groundwater velocity is 18 to 55 feet per year.

Comment 13:

WDR No. 32, Page 7: The direction of groundwater flow is generally toward the southeast beneath the western portion of the landfill, southerly beneath the central portion, and southwesterly beneath the eastern portion.

BSK Associates Comment: The direction of groundwater flow is generally toward the southeast beneath the ~~western portion of~~ the landfill, ~~southerly beneath the central portion, and southwesterly beneath the eastern portion.~~

Response 13: Comment acknowledged. In order to remove redundancy, the first part of the sentence will be removed, as it is already referenced in Finding No. 30. Finding 32 will be revised in the WDRs and Information Sheet to read:

~~The direction of groundwater flow is generally toward the southeast beneath the western portion of the landfill, southerly beneath the central portion, and southwesterly beneath the eastern portion.~~ Groundwater flow directions across the landfill converge toward the south end of the landfill and flow southwesterly within the Little Dry Creek flood plain. Groundwater gradients are typically 0.005 within the Little Dry Creek floodplain, 0.018 in the eastern portion of the landfill, and 0.024 in the western portion of the landfill.

Comment 14:

WDR No. 34, Page 7: The existing groundwater monitoring network for the landfill units consists of background monitoring wells GMMW-23, GMMW-24 and GMMW-205.

BSK Associates Comment: The existing groundwater monitoring network for the landfill units consists of background monitoring wells GMMW-02, GMMW-23, GMMW-24 and GMMW-205.

Response 14: Comment acknowledged. Background monitoring well GMMW-02 will be added to Finding No. 34.

Comment 15:

WDR No. 57, Page 12: The proposed waste containment system consists of, from the bottom:

BSK Associates Comment: The sentence is not clear if referring to future construction of Stages II and III or the completed construction of Stage I?

Response 15: Finding No. 57 will be revised to read:

The existing Stage I proposed and proposed future waste containment systems (Stages II and III) consists of, from the bottom up: ...

- a. Prepared subgrade for both bottom and side slopes;
- b. Geosynthetic clay liner over subgrade;
- c. Single-sided textured 60-mil high density polyethylene (HDPE) geomembrane;
- d. Double-sided Geocomposite drainage layer~~net~~; and
- e. 18-inch operations layer and working surface.

Side slopes will be constructed the same, except with double-sided textured 60-mil HDPE geomembrane.

Proposed future Staged II and III requires the Discharger to submit a new liner performance demonstration for approval by the Executive Officer.

Comment 16:

WDR No. 58, Page 12: The proposed LCRS would consist of a geocomposite drainage media on the floor of the cell. The leachate collection and recovery system of the Stage I construction will flow to a double-lined internal sump at the low point of the cell. Eventually Stage III will be tied with Stage I. The entire flow from Stage I and Stage III will follow to the Stage I sump, where it will be pumped out on a regular basis for application to the working face of the landfill.

BSK Associates Comment: The sentence is not clear if the proposed LCRS is referring to the completed Stage I unit or the future Stage III unit. The sentence should be modified to say the following:

The leachate collection and recovery system of the Stage I and the proposed LCRS of the Stage III ~~would~~ consist of a geocomposite drainage media on the floor of the cell.

The ~~leachate collection and recovery system~~ LCRS of the Stage I construction ~~will~~ flows to a

double-lined internal sump at the low point of the cell. Eventually Stage III will be tied with Stage I. The entire flow from Stage I and Stage III will follow to the Stage I sump, where it will be pumped out on a regular basis for application to the working face of the landfill.

Response 16: Finding No. 58 will be revised to read:

The ~~proposed~~ LCRS ~~would~~ consists of a geocomposite drainage media on the floor of the cell. The leachate collection and recovery system of the Stage I construction ~~will~~ flows to a double-lined internal sump at the low point of the cell. ~~Eventually Stage III will be tied with Stage I. The entire flow from Stage I and Stage III will flow to the Stage I sump, where it will be pumped out on a regular basis for application to the working face of the landfill.~~

Comment 17:

WDR No. 62, Page 12: This Order approves the Discharger's proposed liner system for future modules of Stage I as describes in Finding 5 and requires that the Discharger submit designs plans and construction quality assurance (CQA) plans for each new module or modules for review and approval at least 90 days prior to construction.

