EPA Remaining Items, as of 03/31/2015

Sources: EPA Remaining Issues Table 12/17/2014 (Co-leads); Summary of remaining EPA issues in the NorthMet EIS review 12/16/14-red lined (Co-leads)

Cooperating Agency	Issue	Batch	Status	Updated Status	Information in support of issue resolution	Notes
EPA	**1.** Acid generation may occur from pits, pit walls, waste rock and lean ore piles, but will be managed on-site through collection, treatment, disposal, and use of adaptive management as needed.	3b,4	Conceptually Resolved	**3/19/2015** Conceptually resolved, pending PFEIS text	• Response to **EPA Comment #2:** Water Quality - waste rock and acid rock drainage • PFEIS Section 5.2.2.3.1 NorthMet Project Proposed Action Water Budget Overview ~~• PFEIS Section 5.2.2.3.2 Partridge River Watershed~~ - *this section does not include text relevant for this issue* • PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures	Section 5.2.2.3.1 (line # 3241): "NorthMet Project Proposed Action Water Budget Overview" Section 5.2.2.3.5 (line # 13395): "Proposed and Recommended Mitigation Measures"
EPA	**2.** During active mining and post-closure, water quality standard exceedances will be prevented through on-site treatment or other measures, before discharge to waters of the U.S. --SDS approach to monitoring	3,3b,4	Conceptually Resolved	**3/19/2015** Conceptually resolved; pending PFEIS sections provided in Batch 4	• Response to E**PA Comment #7** : NPDES Permitting • PFEIS ~~Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures~~ - *relevant section is 5.2.2.3.6 Monitoring*	Section 5.2.2.3.6 (line # 14176): "Monitoring"
EPA	**3.** A groundwater capture and containment system will be installed at the tailings basin.	1,3b,4	Conceptually Resolved	**3/19/2015** Conceptually resolved, pending PFEIS text	• Project Description Section 4.3.8.3 (pgs 46, 60, 63, 64-65, 73-75) • PFEIS Section 3.2.2.3.10 Engineered Water Controls (pgs 115-117, 123, 131-132, 137-138) • PFEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System • Response to EPA comment #32: TB groundwater capture • PFEIS Figure 5.2.2-7: TB Containment System • FTB Containment System Update	Table 5.2.2-7 (line # 1184) Section 5.2.2.2.3 (line # 2727) "Containment Transport form the Tailings Basin" Section 5.2.2.3 (line # 3393) "NorthMet Project Proposed Action --Operation at the Plant Site"
EPA	**4.** An existing coal ash landfill located in the tailings basin will be removed, and resulting materials will be disposed of at the hydrometallurgical residue facility in accordance with applicable laws.	1	Conceptually Resolved	**2/5/2015** Resolved	• Project Description Section 4.3.6 (pgs 61-62) • PFEIS Section 3.2.2.3.5 Project Construction (pg 102) • Coal Ash Landfill Relocation Description	Section 5.2.2.3.3 (line # 9085) "Embarrass River Watershed"
EPA	**5.** Ground water will be collected from faults and fractures in the upper bedrock using negative pressure from the tailings basin capture and containment system. Adaptive management techniques will be used at the mine site as needed to stop groundwater flow along faults and fractures.	1,4	Conceptually Resolved	**2/5/2015** Resolved	• Response to EPA Issue 5: faults/fractures • NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) • NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014) • PFEIS Section 5.2.2.3.3 Embarass River Watershed PFEIS Section	Section 5.2.2.3.3 (line # 9354) "Tailings Basin Containment System" Section 5.2.2.3.5 (line # 13395) "Proposed and Recommended Mitigation Measures" Section 5.2.2.3.5 (line # 14269) [discussion of piezometers added to Monitoring] "Embarrass River Watershed" Figures 5.2.2-7 and 5.2.2-57 Conceptual Diagrams o FTB Containment System
EPA	**6.** a) The water model is not designed to estimate the duration of active water treatment. The EIS will clarify this, b) the role of financial assurance and adaptive management in ensuring that water quality standards are met, and DNR's intent to require the project proposer to pilot, and potentially implement, passive treatment as a permit condition if the project proceeds.	3b,4	Conceptually Resolved	**3/19/2015** Conceptually resolved, pending PFEIS text	• PFEIS Section 5.2.2, Summary • Response to **EPA Comment #14**: Duration of Treatment • NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014)	Comment #14: 5.2.2 Summary (line # 289 - 297) Summary Section 5.2.2.3.5 (line # 14070) "Future Transition from Mechanical to Non-Mechanical Treatment Systems"
EPA	**7.** The EIS will clearly and concisely summarize the USFS alternatives analysis for the proposed land exchange.	2	Conceptually Resolved	**3/5/2015** Resolved	• PFEIS Section 3.3.3 USFS LE Alternatives • Response to EPA Comment #31: USFS Land Exchange • Table 7.3.5-1 - LE Matrix	
EPA	**8.** Pending NPDES-related questions will be deferred until permitting, when they will be addressed by USEPA and MPCA.	N/A	Resolved		N/A	
EPA	**9.** The sensitivity of water quality impacts to groundwater base flow at the mine site is being investigated. • Action: Provide sensitivity analysis to EPA for review.	2,3b,4	Unresolved	**3/19/2015** Conceptually resolved, pending PFEIS text	• Response to **EPA Comment #11:** Water Modeling - Partridge River flow • Sensitivity Analysis Rationale [NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014)] • Partridge River Baseflow Sensitivity Analysis (Appendices: J, K, L, M; Section 7.3) • Partridge River Baseflow Sensitivity Analysis - Work Plan • PFEIS Section 5.2.2.3.5	Section 5.2.2.3.2; (line # 8962 – 9012) "Groundwater Baseflow Sensitivity Analysis"

