

CWIS Fact Sheets

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Elements of a Fact Sheet

- 125.98(f)(1)

The Director must provide a written explanation of the proposed entrainment determination in the fact sheet or statement of basis for the proposed permit under 40 CFR 124.7 or 124.8. The written explanation must describe why the Director has rejected any entrainment control technologies or measures that perform better than the selected technologies or measures, and must reflect consideration of all reasonable attempts to mitigate any adverse impacts of otherwise available better performing entrainment technologies.

Elements of a Fact Sheet

40 C.F.R. § 125.98(f)(2)

The proposed determination in the fact sheet or statement of basis must be based on consideration of any additional information required by the Director at 125.98(i) and the following factors listed below. The weight given to each factor is within the Director's discretion based upon the circumstances of each facility.

Elements of a Fact Sheet

- Regulatory Background
- Establish Adverse Environmental Impact
- Assess Existing Technology
- Evaluate Entrainment BTA Options
- Compare Options
- Select Entrainment BTA
- Align Impingement Mortality BTA selection
- Establish Permit Requirements

Elements of a Fact Sheet

- Regulatory Background
 - Statute: 33 U.S.C. § 1326(b)
 - Any standard established pursuant to [CWA sections 301 or 306] and applicable to a point source shall require that the location, design, construction, and capacity of the cooling water intake structures reflect the best technology available for minimizing adverse environmental impact
 - Regulations: 40 C.F.R. § 125.94
 - (c) BTA Standards for Impingement Mortality
 - (d) BTA Standards for Entrainment
 - State Water Quality Standards
 - Massachusetts: 314 CMR 4.05(3)(b)(2)(d) (*for example*)
 - New Hampshire: NH Code R Env-Wq 1701.02(b), 1703.01(b), and 1703.19

Elements of a Fact Sheet

- Adverse Environmental Impact
 - Baseline impingement data
 - Impingement survival data
 - Baseline entrainment data
 - Statement: CWIS is causing adverse environmental impact



Photo: NOAA Fisheries

Elements of a Fact Sheet

- Assessment of Existing Technology
 - Location, design, construction, capacity
 - Does it meet one of the impingement mortality BTA compliance alternatives?
 - Does it effectively minimize entrainment impacts?
 - Statement: Existing technology is/is not BTA



Photo: EPA

Elements of a Fact Sheet

- Entrainment BTA Options
 - Evaluation of proposed design of technologies
 - Evaluation of estimated effectiveness
 - Evaluation of estimated cost of technologies
 - Conclusion on feasibility – potential BTA options
 - Comparison



Photo: EPA

Elements of a Fact Sheet

MUST Factors

- (i) Numbers and types of organisms entrained;
- (ii) Emissions impacts;
- (iii) Land availability;
- (iv) Remaining useful plant life;
- (v) Quantified and qualitative social benefits and costs

MAY Factors

- (i) Entrainment impacts on the waterbody;
- (ii) Thermal discharge impacts;
- (iii) Reductions in flow;
- (iv) Energy reliability impacts;
- (v) Water consumption;
- (vi) Availability of process water, gray water, waste water, reclaimed water, etc.

Elements of a Fact Sheet

- Selection of Entrainment BTA
 - Determination that entrainment requirements results in the maximum entrainment reduction warranted after consideration of relevant factors
 - Explanation of why any technology determined to be more effective than selected technology was rejected
- Selection of Impingement BTA
 - Align entrainment BTA requirements with impingement BTA
 - Will not necessarily be the same as selected technology in application
- Establish Permit Requirements
 - Design/Performance requirements
 - Monitoring requirements
 - Reporting requirements

Challenges

- Evaluating feasibility of entrainment technologies
- Evaluating estimated effectiveness of entrainment technologies
- Evaluating costs & benefits – sufficient rigor
- Establishing monitoring requirements
- Response to Comments on Draft Determination

Region 1 Fact Sheet Examples

- GSP Schiller Station

- <https://www3.epa.gov/region1/npdes/permits/2018/financialh0001473permit.pdf>
- <https://www3.epa.gov/region1/npdes/schillerstation/pdfs/AR-259.pdf>

- Pilgrim Nuclear Power Station

- <https://www.epa.gov/npdes-permits/pilgrim-nuclear-power-station>