Montana Department of
ENVIRONMENTAL QUALITY

CIRCULAR MFSA-1

APPLICATION REQUIREMENTS FOR ENERGY GENERATION AND CONVERSION FACILITIES

Baseline Study and Impact Assessment

2001 Edition

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SECTION 1.0 PURPOSE AND APPLICABILITY

The purpose of this circular is to describe the application requirements pertaining to baseline study and impact assessment of energy generation and conversion facilities. This circular applies to applications submitted after {the effective date of this circular}.

SECTION 2.0 DEFINITIONS

Unless the context requires, and clearly states otherwise, terms used in this circular are defined as follows.

(1) "Applicant" means a person filing an application with the department and any other entities that will jointly own, operate, market, and/or use the output or services of the facility applied for in the application.

(2) "Application" means an application to the department for a certificate of environmental compatibility and public need under 75-20-211, MCA.

(3) "Associated facilities" is defined in 75-20-104(3), MCA.

(4) "Baseline data" means detailed information which describes the existing natural, physical, cultural, social, and economic environment.

(5) "Baseline study" means a detailed analysis of alternative sites or alternative routes and impact zones for purposes of impact assessment and comparison and selection of a preferred site or preferred route.

(6) "Decommission" means to permanently remove a facility from service, including any physical changes such as dismantling the facility at the end of its useful life and reclaiming the site or route.

(7) "Department" means the department of environmental quality.

(8) "Facility" is defined in 75-20-104(8), MCA.

(9) "Impact zone" means the study area in which data is collected during the baseline study in order to make a determination of the impacts from construction, operation, maintenance or decommissioning of a proposed facility or associated facility at the preferred and reasonable alternative locations.

(10) "Inputs" means the basic resources, including materials, equipment, and labor required to construct and operate a facility.

(11) "Mitigation" means avoiding an impact by not taking a certain action or parts of an action, or minimizing impacts by limiting the degree or magnitude of an action and its implementation, or rectifying an impact by repairing, rehabilitating, or restoring the affected environment, or reducing or eliminating an impact over time by preservation and maintenance operations during the life of an action, or compensating for an impact by replacing or providing substitute resources or environments.

(12) "Outputs" means the principal product of a facility and the by-products and wastes produced by the facility.

(13) "Road" means a way or course that is constructed or formed by substantial recontouring of land, clearing, or other action designed to be permanent or intended to permit passage by most 4-wheeled vehicles for a significant period of time.

(14) "Site" means the parcel of land the applicant would acquire to construct the buildings, components, and nonlinear associated facilities comprising an energy generation or conversion facility.

(a) "Proposed site" means the applicant's proposed location for an energy generation or conversion facility and the site for which a certificate is sought.

SECTION 3.0 APPLICATION REQUIREMENTS

3.1 Introduction

An application must contain baseline data and an assessment of the projected short and long-term changes and impacts that would result from construction, operation, maintenance and decommissioning of the facility and associated facilities for the proposed site and the impact zones whose boundaries are specified in the following sections, unless different impact zone boundaries are approved in writing by the department. The applicant must identify general and site-specific mitigation measures it considers reasonable and cost-effective for potentially significant impacts. When mitigation for potentially significant impacts of associated facilities consists of avoiding the impact through location adjustments, the application must contain baseline data and an assessment of the projected short and long-term impacts that would result from construction, operation, maintenance, and decommissioning of the associated facility along each location. Baseline data that require mapping must be presented on the minimum number of overlays to the base map required by ARM 17.20.1418(2) that will clearly portray the information, and as an electronic equivalent acceptable to the department.

3.2 BASELINE DATA REQUIREMENTS FOR LAND USE AND LAND OWNERSHIP

3.2.1 Proposed Generation or Conversion Facility

(1) An application must contain one or more overlays depicting the following land use and land ownership information for an impact zone that includes the area within 5 miles of the proposed site:

(a) cities, towns, and unincorporated communities, including an estimate of the population in each community;

(b) designated residential growth areas;

(c) the developed areas adjoining city and town boundaries;

(d) industrial and commercial areas located outside of cities, towns and unincorporated communities;

(e) existing federal and state highways and designated and existing county roads;

(f) railroads and railroad rights-of-way;

(g) electric transmission lines of 161 kilovolts (kV) or greater voltage design;

(h) nontimbered grassland, pastureland or rangeland;

(i) dry cropland;

(j) prime and unique farmland;

(k) mechanically irrigated land and other irrigated land;

(l) irrigation canals carrying at least 50 cfs of water;

(m) mines permitted under the Metal Mine Reclamation Act, Strip and Underground Mine Reclamation Act, or Open Cut Mining Act;

(n) forested lands;

(o) intermittent water bodies and internally drained basins that reach a surface area of 10 acres or more at least 1 year out of 10 and all standing water bodies, including any lake, wetland, marsh or reservoir;

(p) platted subdivisions and land areas designated by local school boards for future school development;

(q) communication facilities, including television and radio towers, microwave facilities, and law enforcement and emergency network facilities;

(r) locations of beehives, apiaries, and leaf-cutter bee boards for the field season prior to submitting the application within the vegetation impact zones defined by Section 3.17 of this circular;

(s) residential dwelling units; and

(t) land ownership by category for:

(i) private ownership;

(ii) public land, by federal and state management agency; and

(iii) tribal and Indian reservation land.

(2) Minimum map resolution must be as follows unless otherwise specified in writing by the department:

(a) 20 acres unless otherwise specified in any individual category above;

(b) linear features and point features must be accurately mapped to within 100 feet; and

(c) boundaries of any other land cover or land use categories must be mapped to within one-tenth mile.

3.2.2. Off-site Associated Facilities

For off-site associated facilities, an application must contain one or more overlays depicting the following land use and land ownership information:

(a) For an impact zone of 1 mile along the proposed and any alternate location for an associated power line and substations, an application shall contain:

(i) information listed under Section 3.2.1 and the following:

(ii) land areas covered by conservation easements where the presence of associated facility would be incompatible with a management plan established by a state or federal agency;

(iii) public and private airports and airfields, and any controlled airspace associated with them, and other air traffic hazard areas identified by the Montana aeronautics division and the federal aviation administration;

(iv) major public buildings;

(v) pipelines 8 inches or greater in diameter; and

(vi) for areas identified by the department and areas where public concerns have been expressed at pre-application issue identification meetings required by Section 3.7 regarding structure locations next to fence lines, those fence lines 1/4 mile or greater in length that parallel the proposed and alternate facility locations.

(a) For off-site associated pipelines, an application must contain one or more overlays depicting the following land use and land ownership information for an impact zone of 500 feet on each side of the proposed and any alternate location:

(i) information listed under Section 3.2.1(1)(a) through (q), (s) and (t), and Section 3.2.2 (a) (ii) through (v) for off-site associated power lines;

(ii) lands enrolled in the Conservation Reserve Program;

(iii) dry cropland differentiated by cereal grains and fallow, dry land hay, and other other crops; and

(iv) military installations, including but not limited to, military bases, command centers, missile silos, communication cables, and radar towers.

SECTION 3.3 BASELINE INFORMATION ON CONSTRUCTION CREWS

An application must contain a description of the anticipated construction crew for the proposed facility and off-site associated facilities by size, skill, wage levels, and any variation in size as it relates to the construction schedule. These data must also be provided for the permanent work force, except that variations in size, if any, shall be described as they relate to the operation and maintenance schedule. For off-site associated facilities, an application must contain a description of any significant variations in the above information among the proposed and any alternate locations.

