

Ecological Resources

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Protecting Ecological Resources

- Clean Water Act
- Coastal Zone Management Act
- Endangered Species Act
- Magnuson-Stevens Fishery Conservation and Management Act

Clean Water Act (CWA)

- Section 401: State certification regarding discharge into navigable waters
- Section 402: National Pollutant Discharge Elimination System (NPDES) program

CWA Section 316

- Section 316(a): regulates thermal discharges (include documentation in ER if you have a 316(a) variance)
- Section 316(b): cooling water intake structures must reflect best technology available (BTA)
- 316(b) requirements implemented through NPDES permits

CWA 316(b) Determination

- EPA or delegated State determines if BTA is in use at a facility
- Existing NPDES permit is not equivalent to a BTA determination
- NRC conducts analysis under NEPA regardless of BTA determination

CWA 316(b) Phase II Rule

- U.S. Second Circuit Court decision remanded significant portions of EPA's Phase II rule (Jan. 25, 2007)
- EPA may revise Phase II rule
- NRC will continue to assess impacts to aquatic resources

Coastal Zone Management Act

- In states with coastal zone management plans, Federal consistency is required
- Consistency based on state's enforceable policies
- NRC cannot issue a license if a Federal consistency determination is not made (15 CFR 930 Subpart D)

Endangered Species Act

- Section 7 (not 10) consultation
- All takes should be reported to NRC
- Take is “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”

Magnuson-Stevens Fishery Conservation and Management Act

- Essential fish habitat (EFH) consultation
- Applies to certain Federally managed fish and shellfish species
- Section 305(b); 50 CFR 600.905-930

Permits, Licenses, Approvals, etc.

- Discuss compliance with all applicable Federal, State, regional, and local requirements
 - Includes statutes under NEPA umbrella
 - e.g., Migratory Bird Treaty Act permits
 - 10 CFR 51.45(d)

Descriptions: Site, Environs, and Proposed Action

- Regulatory Guide: include in Ch. 2 & 3
- Include comprehensive description of cooling system intake and discharge
- Describe any entrainment and impingement sampling
- Describe surrounding environment

Cooling Systems

- In the ER address all NRC regulatory requirements for the plant's cooling system
 - e.g., 10 CFR 51.53(c)(3)(ii)(A) requires assessment of related impacts on instream and riparian ecological communities (see Regulatory Guide)

Cooling System Intakes

- 316(b) determination (or equivalent State permits and supporting documentation)
 - Valid NPDES permit is not an equivalent State permit for 316(b) determination
 - 316(b) determination refers to BTA to protect aquatic resources from cooling water intakes
 - ER must include assessment of impacts to aquatic resources if no 316(b) determination (10 CFR 51.53(c)(3)(ii)(B) and Reg. Guide)

Impacts on Aquatic Resources

- Quantify impacts whenever possible
(10 CFR 51.45(c))
- Include analysis of impacts on habitat and other aquatic resources (e.g. SAV)
- Old data may no longer be valid
(Table B-1 in 10 CFR 51, Subpart A, Appendix B)
- Include information describing potential impacts unique to your site

Entrainment, Impingement, and Heat Shock

- Include projected losses to adult populations
- Estimate all losses on daily, monthly, and annual bases
- Discuss fisheries: distribution, value, losses
- Identify important habitat areas
- Discuss population trends

Protected Species

- Assess impacts on threatened or endangered species in accordance with the Endangered Species Act
 - 10 CFR 51.53(c)(3)(ii)(E)
 - Include aquatic and terrestrial species
 - Should assess impacts to critical habitat in vicinity of plant

Unusual Environmental Events

- Applies to preparation of an ER
- Could be aquatic or terrestrial
 - Any take of threatened or endangered species
 - Fish kills
 - Bird collisions or electrocutions
 - NPDES permit exceedances

Cumulative Impacts

- Federal and non-Federal projects
- Aquatic resources have many stressors due to fluid environment (far-reaching impacts)
- Past, present, and future impacts
(40 CFR 1508.7)

Mitigation

- 10 CFR 51 Subpart A, Appendix A: EIS will include discussion of “means to mitigate adverse environmental impacts”
- GEIS for Category 1 issues
- SEIS for Category 2 issues

Mitigation continued

- ER must consider mitigation for all Category 2 issues
 - 10 CFR 51.45(c) and 51.53(c)(3)(iii)
 - Regulatory Guide p. 4.2-S-12
- Even for SMALL adverse impacts
 - Regulatory Guide p. 4.2-S-5
- Can be structural or operational

Helpful Hints

- Include on-site biologist in preparing or reviewing ER
- Site audit often reveals useful information not in ER
- Keep in mind that NRC must respond to comments and aims to produce consistent, high-quality SEISs

Key Messages

- Early coordination
 - Address stakeholder concerns in ER
 - NRC responds to Federal and non-Federal comments
- Include all relevant information
 - Save resources (applicant and NRC)
 - Fewer RAIs and increased efficiency
- Get licensee biologists involved

Resources

- 316(b) determination guidance: <http://www.epa.gov/waterscience/316b/files/1977AEIguid.pdf>
- CZMA link: <http://coastalmanagement.noaa.gov/consistency/welcome.html>
- ESA link: <http://www.fws.gov/endangered/consultations/s7hndbk/s7hndbk.htm>
- EFH link: <http://www.nmfs.noaa.gov/habitat/habitatprotection/pdf/efh/EFH%20Consultation%20Guidance%20v1-1.pdf>
- 10 CFR 51: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/>
- Regulatory guide: <http://www.nrc.gov/reading-rm/doc-collections/reg-guides/environmental-siting/active/04-002/index.html>
- ESRP: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1555/s1/>
- Cumulative effects analysis: <http://www.nepa.gov/nepa/ccenepa/ccenepa.htm>