
APPENDIX D — A FRAMEWORK FOR ADAPTIVE MANAGEMENT IN THE JONAH INFILL DRILLING PROJECT AREA (JIDPA)

I. INTRODUCTION

The Bureau of Land Management (BLM) proposes to implement an adaptive management process in the Jonah Infill Drilling Project Area (JIDPA) which will generally follow the framework contained in this appendix. An interagency Jonah Infill Working Group (JIWG) would be established in the Jonah Infill Drilling Project Area (the Project) Record of Decision (ROD) to implement the process.

The potential value of adaptive management to the National Environmental Policy Act (NEPA) process is discussed by Carpenter (1997)¹ and is strongly supported by a number of agencies at the national level, including BLM, U.S. Environmental Protection Agency (EPA), and U.S. Department of Agriculture Forest Service (USFS). Carpenter summarized as follows: *“It is increasingly recognized that human interventions into natural systems seldom proceed as originally planned. Scientific uncertainties prevent environmental impacts from being reliably or precisely predicted. Thus, the style of management must provide for monitoring to guide mid-course corrections in adapting to inevitable surprises.”* Council on Environmental Quality (CEQ) NEPA regulations require continual monitoring.²

II. PURPOSE AND NEED

In addition to the uncertainties about how natural systems will react to human interventions, it has become apparent that current development guidelines and Conditions of Approval, and the restriction of 1 well pad/40 acres (16 well pads/640-ac section) authorized in the Modified Jonah Field II Project Area are not adequate protection for some JIDPA resources. However, national demand makes it imperative that as much natural gas as possible be recovered from the JIDPA. Project proponents are continually striving to develop drilling and production mitigation technologies to lessen the impacts of natural gas recovery, but those technologies are largely untested. There is uncertainty regarding the short- and long-term effectiveness of these new technologies, as well as uncertainty regarding the effectiveness of the mitigations and management restrictions BLM may place on infill development. These uncertainties require that a number of assumptions be used to predict the impacts associated with infill development; those assumptions may or may not be partially or wholly correct, which means the impact analysis may or may not be partially or wholly correct.

Uncertainty regarding the accuracy of the predictive assumptions and models used in the impact analysis, and uncertainty regarding how the environment will react to future development in the JIDPA using current and future un-tested development and mitigation technologies and un-tried restrictions, creates a need for a mechanism through which the BLM can make incremental adjustments to field management over time, as information is gained about how area resources are reacting to new technologies and/or restrictions. That mechanism is adaptive management.

The adaptive management process allows for changes in management without further NEPA analysis, unless designated thresholds are reached. The process increases the speed at which managers learn how resources react to their decisions and development activities, and thereby increases the speed at which managers can adjust mitigation and management restrictions for unanticipated impacts, or lack thereof. The adaptive management framework has several continuous steps: Decision is implemented; impacts are monitored; monitoring data is evaluated; modifications to mitigations or management restrictions are recommended, based on monitoring data; adaptive management decision is made and implemented; impacts are monitored; etc.

The purpose of this adaptive management process is to ensure that the impacts of development and production are monitored, and that the information from that monitoring is evaluated and fed back on a regular basis into the mitigation and management decisions that will be made following the Project decision. The purpose of the JIWG is to implement this adaptive management process in the JIDPA.

III. GOALS AND OBJECTIVES OF THE ADAPTIVE MANAGEMENT PROCESS

- Determine the effects of JIDPA development on area resources;
- Determine the effectiveness of the mitigation measures contained in the Project ROD;
- Modify the mitigation measures as deemed appropriate to achieve the stated goal/objective;
- Assure that oil and gas-related BLM decisions regarding the JIDPA are coordinated with non-oil-and-gas-related decisions (such as grazing, recreation, etc.);
- Provide a rapid response to unnecessary and undue environmental degradation;
- Validate predictive models used in the Project Environmental Impact Statement and revise the models/projections as necessary based on field observations and monitoring;
- Accurately monitor and predict cumulative impacts through BLM maintenance of a Geographic Information System (GIS) for the JIDPA including all activities (natural gas, agricultural, recreational, etc.) on federal and non-federal lands and how they are affecting area resources;
- Provide guidance for monitoring upon which the need to initiate Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) will be determined.

IV. IMPLEMENTATION MODEL

The BLM will implement and coordinate the adaptive management process. The BLM Pinedale Field Manager will accomplish that by establishing the interagency JIWG in the Project ROD.

The JIWG will function as an oversight working group consisting of one member each from BLM, USFWS, USFS, BLM, State of Wyoming, Sublette County, and the Sublette County Conservation District.

The JIWG will appoint subcommittees or Task Groups for key resources or as otherwise needed. Task Group membership will consist of agency technical experts for that resource.

The structure of the JIWG will be as shown in Figure D.1.