SECTION 3.4 ASSESSMENT OF LAND USE IMPACTS

3.4.1 Proposed Generation or Conversion Facility

An application must contain an assessment of land use impacts of the facility and associated facilities on agricultural, residential, commercial, industrial, mining, and public land uses based on the information required by Section 3.2.1 of this circular. The assessment of land use impacts must address the following:
for an impact zone that includes the area within a 5-mile radius of the proposed site, the compatibility of the facility with existing land use activities, potential changes in or interference with existing uses of land, and potential inhibiting or preclusive effects on potential future uses of land;

(a) for an impact zone that includes the area within approximately 50 miles of the proposed site, unless the applicant shows that potential land use impacts would be confined to a smaller area, the land use changes expected to result from project-induced population growth and economic development; an analysis of the nature of land use changes expected to result from project construction and operation; probable locations of land use changes; the nature and amount of existing land uses that could reasonably be expected to be displaced; and land use conflicts likely to result from such changes. This assessment must include a description of any measures the applicant proposes to reduce potentially significant adverse effects on existing land use activities;

(a) for an impact zone that includes the area within approximately 50 miles of the proposed site, impacts on agricultural activities resulting from facility-related:

(i) population and economic growth,

(ii) changes in air quality;

(iii) changes in water quality and water availability; and

(iii) changes in agricultural land productivity, operational characteristics, and

profitability of livestock, crop and apiarian operations in the impact area. The requirements listed in Sections 3.9, 3.16, 3.17, and 3.25 through 3.28 of this circular that refer to cropland and to water used for agricultural purposes may be cross-referenced to appropriate parts of this requirement; and

(b) for an impact zone that includes any areas where trains transporting major volumes of material required by the proposed facility would significantly increase rail traffic in residential areas and at road crossings, an assessment of safety hazards, noise impacts, and interference with public travel.

3.4.2. Off-site Associated Facilities

An application must contain an assessment of impacts of off-site associated facilities on agricultural, residential, commercial, industrial, mining, and public land uses as follows:

(a) For associated power lines the assessment must address the compatibility of the proposed and any alternate location with existing land use activities, potential changes in or interference with land uses that may occur as a result of the off-site associated facility, nuisance effects, and potential inhibiting or preclusive effects on land use improvements or transitions from one type of land use to another. An application must specify any land uses for which there are no significant differences in impacts between the proposed and any alternate locations. An application must contain documentation that agencies with management responsibility for any affected land use have been consulted concerning impacts and mitigation and a description and evaluation of the mitigation measures, including the cost of implementation, suggested by these agencies.

(b) For off-site associated substations the assessment must address potential impacts of new substations and additions to existing substations on land use resources. The impact assessment for off-site substations must address the resource concerns under Section 3.2.2 (a) above.

(c) For off-site associated pipelines the assessment must address impacts resulting from construction, operation, and decommissioning of associated pipelines, including but not limited to waterlines, disposal pipeline(s), fuel pipelines, and sewage lines. The assessment must address the resource concerns listed under Section 3.2.2(b) above for off-site associated pipelines for an impact zone that includes the area within 500 feet of the proposed and any alternate associated facility locations.

(d) For off-site compressor and pump stations the assessment must address affected land uses where the boundaries of a compressor or pump station would be enlarged or a compressor or pump station added, including any effects to occupied residences or public buildings.

SECTION 3.5 BASELINE INFORMATION FOR SOCIAL AND ECONOMIC CHARACTERISTICS

3.5.1 Proposed Generation or Conversion Facility

An application must contain a narrative description of existing social characteristics and characteristics of the local economy of the communities within a reasonable commuting distance of the proposed site. Projected future social and economic conditions should the facility not be built also must be discussed. The following information is required in the description:

(a) the relationship of current land uses to economic and social activities in the area;

(b) existing federal, state and local government land use plans and other local legal restrictions affecting land uses;

(c) population and demographic characteristics;

(d) social structures, values and lifestyles that may be affected by the construction and operation of the facility and identification of any sub-groups that may be differentially affected by the project;

(e) the local economy, income characteristics, labor force participation characteristics, the availability of skilled and semi-skilled labor, prevailing wage levels, and employment and unemployment rates;

(f) the availability, adequacy, capacity and cost of public services, including roads, education, health, social, public safety, and sanitary services and water supply;

(g) fiscal characteristics of local governments and school districts, including descriptions of revenue and expenditures; and

(h) the availability, adequacy, capacity and cost of private services, including housing, health and retail and wholesale goods and services.

3.5.2 Off-site Associated Facilities

An application must contain a narrative description of existing social characteristics and characteristics of the local economy of the communities within a reasonable commuting distance of off-site associated power lines and off-site associated pipelines. A narrative description based on information required by Section 3.5.1 (a), (b) and (g) above for the proposed and any alternate locations is sufficient.

SECTION 3.6 ASSESSMENT OF SOCIAL AND ECONOMIC IMPACTS

3.6.1 Proposed Generation or Conversion Facility

An application must contain a detailed qualitative and quantitative assessment of social impacts and impacts of the facility on the economy, public and private services, and the fiscal affairs of local governments and school districts for an impact zone that encompasses the area within approximately a 50-mile radius of the proposed site. Projected future impacts should the facility not be built must also be assessed. An application must describe the social and economic impacts, if any, on persons involved in agricultural operations and the impacts of changes in agriculture on the overall social and economic characteristics of the impact zone.

3.6.2 Off-site Associated Facilities

An application must contain an assessment of social impacts of off-site associated facilities on the economy and on public and private services for an impact zone that encompasses the area

potentially affected by the proposed and any alternate locations for associated facilities, based on the information required by Section 3.5.1 (a), (b) and (g) above. An application must specify any economic, social or public or private service characteristics for which there are no significant differences in impacts among the proposed and any alternate locations for off-site associated facilities.

SECTION 3.7 ASSESSMENT OF PUBLIC CONCERNS PROPOSED GENERATION OR CONVERSION FACILITIES AND OFF-SITE ASSOCIATED FACILITIES

(1) The applicant must conduct one or more public meetings that are reasonably accessible to persons residing:

(a) within 50 miles of the proposed site for a generation or conversion facility; and

(b) within 50 miles of the proposed and any alternate locations for off-site associated facilities.

(2) An application must contain an assessment of public attitudes and concerns about the potential impacts of the facility that is based on representative views of persons residing within those areas specified in (1). The assessment must also include summaries of correspondence and summaries of personal interviews, if they are conducted, and other information the applicant has collected that records the comments and concerns public officials, local residents and other individuals and groups have raised about the facility. The application must identify alternative mitigation strategies for the proposed facility suggested by the public. The application need not identify alternative generation sites if this issue is raised by the public. The application must include the results of any surveys conducted. The assessment must address the following:

(a) concerns about social, socioeconomic, and land use changes the facility could cause; concerns about natural environmental features that may be adversely affected by the facility;

(b) issues relating to the facility that may divide communities, cause individual resentment and frustration, and result in public debate; ~~and~~

(c) issues relating to the facility of particular concern to landowners and residents of the area within 5 miles of the proposed site and within 5 miles of the proposed and any alternate locations for off-site associated facilities; and

issues relating to the use of water downstream due to proposed diversions for the facility or associated facilities.

(3) An application must contain an assessment of public attitudes and concerns about the potential impacts of off-site associated facilities. The assessment must address the issues and concerns in(2)(a) through (e) above.

(4) The applicant shall notify federal, state, and local government agencies potentially affected by proposed and alternate locations for off-site associated facilities of any public meetings the applicant holds.

SECTION 3.8 BASELINE INFORMATION FOR EARTH RESOURCES PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASOCIATED FACILITIES

(1) An application must contain the following earth resource baseline data:

(a) an overlay showing where ground disturbance would occur if the facility were constructed at the proposed site;

(b) for an impact zone that includes the area within 1 mile of the proposed site, a detailed geologic map at a scale of 1:4800 and cross sections sufficient to show geologic formations and features potentially affected by seismic activity;

(c) for an impact zone that includes the area that encompasses the proposed site and a 1000 foot buffer and the proposed and any alternate locations of off-site associated facilities, an overlay depicting the results of a detailed soil survey;

(d) for an impact zone that includes the proposed site and a 1000 foot buffer around the proposed and any alternate locations of off-site associated facilities, an overlay depicting the following slope categories using 30 meter digital elevation models (DEMs), unless different categories are approved in writing by the department:

(i) 0% up to and including 5%;

(ii) greater than 5% up to and including 15%;

(iii) greater than 15% up to and including 30%; and

(iv) greater than 30%;

(e) for an impact zone that includes the proposed site and a 1000 foot buffer around the proposed site and the proposed and any alternate locations of off-site associated facilities, an overlay showing the following areas that are one-half acre or greater in size:

(i) active mass movement areas that clearly exhibit downslope movement of soil or rock material, including earth flows, landslides, active soil creep and solifluction; and

(ii) slopes with conditions conducive to instability, but where past failure is not apparent;

(f) for on-site and off-site associated pipelines, a description of erosion control measures to be implemented and the information in ARM 17.20.1511; and

(g) for off-site associated pipelines, a map indicating all active faults crossed or paralleled showing evidence of post-miocene movement.

