

Engineering Topics for Loan Recipients

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DEPARTMENT OF
ECOLOGY
State of Washington

Welcome to Ecology's Water Quality Funding Recipient Training

Today's Session will be Recorded.

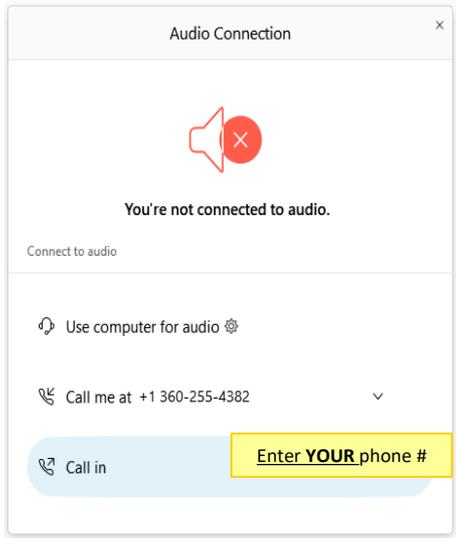
Technical Problems?

Can't hear the Panelists?

Try an alternate audio connection.

1) Move your cursor to the bottom of the Web-Ex and select the  icon. If you don't see the phone icon, click  to reveal additional icons.

2) Next, choose an audio option.



A. Use computer for audio

B. Call me at (enter your phone number)

- WebEx calls you. You listen through your phone

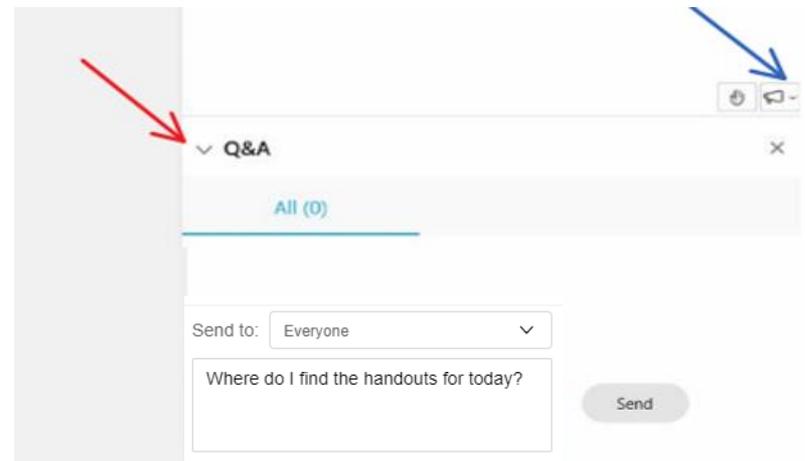
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Use the  to provide feedback to the panelists.



To communicate with the Web-Ex meeting host, open and use the Chat Box.





Who is in the audience?

Brief Introductions

- Who are you?
- What borrower do you represent?
- One Sentence about the project.



Agenda

Requirements of the loan that pass through to either the design engineer or to the construction contractor.

- Procurement
- Project Timelines
- Borrower Requirements
- Pre-construction Meeting
- American Iron and Steel





Requirements relating to Engineering

Procurement

- Follow State Procurement laws.
 - Consulting Engineers
 - Low bid construction
 - GCCM
 - Small Works Roster
 - Equipment
- Include Spec Insert in the contracts.
- Upload a copy of the contract.
- Work by utility staff?



Timelines

- January 2021: loan executed.
- April 2021: Project work must have started.
- Combined Design and Construct (Step-4) Projects:
 - One year from the date the loan is executed - Design must be complete.
 -



Project Close Out

- Declaration of Construction Completion (WAC 173-240-090).
 - Completed by Engineer in responsible charge of inspection
- Initiation of Operation / Completion date.
 - Date the project is operational.
 - Tied to repayment of loan.



Requirements for the Borrower

Signing Loan

- Cost Effectiveness Certification
- Asset Management Certification
- Opinion of Legal Council
- Ordinance or Resolution

Condition of Loan

- Implement the Asset Management Program
- Construction Quality Assurance
- Utility Energy Review



Cost Effectiveness

- Borrower must certify that the project is a Cost Effective use of resources
- Certification form in EAGL.
- Must complete certification before loan can be signed.



Asset Management

- Borrower must certify that they have (or will) implement asset management at the utility.
- Certification form in EAGL.
- Must complete certification before loan can be signed.
- Technical Assistance is available.



