



Waste Treatment Plant Project



2016 Supply Chain Collaboration Event

Engineering Submittals Process Overview

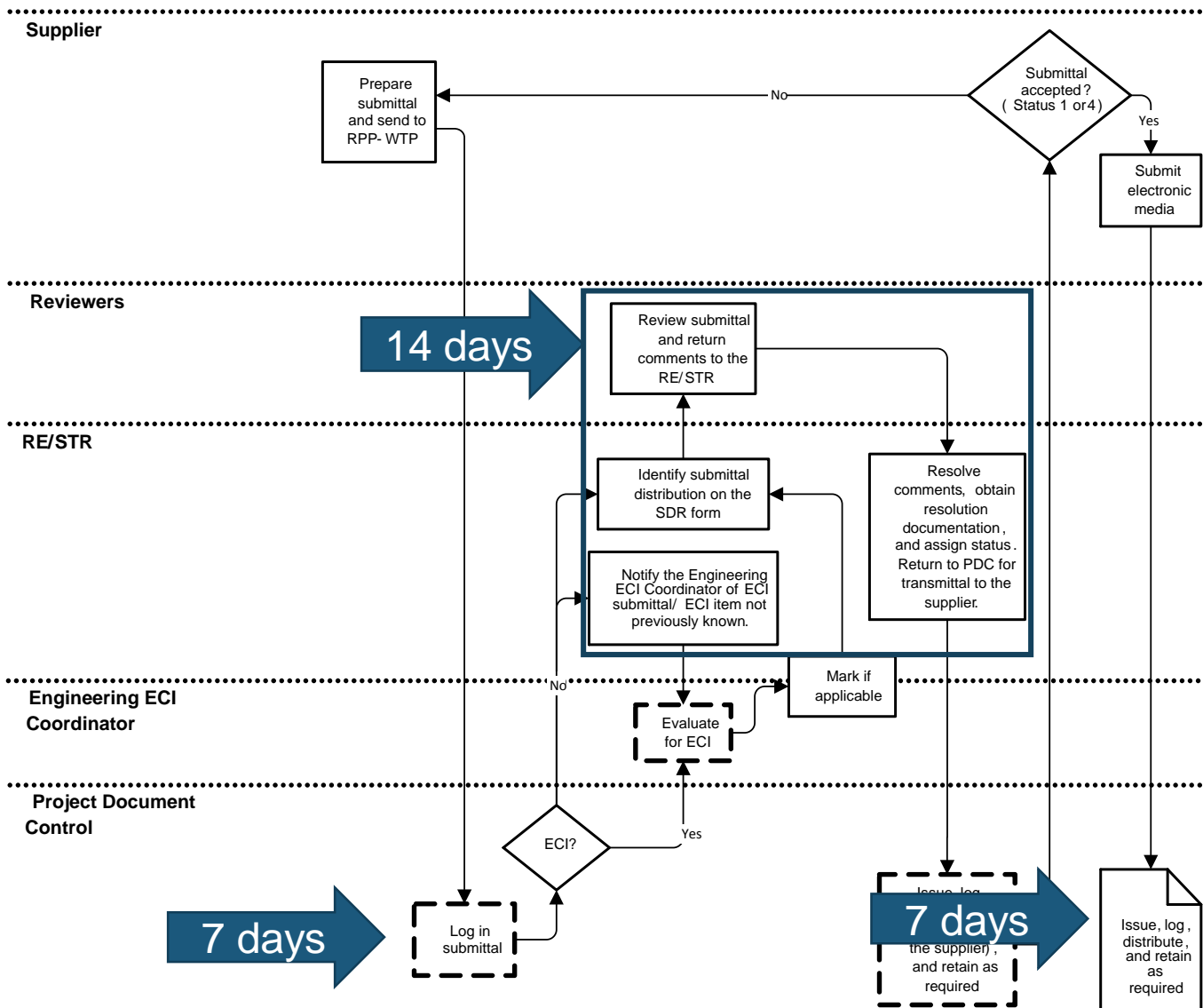
Scope and Purpose

- Purpose:
 - Collaborate with suppliers with identify issues in regards to supplier submittals
 - Provide overview of internal BNI supplier submittal review process
 - Highlight why the WTP project is different than others
 - Identify recommendations for improvement

Leadership Covenants

- Treat colleagues with mutual respect, trust, and dignity and believe they are acting in the best interest of the company.
- Help each other; ask for and give help and welcome it freely (it is not a sign of weakness). Go out of the way to provide extra support to fellow employees. Share experiences and lessons learned, both successes and failures.
- Communicate early, honestly, and completely with all who have a direct interest in the subject. Listen to others' points of view.
- Earn trust by accepting and honoring agreements, keeping promises, and discussing needed changes before acting.
- Never undermine colleagues directly or indirectly.
- Work jointly to resolve disagreements in good faith.
- Contribute constructively by exercising the highest level of professional and ethical behavior.

