

LIHI CERTIFICATION HANDBOOK

-- PART VII -- CERTIFICATION QUESTIONNAIRE

PLEASE SUBMIT THIS QUESTIONNAIRE IN WORD FORMAT

Background Information																					
1) Name of the Facility as used in the FERC license/exemption.	Alcoa Power Generating Inc. Tapoco Hydroelectric Project (FERC No. 2169)																				
2) Applicant's name, contact information and relationship to the Facility. If the Applicant is not the Facility owner/operator, also provide the name and contact information for the Facility owner and operator.	Marshall Olson Environmental and Natural Resources Manager Alcoa Power Generating Inc. – Hydro Division PO Box 576 Badin, North Carolina 28009 marshall.olson@alcoa.com (704) 422-5622 (office)																				
3) Location of Facility including (a) the state in which Facility is located; (b) the river on which Facility is located; (c) the river-mile location of the Facility dam; (d) the river's drainage area in square miles at the Facility intake; (e) the location of other dams on the same river upstream and downstream of the Facility; and (f) the exact latitude and longitude of the Facility dam.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Facility</th> <th style="width: 15%;">State</th> <th style="width: 25%;">Drainage Area (sq. mi)</th> <th style="width: 35%;">River & Mile</th> </tr> </thead> <tbody> <tr> <td>Santeetlah Lat. 35°22'40" Long. 83°52'38"</td> <td>NC</td> <td>176</td> <td>Cheoah RM 9</td> </tr> <tr> <td>Cheoah Lat. 35° 26'55" Long. 83°56'12"</td> <td>NC</td> <td>1,608</td> <td>Cheoah RM 51-52</td> </tr> <tr> <td>Calderwood Lat. 35°29'30" Long. 83°58'48"</td> <td>NC/TN</td> <td>1,856</td> <td>Little TN RM 42-44</td> </tr> <tr> <td>Chilhowee Lat. 35°32'45" Long. 84°3'6"</td> <td>TN</td> <td>1,977</td> <td>Little TN RM 33-34</td> </tr> </tbody> </table>	Facility	State	Drainage Area (sq. mi)	River & Mile	Santeetlah Lat. 35°22'40" Long. 83°52'38"	NC	176	Cheoah RM 9	Cheoah Lat. 35° 26'55" Long. 83°56'12"	NC	1,608	Cheoah RM 51-52	Calderwood Lat. 35°29'30" Long. 83°58'48"	NC/TN	1,856	Little TN RM 42-44	Chilhowee Lat. 35°32'45" Long. 84°3'6"	TN	1,977	Little TN RM 33-34
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4) Installed capacity.	351.0 MW as of February 1, 2012 373.0 MW projected by December 31, 2013																					
5) Average annual generation.	1,262,665 MWh (ten year average (2002-2011))																					
6) Regulatory status.	FERC Project No. 2169 – Relicensed for a 40-year term by FERC Order dated January 25, 2005 No legal or regulatory proceeding that affect operations at the Facility have occurred or are ongoing since the license was issued.																					
7) Reservoir volume and surface area measured at the normal maximum operating level.	<table border="1"> <thead> <tr> <th></th> <th>Storage Capacity</th> <th>Surface Area</th> </tr> <tr> <th>Reservoir</th> <th>(acre-feet)</th> <th>(acre)</th> </tr> </thead> <tbody> <tr> <td>Santeetlah</td> <td>158,000</td> <td>2,881</td> </tr> <tr> <td>Cheoah</td> <td>35,000</td> <td>644</td> </tr> <tr> <td>Calderwood</td> <td>41,000</td> <td>570</td> </tr> <tr> <td>Chilhowee</td> <td>49,000</td> <td>1,734</td> </tr> <tr> <td>Total</td> <td>283,000</td> <td>5,829</td> </tr> </tbody> </table>		Storage Capacity	Surface Area	Reservoir	(acre-feet)	(acre)	Santeetlah	158,000	2,881	Cheoah	35,000	644	Calderwood	41,000	570	Chilhowee	49,000	1,734	Total	283,000	5,829
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8) Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).	<table border="1"> <thead> <tr> <th></th> <th>Acres</th> </tr> </thead> <tbody> <tr> <td><u>Development</u></td> <td></td> </tr> <tr> <td>Santeetlah (dam 6.5, powerhouse 4.0, above ground sections of pipeline 4.5)</td> <td>15</td> </tr> <tr> <td>Cheoah (dam, powerhouse, penstock)</td> <td>5.9</td> </tr> <tr> <td>Calderwood (dam 9.3, powerhouse 0.9)</td> <td>10.2</td> </tr> <tr> <td>Chilhowee (dam and powerhouse)</td> <td>6.1</td> </tr> </tbody> </table>		Acres	<u>Development</u>		Santeetlah (dam 6.5, powerhouse 4.0, above ground sections of pipeline 4.5)	15	Cheoah (dam, powerhouse, penstock)	5.9	Calderwood (dam 9.3, powerhouse 0.9)	10.2	Chilhowee (dam and powerhouse)	6.1									
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10) Number of acres contained in a 200-foot zone extending around entire reservoir.	Area includes APGI and non-APGI lands and excludes the Cheoah River: <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Reservoir</th> <th style="text-align: right;">Area (acres)</th> </tr> </thead> <tbody> <tr> <td>Santeetlah</td> <td style="text-align: right;">1,756</td> </tr> <tr> <td>Cheoah</td> <td style="text-align: right;">505</td> </tr> <tr> <td>Calderwood</td> <td style="text-align: right;">412</td> </tr> <tr> <td>Chilhowee</td> <td style="text-align: right;">631</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">3,304</td> </tr> </tbody> </table>	Reservoir	Area (acres)	Santeetlah	1,756	Cheoah	505	Calderwood	412	Chilhowee	631	Total	3,304
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11) Contacts for Resource Agencies and non-governmental organizations	Please see Attachment 1 for list of current contacts												
12) Description of the Facility, its mode of operation (<i>i.e.</i> , peaking/run of river) and photographs, maps and diagrams.	Please see Attachment 2 (Section 1)												
Questions for “New” Facilities Only: If the Facility you are applying for is “new” (<i>i.e.</i> , an existing dam that added or increased power generation capacity after August of 1998) please answer the following questions to determine eligibility for the	New = Increased Power Generation Capacity												

