

January 2, 2018

G. Paul Bollwerk, III, Chair  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dr. Richard E. Wardwell  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dr. Thomas J. Hirons  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

In the Matter of  
CROW BUTTE RESOURCES, INC.  
(Marsland Expansion Area)  
Docket No. 40-8943-MLA-2; ASLBP No. 13-926-01-MLA-BD01

Dear Administrative Judges:

Pursuant to 10 C.F.R. §§ 2.336(d) and 2.1203(c), and the Memorandum and Order (Establishing Schedule for Discovery) issued by the Atomic Safety and Licensing Board (Board) on June 14, 2013, the Nuclear Regulatory Commission (NRC) Staff provides the Board and the parties with a supplement to the Staff's hearing file and mandatory disclosures. Attachment 1 to this letter provides an index listing publicly available documents required to be disclosed by the Staff. Except as noted in Attachment 1, these documents may be viewed by accessing the hearing file for this proceeding that is maintained by the NRC's Office of the Secretary, or by accessing the documents in the NRC's Agencywide Documents Access and Management System (ADAMS) using the accession numbers provided.

The Staff is continuing to preserve and maintain required privileged documents during the pendency of this proceeding. As required by 10 C.F.R. § 2.336(c), the Staff is providing an affidavit certifying that all relevant materials have been disclosed.

Respectfully submitted,

**Signed (electronically) by**

Marcia J. Simon  
Counsel for the NRC Staff  
U.S. Nuclear Regulatory Commission  
Mail Stop O14-A44  
Washington, DC 20555-0001  
(301) 287-9176  
[marcia.simon@nrc.gov](mailto:marcia.simon@nrc.gov)

Dated at Rockville, Maryland  
this 2nd day of January, 2018

Bollwerk  
Wardwell  
Hirons

-2-

Enclosures: Attachment 1: Hearing File Index  
Affidavit of Thomas Lancaster

cc: EIE Service List

**ATTACHMENT 1**  
**CROW BUTTE MARSLAND HEARING FILE AND MANDATORY DISCLOSURES**  
**HEARING FILE INDEX**  
**Update 52 – January 2, 2018**

<b>ID No.</b>	<b>Accession Number</b>	<b>Document Date</b>	<b>Title/Description</b>
695	ML17355A582	12/31/1946	Geology and Ground Water Resources of Box Butte County, Nebraska.
696	ML17355A607	08/31/1952	US Dept of Interior, Geological Survey (USGS) - Ground Water Notes No. 5, Hydraulics. The Relation Between The Lowering Of The Piezometric Surface And The Rate And Duration Of Discharge Of A Well Using Ground Water Storage.
697	ML17355A584	01/31/1953	Ground Water Notes No. 7, Hydraul ICS. A Generalized Graphical Method Of Evaluating Formation Constants And Summarizing Well-Field History.
698	ML17355A585	01/31/1969	Subsurface Relations of the Cretaceous and Tertiary in Western Nebraska.
699	ML17355A606	04/30/1971	Guidebook to the Late Pliocene and Early Pleistocene of Nebraska.
700	ML17355A590	12/31/1975	Ground-Water Hydraulics.
701	ML17355A602	03/28/1980	Third Invitational Well-Testing Symposium "Well Testing in Low Permeability Environments," March 26 - 28, 1980.
702	ML17355A603	12/31/1980	Geology and Groundwater Supplies of Box Butte County, NE.
703	ML17355A604	06/01/1982	Baseline Hydrogeochemical Investigation in a Part of Northwest Nebraska.
704	ML17355A592	12/21/1990	Department of Environmental Quality Authorization for Underground Injection and Mineral Production Wells.
705	ML17355A589	12/31/1996	Hat Creek-White River Drainage Basin Hydrogeologic Summary from Domestic Well-Water Quality in Rural Nebraska.
706	ML17355A591	12/31/1997	Ground Water Atlas of the United States.
707	ML17355A587	10/31/2004	Report on Hydrologically Connected Ground Water and Surface Water in the Upper Niobrara-White Natural Resources District.