Utility Energy Audits

- Borrowers must review their utility energy use looking for cost effective energy saving measures.
- Third Party Review:
 - Power Utility
 - ESCO
- Reviews in the past 5 years are OK.
- Upload documentation in EAGL.



Pre Construction Meeting

- Invite the Ecology project Manager to the pre-con meeting.
- Requirements on the contractor:
 - Signage
 - Davis Bacon Wages
 - Inadvertent discovery plan
 - American Iron and Steel



Construction Quality Assurance Plan (WAC 173-240-075)

How will “adequate and competent construction inspection will be provided”?

- a) Construction schedule, including phasing.
- b) Construction management organization, lines of communication, and responsibility.
- c) Quality control testing.
- d) The change order process. Who will initiate, review, negotiate, and approve change orders?
- e) Record keeping for as-built drawings, field orders, and change orders
- f) Site inspection program.





American Iron and Steel

The AIS requirement

“No SRF funds shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.”



What products are covered?

- Is the product a listed product?
- Is the product primarily of Iron or Steel?
- Is the product permanently incorporated into the project?
 - Any NO: Not an “Iron and Steel Product”
 - Three YES: This is an “Iron and Steel Product”. The product must be produced in the United States or be covered by a waiver.



Listed Products

1. Lined or unlined pipes or fittings;
2. Manhole Covers;
3. Municipal Castings;
4. Hydrants;
5. Tanks;
6. Flanges;
7. Pipe clamps and restraints;
8. Valves;
9. Structural steel;
10. Reinforced precast concrete; and
11. Construction materials.



Municipal Castings

- Cast iron or steel products
- melted and cast
- typically provide access, protection, or housing for components



Examples: municipal castings

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;
- Meter Boxes;
- Service Boxes;
- Steel Hinged Hatches, Square and Rectangular;
- Steel Riser Rings;
- Trash receptacles;
- Tree Grates;
- Tree Guards;
- Trench Grates; and
- Valve Boxes, Covers and Risers.



Reinforced precast concrete

- Includes Pre-stressed Concrete Pipe
- The casting of the concrete product must take place in the US.
- The reinforcing bar and wire must be produced in the US
- The cement and other raw materials not required to be from the US.



Examples: construction materials

- wire rod,
- bar, angles,
- concrete reinforcing bar,
- wire,
- wire cloth,
- wire rope and cables,
- tubing,
- framing,
- joists,
- trusses,
- fasteners (i.e., nuts and bolts),
- welding rods,
- decking,
- grating,
- railings,
- stairs,
- access ramps,
- fire escapes,
- ladders,
- wall panels,
- dome structures,
- roofing,
- ductwork,
- surface drains,
- cable hanging systems,
- manhole steps,
- fencing and fence tubing,
- guardrails,
- doors, and
- stationary screens.



NOT Construction materials

- Mechanical and Electrical components.
pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.



Documenting Compliance

- Set up two tracking spreadsheets
 - Track Every Specification Section
 - Is this for an “Iron and Steel Product”?
 - Did the manufacturer certify it is domestic?
 - You must have a certification from the manufacturer for every “Iron, Steel, and precast Product”
 - Track de minimis items.
 - National de minimis waiver