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13) When was the dam associated with the Facility completed?	<table border="1"> <thead> <tr> <th data-bbox="1222 276 1428 308">Facility</th> <th data-bbox="1428 276 1908 308">Completion Date</th> </tr> </thead> <tbody> <tr> <td data-bbox="1222 308 1428 422">Cheoah</td> <td data-bbox="1428 308 1908 422">April 1919 (Units 1-4) April 1949 (Unit 5)</td> </tr> <tr> <td data-bbox="1222 422 1428 503">Santeetlah</td> <td data-bbox="1428 422 1908 503">June 1928</td> </tr> <tr> <td data-bbox="1222 503 1428 584">Calderwood</td> <td data-bbox="1428 503 1908 584">April 1930</td> </tr> <tr> <td data-bbox="1222 584 1428 656">Chilhowee</td> <td data-bbox="1428 584 1908 656">August 1957</td> </tr> </tbody> </table>	Facility	Completion Date	Cheoah	April 1919 (Units 1-4) April 1949 (Unit 5)	Santeetlah	June 1928	Calderwood	April 1930	Chilhowee	August 1957														
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14) When did the added or increased generation first generate electricity? If the added or increased generation is not yet operational, please answer question 18 as well.	<table border="1"> <thead> <tr> <th data-bbox="1222 669 1428 701">Upgrade</th> <th data-bbox="1428 669 1908 701">Date in Operation</th> </tr> </thead> <tbody> <tr> <td data-bbox="1222 701 1428 734">Calderwood Unit 3</td> <td data-bbox="1428 701 1908 734">July 2002</td> </tr> <tr> <td data-bbox="1222 734 1428 766">Calderwood Unit 2</td> <td data-bbox="1428 734 1908 766">September 2005</td> </tr> <tr> <td data-bbox="1222 766 1428 799">Calderwood Unit 1</td> <td data-bbox="1428 766 1908 799">June 2006</td> </tr> <tr> <td data-bbox="1222 799 1428 831">Santeetlah Unit 1</td> <td data-bbox="1428 799 1908 831">March 2008</td> </tr> <tr> <td data-bbox="1222 831 1428 863">Santeetlah Unit 2</td> <td data-bbox="1428 831 1908 863">August 2008</td> </tr> <tr> <td data-bbox="1222 863 1428 896">Cheoah Unit 1</td> <td data-bbox="1428 863 1908 896">June 2012</td> </tr> <tr> <td data-bbox="1222 896 1428 928">Cheoah Unit 2</td> <td data-bbox="1428 896 1908 928">June 2012</td> </tr> <tr> <td data-bbox="1222 928 1428 961">Cheoah Unit 3</td> <td data-bbox="1428 928 1908 961">April 2013</td> </tr> <tr> <td data-bbox="1222 961 1428 993">Cheoah Unit 4</td> <td data-bbox="1428 961 1908 993">October 2012</td> </tr> <tr> <td data-bbox="1222 993 1428 1026">Chilhowee Units 1-3</td> <td data-bbox="1428 993 1908 1026">2019-2020</td> </tr> <tr> <td colspan="2" data-bbox="1222 1026 1908 1058">Please see Attachment 4 for more details</td> </tr> </tbody> </table>	Upgrade	Date in Operation	Calderwood Unit 3	July 2002	Calderwood Unit 2	September 2005	Calderwood Unit 1	June 2006	Santeetlah Unit 1	March 2008	Santeetlah Unit 2	August 2008	Cheoah Unit 1	June 2012	Cheoah Unit 2	June 2012	Cheoah Unit 3	April 2013	Cheoah Unit 4	October 2012	Chilhowee Units 1-3	2019-2020	Please see Attachment 4 for more details	
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15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?	No																								