SECTION 3.9 ASSESSMENT OF IMPACTS ON EARTH RESOURCES

3.9.1 Proposed Generation or Conversion Facility

An application must contain an assessment of potential impacts of the facility and associated facilities on earth resources for the proposed site. The impact assessment must address soil erosion and sedimentation for all areas that would be disturbed by construction activities, including those outside site boundaries. Mass movement must be addressed for the proposed site and associated facilities. Alterations of soil characteristics that could reduce productivity or fertility, including compaction or mixing of soil horizons and reclamation, must be addressed for any disturbed areas that would be reclaimed. Reclamation of waste disposal sites must also be addressed. For areas of seismic risk, the assessment applies to an impact zone that includes the area within 1 mile of the proposed site. Only construction activities that would occur in floodplains are subject to the requirements of (e) below. The application must contain:

(a) an overlay depicting wind and water erosion risk and a discussion of the potential impacts considering soil characteristics, slope, aspect, predicted amount of disturbance, proposed erosion control measures, land uses, and climatic conditions;

(b) an overlay and discussion of mass movement potential, including consideration of existing mass movement areas, bedrock geology and soils, slope, aspect, vegetation, and ground water conditions;

(c) a detailed assessment of seismic risk and a description of the probable behavior of the substrate and surficial materials during an earthquake measuring 5.0 or more on the Richter scale, including any mass movement, differential soil compaction, settling or liquefaction. The assessment must include the following:

(i) a description of any recorded earthquakes that may have affected the proposed site, including the date of occurrence, the magnitude and highest intensity, and a description of the epicenter location or region of highest intensity; and

(ii) an estimate of local intensity of the greatest probable seismic event that may affect the proposed site and an estimate of the probable magnitude and duration of vertical and horizontal acceleration and other probable ground motions likely to occur;

(d) a reclamation and revegetation plan, including a discussion of any constraints. Reclamation includes any site restoration, such as recontouring, reducing compaction, restoration of segregated topsoils, installation of soil erosion control structures and successful establishment of vegetative cover in areas disturbed by facility construction, including waste disposal sites. Constraints to reclamation include any land use, physiographic or geologic feature or physical property of soil that hinders or prohibits reclamation; and

(e) for any construction activities that would occur in 100-year floodplains, a description of the potential for damage to the facility or associated facilities from construction in the floodplain, and an assessment of the potential for adverse impacts to the environment resulting from construction, operation and maintenance of the facility and associated facilities in the floodplain.

3.9.2 Off-site Associated Facilities

An application must contain an assessment of potential impacts on earth resources for the

proposed and any alternate locations of off-site associated facilities as follows:

(a) For off-site associated electric power lines, the impact zone shall consist of feasible locations for new or substantially upgraded access roads and the area between proposed or alternate power line locations and the associated access road. The assessment must include an estimate of the mileage of power line and off right-of-way access roads crossing each category of mapped information required in 3.9.1(a), (b), (d) and (e).

(b) For off-site associated substations the assessment must address the resource concerns for each new or upgraded substation listed under Section 3.9.1(a) through (d) and contain an estimate of the acreage affected for each category of information listed under Section 3.9.1(a), (b), (d) and (e).

(a) For off-site associated pipelines the assessment must address potential impacts of construction, operation, and decommissioning, including but not limited to waterlines, disposal pipeline(s), fuel pipelines, and sewage lines. The assessment shall:

(i) address the resource concerns listed under Section 3.9.1(a) through (e);

(ii) include an estimate of the mileage affected for each category of mapped information listed under Section 3.9.1(a), (b), (d) and (e).

(b) For off-site new or upgraded compressor and pump stations, the assessment must address potential impacts of construction, operation, and decommissioning. The assessment shall:

(i) address the resource concerns listed under Section 3.9.1(a) through (e); and

(ii) include an estimate of the acreage affected for each category of mapped information listed under Section 3.9.1(a), (b),(d) and (e).

SECTION 3.10 INFORMATION FOR ENGINEERING OF OFF-SITE ASSOCIATED FACILITIES

For off-site associated pipelines and power lines an application must contain the following engineering information:

(a) a description of any engineering differences among the proposed and any alternate locations, relative to their ability to accommodate future pipelines or other linear facilities;

(b) a discussion and appropriate drawings of alternate associated facility designs and technologies that would be required due to engineering differences among alternate locations, if any;

(c) an overlay showing the locations along the proposed and any alternate location where the following operations or conditions are expected to occur and a tabulation of the miles of each proposed and alternate location that would cross each category:

(i) rock trenching that requires drilling and blasting;

(ii) rock trenching that requires heavy ripping equipment, but not drilling and blasting; and

(iii) cliffs and talus that would constrain construction;

(d) seismic and geologic data sufficient to justify the facility design along any portion of the proposed and any alternate locations that are within 1 mile of an active fault or in areas of recorded seismic activity with a Richter magnitude greater than 5.5; and

(e) a description of the seismic risk associated with the proposed and any alternate location for the pipeline and for all above-ground associated facilities, based on the potential recurrence, rate, magnitude, and intensity of seismic events as well as ground accelerations and local geologic and soil conditions.

SECTION 3.11 INFORMATION ON FUEL SOURCES FOR THE PROPOSED GENERATION OR CONVERSION FACILITY

(1) An application must contain the following data concerning the proposed, and if applicable, alternative fuel sources, including startup fuel for the facility:

(a) chemical and radiological content analysis, including a discussion of comparative differences;

(b) costs and types of pollution control facilities and strategies that would be required;

(c) the amount and relative toxicity of waste products that would be produced;

(d) the amount and type of fuel handling facilities that would be required and the area of land required for storage;

(e) heat content and consumption rate; and

(f) difficulty of acquisition, including lease, purchase, and/or transportation arrangements.

SECTION 3.12 DESIGN INFORMATION FOR THE PROPOSED GENERATION OR CONVERSION FACILITY

(1) An application must contain the following data relating to the design of the facility for the proposed site:

(a) possibilities and difficulties of disposal of process water, solid or hazardous wastes, and any legal restrictions that would increase the difficulty and cost of compliance with air and water quality standards;

(b) a description of advantages or disadvantages relative to opportunities for using existing transmission or transportation capacity to transport inputs to or outputs from the proposed facility and to accommodate additional facilities; and

(c) a description of opportunities for using waste heat or providing other useful by-products from the facility.

(2) The applicant may comply with the requirements of this section by cross-referencing information submitted pursuant to ARM 17.20.1502, as appropriate.

SECTION 3.13 BASELINE INFORMATION FOR VISUAL RESOURCES

3.13.1 Proposed Generation or Conversion Facility

(1) An application must contain the following visual resource and viewer data for the proposed site for an impact zone that includes the area from which the facility would be clearly visible, not to exceed 30 miles from the proposed facility:

(a) identification and an overlay of key observation points, defined as a series of representative locations that collectively provide the full range of viewer and impact zone characteristics, and a description of criteria used to select these points. Key observation points must be selected from the areas listed in (2) below if they are within 30 miles of the proposed facility and the proposed facility would be clearly visible from these areas. Where 1 or more of the areas listed in (2) below are in close proximity and would afford similar views of the proposed facility, a representative observation point may be designated;

(b) for observation points from (a), a description and evaluation of viewer characteristics, including proximity to the facility, orientation, estimated number of viewers, relative sensitivity, and duration of view. Where a characteristic does not warrant differentiation, an application must contain an explanation of the reasons;

(c) for observation points from (a), a description and evaluation of the compatibility of the proposed facility with the viewed area of the landscape, including the effectiveness of available topographic screening;

(d) visual simulations of the proposed facility from observation point(s) selected from (a) showing the full range of study area visual characteristics. Simulations must be accompanied by or cross-referenced to appropriate data provided for (a) through (c); and

(e) a description of the methods used to categorize and describe the impact risk to potential viewers, as required by (a) through (d).