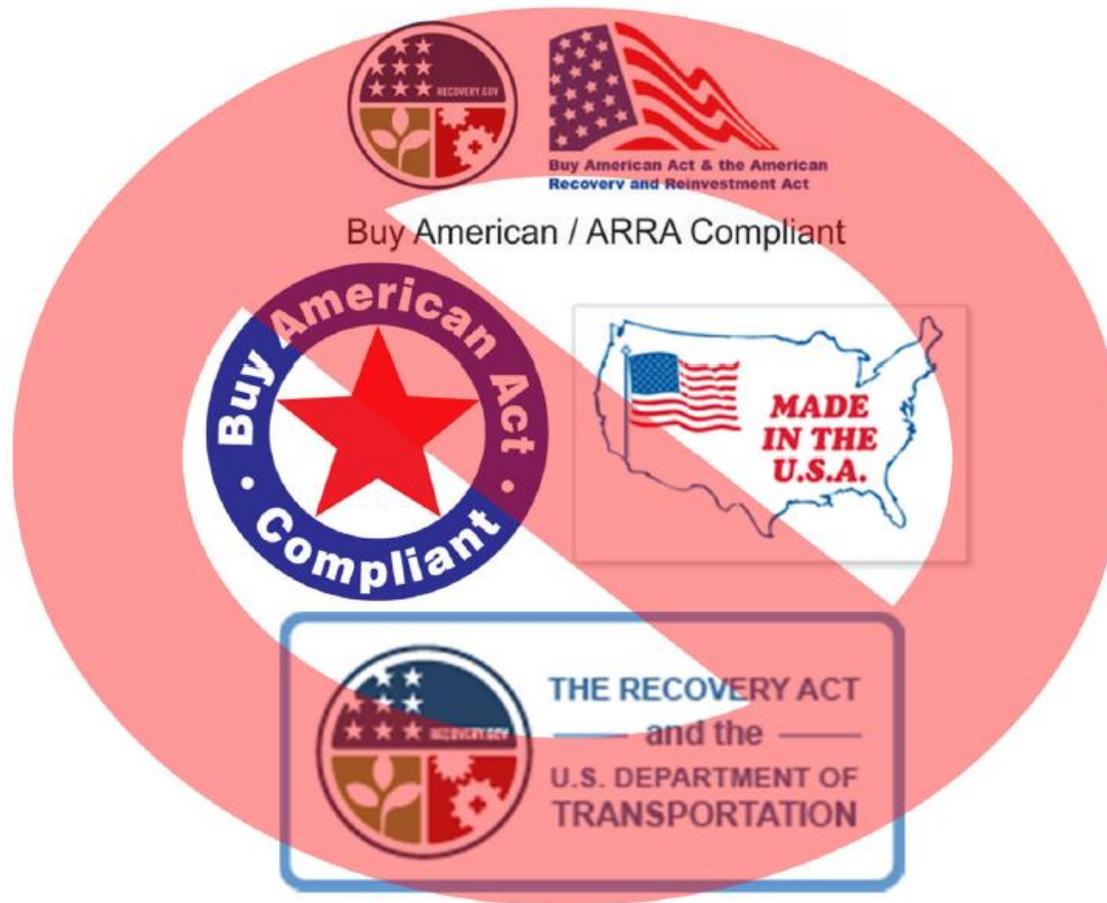


Certification letters include:

1. From the Manufacturer, on manufacturer letterhead.
2. Reference this project.
3. List Specific Products.
4. Location of manufacturing.
5. List manufacturing steps.
6. Reference to AIS requirements.
7. Signature of a company representative.



Other “Buy American” or “Made in the U.S.A.” certifications are not adequate.



Example Letters

Appendix 5: Sample Certifications

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative



Certification Letters Examples



311 and 313 Ductile Iron Service Saddle

Product Specifications

TaperSeal Gasket:
Nitrile (Buna-N), NSF 61 listed, compounded to resist natural gas, water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids and many chemicals.
Temperature Range: -20°F to +180°F

Body:
Ductile iron per ASTM A536.

Finish:
Fusion bonded Flexi-Coat epoxy.

Nuts:
Cold formed, semi-finished, heavy hex steel A563, electro-galvanized with di-chromate seal per ASTM B633.

Washers:
Carbon steel per ASTM A108, electro-galvanized with di-chromate seal per ASTM B633.

Option: Bales, nuts and washers 304 Stainless Steel. Nuts fluoropolymer coated.

Bales:
Carbon steel per ASTM A108 (C1018), electro-galvanized with di-chromate seal per ASTM B633.

Features:

- Certified to NSF/ANSI 61-G.
- Meets applicable AWWA C800 Standards.
- The saddle body provides stability on the pipe.
- The gasket is fully cemented in a cavity to hold it in place.
- NPT, AWWA and other threaded outlets available in sizes 5/8" thru 4".
- The gasket's TaperSeal hydro-mechanical lip enables the saddle to hold high pressures with just a few pounds of torque.
- At recommended torque, the saddle will exceed the working pressure of most standard pipes.
- A closed lug on one side, combined with the bale or strap, acts as a hinge for easier installation.
- Provides maximum support of the pipe for better performance in the tapped area - nearly 360°.

MARIO BROS., INC.

APPROVED	APPROVED AS NOTED	RETURNED FOR CORRECTIONS	NOT ACCEPTABLE
X			

DATE: 4/13/15

AIS elements:

- Project reference
- Specific list of products
- Location of manufacturing (city and state)
- Signature of a company representative
- AIS reference

Saddle Number	Size	Working Pressure
311	1" - 12" Nominal	Up to 300 PSI
313	1 1/4" - 18" Nominal	Up to 300 PSI

Certification Letters Examples

January 1, 2015

Made in America

Manufacturer's Certification

This certification applies to the following products that have been manufactured in the United States, at Tatoonie Iron Co., located at Mos Eisley, AZ:

- Rigid Stainless Steel Conduit, Nipples, Elbows, and Couplings

It is hereby certified that the above referenced product:

1. Meets the provisions of the American Recovery and Reinvestment Act (ARRA)
2. Meets or exceeds the UL 6A Standard for Electrical Rigid Metal Conduit -Aluminum, Bronze, and Stainless Steel requirements and are listed with the Underwriters Laboratories, File #E337297
3. Meets or exceeds the American National Standard Institute (ANSI) C80.S Standard
4. Meets or exceeds Federal Specification WW.C.540c
5. Meets or exceeds ASTM Specification 8221
6. Meets or exceeds CSA Standard C22.2 No. 45.2

Under penalty of perjury, I declare that I have examined this certification statement, and to the best of my knowledge and belief, the facts presented are true, correct and complete.

All the best,



Jurgen Murano
President & CEO
Tatoonie Iron Co.

AIS elements:

- Project reference
- Specific list of products
- Location of manufacturing (city and state)
- Signature of a company representative
- AIS reference

Certification Letters Examples



MINAS MORGUL

Minas Morgul Steel, Inc.
1245 Barad Dur Ave.
Mordor, Middle Earth
+1 555 867 5309

Material Certification

August 29, 2017
Gondor Supply Co.
3477 One Ring Ln.
Fort Tirth, IA 50501

RE: Job Name: Saruman Contracting
Project#: Hobbiton Water Treatment Plant, The Shire, WY
Order Type: Submittal

<u>QUANTITY</u>	<u>DESCRIPTION</u>
30	8550350 66-S VLV BOX 26T 30B 1.5 WTR

Dear Valued Partner:

We hereby certify that the iron used to make the construction castings manufactured by MMS for the above referenced project is in full compliance with ASTM A48, Class 35B and AASHTO M105 for gray iron castings and ASTM A536, Grade 70-50-05 for ductile iron castings. Thank you for specifying and using products manufactured by Minas Morgul Steel, Inc.

The above listed castings are melted and manufactured 100% in the United States of America at our foundries in Moria, OK and Isengard, MI. These castings comply with the applicable provisions of the Code of Federal Regulations 23 CFR 635.410 BUY AMERICA Requirements.

We also certify that the above listed products supplied to the subject project are in full compliance with the American Iron and Steel (AIS) requirement as mandated in EPA's State Revolving Fund Programs.

Meriadoc Brandybuck

Product Quality Manager
Minas Morgul Steel, Inc.

AIS elements:

- Project reference
- Specific list of products
- Location of manufacturing (city and state)
- Signature of a company representative
- AIS reference

Strategies for Compliance

- Design
 - Verify domestic products
 - Communicate issues early
- Coordinate with your contractor
 - Expect the letters with their submittals
 - Explain proper certification letters
 - Pre-bid and pre-construction conferences
 - Clear, consistent communication
- Waivers
 - Verify you need a waiver
 - de minimis
 - Product Based (availability, public interest, cost)



de minimis waiver

- National de minimis waiver issued 4/15/2014.
- You must documentation of all items you intend to cover with the de minimis wavier.
- You may allow a small amount unknown or non-domestic origin materials.
 - Up to 5% of the total material cost
 - Maximum 1% for any single item.
 - De minimis items must be “incidental to the project purpose”
- You will need to document the material cost of the project.
- You do not need “permission” to include items under the de minimis waiver.
- Feel free to contact Ecology to discuss.



Product Specific Waivers

- Waivers are available if:
 - a product is not available from domestic sources in sufficient quantity or sufficient quality.
- Every product needs an individual waiver.
- Waivers are granted by EPA.
- I will help you prepare your waiver request.
- If you think you need a waiver, contact us so we can get started.



What to expect during site visits

American Iron and Steel (AIS)

- Recipient maintains records for Iron and Steel products?
- Spot check of Certifications for completeness and adequacy.
 1. the name of the manufacturer,
 2. what product(s) they are certifying,
 3. what manufacturing processes they were responsible for,
 4. the location of the manufacturing facility, and
 5. a signature of a manufacturer's responsible party.
- Recipient cross checks received equipment against the certifications to ensure compliance
- Recipient reviews change orders for AIS requirements
- Recipient documentation of *de minimis* Iron and Steel products
 - Listing of all *de minimis* products and their material cost.
 - Documentation of the total material cost for the project.
 - Total cost of the *de minimis* items is less than 5% of the total materials cost.
- Has the Recipient had any difficulty finding domestic providers for Iron and Steel products?
- Offer the Recipient assistance with a waiver for any Iron and Steel products.





Discussion and Questions?