<p>16) Did the added or increased capacity include or require a change in water flow through the facility that worsened conditions for fish, wildlife, or water quality (for example, did operations change from run-of-river to peaking)?</p>	<p>No</p>	
<p>17) (a) Was the existing dam recommended for removal or decommissioning by resource agencies, or recommended for removal or decommissioning by a broad representation of interested persons and organizations in the local and/or regional community prior to the added or increased capacity?</p> <p>(b) If you answered “yes” to question 17(a), the Facility is not eligible for certification, unless you can show that the added or increased capacity resulted in specific measures to improve fish, wildlife, or water quality protection at the existing dam. If such measures were a result, please explain.</p>	<p>No</p>	
<p>18) (a) If the added or increased generation is not yet operational, has the increased or added generation received regulatory authorization (e.g., approval by the Federal Energy Regulatory Commission)? If not, the facility is not eligible for consideration; and</p> <p>(b) Are there any pending appeals or litigation regarding that authorization? If so, the facility is not eligible for consideration.</p>	<p>(a) Yes. The original FERC license totaled 326 MW and was subsequently expanded to 359.8 MW to include the projected increase in capacity at Calderwood which was completed in 2006. The 2005 FERC license provides a total capacity of 380.1 MW as a result of upgrades and modifications planned between 2005 and 2020. Attachment 4 summarizes the status of the upgrades.</p> <p>(b) No</p>	
<p>A. <i>Flows</i></p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Is the Facility in <i>Compliance with Resource Agency Recommendations</i> issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream</p>	<p>YES = Pass Go to B</p>	

flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?		
2) If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or “good” habitat flow standards calculated using the Montana-Tennant method?		
3) If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately protective of fish, wildlife, and water quality?		
B. Water Quality	PASS	FAIL
1) Is the Facility either: a) In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or b) In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?	YES = Go to B2	
2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?	YES = Go to B3	

3) If the answer to question B.2 is yes, has there been a determination that the Facility does not cause, or contribute to, the violation?	YES = Pass Go to C	
C. Fish Passage and Protection	PASS	FAIL
1) Is the Facility in Compliance with <i>Mandatory Fish Passage Prescriptions</i> for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?	YES = Go to C5	
2) Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (<i>e.g.</i> , because passage is blocked at a downstream dam or the fish no longer have a migratory run)? a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility? b) If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?		
3) If, since December 31, 1986: a) Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or		

<p>downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and</p> <p>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</p> <p>c) Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</p>		
<p>4) If C3 was not applicable:</p> <p>a) Are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? Or</p> <p>b) If the Facility is unable to meet the fish passage standards in 4.a, has the Applicant either i) demonstrated, and obtained a letter from the U.S. Fish and Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource, or ii) committed to the provision of fish passage measures in the future and obtained a letter from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service indicating that passage measures are not currently warranted?</p>		
<p>5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for</p>	<p>YES = Go to C6</p>	

upstream and/or downstream passage of <i>Riverine</i> fish?		
6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?	YES = Pass Go to D	
D. Watershed Protection	PASS	FAIL
1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline?	YES = Pass Go to E and receive 3 extra years of certification	
2) Has the Facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1, and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?	YES = Pass Go to E and receive 3 extra years of certification	
3) Has the Facility owner/operator established through a settlement agreement with appropriate stakeholders, with state and federal resource agencies agreement, an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation)?		
4) Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project?		

E. Threatened and Endangered Species Protection	PASS	FAIL
1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?	YES = Go to E2	
2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?	YES = Go to E3	
3) If the Facility has received authorization to incidentally <i>Take</i> a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authorization pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authorization?	Not applicable, Go to E5	
4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that: a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or c) There is no recovery plan for the threatened or endangered species		

under active development by the relevant Resource Agency? Or d) The recovery plan under active development will have no material effect on the Facility's operations?		
5) If E.2 and E.3 are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?	YES = Pass Go to F	
F. Cultural Resource Protection	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?	YES = Pass Go to G	
2) If not FERC-regulated, does the Facility owner/operator have in place (and is in Compliance with) a plan for the protection, mitigation or enhancement of impacts to Cultural Resources approved by the relevant state or federal agency or <i>Native American Tribe</i> , or a letter from a senior officer of the relevant agency or Tribe that no plan is needed because Cultural Resources are not negatively affected by the Facility?		
G. Recreation	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?	YES = Go to G3	
2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?		

3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?	YES = Pass Go to H	
H. Facilities Recommended for Removal	PASS	FAIL
1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	NO = Pass, Facility is Low Impact	