BSK Associates Comment: The construction of Stage I is complete, no further modules of Stage I will be built.

Response 17: Finding No. 62 will be revised to read:

This Order ~~approves the Discharger's proposed liner system for future modules of~~ includes the liner design for the most recently constructed waste management unit, Stage I as described in Finding 5 and requires ~~that~~ the Discharger to submit designs plans and construction quality assurance (CQA) plans for each new module or modules for review and approval at least 90 days prior to construction (Stage II and Stage III).

Comment 18:

WDR No. 71, Page 14: The Discharger submitted a December 2011, and revised November 2012 *Preliminary Closure and Postclosure Maintenance Plan* for closure and postclosure maintenance of Phase I and II, and Cells 1, 2, 4, 5, and Stage I.

BSK Associates Comment: The Discharger submitted a December 2011, and revised November 2012 *Preliminary Closure and Postclosure Maintenance Plan* for closure and post-closure maintenance of **Phases** I and II, and Cells 1, 2, 4, 5, and Stage I.

Response 18: Comment acknowledged. Phase will be revised to Phases.

Comment 19:

WDR No. 74, Page 14: The lump sum estimate is for the cost to close largest future area needing closure at any one time. .

BSK Associates Comment: The lump sum estimate is for the cost to close largest future area needing closure at any one time.--

Response 19: Comment acknowledged. The extra space and period will be removed.

Monitoring and Reporting Program (comments)

Comment 1:

MRP Section A.1, Page 2: Once approved Central Valley Water Board Staff, the Discharger shall comply with the approved document or any subsequent approved revisions thereto.

BSK Associates Comment: Once approved **by** Central Valley Water Board Staff, the Discharger shall comply with the approved document or any subsequent approved revisions thereto.

Response 1: Comment acknowledged. Section A.1, will be revised.

Comment 2:

MRP Section A.1, Page 2: Well
GMMW-1
GMMW-2
GMMW-4
GMMW-5
GMMW-6
GMMW-7

BSK Associates Comment: To keep with consistency of the well name nomenclature used in WDR finding No. 34, well names should include a zero before the number as follows:

Well
GMMW-**01**
GMMW-**02**
GMMW-**04**

GMMW-**05**
GMMW-**06**
GMMW-**07**

Response 2: Comment acknowledged. A zero will be included before each well number 1 thru 7 for consistency.

Comment 3:

MRP Section A.2, Page 3:	<u>Mon Pt.</u>	<u>Status</u>
	Sump #1	Vadose Zone
	Sump #2	Vadose Zone
	Sump #4	Vadose Zone

BSK Associates Comment: Vadose zone monitoring point Phase II was left off the list of monitoring points.

<u>Mon Pt.</u>	<u>Status</u>
<u>Phase II</u>	<u>Vadose Zone</u>
Sump #1	Vadose Zone

Sump #2	Vadose Zone
Sump #4	Vadose Zone

Response 3: Comment acknowledged. Phase II was inadvertently omitted; Section A.2 will be revised to include Phase II as a vadose zone monitoring point.

Comment 4:

MRP Section A22, Page 4: Pan lysimeters shall be inspected for the presence of liquid monthly.

BSK Associates Comment: The Current WDR requires the pan lysimeters to be inspected quarterly for the presence of liquid. The new proposed WDRs require them to be inspected monthly. Landfill operations have not changed since the issuing of the current WDR; therefore, increased pan lysimeter inspections are not necessary and should remain on a quarterly basis.