Disclaimer: This document is a working document. This document may change over time as a result of new information, further deliberation or other factors not yet known to the co-lead agencies.

EPA	**10.** Modeling and mitigation measures for mercury releases in the Lake Superior watershed can use a mass-balance approach, if this is combined with adaptive management to assure future mitigation of releases as needed. • Action: Co-lead agencies agree to use adaptive management.	1,4	Unresolved	2/12/2015 Resolved, aside from the mitigation issue, which will be reviewed as part of a PFEIS section in Batch 4.	• Adaptive Water Management Plan and Appendices • Response to **EPA Comment #15:** Mercury • PFEIS ~~Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures~~ - *relevant section is 5.2.2.3.4 Mercury* Follow-up materials: • Mine Site Hg Balance_v12 to v13_comparison (PDF pages 453 to 467) • Plant Site Hg Balance_v9 to v10_comparison (PDF pages 404 to 418) • AWMP v6_Lg Figs 1_2_3 • Metals Removal by Reverse Osmosis_v1_DEC2012 (PDF pages 8-9)	Section 5.2.2.3.4 (line # 12850 - 12861) "Mercury"
EPA	**11.** Additional model inputs will be used to calculate water quality in Colby Lake. • Action: Provide a list of additional input variables to EPA for review.	3	Unresolved	3/5/2015 Conceptually resolved; pending PFEIS language around adaptive management	• Response to EPA Comment #8: Colby Lake Modeling • Colby Lake Modeling Inputs (workplan)	Section 5.2.2.3.2 (line # 8601-8708) "Partridge River Watershed" Section 5.2.2.3.5 (line # 13769-13844) "Proposed and Recommended Mitigation Measures"
EPA	**12.** Co-lead agencies are continuing to assess the design of the hydrometallurgical residue facility. • Action: Provide updated data packages and management plans to EPA for review.	2	Unresolved	2/19/2015 Conceptually resolved, aside from PFEIS sections that will be reviewed in Batch 4.	• Geotechnical Data Package Volume 2: HRF (Sections 5.0-6.0) • Hydrometallurgical Residue Management Plan (Sections 2.0-5.0, Attach J&K) • Response to EPA **Comments #3 : HRF Design** • Response to EPA Comment #37: HRF Liquefaction Follow-up materials: • PFEIS section 5.2.14.2.3 • PFEIS ~~section 5.2.2.5.4~~ - *the relevant section is 5.2.2.3.3 Embarass River Watershed* • PFEIS section 4.2.14.3 • PFEIS section 3.2.2.3.7 (EPA already received) • PFEIS section 3.2.2.3.10 (EPA already received)	Section 5.2.14.2.3 starts on page 38 of the PDF file for Section 5.2.14 Section 5.2.2.3.3: (line # 9059 - 9109) "Embarrass River Watershed" Section 4.2.14.3 starts on page 23 of the PDF file for Section 4.2.14 Section 3.2.2.3.7 starts on page 113 of the PDF file for Section 3.2 Section 3.2.2.3.10 starts on page 115 of the PDF file for Section 3.2
EPA	**13.** The newly proposed (post-SDEIS) east tailings basin containment system will directly impact a small amount of wetlands. • Action: Co-lead agencies will discuss how these wetland impacts will be considered for the PFEIS.	3	Unresolved	3/5/2015 Resolved	• Response to EPA Issue 13: wetland impacts due to new east side TB containment system • PFEIS Section 5.2.3.2.3: Plant Site Direct Effects	
EPA	**14.** The monitoring and mitigation plan for indirect wetland impacts has not been finalized. • Action: Co-leads will summarize available information on the monitoring and mitigation plan for indirect wetland impacts in draft EIS sections and provide to EPA for review and comment. In addition, EPA will continue to work with USACE to make sure monitoring and mitigation for indirect impacts meets permitting requirements.	3	Unresolved	3/19/2015 Resolved	• Wetland Management Plan v7 (see sections 4.2 and 4.3) • Response to EPA Comment #17: Wetlands - indirect impacts and mitigation • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	**15.** The proposed wetland mitigation sites may not provide sufficient credits for the proposed direct and indirect wetland impacts. • Action: PolyMet is currently looking into prospective wetland mitigation options. Once this review is complete, EPA and USACE will determine if the proposed sites and acreage are sufficient to cover direct and indirect wetland impacts.	3	Unresolved	3/19/2015 Resolved	• Response to EPA Comment #21: Update on wetland mitigation credits • USACE 2015a Letter from USACE to Jennifer Saran, PolyMet Mining • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	**16.** Augmentation to adjacent tributary streams and wetlands is proposed to come from water that has been treated at the water treatment plant.	1	Unresolved	2/12/2015 Resolved	• Project Description Section 4.3.8.4 (pgs 63, 65, 75) • PFEIS Chapter 3.2 (pgs 123, 132) • Stream Augmentation Description	
EPA	**17.** A change in ore processing is proposed to use a sag mill instead of a rod mill and ball mill.	1	Unresolved	2/5/2015 Resolved	• Project Description Section 4.3.2.2 (pgs 48-49) • PFEIS Chapter 3.2 (pgs 89, 98) • SAG Mill Description	
EPA	**18.** A deep soil cement mixing technology is proposed within the existing tailings basin to increase dam stability at the slime layer.	1	Unresolved	2/5/2015 Resolved	• Project Description Section 4.3.6 (pg 60) • PFEIS Chapter 3.2 (pg 89) • Cement Deep Soil Mixing Description	
EPA	**19.** A capture and containment system is being proposed to the East of the tailings basin. (see EPA issue 3)	N/A	N/A		(see EPA issue 3)	
EPA	**20.** Comment #13 – pH extrapolation	3	Unresolved	3/5/2015 Conceptually resolved; pending relevant PFEIS section	• Response to EPA Comment #13: pH extrapolation	Section 5.2.2.2.2 (line # 1990 - 2013) "Surface Water Hydrologic Modeling"