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<b>ID No.</b>	<b>Accession Number</b>	<b>Document Date</b>	<b>Title/Description</b>
708	ML17355A581	03/31/2007	University of Nebraska - Lincoln - Project Completion Report - Box Butte County - Niobrara River Numerical Groundwater Flow Model, Task Orders #5 and #6.
709	ML17355A594	08/11/2011	State of NE, Dept. of Environmental Quality - Submittal of Permit for the Construction and Operation of the North Trend Expansion Area.
710	ML17355A600	12/31/2011	State of NE, Dept. of Natural Resources - 2011 Hydrographic Report. Part 1 of 2.
711	ML17355A601	12/31/2011	State of NE, Dept. of Natural Resources - 2011 Hydrographic Report. Part 2 of 2.
712	ML17355A595	01/31/2012	State of NE, Dept of Environmental Quality - 2011 Nebraska Water Monitoring Programs Report.
713	ML17355A596	04/01/2012	State of NE, Dept. of Environmental Quality - 2012 Water Quality Integrated Report.
714	ML17355A597	04/01/2014	State of NE, Dept. of Environmental Quality - 2014 Water Quality Integrated Report.
715	ML17339A531	04/25/2014	Marsland Expansion Area, Compiled ER Cover Sheet.
716	ML17339A445	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices D, E and F, Part 1 of 2.
717	ML17339A547	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices F (Part 2 of 2), H and I.
718	ML17339A539	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices G-1 and G-2.
719	ML17339A492	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices K-1 and K-2.
720	ML17339A612	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices N, O, P, and Q.
721	ML17334A781	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices R, S and T.
722	ML17334A785	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendices V and W.
723	ML17334A768	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix C, Geophysical Boring Logs, Part 2 of 2.

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<b>ID No.</b>	<b>Accession Number</b>	<b>Document Date</b>	<b>Title/Description</b>
724	ML17339A564	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix J, Groundwater Analytical Lab Results.
725	ML17334A778	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix L, Crow Butte Solubility Characteristics of Crow Butte Yellowcake Kinetics of Uranium Dissolution in Simulated Lung Fluids.
726	ML17339A455	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix M, MILDOS Analysis, Part 1 of 3.
727	ML17339A471	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix M, Part 2 of 3.
728	ML17339A479	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix M, Part 3 of 3.
729	ML17334A783	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix U (Redacted Tribal Report).
730	ML17334A790	04/25/2014	Marsland ISR Expansion Area, Compiled ER Appendix X, Three Crow Expansion Area Cross Sections.
731	ML17334A794	04/25/2014	Marsland ISR Expansion Area, Compiled ER Chapter 3A, Description of the Affected Environment.
732	ML17334A796	04/25/2014	Marsland ISR Expansion Area, Compiled ER Chapter 3B, Figures.
733	ML17339A517	04/25/2014	Marsland ISR Expansion Area, Compiled ER Chapters 4-10.
734	ML17334A799	04/25/2014	Marsland ISR Expansion Area, Compiled ER Table of Contents and Chapters 1 and 2.
735	ML17334A773	04/25/2014	Marsland ISR Expansion Area, Volume II Environmental Report Appendices A, B and C, Part 1.
736	ML17355A599	04/30/2014	State of NE, Dept. of Natural Resources - Upper Niobrara-White Groundwater Model.
737	ML14288A517	10/24/2014	Crow Butte License Renewal Final Environmental Assessment.
738	ML13324A101	11/05/2014	Crow Butte License Renewal for In Situ Recovery Project.

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739	ML17334A870	12/07/2017	Draft Environmental Assessment for the Marsland ISR Expansion Area for Public Review and Comments.
740	ML17334A791	12/07/2017	Marsland ISR Expansion Area, Compiled ER Note and Errata.
741	ML17338A392	12/08/2017	FRN for Public Review and Comment on the Draft Environmental Assessment for the Marsland ISR Expansion Area.
742	ML17355A586	12/21/2017	Distribution of the Basal Clastic Unit of the Oligocene Chadron Formation in the Alliance 2-degree Quadrangle, Northwestern Nebraska.
743	ML17355A614	12/21/2017	US Dept of Interior, Geological Survey - Mineral Resources On-Line Spatial Data.
744	*		Collings, S.P. and R.H. Knode, "Geology and Discovery of the Crow Butte Uranium Deposit," Proceeding of the Practical Hydromet '83, 7th Annual Symposium on Uranium and Precious Metals. Littleton, CO: American Institute of Mining, Metallurgical, and Petroleum Engineering, 1984.
745	*		Gjelsteen, T.W., and S.P. Collings, "Relationship Between Groundwater Flow and Uranium Mineralization in the Chadron Formation, Northwest Nebraska," in Wyoming Geological Association Guidebook, 39th Annual Field Conference, pp. 271–284, 1988.
746	*		Spalding, R.F., and A.W. Struempfer, "Monitoring Potential Groundwater Contamination in a Proposed Uranium Mining Area," University of Nebraska, Institute of Agriculture and Natural Resources, Conservation and Survey Division; and Chadron State College, 1984.
747	*		DeGraw, H.M., "The pre-Oligocene surface in western Nebraska—Its relation to structure and subsequent topographies," in Stout, T.M., H.M. DeGraw, L.G. Tanner, K.O. Stanley, and W.J. Wayne, <i>Guidebook to the Late Pliocene and Early Pleistocene of Nebraska</i> , The University of Nebraska Conservation and Survey Division, Lincoln, and Nebraska Geological Survey, pp. 13–21, 1971.