(2) Information specified in (1)(a) through (d) must be provided for the following recreation areas, residential areas, and national register or national register eligible sites, as appropriate:

(a) national wilderness areas;

(b) national primitive areas;

(c) tribal wilderness areas;

(d) national parks and monuments;

(e) corridors of rivers in the national wild and scenic river system and rivers under active study for inclusion in the system;

(f) national wildlife refuges and ranges;

(g) state parks;

(h) national and state recreation areas;

(i) rivers under active study for inclusion in the national wild and scenic river system;

(j) roadless areas of 5,000 acres or greater in size, managed by federal or state agencies to retain their roadless character;

(k) national historic landmarks, and national register historic districts and sites;

(l) national register historic districts and sites nominated to or designated by SHPO (state historic preservation office);

(m) national trails;

(n) streams and rivers identified in consultation with the Montana department of fish, wildlife and parks as outstanding or high value fishery resources;

(o) viewsheds of highways and scenic overlooks;

(p) any undeveloped land or water areas that contain known natural features of unusual scientific, or educational significance, and any undeveloped land or water areas that contain known natural features of unusual recreational significance that have public access provided;

(q) proposed national natural landmarks under active study;

(r) areas where the presence of the facility would be incompatible with published visual management plans adopted by federal, state, or local governments; and

(s) cities, towns, unincorporated communities; and

(t) residential areas in developed areas adjoining cities and towns and rural areas.

3.13.2 Off-site Associated Facilities

(1) For off-site associated facilities, an application must contain visual resource and viewer information specified in section 3.13.1(1) for the following impact zones:

(a) for off-site associated power lines, visual resource and viewer information must be provided for an impact zone within 2 miles of the proposed and any alternate locations for a 230 kV transmission line or within 1 mile of the proposed and any alternate locations for an associated power line less than 230 kV; and

(b) for off-site associated pipelines, visual resource and viewer information must be provided for an impact zone within 3/4 of a mile and within view of the right-of-way and other pipeline facilities along the proposed and any alternate locations.

(2) The visual resource information for off-site associated pipelines also must contain:

(a) identification and a description of the scenic quality and attractiveness of landscapes, differentiated by distinctive or outstanding, typical or common, and indistinctive landscapes;

(b) identification of any areas with poor reclamation or revegetation potential; and

(c) for the proposed and any alternate locations, photographs taken from observation points selected from Section 3.13.1(1)(a) toward the proposed and any alternate locations sufficient to show the full range of impact zone characteristics. Photographs must be accompanied by or cross-referenced to information provided for Section 3.13.1(1)(a) through (c); and

(d) visual simulations for the associated facility for selected observation points if required by the department. The applicant shall consult with the department regarding visual simulations before submitting the application.

SECTION 3.14 ASSESSMENT OF VISIBILITY IMPACTS FOR PLUME AND CONDENSATION CLOUD

An application must contain a general assessment of the dispersion patterns of the visible portion of the plume and condensation cloud from the proposed facility for an impact zone that includes the area within approximately a 30-mile radius of the proposed site, including, to the extent practicable, a description of seasonal variations in relative opacity and the potential occurrence of reduced visibility conditions.

SECTION 3.15 ASSESSMENT OF IMPACTS ON VISUAL RESOURCES PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

(1) An application must contain an assessment of the potential types and levels of visual resource impacts for the proposed site, including, to the extent practicable, plume and cloud visibility impacts, based on integration of the information required by Sections 3.13 and 3.14 of this circular. An application must contain documentation that agencies with management responsibility for visual resources have been consulted concerning impacts and mitigation, and a description and evaluation of the mitigation measures suggested by these agencies.

(2) The assessment must include potential impacts of the off-site associated power lines and substations on visual resources along the proposed and any alternate locations and their impact zone specified in Section 3.13.2(1)(a) above.

(3) The assessment must include potential impacts of construction, operation, and decommissioning of off-site associated pipelines and new or upgraded compressor and pump stations, including but not limited to waterlines, disposal pipeline(s), fuel pipelines, and sewage lines. The impact assessment shall address the resource concerns listed under Section 3.13.2 (1)(b) and (2) above.

SECTION 3.16 BASELINE INFORMATION FOR DEPOSITION PATTERNS OF EMISSIONS FROM THE PROPOSED GENERATION OR CONVERSION FACILITY

(1) An application must address the deposition patterns or concentrations of the following emissions from the facility for the proposed site as follows:

(a) a description of measures proposed to control entry of dust into the atmosphere;

(b) an overlay showing isopleths of cooling tower salt deposition in pounds per acre per year that includes the following concentrations: greater than 30, 10, 3 and 1 pound(s) per acre per year;

(c) a map at a scale of 1:250,000 of the geographical area within 50 miles of the proposed site, with the following overlays:

(i) locations of the predicted maximum 1-hour, 3-hour, 24-hour, growing season (April through August), and annual concentrations of sulfur dioxide, with the predicted value clearly indicated for each location;

(ii) isopleths of the maximum 1-hour average sulfur dioxide concentration, showing at least 5 intervals between the highest and lowest concentrations predicted for the study area, with all land areas in the highest tenth percentile clearly indicated by shading;

(iii) isopleths of the maximum 3-hour average sulfur dioxide concentration, showing at least 5 intervals between the highest and lowest concentrations predicted for the study area, with all land areas in the highest tenth percentile clearly indicated by shading;

(iv) isopleths of the maximum 24-hour average sulfur dioxide concentration, showing at least 5 intervals between the highest and lowest concentrations predicted for the study area, with all land areas in the highest tenth percentile clearly indicated by shading;

(v) isopleths of the maximum growing season (April through August) average sulfur dioxide concentration, showing at least 5 intervals between the highest and lowest concentrations predicted for the study area, with all land areas in the highest tenth percentile indicated by shading;

(vi) isopleths of the maximum annual average sulfur dioxide concentration, showing at least 5 intervals between the highest and lowest concentrations predicted for the study area, with all land areas in the highest tenth percentile clearly indicated by shading; and

(vii) as appropriate, the maximum annual concentrations and 5 isopleths spaced at equal concentration intervals in between the maximum and minimum concentrations for cobalt, total suspended particulates, volatile organic compounds, lead, asbestos, nitrogen oxides, beryllium, mercury, vinyl chloride, fluoride, sulfuric acid mist, hydrogen sulfide, carbon monoxide, ammonia, and total reduced sulfur, if any of these pollutants will be emitted from the proposed facility in a significant amount as defined by ARM 17.8.801(27)(a).

(2) The applicant shall consult with state and federal agencies. During these consultations, the applicant shall describe the project, airborne emissions, and levels and extent of deposition from each project component. The application must describe any concerns over emissions and deposition raised by these agencies;

(3) For off-site associated facilities an application must contain the information required by (1)(a) and (c)(vii) above.

SECTION 3.17 BASELINE INFORMATION FOR VEGETATION

3.17.1 Proposed Generation or Conversion Facility

An application must contain the following baseline data concerning cropping patterns and natural vegetation for the proposed site and an impact zone that includes the water intake, storage and/or discharge points and structures, and a 1-mile buffer zone surrounding these associated facilities, areas receiving cooling tower salt deposition greater than 10 lbs/acre/yr, areas receiving the highest tenth percentile of 1-hour, 3-hour, 24-hour, growing season and annual sulfur dioxide concentrations and any other pollutants as depicted on the overlays required by Section 3.16 of this circular, and areas within a 1-mile radius of high 1-hour, 3-hour, 24-hour, growing season and annual sulfur dioxide or other pollutant deposition.