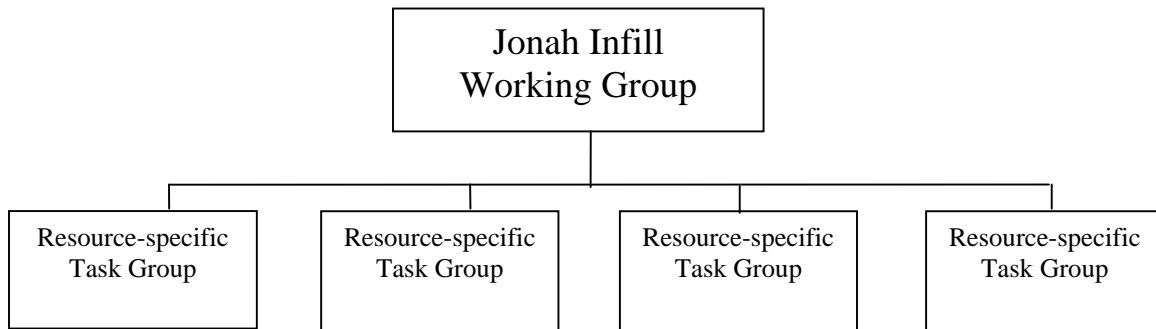


Figure D.1 Jonah Infill Working Group Structure

V. JIWG FUNCTIONS

The JIWG will meet in Pinedale within two months of the issuance of the Project ROD. The primary function of the JIWG will be to:

- Oversee the development and implementation of monitoring plans for resources within the JIDPA, for the life of the field, in part through appointment of resource-specific Task Groups as needed;
- Conduct at least an annual field inspection to review the implementation of construction, production, and reclamation operations;
- Review existing field conditions and learn about any new technologies or management restrictions;
- Review recommendations from the Task Groups and submit a synthesized recommendation to the BLM regarding monitoring, mitigations, and management prescriptions for the upcoming management period, and recommendations on who should do the monitoring and how the monitoring will be funded;
- Oversee implementation of monitoring;
- Meet at least once a year or more often as needed;

- Keep written record of meetings and disseminate to members.

VI. TASK GROUP FUNCTIONS

- Prepare and implement monitoring plans for resource(s) within the JIDPA for which the Task Group is responsible;
- Conduct at least an annual field inspection to review the implementation of construction, production, and/or reclamation operations as is appropriate for the resource for which the Task Group has responsibility;
- Review existing field and resource condition(s) and learn about any new technologies or management restrictions;
- Review and evaluate monitoring data;
- Synthesize monitoring information and upcoming development plans provided annually by the operators;
- Using that synthesis, make recommendations to the JIWG for the upcoming management period regarding monitoring, mitigation, management restrictions, who should implement the recommended monitoring, and identification of funding resources for the monitoring;
- Implement monitoring as directed by BLM;
- Meet as often as needed to fulfill responsibilities;
- Keep written record of meetings and disseminate to members and to the JIWG.

VII. JIWG AND TASK GROUP OPERATING PROCEDURES

- All JIWG and Task Group meetings will be open and available to the public and announced at least one week prior to the meetings via State-wide press releases.
 - JIWG and Task Group leadership will develop meeting agendas to address the necessary items to fulfill the functions outlined above.
 - All JIWG and Task Group decisions will be made by consensus.³ If consensus on any point cannot be reached, the JIWG and/or BLM will be so notified. Such notification will include a brief description of the differing points of view and rationale.
 - The JIWG and Task Groups will select their own leadership and scribes for whatever period of time each group deems appropriate.
 - JIWG and Task Group meetings will be facilitated by the membership-selected leader unless the group chooses to request a qualified facilitator from BLM.
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- The JIWG and Task Groups will make every effort to incorporate local and industry knowledge in their deliberations.
 - The JIWG and Task Groups will make every effort to develop innovative funding sources for monitoring activities; such resources could include (but are not limited to) use of volunteers, seed money/matching funds, grants, etc. The JIWG and Task Groups will not depend solely on the JIDPA oil and gas Operators for funding.
 - Other operating procedures may be developed as needed (such as media contacts), with JIWG and BLM concurrence.
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¹ Carpenter, R.A. 1997. The Case for Continuous Monitoring and Adaptive Management Under NEPA. In Environmental Policy and NEPA. R. Clark and L. Canter, eds. St. Lucie Press.

² CEQ regulations require appropriate application of continual monitoring and assessment. Section 102(2)(B) of NEPA calls for “*methods...which will insure that presently unquantified environmental amenities and values may be given appropriate consideration.*” CEQ regulations at 40 CFR 1505.2(c) and 1505.3(c) state, “*a monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation*” and that agencies “*may provide for monitoring to assure that their decisions are carried out and should do so in important cases.*” The lead agency must “*upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which they have proposed and which were adopted by the agency making the decision,*” and, “*upon request, make available to the public the results of relevant monitoring.*”

³ Consensus is defined as: all members (and their constituencies) “can live with” the decision; while a member or their constituency may not be 100% satisfied with the entire decision, the member and their constituency can and will support the group’s decision.

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