EPA	**21.** Comment #19 criteria for wetland fragmentation loss	3b	Unresolved	3/10/2015 Unresolved, pending revised language in the response to comments	• Response to EPA Comment #19: criteria for wetland fragmentation loss	
EPA	**22.** Comment #20 20% threshold for fragmentation	3b	Resolved	3/10/2015 Resolved	• Response to EPA Comment #20: 20% threshold for fragmentation	
EPA	**23.** Comment #22 on-site wetland reclamation not used for mitigation credits	3	Unresolved	3/5/2015 Resolved	• Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	**24.** Comment #23 Inconsistency between Table 6.2-8 and Table 6.2-11	3	Unresolved	3/5/2015 Resolved	• Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 • Table 6.2-8 and PFEIS Section 6.2.3.1 Wetlands Approach & Table 6.2-11 and PFEIS Section 6.2.3.4.3 Future Wetland and Water Resources	
EPA	**25.** Comment #25 Cumulative effects to water resources – changes to Partridge River Flow	4	Unresolved		• Response to EPA **Comment #25: C**umulative effects to water resources – changes to Partridge River Flow • PFEIS Section 6.2.2.3.1 Cumulative Effects on Hydrology	Section 6.2.2.3.1 (line # 252-282) "Partridge River"

FEIS Supporting Information, Responses to EPA Comments and FEIS Text Related to EPA Topics