Response 4: Comment acknowledged. Per the most current WDRs, the pan lysimeters may continue to be inspected quarterly for the presence of liquid. Section A.2 will be revised to read:

... Pan lysimeters shall be inspected for the presence of liquid ~~monthly~~quarterly...

Comment 5:

MRP Section A33:

<u>Mon Pt.</u>	<u>Unit Where Sump is Located</u>
Sump #1	Phase II
Sump #2	Phase II
Sump #3	Phase II
Sump #4	Phase II

BSK Associates Comment: Locations of sump monitoring points are further clarified below:

<u>Mon Pt.</u>	<u>Unit Where Sump is Located</u>
<u>Phase II</u>	<u>Phase II</u>
Sump #1	<u>Cell 1</u>
Sump #2	<u>Cell 2</u>
Sump #3	<u>Cell 4</u>
Sump #4	<u>Stage I</u>

Response 5: Comment acknowledged. The table in Section A.3. will be revised as follows:

<u>Mon Pt.</u>	<u>Unit Where Sump is Located</u>
<u>Phase II</u>	<u>Phase II</u>
Sump #1	Phase II <u>Cell 1</u>
Sump #2	Phase II <u>Cell 2</u>
Sump #3	Phase II <u>Cell 4</u>
Sump #4	Phase II <u>Stage I</u>

Comment 6:

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MRP Section A.4, Page 5: (The current surface water detection monitoring system meets the applicable requirements of Title 27.

BSK Associates Comment: ~~(~~The current surface water detection monitoring system meets the applicable requirements of Title 27.

Response 6: Comment acknowledged. The parenthesis will be removed.

Comment 7:

MRP Section A.5d, Page 7: Results of Standard Observations shall be submitted in the semiannual monitoring reports required in Section B.1 of this MRP.

BSK Associates Comment: For ease of coordination, the City will continue to submit the results of Standard Observations separately to the RWQCB and will not include them with the semi-annual monitoring reports.

Response 7: For review purposes, the results of the standard observations should be submitted in the semiannual monitoring reports. No changes will be made to Section A.5d.

Comment 8:

MRP Section B, Page 8: Data shall also be submitted in a digital format, such as a computer disk.

BSK Associates Comment: Data will be submitted as a portable document format (pdf) via email.

Response 8: Reference to the digital format does not limit submittals to only computer disks, an excel file submitted via email to ECM is appropriate. A PDF is not appropriate as the data is not easily accessible or easily extracted for analysis purposes. No changes will be made to Section B.

Comment 9:

MRP Section B.2a: All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years.

BSK Associates Comment: ~~All~~ The monitoring parameters **identified in the Sampling and Analysis Plan** shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years.

Response 9: The Sampling and Analysis Plan must be based off the monitoring parameters listed in the MRP, therefore no changes will be made to the language in Section B.2a.

Comment 10:

MRP Section B.2c., Page 11: All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format such as a computer disk.

BSK Associates Comment: All historical data for which there are detectable results, including data for the previous year, shall be submitted in tabular form **as a portable document format (pdf) via email once per WDR renewal.**

Response 10: This requirement is standard to all landfills and will not be revised. Updating of the historical data files shall be done by the Discharger, and submitted annually. No changes will be made to Section B.2c.

Comment 11:

MRP Section C.6, Page 15: The following are monitoring locations at the point of compliance:

BSK Associates Comment: The sentence appears to be incomplete.

Response 11: Comment acknowledged. The sentence will be removed.

Comment 12:

MRP Table I: Groundwater Detection Monitoring Program
Field Parameters - Temperature °F
5-Year Constituents of Concern - Inorganic (dissolved) µg/L

BSK Associates Comment: The current WDR requires temperature to be submitted in degree Celsius (°C) and inorganics in milligrams per liter (mg/L). For consistency with historical data, units should continue to be the same as the current WDR.

Response 12: Comment acknowledged. For consistency with historical units of measure, the Temperature will be changed from °F to °C on Table I. The units for inorganics will be revised from ug/L to mg/L on Tables I – IV.