(a) an overlay of natural vegetation and land cover, delineating community types based upon 1 or 2 dominant species and 1 or 2 understory species. The minimum resolution of any mapping category shall be 10 acres. For each vegetation and land cover category, the following information is required:

(i) locations of sampling plots or transects;

(ii) 35 millimeter oblique color transparencies of a representative stand of each category;

(iii) identification of dominant species, and subdominant species, if present, estimated canopy coverage classes, and canopy cover of the dominant and, if applicable, the subdominant species;

(iv) a list of plant species encountered within each category;

(v) the percent coverage of bare ground, litter, and lichens;

(vi) an estimate of site productivity using such measurements as soil characteristics, yield capability classes, or net primary production. Production estimates must be based on the peak of the growing season, and must indicate the animal unit months (AUM's) that the type is supporting and the AUM's that the community type could sustain;

(vii) for forested areas, an estimate of tree density, basal area and average crown height;

(viii) an indication of successional stage, trend, and factors presently influencing natural vegetative production, including disease and lack of moisture;

(ix) environmental factors, including slope, aspect, soil type, grazing pressure, fire history, condition and trend, including an explanation of relationships between vegetation types and soil types;

(b) on the overlay required by (a) above, the distribution of ponderosa pine and any other plant species of comparable or greater sensitivity to sulfur dioxide or nitrogen oxides;

(b) on the overlay required by (a) above, the distribution of old growth forests that have never been harvested and that contain at least 10% canopy coverage of conifers greater than 5 dm at breast height;

(d) documentation concerning the presence, distribution, and abundance of plant species listed as threatened or endangered;

(e) for cultivated areas, baseline data concerning the variety of crops, farming practices, trend data including increases and decreases in the acreage devoted to certain crops, and typical harvest rates in bushels per acre and pounds per acre; with cross-references as appropriate, to the land use map and impact assessment in Sections 3.2 and 3.4;

(f) the types and distribution of ornamentals including windbreaks, Christmas tree

farms, and commercial greenhouses; and

(g) discussion of soil characteristics, including pH, ion exchange capacity, base saturation, soil nutrient deficiencies or excesses, and/or selenium problems; cross-referenced as appropriate to the soils impact assessment in Section 3.9.

3.17.2 Off-site Associated Facilities

(1) For off-site associated power lines, water supply and disposal pipelines, additions to existing substations, new or upgraded compressor and pump stations, and fuel pipelines, an application must contain a baseline description of existing vegetation and a map at a scale of 1:24,000 showing vegetation and crop types affected by construction and operation. Vegetation must be mapped for an area within 1/2 mile of these off-site associated facilities and any alternate locations for these associated facilities. The map must delineate community types based upon 1 or 2 dominant species and 1 or 2 understory species or in another manner acceptable to the department. As appropriate, the land use map and impact assessment in Sections 3.2 and 3.4 may be referenced. Any old growth forests that have never been harvested and that contain at least 10% canopy coverage of conifers greater than 5 decimeters at breast height must be delineated on the map or overlay to it. The application must:

(a) contain documentation concerning the presence, distribution and abundance of plant species listed as threatened or endangered; and

(b) describe the present distribution of state listed noxious weeds within the 1/2 mile buffer around these associated facilities.

SECTION 3.18 BASELINE INFORMATION FOR TERRESTRIAL WILDLIFE PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

An application must contain the following baseline data concerning terrestrial wildlife for the proposed site, within a 3-mile impact zone around the proposed site, within the vegetation impact zone defined by Section 3.17.1 of this circular, and for off-site associated facilities under Section 3.17.2 of this circular:

(a) a list of vertebrate species that have been documented to occur in the impact zones and estimates of their abundance;

(b) a list of species that are listed as threatened, endangered, or species of special interest or concern to wildlife management agencies and have been documented in the impact zones or whose geographic ranges overlap the impact zones;

(c) for the species listed in (b) above, baseline data on seasonal distribution, habitat requirements and characteristics, and estimated abundance;

(d) for species whose distribution patterns are not homogeneous throughout the impact zones, an overlay showing seasonal distribution patterns, migration routes, and critical or special use sites;

(e) waterfowl production areas owned or managed by state or federal wildlife agencies and areas with high waterfowl population densities including prime waterfowl habitat as designated by the Montana department of fish, wildlife and parks and any areas identified by

the Montana department of fish, wildlife and parks or the US fish and wildlife service as waterfowl concentration areas;

(f) a description of any existing conditions that stress wildlife populations or limit abundance, including harassment, disease, weather, fires, development, hunting or poaching pressure; and

(g) an overlay to the base map showing migration routes between winter-spring and summer-fall habitat for elk, deer, moose, bighorn sheep, mountain goat and pronghorn that intersect the proposed and any alternate location for an associated facility and data indicating the timing and use of these migration routes.

SECTION 3.19 BASELINE INFORMATION FOR AQUATIC RESOURCES PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

An application must contain baseline data concerning aquatic life and habitats for the proposed site and for an impact zone that includes lakes, rivers, and streams, and a representative sample of ponds, springs, wetlands, or marshes located within the vegetation impact zone defined by Section 3.17 of this circular. The baseline data must also include any water habitats within 1 mile upstream and 15 miles downstream of water withdrawal or discharge points, and within 5 miles downstream of on-site construction activities. Any overlays required by this section must be cross-referenced, as appropriate, to the surface water overlay required by Section 3.25. The following baseline data is required:

(a) a list of aquatic vertebrates of documented or suspected occurrence, including references to the sources of information;

(b) a list of species listed as threatened or endangered, or species of special interest or concern to wildlife management agencies;

(c) for the species required by (b) above, a description and overlays, as appropriate, including the following:

(i) relative abundance, including where possible, estimates of population size, distribution, and growth rates;

(ii) spatial and temporal distribution;

(iii) movements, resident or migratory;

(iv) distribution of special use sites, including spawning or rearing areas, by season;

(v) any existing conditions that limit abundance, including pollution, irrigation runoff, withdrawals or dewatering effects, upstream flow regulation or depletion, barriers to movement, and overharvest;

(vi) habitat requirements, including minimum flow requirements and suitability of habitats within the impact zone;

(vii) food requirements and preferred sources; and

(viii) distribution and abundances of life stages that may be susceptible or fatally affected by project-related disturbances.;

(d) for waters in the impact zone, as applicable, a description of seasonal fishing use and harvest and a discussion of the economic importance of the fishery resource;

(e) a description of abiotic habitat characteristics of all waters in the impact zone, including water quality, water quantity, seasonal variation, thermal stratification characteristics

of lakes and reservoirs, bottom characteristics, and for running waters, a flow duration hydrograph;

(f) a description of biotic characteristics of waters in the impact zone, including the following:

(i) type, extent, and condition of riparian vegetation;

(ii) typical macroinvertebrate communities, including species composition and relative abundance;

(iii) aquatic and semi-aquatic macroflora; and

(iv) periphyton, neuston, and plankton if any; and

(g) a detailed description of aquatic habitat, fish populations, special use sites such as spawning areas, and angler use for the following stream reaches:

(i) for a perennial waterway, each reach extending 5 miles downstream from any stream crossing for an off-site associated facility;

(ii) any perennial stream reach or other water where aquatic habitats could be adversely affected by siltation, sedimentation, or increases in turbidity caused by off-site associated pipeline trenching or construction adjacent to a perennial stream;

(iii) for any stream from which hydrostatic testing water is to be withdrawn, a reach extending 1/4 mile upstream and 5 miles downstream from the point of withdrawal; and

(iv) a reach extending 1/4 mile upstream and 5 miles downstream from any point on any perennial stream where hydrostatic testing discharge water would reach the stream.