BNI Internal Supplier Submittal Review Process



BNI Internal Supplier Submittal Review Process

- Supplier Document Review Matrix
- Submittals reviewed by internal Engineering disciplines and External disciplines.
- Can have as many as 11 or 12 reviewers.
- Certain document categories are longer to review.

7.0 Seismic Calculations

33.0 CGD



2.3 Matrix

Instructions:

- Distribute for review in accordance with NOTE conditions (e.g. Note 9, if not MHI or remote handling related, review is not required).
- Matrix identifies minimum required reviewers for initial G-321-E supplier submittals. Any disciplines or other project organizations that are affected, regardless of indicated, are also required reviewers.
- Reviews of subsequent submittal revisions are based upon an evaluation of the effect/impact of the changes on the previously reviewed organizations as well as other project organizations. It is recommended as a courtesy that if a previously reviewed discipline is not impacted, send as "info only". At the discretion of the required reviewer, a "No review required" or equivalent response is acceptable, however this response does not indicate waiver of required review for subsequent revisions.
- Lettered sub-notes (e.g. 1) identify the source of the requirement located in "Basic" below.

Disc. Cat. Num.	DESCRIPTION (See NOTE 30)	Internal											External															
		GENL. CONTRACTOR	MECHANICAL	ELECTRICAL	PLUMBING	PAVING	CONCRETE	STEEL	WOOD	GLASS	INSULATION	FINISHES	LANDSCAPE	TRUCK	HAULING	WATER	SEWER	TELEPHONE	TELEVISION	INTERNET	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	
1.0	SUPPLIER'S INDEX / CHECKLIST (FORM 1) & EXCERPTS																											
1.1	OUTLINE DIMENSIONS, SERVICES, FOUNDATIONS AND ANCHORAGE DETAILS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1.2	ASSEMBLY DRAWINGS (NOTE 22)																											
1.3	SHOP GENERAL DRAWINGS (NOTE 22)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1.4	WIRING DIAGRAMS																											
1.5	CONTROL LOGIC DIAGRAMS																											
1.6	Piping and INSTRUMENTATION Schematics	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2.0	PARTS LIST AND COST																											
3.0	COMPLETED RECEPT DATA SHEETS AND SPECIFICATIONS																											
4.1	ERECTION / INSTALLATION INSTRUCTIONS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
4.2	OPERATING INSTRUCTIONS (NOTE 23)																											
4.3	MAINTENANCE INSTRUCTIONS (NOTE 23)																											
4.4	SITE STORAGE AND HANDLING INSTRUCTIONS (NOTE 23)																											
4.5	EMERGENCY MANUALS																											
4.6	TRAINING MATERIALS																											
5.0	SCHEDULES: ENGINEERING AND FABRICATION / ERECTION QUANTITY REQUIREMENTS MANUALS PROCEDURES (NOTE 24)																											
6.0	INSPECTION AND TEST PLAN																											
7.0	SEISMIC CALCULATION DOCUMENTS (NOTE 25)																											
8.0	ANALYSIS, CALCULATION AND DESIGN REPORT																											
9.0	ASSEMBLY DRAWING																											
10.0	SHAPES																											
10.1	TYPICAL QUALITY VERIFICATION SCHEDULES																											
10.2	TYPICAL MATERIAL USED																											
11.0	MATERIAL DESCRIPTION																											
12.0	WELDING PROCEDURES AND QUALIFICATIONS																											
13.0	MATERIAL CONTROL PROCEDURES																											
14.0	REPAIR PROCEDURES																											
15.0	CLEANING AND FINISHING PROCEDURES																											
16.0	HEAT TREATMENT PROCEDURES																											
19.0	UT - ULTRASONIC EXAMINATION PROCEDURES																											
20.0	RT - RADIOGRAPHIC EXAMINATION PROCEDURES																											
20.1	RT TECH - RADIOGRAPHIC FILM WITH TECHNIQUE AND READER SHEETS (NOTE 25)																											
21.0	MT - MAGNETIC PARTICLE EXAMINATION PROCEDURES																											
22.0	PT - LIQUID PENETRANT EXAMINATION PROCEDURES																											
23.0	EDDY CURRENT EXAMINATION PROCEDURES																											
24.0	PRESSURE TEST - HYDRO, AIR, LEAK, BUBBLE OR LOGICAL TEST PROCEDURE																											
25.0	INSPECTION PROCEDURES																											
26.1	MECHANICAL TEST PROCEDURE																											
26.2	ELECTRICAL TEST PROCEDURE																											
27.0	PROOFING TEST MARKET																											
28.0	PERSONNEL QUALIFICATION PROCEDURES																											
29.0	SUPPLIER SHIPPING PREPARATION PROCEDURE																											
29.1	SUPPLIER TRANSPORT AND LIFTING DRAWINGS																											
30.0	SUPPLIER QUALITY INSPECTION REQUEST (NOTE 26)																											
31.0	POSSIBLE MATERIAL IDENTIFICATION PROCEDURE																											
32.0	SOFTWARE DOCUMENTATION (NOTE 27)																											
33.0	CONSTRUCTION CHANGE IDENTIFICATION DOCUMENTATION																											
34.0	FACTORY ACCEPTANCE TEST (FAT) ENVIRONMENTAL QUALIFICATION REPORT (NOTE 28)																											
35.0	OTHER DATA (NOTE 28)																											