Comment 13:

MRP Table II: Pan Lysimeters
Field Parameters – Volume of liquid removed gallons –
Sampling Frequency – monthly

5-Year Constituents of Concern - Inorganic (dissolved) µg/L

BSK Associates Comment: The Current WDR requires the pan lysimeters to be inspected quarterly for the presence of liquid. Landfill operations have not changed since the issuing of the current WDR; therefore, increased pan lysimeter inspections are not necessary and volume of

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liquid removed should be reported quarterly. The current WDR requires inorganics in milligrams per liter (mg/L). For consistency with historical data, units should continue to be the same as the current WDR.

Response 13: Comment acknowledged. For consistency, the Sampling Frequency for volume of liquid removed will be revised from Monthly to Quarterly. See Response 12 for the Inorganic (dissolved) units.

Comment 14:

MRP Table III: Leachate Monitoring

Field Parameters – Electrical Conductivity – Sampling

Frequency – Quarterly

Field Parameters – pH – Sampling Frequency – Quarterly

5-Year Constituents of Concern - Inorganic (dissolved) µg/L

BSK Associates Comment: The Current WDR requires the electrical conductivity and pH to be sampled annually. Landfill operations have not changed since the issuing of the current WDR; therefore, increased sampling frequency is not necessary. The current WDR requires inorganics in milligrams per liter (mg/L). For consistency with historical data, units should continue to be the same as the current WDR.

Response 14: Comment acknowledged. For consistency, the Sampling Frequency will be revised from Quarterly to Annually for both Electrical Conductivity and pH. See Response 12 for the Inorganic (dissolved) units.

Comment 15:

MRP Table IV: Surface Water Detection Monitoring Program

Field Parameters – Flow to Water of U.S. (Yes or No)

5-Year Constituents of Concern - Inorganic (dissolved) µg/L

BSK Associates Comment: Please clarify the field parameter “Flow to Water of U.S.”. The current WDR requires inorganics in milligrams per liter (mg/L). For consistency with historical data, units should continue to be the same as the current WDR.

Response 15:

Little Dry Creek is considered a “Flow to Water of the U.S.” if it reaches the San Joaquin. See Response 12 for the Inorganic (dissolved) units.

Comment 16:

MRP Table VI: 5-Year COC & Approved USEPA Analytical Methods – Inorganics (dissolved)

BSK Associates Comment: The methods listed for the inorganics are outdated and current

methods were approved in the most recent WDR and provided in the Monitoring Program Sampling and Water Quality Protection Standards Analysis Plan dated April 2016. Please update to reflect current methods.

Response 16: Comment acknowledged. Due to time constraints, the Water Quality Protection Standards Analysis Plan dated April 2016 has not yet be reviewed. Per the most recent WDRs, the following changes will be made to the USEPA Methods for Inorganics (dissolved).

<u>Inorganics (dissolved):</u>	<u>USEPA Method</u>
Aluminum	6040-200.7
Antimony	7041-200.8
Barium	6040-200.7
Beryllium	6040-200.8
Cadmium	7131A-200.7
Chromium	6040-200.7
Cobalt	6040-200.7
Copper	6040-200.7
Silver	6040-200.7
Tin	6040-200.7
Vanadium	6040-200.8
Zinc	6040-200.7
Iron	6040-200.7
Manganese	6040-200.7
Arsenic	7062-200.8
Lead	7421-200.8
Mercury	7470A-200.8
Nickel	7521-200.8
Selenium	7742-SM 3114 B
Thallium	7841-200.8
Cyanide	9040C-SM 4500-CN E
Sulfide	9030B-SM 4500-S E (18th edition)

The responses to comments herein were discussed in a meeting with representatives of the City of Clovis and BSK Associates on 19 May 2016. Changes per this document were made to the WDRs, MRP and Information Sheet. Additional non-substantive changes were made to the WDRs and MRP for clarification, and to correct references and typographical errors.