SECTION 3.20 ASSESSMENT OF IMPACTS ON BIOLOGICAL RESOURCES PROPOPSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

(1) An application must contain an assessment of the potential impacts to biological resources for the proposed site and associated facilities, including wildlife, fisheries and vegetation in the impact zones as defined by Sections 3.17, 3.18 and 3.19 of this circular. The assessment must include:

(a) a list of species and/or habitats of greatest susceptibility to project-related disturbances, including fisheries, wildlife and vegetation concerns identified by the applicant and appropriate managing agencies, and an explanation of the rationale and assumptions used to generate the list;

(b) an evaluation of the anticipated impacts to each species or habitat listed in (a) above, including, as appropriate, a description of biological impacts that would occur in the following areas:

(i) national wilderness areas;

(ii) national primitive areas;

(iii) tribal wilderness areas;

(iv) national wildlife refuges and ranges;

(v) state wildlife management areas and wildlife habitat protection areas;

(vi) national parks and monuments;

(vii) state parks;

(viii) national recreation areas;

(ix) corridors of rivers in or under active study for inclusion in the national wild and scenic river system;

(x) roadless areas of 5,000 acres or greater in size, managed by federal or state agencies to retain their roadless character;

(xi) designated critical habitat for state or federally listed threatened or endangered species;

(xii) unique habitats and natural areas designated by the national park service, the USDA forest service, the bureau of land management, or the state of Montana as national natural landmarks, natural areas, research natural areas, areas of critical environmental concern, special interest areas, research botanical areas, or outstanding natural areas;

(xiii) agricultural experiment stations;

(xiv) streams and rivers identified in consultation with the Montana department of fish, wildlife and parks as outstanding or high value fishery resources;

(xv) habitats occupied at least seasonally by resident state or federally listed threatened and endangered species;

(xvi) state or federal waterfowl production areas;

(xvii) specially managed buffer areas surrounding exclusion areas;

(xviii) the winter distribution of elk, deer, and pronghorn and areas where they concentrate during severe winters identified through consultation with the Montana department of fish, wildlife, and parks, bureau of land management, or USDA forest service;

(xix) elk summer security areas that are:

(A) forested;

(B) greater than 1/2 mile in radius;

(C) more than 1/2 mile from an existing road, and

(D) identified through consultation with the Montana department of fish, wildlife and parks, bureau of land management or USDA forest service as elk summer range;

(xx) habitats occupied at least seasonally by mountain sheep as identified through consultation with the Montana department of fish, wildlife and parks;

(xi) any undeveloped land or water areas that contain known natural features of unusual scientific, or educational significance, and any undeveloped land or water areas that contain known natural features of unusual recreational significance that have public access provided;

(xxii) each riparian stand of mature cottonwood or mixed cottonwood-conifer forest greater than 100 meters long and 10 meters wide where average canopy height is 50 feet or more and average density of mature trees is greater than 20 stems per acre;

(xxiii) nesting colonies, that contain 5 or more pairs within 40 acres of white pelicans, great blue herons, double-crested cormorants, gulls, or terns;

(xxiv) sage grouse and sharp-tailed grouse breeding areas, the winter distribution of sage grouse and sharp-tailed grouse, and areas where they concentrate during severe winters as identified through consultation with the Montana department of fish, wildlife and parks; and

(xxv) habitats occupied at least seasonally and critical to species listed as "species of special interest or concern" by the Montana department of fish, wildlife and parks or the US fish and wildlife service;

(c) identification of areas, in consultation with the Montana department of fish, wildlife and parks, where hunting or fishing pressure is likely to increase significantly as a result of the project, and a description of any impacts to game species or any changes in hunting or fishing regulations that might result from the increase in hunting pressure;

(d) identification of areas, in consultation with the Montana department of fish, wildlife and parks, where wildlife populations would be adversely affected by increased human population density, increased traffic, increased human activity, or by displacement, and a description of potentially significant impacts to wildlife species that likely would result from these habitat changes, including changes in size, distribution and reproduction of aquatic and terrestrial wildlife populations;

(e) identification of areas, in consultation with the Montana department of fish, wildlife and parks and the department, where pollutants may enter a stream watercourse, or other water body as a result of instream construction activities, discharge of thermally heated water, discharge of other pollutants, or failure of dikes, dams, pipelines, or any other cause, and an assessment of the impacts to aquatic life and habitats that would result from any such failure or cause;

(f) an assessment based on current literature of the potential effects of emissions on vegetative communities, including crops and ornamental plants, in the impact zones, including direct effects of emissions on foliage, reduction in productivity of soils, and changes in phenology of agricultural species;

(g) a description of the method used to evaluate the impact risk to fisheries, wildlife, and vegetation at the proposed sites and at the proposed and any alternate locations for off-site associated facilities; and

(h) documentation that agencies with management responsibility for any affected biological resources have been consulted concerning impacts and mitigation, and a description and evaluation of the mitigation measures suggested by these agencies; and

(i) for any roads necessary to construct or operate off-site associated facilities, an assessment of the potential impacts to the resources in Section 3.20. The assessment must include, but shall not be limited to, increased hunting and fishing pressure, habitat alteration, increased access to secure habitat, displacement, shifts in feeding or migration patterns, project-related interference with special use areas, sedimentation and blockage of streams, spread of noxious weeds and a discussion of reasonable, cost-effective measures to mitigate potentially significant impacts.

SECTION 3.21 BASELINE INFORMATION FOR CULTURAL RESOURCES

3.21.1 Proposed Generation or Conversion Facility

(1) An application must contain cultural resource data for the proposed site and its impact zones. The impact zones include lands where surface disturbance that occurs during construction and operation of the facility would directly affect the integrity of cultural resources and lands with known cultural resource sites from which the facility would be clearly visible from a distance of 30 miles or less where the values of the cultural resources may be significantly affected by the visual presence of the facility. The cultural resource data must include the following categories of sites:

(a) national historic landmarks, and national register historic districts and sites;

(b) sites or districts nominated to or potentially eligible for the national register;

(c) areas with geologic units or formations that show a high probability of having significant paleontological resources; and

(d) sites that have or may have religious or heritage significance and value to Native

Americans as identified in Section 3.21.

(2) An application must contain the following data:

(a) an overview of the history and prehistory of the proposed site and its impact zones;

(b) a description of, and a map at a scale of 1:125,000 or other appropriate scale determined in consultation with the department, indicating the location and the extent of previous survey work in the impact zones, ~~and~~ including a legend showing level of intensity, the reference date of survey, the sponsor, resultant report, the type of resource and the boundaries of each cultural site and historic or archeological district, when available;

(c) based on the results of (a) and (b) above and appropriate field checking of cultural resource site boundaries, identification of any inadequacies of previous survey work that could complicate efforts to fully define all significant classes of sites or properties and to anticipate their occurrence; and a discussion of the accuracy of predictions concerning:

(i) site densities and distribution;

(ii) the presence or absence of sites, trails, and properties; and

(iii) site integrity and existing modern intrusions;

(d) based on (c) above, a description of the potential for undiscovered cultural sites to be encountered, with an assessment of the potential cultural, historic or archaeological significance of these sites; and

(e) for any cultural resource sites or properties identified or more fully defined by the information required by (a) through (d) above, a discussion, based on consultation with the state historic preservation office, of the potential eligibility of these sites or properties for listing on the national register.

3.21.2 Off-site Associated Facilities

(1) For off-site associated power lines and pipelines, an application must contain cultural resource data as described in Section 3.21.1(1) and (2) above for the proposed and any alternate location and their impact zones. The impact zones include any lands where construction and operation of the associated facility, including construction of access roads, may directly affect the integrity of cultural resources and any lands with known cultural resource sites from which the associated facility would be clearly visible and where the values of cultural resources may be significantly affected by the visual presence of the facility. An application must contain the results of an on-the-ground survey of cultural resources along the proposed and any alternate location, based on the importance of the sites and the degree of potential adverse impact that is expected to occur. The survey results shall be submitted on site survey forms that identify the adverse impacts. Mapping requirements regarding cultural resource sites shall be determined through consultation with the department.

