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December 20, 1999

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
License Amendment Request (LAR) 99-30, "IFTS Blind Flange"

File Nos.: G9.5, G9.42

RBEXEC-99-042
RBF1-99-0337
RBG-45202

Gentlemen:

In accordance with 10CFR50.90, Entergy Operations, Inc. (EOI) hereby applies for amendment of Facility Operating License No. NPF-47, for River Bend Station (RBS). This request consists of a change to Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," to permit the removal of the inclined fuel transfer system (IFTS) primary containment isolation blind flange while the primary containment is required to be OPERABLE. Such an amendment will permit limited operation of the IFTS during power operations, and enable RBS to test and exercise the system prior to the start of a refueling outage. The proposed change has been developed for implementation several weeks prior to the next refueling outage (RF-09), which is scheduled to begin on March 4, 2000. In order to support the outage schedule, issuance of this amendment is requested by February 14, 2000, with an effective date of February 18, 2000. To facilitate such an expeditious review by the NRC Staff in this regard, EOI has developed this amendment request in the fashion of similar previous requests.

The proposed change was reviewed against the criteria of 10 CFR 50.92, and was determined to not involve a significant hazards consideration. Attachment 1 provides a description of the proposed changes and the associated justification (including the determination of no significant hazards consideration). The commitments contained in this submittal are listed on the Commitment Identification Form, in Attachment 2. Attachment 3 contains marked-up pages reflecting the amendment being requested. The marked-up Technical Specification Bases changes contained in Attachment 4 are for information only, since the Bases are controlled by the Technical Specification Bases Control Program (*see* Technical Specification 5.5.11). Enclosure 1 is an affidavit supporting the facts set forth in this letter and the attachments. This request has been reviewed and approved by the RBS Facility Review Committee and the Safety Review Committee.

EOI has reviewed this request against the criteria of 10CFR51.22 for environmental considerations. As stated above, the proposed change does not involve a significant hazards consideration. Also, the type and amount of effluent released from RBS is not changed. Further, the amount of individual or cumulative

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occupational dose does not increase significantly as a result of this change. Therefore, based on the foregoing, EOI concludes that the proposed change meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

If you have any questions regarding this request or require additional information, please contact Mr. Joseph W. Leavines at 225-381-4642.

Sincerely,

Randall K. Edington

RKE/RJK/BFT

enclosure
attachments (4)

cc:

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ENCLOSURE 1

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPF-47

DOCKET NO. 50-458

IN THE MATTER OF

ENTERGY GULF STATES, INC.

AND

ENTERGY OPERATIONS, INC.

AFFIRMATION

I, Randall K. Edington, state that I am Vice President - Operations of Entergy Operations, Inc. at River Bend Station; that on behalf of Entergy Operations, Inc., I am authorized by Entergy Operations, Inc., to sign and file with the Nuclear Regulatory Commission, this River Bend Station License Amendment Request (LAR) 99-30, "IFTS Blind Flange;" that I signed this letter as Vice President - Operations at River Bend Station of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information, and belief.

Randall K. Edington

STATE OF LOUISIANA
PARISH OF WEST FELICIANA

SUBSCRIBED AND SWORN TO before me, a Notary Public, commissioned in the Parish above named, this 20th day of December, 1999.

(SEAL)

Claudia F. Hurst
Notary Public

ATTACHMENT 1

ENTERGY OPERATIONS, INCORPORATED
RIVER BEND STATION
DOCKET 50-458/LICENSE NO. NPF-47

IFTS BLIND FLANGE
(LAR 1999-30)

LICENSING DOCUMENT INVOLVED

River Bend Station (RBS) Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)."

BACKGROUND

The inclined fuel transfer system (IFTS) is a plant system designed to transport new fuel, irradiated fuel, control rods, and various other items between the upper containment fuel storage pool (the "upper pool") inside of primary containment, and the spent fuel storage pool (the "lower pool") inside the fuel building (outside primary containment). Throughout the operating cycle, a flexible bellows and a blind flange form the primary containment boundary near the upper fuel pool containment penetration. The blind flange must be removed to permit the carriage to travel inside the transfer tube between the upper and lower pools. Since this blind flange forms part of the primary containment boundary, its removal could be considered a breach of primary containment integrity and is currently only permitted when the reactor is in a MODE when the primary containment function is not required. However, as described in the remainder of this submittal, appropriate barriers will remain such that a breach of primary containment will not be a concern.

The IFTS is a complex system that remains idle during normal plant operations, and is only used to support refueling activities. Currently, a complete checkout of the transfer system can not begin until the plant is shutdown for refueling and primary containment operability is not required. At that time, the blind flange can be removed and the system can be operated. Prior to that point, the IFTS will have been maintained in an idle condition for an extended period, e.g., 18 months (between refueling outages). As with any complex and intricately interlocked system that is left idle for an extended period of time, good engineering practice dictates an inspection and exercise of the IFTS components prior to operating them in continuous duty during a refueling outage. Experience during previous outages has indicated that a satisfactory checkout of the entire system, including any subsequent adjustment of sensors or system repairs, can take several days. Other nuclear plants with similar IFTS and Mark III containments have confirmed similar experiences. The duration of the system checkout can create a hardship since this checkout testing can commence only when the blind flange is removed (currently MODE 4 and 5). This has led to IFTS checkout testing becoming a "critical path" activity. During the most recent refueling outage, the first irradiated bundle was not transferred to the lower pool until day 14 of the outage. Removing the blind flange during MODE 1, 2, and 3 will permit performance of a portion of the testing, exercising, and repairs of the IFTS in advance of the start of the outage to avoid such schedule impacts.