**ATTACHMENT 1**  
**CROW BUTTE MARSLAND HEARING FILE AND MANDATORY DISCLOSURES**  
**HEARING FILE INDEX**  
**Update 52 – January 2, 2018**

ID No.	Accession Number	Document Date	Title/Description
748	*		Alexander, J.S., R.B. Zelt, and N.J. Schaepe, "Hydrogeomorphic Segments and Hydraulic Microhabitats of the Niobrara River, Nebraska—With Special Emphasis on the Niobrara National Scenic River," U.S. Geological Survey Scientific Investigations Report 2010-5141, Reston, VA, 2010. Available at <a href="https://pubs.usgs.gov/sir/2010/5141/">https://pubs.usgs.gov/sir/2010/5141/</a> .
749	*		Cady, R.C. and O.J. Scherer, "Geology and Groundwater Resources of Box Butte County, Nebraska," U.S. Geological Survey Water-Supply Paper 969, U.S. Department of the Interior, Washington, DC, 1946.
750	*		Souders, V.L., "Geology and Groundwater Supplies of Southern Dawes and Northern Sheridan Counties, Nebraska," Conservation and Survey Division, Institute of Agriculture and Natural Resources, University of Nebraska, Lincoln, 1981.
751	*		Swinehart, J.B., V.L. Souders, H.M. DeGraw, R.F. Diffendal, Jr., "Cenozoic paleogeography of western Nebraska," in Flores, R. M. and S.S. Kaplan, eds., <i>Cenozoic Paleogeography of the West-Central United States</i> . Rocky Mountain Paleogeography Symposium 3, Rocky Mountain Section, Society for Sedimentary Geology, pp. 209–229, 1985.
752	*		U.S. Geological Survey, "Groundwater and Surface Water: A Single Resource," U.S. Geological Survey Circular 1139, Winter, T.C., J.W. Harvey, O.L. Franke, and W.M. Alley, Denver, CO, 1998, available at <a href="http://pubs.usgs.gov/circ/circ1139/">http://pubs.usgs.gov/circ/circ1139/</a> .

\* indicates that the NRC Staff is assessing the document for copyright restrictions and/or the document has not yet been placed in ADAMS. When the document is placed in ADAMS (as appropriate), the Staff will provide the ADAMS Accession number in a subsequent hearing file update.

January 2, 2018

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 40-8949-MLA-2
CROW BUTTE RESOURCES, INC.	)	
	)	ASLBP No. 13-926-01-MLA-BD01
(Marsland Expansion Project)	)	

AFFIDAVIT OF THOMAS LANCASTER CONCERNING  
MANDATORY DISCLOSURE REQUIREMENT OF 10 C.F.R. § 2.336(c)

I, Thomas Lancaster, do hereby state as follows:

1. I am employed as a Hydrogeologist in the Nuclear Regulatory Commission's Nuclear Regulatory Commission's Office of Nuclear Materials Safety and Safeguards, Division of Decommissioning, Uranium Recovery, and Waste Programs, Uranium Recovery Licensing Branch. Among my responsibilities, I serve as Project Manager for Crow Butte Resources Inc.'s application for a license amendment to construct and operate the Marsland Expansion Project. In this capacity, I am managing the preparation of the NRC Staff's hearing file and mandatory disclosures in connection with the application at issue in this proceeding.

2. I hereby certify that all materials the Staff must disclose in this proceeding under 10 C.F.R. § 2.336(b) and (c) have been disclosed, and that the disclosures are accurate and complete as of the date of this certification.

3. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

/Executed in Accord with 10 C.F.R. § 2.304(d)/  
Thomas Lancaster

Executed in Rockville, MD  
this 2<sup>nd</sup> day of January, 2018



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 40-8943-MLA-2
CROW BUTTE RESOURCES, INC.	)	
	)	ASLBP No. 13-926-01-MLA-BD01
(Marsland Expansion Project)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC STAFF'S JANUARY 2018 UPDATE TO HEARING FILE AND DISCLOSURES" in the above-captioned proceeding have been served via the Electronic Information Exchange ("EIE"), the NRC's E-Filing System, this 2nd day of January, 2018, which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the above-captioned proceeding.

**/Signed (electronically) by/**

Marcia J. Simon  
Counsel for the NRC Staff  
U.S. Nuclear Regulatory Commission  
Mail Stop O14-A44  
Washington, DC 20555-0001  
(301) 287-9176  
[marcia.simon@nrc.gov](mailto:marcia.simon@nrc.gov)