SECTION 3.22 ASSESSMENT OF IMPACTS ON CULTURAL RESOURCES PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

An application must contain an assessment of the potential impacts of the facility on cultural resources for the proposed site and the proposed and any alternate locations for off-site

associated facilities based on information from Section 3.21 above. The assessment must address the potential for physical destruction or degradation of the qualities for which cultural resource sites are eligible or potentially eligible for the National Register during construction of the facility and off-site associated facilities. The assessment also shall address the potential for physical destruction or degradation of those qualities during operation of the facility and associated facilities. Cultural resource-related information required by Sections 3.15 and 3.24 of this circular will satisfy the visual and recreation-related impact requirements of this section. The assessment must include a description of proposed treatment plans that would be employed to avoid, mitigate, or offset potentially significant effects for each affected cultural resource site or property identified in Section 3.21.

SECTION 3.23 BASELINE INFORMATION FOR RECREATION RESOURCES

3.23.1 Proposed Generation or Conversion Facility

(1) An application must contain baseline data concerning recreation areas for the proposed site and its impact zones. For the recreation areas listed in (2)(a) below the impact zone includes the area within a 30-mile radius of the facility if the facility is within view or within a 10-mile radius if not within view of the facility. For the recreation areas listed in (b) below, the impact zone includes the area within a 5-mile radius of the proposed site.

(2) An application must contain:

(a) an overlay identifying:

(i) national wilderness areas;

(ii) national primitive areas;

(iii) tribal wilderness areas;

(iv) national parks;

(v) corridors of rivers in the national wild and scenic river system;

(vi) national wildlife refuges and ranges;

(vii) state parks;

(viii) national monuments and recreation areas;

(ix) rivers under active study for inclusion in the national wild and scenic river system;

(x) roadless areas of 5,000 acres or greater in size, managed by federal or state agencies to retain their roadless character;

(xi) national historic landmarks, and national register historic districts and sites;

(xii) unique habitats and natural areas designated by the national park service, the USDA forest service, the bureau of land management, or the state of Montana as national natural landmarks where recreation is listed as a current site use, natural areas, research natural areas, areas of critical environmental concern, special interest areas, research botanical areas, and outstanding natural areas;

(xiii) national register historic districts and sites nominated to or designated by the Montana state historic preservation office;

(xiv) national trails;

(xv) specially managed buffer areas surrounding (i) through (vi) above;

(xvi) any undeveloped land or water areas that contain known natural features of unusual scientific, or educational significance, and any undeveloped land or water areas that contain known natural features of unusual recreational significance that have public access provided; and

(xvii) proposed national natural landmarks under active study.

(b) based on consultation with appropriate local, state, and federal agencies, an overlay identifying any recreational areas or locales which are provided with public access and where public recreational use occurs within the impact zone other than those specifically referenced above including fishing access areas and sites, public and private campgrounds and intensive outdoor recreation areas such as ski areas, local parks and picnic areas;

(c) a list of the recreation areas located within the impact zones for the proposed site, cross-referenced to the overlays required by (a) and (b) above; a description of each area, including any prominent recreational facilities and aesthetic features; a description of how the area is used for recreation; and, if available, identification of the types of users of the area and a use level estimate; and

(a) a description of any plans to create new or upgrade existing recreation facilities.

3.23.2 Off-Site Associated Facilities

(1) For off-site associated power lines and pipelines, an application must contain baseline data for recreation areas and sites along the proposed and any alternate location and their impact zones. The impact zone for recreation is defined by Section 3.13.2 of this circular. The impact zone for associated power lines of 230kV or less voltage also includes all recreation areas and sites within 1 mile of the proposed and any alternate location. All recreation areas and sites within 2 miles of the proposed and any alternate location for an associated power line greater than 230 kV must be included regardless of whether the facility would be visible from the recreation area or site. An application must contain:

(a) an overlay depicting recreation areas and sites within the impact zones;

(b) a list of the recreation areas and sites located within the impact zones for the proposed and any alternate location cross-referenced to the overlay required by (a) above. This information must be provided for the recreation areas and sites in Section 3.23.1 (2)(a) above and streams and rivers identified in consultation with the Montana department of fish, wildlife and parks as outstanding or high value fishery resources;

(c) a description of each area or site, including any prominent recreational facilities and aesthetic features, a description of how the area or site is used for recreation and, if available, identification of the types of users of the area or site and a use level estimate; and

(d) for any proposed water storage facility, an evaluation of any effects on recreation resulting from changes in stream flow or reservoir elevation, cross-referenced as appropriate to information for Section 3.26 (b).

SECTION 3.24 ASSESSMENT OF IMPACTS ON RECREATION RESOURCES - PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

(1) An application must contain an assessment of the potential adverse impacts of the facility and off-site associated facilities on the recreation settings specified in Section 3.23.1 and 3.23.2 for the proposed site and the proposed and any alternate location for off-site power lines and pipelines. The assessment must be limited to recreation areas likely to be affected by the facility. Information provided for Section 3.15 concerning aesthetic impacts on recreation settings may be cross-referenced as appropriate. For each recreation setting or area that would be significantly affected, an application must contain the following information:

(a) a description of how the recreation area or setting would be affected, including aesthetic impacts of the facility;

(b) a description of how recreational activities and experiences at each area or setting could change as a result of the facility and the potential for use of the area or setting to be curtailed or terminated, or for some user groups to be affected more than others;

(c) a description of the relationship of each affected area or setting to the local and regional supply of recreation opportunities, including a discussion of whether an affected area or setting is unusual or unique in its region, by virtue of its providing opportunities unavailable elsewhere; ~~and~~

(d) documentation that agencies with recreation management responsibility for each affected area or setting have been consulted concerning the impacts and mitigation, and a description and evaluation of the mitigation measures suggested by these agencies~~.~~ ;

(i) for off-site associated power lines and pipelines, a description of how access to or within each recreation area or site could be affected by adding new access roads or upgrading existing access roads or as a result of trenching activities during pipeline construction;

(ii) for off-site associated power lines and pipelines, a description of how the recreation area or site would be affected, including aesthetic impacts of access roads; and

(iii) for off-site associated power lines and pipelines, a description of how the facility would be located relative to recreational use of each area or site.

SECTION 3.25 BASELINE INFORMATION FOR SURFACE WATERS

3.25.1 Proposed Generation or Conversion Facility

(1) An application must contain the following baseline data for surface waters for the proposed site and off-site, non-linear associated facilities and an impact zone that includes surface water resources that could be affected by construction activities; deposition of pollutants or nutrients emitted to the atmosphere; water storage withdrawals and discharges; and wastewater discharges, including any downstream areas where solid or liquid pollutants or thermal discharge may enter surface water as a result of operations or accidental failure of any project component or any other cause. An application must contain:

(a) an overlay showing ponds, lakes, reservoirs, rivers, streams, springs, wetlands or marshes including, as appropriate and available, the name of each stream or other water body and its department water quality classification.

(b) data sufficient to determine the normal and seasonal variability in water quality and stream flow and/or changes in lake or reservoir elevation if available; and

(c) an estimate of the amount of water needed and the source(s), for consumptive and nonconsumptive uses to construct, operate, and maintain the facility.

3.25.2 Off-Site Associated Facilities

For off-site electrical power lines and pipelines, an application must contain an overlay showing, as appropriate and available, the locations and names of all streams, wetlands, lakes and other water bodies, within 100 feet of the proposed and any alternate locations. The map must indicate the department water quality classifications for these streams. For each crossing of a stream or waterbody the impact zone extends one quarter mile upstream and five miles downstream from the crossing.