Batch 1 EPA	Batch 2 EPA	Batch 3 EPA	Batch 3b EPA	Batch 4 EPA	Batch 4 Additional Information Requested
Project Description, several sections [3, 4, 16, 17, 18] PFEIS Chapter 3.2, several sections [3, 4, 16, 17, 18] FTB Containment System Update [3] Coal Ash Landfill Relocation Description [4] Stream Augmentation Description [16] SAG Mill Description [17] Cement Deep Soil Mixing Description [18] Adaptive Water Management Plan [10] and Appendices Response to EPA Comment #15: Mercury [10] NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) [5] NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014) [5] Response to EPA Issue 5: faults/fractures [5]	Sensitivity Analysis Rationale [NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014)] [9] Partridge River Baseflow Sensitivity Analysis [9] Partridge River Baseflow Sensitivity Analysis - Work Plan [9] Geotechnical Data Package Volume 2: HRF [12] Hydrometallurgical Residue Management Plan [12] Response to EPA Comment #3: HRF Design [12] Response to EPA Comment #37: HRF Liquefaction [12] PFEIS Section 3.3.3 USFS LE Alternatives [7] Response to EPA Comment #31: USFS Land Exchange [7] Table 7.3.5-1 - LE Matrix [7]	Wetland Management Plan v7 (see sections 4.2 and 4.3) [14] Response to EPA Issue 13: wetland impacts due to new east side TB containment system [13] Response to EPA Comment #17: Wetlands - indirect impacts and mitigation [14] Response to EPA Comment #19: criteria for wetland fragmentation loss [21] Response to EPA Comment #20: 20% threshold for fragmentation [22] Response to EPA Comment #21: Update on wetland mitigation credits [15] USACE 2015a Letter from USACE to Jennifer Saran, PolyMet Mining [15] Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits [23] PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring [14, 15, 23] PFEIS Section 5.2.3.2.3: Plant Site Direct Effects [13] Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 [24] Table 6.2-8 and PFEIS Section 6.2.3.1 Wetlands Approach & Table 6.2-11 and PFEIS Section 6.2.3.4.3 Future Wetland and Water Resources [24] Response to EPA Comment #13: pH extrapolation [20] Response to EPA Comment #7 : NPDES Permitting [2] Response to EPA Comment #8: Colby Lake Modeling [11] Colby Lake Modeling Inputs (workplan) [11]	Response to EPA Comment #19: criteria for wetland fragmentation loss [21] Response to EPA Comment #20: 20% threshold for fragmentation [22] Response to EPA Comment #11: Water Modeling - Partridge River flow [9] Response to EPA Comment #2: Water Quality - waste rock and acid rock drainage [1] Response to EPA comment #32: TB groundwater capture [3] PFEIS Figure 5.2.2-7: TB Containment System [3] Response to EPA Comment #14: Duration of Treatment [6] NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014) [6]	PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures [1, 2, 9, 10] PFEIS Section 5.2.2.3.1 NorthMet Project Proposed Action Water Budget Overview [1] PFEIS Section 5.2.2.3.2 Partridge River Watershed [1] PFEIS Section 5.2.2, Summary [6] Response to EPA Comment #25: Cumulative effects to water resources – changes to Partridge River Flow [25] PFEIS Section 6.2.2.3.1 Cumulative Effects on Hydrology [25] PFEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System [3] PFEIS Section 5.2.2.3.3 Embarass River Watershed [5]	• PFEIS section 5.2.14.2.3 [12] • PFEIS section 5.2.2.5.4 [12] • PFEIS section 4.2.14.3 [12] • PFEIS section 3.2.2.3.7 (EPA already received in Batch 1) [12] • PFEIS section 3.2.2.3.10 (EPA already received in Batch 1) [12]
Batch 1 Delivery Date: 01/26/15 Presentation Meeting Date: 01/27/15 Resolution Meeting Date: 02/05/15	Batch 2 Delivery Date: 02/09/15 Presentation Meeting Date: 02/10/15 Resolution Meeting Date: 02/19/15	Batch 3 Delivery Date: 02/23/15 Presentation Meeting Date: 02/24/15 Resolution Meeting Date: 03/05/15	Batch 3b Delivery Date: 03/09/15 Presentation Meeting Date: 03/10/15 Resolution Meeting Date: 03/19/15	Batch 4 Delivery Date: 03/30/15 Presentation Meeting Date: 03/31/15 Resolution Meeting Date: 04/09/15	
Issues for Resolution in Batch 1 Engagement Issue Nbr 3 (partially) Issue Nbr 4 Issue Nbr 5 (partially) Issue Nbr 10 (partially) Issue Nbr 16 Issue Nbr 17 Issue Nbr 18	**Issues for Resolution in Batch 2 Engagement** Issue Nbr 7 (partially) Issue Nbr 9 (partially) Issue Nbr 12 (partially)	**Issues for Resolution in Batch 3 Engagement** Issue Nbr 2 (partially) Issue Nbr 11 Issue Nbr 13 Issue Nbr 14 Issue Nbr 15 Issue Nbr 20 Issue Nbr 23 Issue Nbr 24	**Issues for Resolution in Batch 3b Engagement** Issue Nbr 1 (partially) Issue Nbr 3 (partially) Issue Nbr 6 (partially) Issue Nbr 9 (partially) Issue Nbr 21 Issue Nbr 22	**Issues for Resolution in Batch 4 Engagement** Issue Nbr 1 Issue Nbr 2 Issue Nbr 3 Issue Nbr 5 Issue Nbr 6 Issue Nbr 7 Issue Nbr 9 Issue Nbr 10 Issue Nbr 12 Issue Nbr 25	

Notes:
Issues Nbr 8 and Nbr 19 are N/A
Issue numbers are in brackets in deliverables portion of table [1]

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Unresolved	1
Conceptually Resolved	2
Partially Resolved	3
Resolved	4
Impasse	1,2
N/A	1,3
	1,4
	3,4
	2,3
	N/A