BNI Technical Reviewer Requirements

- **Supplier Document Request and Review Expectations**
 - Reviewers are to avoid changes to accomplish minor improvements to an already adequate design.
 - The reviewers return submittal comments to the RE, including sufficient basis or reference (for example, specification reference) to demonstrate submittal non-compliance with procurement document requirements, interfacing design, or design criteria.
 - Reviewers know the scope and technical requirements of the MR/SR and associated specifications.
 - Limit review to key features as detailed on the requirement drawings.
 - Internal features of the equipment that are the responsibility of the supplier do not receive comments unless they conflict with specific requirements of the PO. Supplier is the design authority if given that responsibility.
 - Requirements beyond those documented in the PO are not to be transmitted as comments until the PO has been augmented to support the comment.

Why do submittals cycle?

■ BNI Internal Self-Assessment:

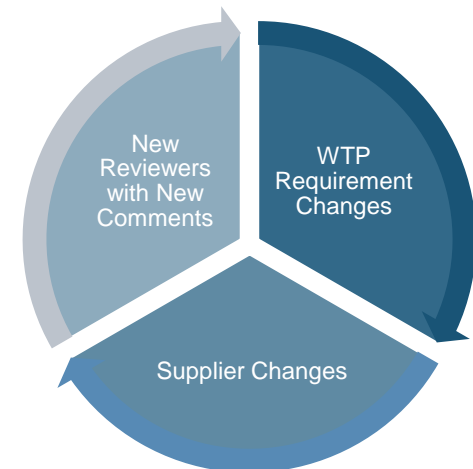
- 36% of submittal revisions due to older orders and WTP changing requirements
- 64% by supplier changes, DCN, ECNs, and SDDRs

■ BNI Factors:

- Changing Requirements
- Out of scope comments
- Different Reviewers for each revision
- Comments not referencing requirements
- Stating minor typographical errors with code 2
- Requirements specific to WTP

■ Supplier Factors:

- Previous comments not incorporated
- Comments not incorporated have no justification identified



Document Category Number Focus: 8.0, Calculations

- Reasons for cycling of these submittals
 - Software V&V and computer platform not identified
 - Assumptions not clearly identified, hidden within the text
 - Assumptions requiring verification not clearly identified
 - Calculations containing copyright/proprietary information

- 24590-ENG-F00049, Supplier Calculation Checklist
 - Required for all calculations (Q and CM, according to a graded approach)
 - Returned to supplier with comments so supplier knows what they are being reviewed against
 - Since implementation, quality of supplier calculations has improved



How Can Suppliers Help

- Know your contract
- Request from the RE the requirement section if not provided
- Notify the RE when comments are deemed out of scope
- If out of scope comments are valid, have upfront discussions about requests for equitable adjustment (REAs)
- Ensure all the comments are incorporated or dispositioned prior to submitting



Upcoming Improvements to Process

- **Electronic submittal review process**
 - Establishes due dates and identifies late actions
 - Due dates will be established based on 28 day review cycle (management expectation)
 - Consolidates and permits all reviewers to see all comments to prevent duplicate comments

- **Specification for CM Design Analysis**
 - Implements NQA-1 on a graded approach for CM orders

- **Specification focusing on submittal “templates” for different DCNs**
 - Establishes expectations for supplier submittals
 - Provides consistency across suppliers that will support reviews



Suggestions for Improvements

- WTP welcomes suggestions for improvements
- If suppliers succeed, WTP succeeds