SECTION 3.26 ASSESSMENT OF IMPACTS ON SURFACE WATERS PROPOSED GENERATION OR CONVERSION FACILITY AND OFF-SITE ASSOCIATED FACILITIES

(1) An application must contain an assessment of impacts of the proposed facility and associated facilities on surface water quantity and quality, stream banks and stream hydrology, water uses and users for each stream or other water body identified on the map or overlay required by Section 3.25.1 (a), including the following information:

(a) a description of how flows and/or water elevations would change as a result of facility construction, operation, and maintenance;

(a) an assessment of impacts on streamflow, reservoir elevation, and existing water rights, if any;

(b) an assessment of predicted water quality changes and discharges resulting from facility construction, operation, and maintenance including impacts on water uses and users due to changes in water quality;

(d) for the proposed site, an overlay showing the location of riparian vegetation buffer strips that would be left undisturbed, and the location of any proposed sediment control structures, and an assessment of the risk of stream sedimentation, including plans to control sediment production. Information contained in the application for an MPDES permit may be cross referenced as appropriate; and

(e) for off-site associated facilities:

(i) any impacts to municipal watersheds, supplies of potable water, and streams listed by the department as having impaired water quality or for which total maximum daily loads are developed or in the process of being developed;

(ii) stream and wetland impacts for each stream and wetland crossed by the proposed and any alternate pipeline location, including, but not limited to, estimates of the extent of floodplain disturbance, anticipated stream flow during construction, estimates of the width, depth, and length of streambed excavation, and the duration and timing of instream activities;

(iii) depth of pipeline burial and the distance this burial depth will be maintained at streams with designated 100-year floodways or floodplains;

(iv) methods to be used during operation and maintenance to identify areas where erosion reduces burial depth to less than that required by applicable safety regulations; and

(v) if water is needed for hydrostatic testing of new pipelines, the volume needed, the proposed points of withdrawal, timing of withdrawal, proposed methods and locations of discharge of hydrostatic test water, and impacts to water quality and quantity expected as a result of withdrawal and discharge; and

(f) for the proposed site and off-site associated facilities, a monitoring plan

for determining potential impacts during construction, operation, and decommissioning. Information contained in the application for an MPDES permit may be cross referenced as appropriate.

SECTION 3.27 BASELINE INOFRMATION FOR GROUNDWATER PROPOSED GENERATION OR CONVERSION FACILITY AND ASSOCIATED FACILITIES

(1) An application must contain baseline data concerning ground water quantity and quality within an impact zone that includes the area within 1 mile of the proposed site and 1 mile down-gradient or down-slope from any waste storage facilities or waste water discharge points located off-site except where artesian or confined conditions dictate a larger impact zone. The following data are required:

(a) a detailed description of aquifer characteristics, water quality and existing uses;

(b) cross sections illustrating the geology, depth to water, and locations of existing wells and springs, and wells proposed by the applicant cross-referenced to or included in the overlay required by Section 3.8 (b) of this circular;

(c) for any discharge to groundwater from the facility and the proposed and any alternate locations for associated facilities, a map indicating the proposed discharge point or points, the location of treatment works and disposal systems and a list of surface owners and lessees of land within 1 mile of any proposed discharge location;

(d) a description of waste or process solutions to be used or contained on site;

(e) any additional data and information that the department determines is warranted by the potential impacts of a source, including but not limited to the following:

(i) for each site for proposed discharge, discharge rates and volumes and likely chemical constituents including oil and other floating material, biochemical oxygen demand, settleable and suspended solids, acids, alkalies, dissolved salts, organic materials, toxic materials, compounds producing taste and odor in water and colored materials and dyes;

(ii) discussion of potential for and measures to be taken for emergency and accidental spills of process water, wastes, and products;

(iii) proposed measures to be taken to provide alternative water supplies or treatment in the event that any domestic, municipal, agricultural, or commercial/industrial well is adversely affected by a proposed or accidental discharge; and

(iv) a written evaluation of alternative disposal practices for maximization of environmental protection; and

(f) for off-site associated pipelines, additions to the overlay required in Section 3.25.2 indicating the presence of wells or springs that may be affected by construction or operation.

SECTION 3.28 ASSESSMENT OF IMPACTS ON GROUNDWATER PROPOSED GENERATION OR CONVERSION FACILITY AND ASSOCIATED FACILITIES

An application must contain an assessment of impacts of the facility and associated facilities on groundwater quantity and quality, including effects of water withdrawals and discharges based on the information required by Section 3.27, a specific discussion of the potential effects of the facility on existing water users, and a monitoring plan for determining potential impacts during operation.

SECTION 3.29 BASELINE INFORMATION AND ASSESSMENT OF NOISE, COMMUNICATION AND ELECTROMAGNETIC IMPACTS

3.29.1 Proposed Generation or Conversion Facility

(1) An application must contain the following baseline data concerning potential noise, radio and television interference, and electrical effects of the facility as applicable for the proposed site:

(a) an assessment of potential noise impacts of the facility, including an estimate of peak and average noise expressed on an A-weighted day-night scale at the property boundary;

(b) for electric generation facilities, an assessment of the potential for the facility to cause radio and television interference and interference with any other communication systems; and

(c) a description of mitigation measures to reduce noise and interference with communication systems.

3.29.2 Off-Site Associated Facilities

(1) For off-site associated facilities, an application must contain the following baseline data concerning potential noise, radio and television interference and electrical effects for the proposed and any alternate location:

(a) for associated transmission lines of 230 kV or greater voltage, a description of present noise conditions at residences located within 1000 feet of the proposed and any alternate location;

(b) for associated transmission lines of 230 kV or greater voltage, an overlay showing the locations of railroad routes and telephone communication lines within 1 mile of the proposed and any alternate location where the associated transmission line would potentially parallel these installations;

(c) for substation additions or associated transmission lines, a description of existing radio reception at individual houses located within 1000 feet of the proposed and any alternate location;

(d) for substation additions or associated transmission lines, a description of the potential for the associated facility to induce electrical currents in metal objects on or adjacent to the right-of-way;

(e) for associated transmission lines, substations, and new or upgraded compressor or pump stations, an assessment of potential noise impacts including an estimate of peak and annual average noise expressed on an A-weighted day-night scale (L_{DN}). The estimate must be made for transmission lines of 230 kV or greater voltage at the right-of-way edge and at the property

boundary of all substations and compressor or pump stations located within 500 feet of residences or in areas for which a plat of a subdivision is on file with local governments. For substations, the data on frequency of rain which is necessary to account for wet weather may be obtained from the nearest weather station that has such data available;

(f) an assessment of the potential impacts of the electrical and magnetic fields generated by the associated transmission lines;

(g) an assessment of the potential for an associated transmission line to cause radio and television interference and interference with any other communications systems; and

(h) a description of mitigation measures, if necessary to reduce noise, electric and magnetic fields, induced currents, and interference with communication systems.

SECTION 3.30 ASSESSMENT OF OCCUPATIONAL AND PUBLIC HEALTH AND SAFETY CONSIDERATIONS

An application must contain an assessment of occupational health and safety considerations, including a list of hazardous substances workers may be exposed to, anticipated conditions of exposure, and a description of measures that are proposed to reduce exposure and adverse effects. An application must contain an assessment of public health and safety considerations associated with accidental release of toxic or hazardous materials stored or used at the proposed facility site, along associated natural gas pipelines, and at compressor, pump stations, or transformers. The application must identify measures that would be implemented to protect public health and safety.

SECTION 3.31 GENERATION AND CONVERSION FACILITIES, EFFECT ON REGIONAL TRANSMISSION OR TRANSPORTATION FACILITIES

(1) An application must contain a description of the impact of the facility on congestion in regional transmission or transportation networks for each of the first 5 years of the proposed facility's operation. This information is required to provide for an evaluation of the extent to which the facility will lead to additional costs based on a need to expand the transmission or transportation system.

(2) For electric generation facilities, an application must contain relevant load flow diagrams for the relevant regional interconnected transmission network for at least the first and fifth years after the facility is expected to become operational. If data sufficient to conduct load flow studies for a 5-year period after the facility is in operation are not available, projected load flows at times of maximum congestion with and without the proposed facility must be supplied in an alternative form agreed to in writing by the department. The load flow diagrams must be based on a model of the affected regional transmission system recognized by the interconnected utilities that traditionally or historically cooperate and plan for the area network affected by the facility.

(3) For natural gas-fueled electric generation facilities and for energy generation or conversion facilities other than electric generation facilities, an application must contain a projection of volumes flowing through the affected regional pipeline or other fuel transport system, and where relevant, flow rates in relation to the capacity of the component segments of

the transport system. Flow rates and volumes must be projected for a 5-year period after the facility is proposed to be placed in service.

(4) An application must contain a discussion of the adequacy of the existing bulk transmission or transportation system to handle projected flows with the facility in operation, and a discussion of congestion and the likely need for any capacity expansion.