System Description of the IFTS

The IFTS (see Figures 1 and 2) is used to transfer fuel, control rods, defective fuel storage containers, and other small items between the containment and the fuel building pools by means of a carriage traveling in a water-filled transfer tube (a 23-in I.D. stainless steel pipe). At the upper end of the IFTS, the transfer tube penetrates primary containment and connects to a sheave box in the upper pool. Connected to the sheave box are a 24-in flap valve, a vent pipe, cable enclosures, and a fill valve. At the bottom end of the IFTS, the transfer tube enters the fuel building and connects to a 24-inch hydraulically-operated gate valve in the lower pool. A bellows connects the building penetration to the valve and transfer tube to prevent water entrapment between the tube and penetration. A 4-in weldolet located on the transfer tube approximately 2 ft above the fuel building pool water level and a motor-operated valve are provided for connections to a drain pipe for water level control in the transfer tube. The drain pipe connects to the IFTS drain tank, located in the fuel building. Two motor operated valves provide isolation of the drain tank.

A containment isolation assembly containing a blind flange and a bellows, which connects from the containment penetration to the assembly, provides containment isolation. A hand-operated 24-in gate valve isolates the upper pool from the transfer tube so the blind flange can be installed. Containment is made by the containment isolation assembly and blind flange, containment bellows, and the steel containment penetration. Special gaskets and double-ply bellows are provided for leak checking to assure containment isolation.

A hydraulically actuated "up-ender" is provided in each pool for rotating part of the carriage – the tilt tube – to the vertical position for loading and unloading, and to the inclined position for transfer. The carriage consists of the tilt tube and a follower connected with a pivot pin, which allows upending of the tilt tube while maintaining the follower in the inclined position. The carriage has rollers and wheels that ride on tracks within both the transfer tube and the up-enders, to assure low friction, correct carriage orientation, and smooth transition across valves and between other components. The tilt tube is designed to accept two different inserts - a fuel bundle insert with a two-bundle capacity, and a control rod insert for control rods, defective fuel storage containers, and other small items.

A winch, located on the refueling floor inside of containment, uses two cables attached to the lower end of the follower for pulling the carriage from the fuel building to the containment, and for controlling the carriage descent velocity. A slow winch speed is provided for starting and stopping the carriage to limit the acceleration on the fuel assemblies. A load cell provides cable underload and overload protection. Carriage position readout is provided. Cable enclosures, attached to the sheave box and projecting above the upper pool water level, provide the means for cable exit from the transfer tube while isolating the pool water from the tube.

A vent pipe with a fluid stop connected to the containment ventilation system isolates the displaced air in the tube during filling from the reactor building atmosphere and confines the water surge to the pool water.

In both buildings, the transfer system components reside in a separate pool area. This pool area is physically separated from the fuel storage area by a concrete wall, which serves as a positive barrier to prevent fuel in the storage area from being uncovered in the event of loss of pool water through the transfer system. In addition, these walls are provided with gates to allow drainage of the transfer pool areas for maintenance and/or removal of the transfer tube and components.

Control panels are provided in close proximity to each transfer pool area and are connected for voice and interlock communication. Each panel has control buttons for actuating the up-ender, a button for initiating the transfer sequence to the other building, and a stop button. The transfer operation functions on an automatic basis with provision made for manual override. Automatic sequencing is accomplished by use of an electronic controller located in the fuel building, utilizing sensors for confirming the successful completion of each step before initiating the next step. The completion of a transfer sequence is signaled at the control panels.

The inclined fuel transfer control system is operated on a semiautomatic basis. Safety interlocks prevent opening the transfer tube bottom valve when the flap valve is open, and vice versa, to prevent drainage of the upper pool to the lower pool. The function of this interlock has been successful at RBS. (Note that the water in the upper pool does not have a role in any accident analysis, e.g., River Bend has no "upper pool dump.") The interlock control system has dual channel logic, which provides a backup sensor for each required sensor and provides the redundancy necessary for the system to function safely. The failure of a channel to perform its intended function causes an alarm, which identifies the failed channel.

DESCRIPTION OF PROPOSED CHANGE

The proposed change contained in this license amendment request is a change to Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," to allow the IFTS primary containment isolation blind flange to be removed during MODE 1, 2, or 3. With the blind flange removed and certain restrictions and administrative controls in place, the IFTS penetration does not represent an uncontrolled breach of the containment boundary. This approach is similar to the existing NOTE 3 in SR 3.6.1.3.3, which allows for PCIVs to be open under administrative controls. By ensuring a sufficient depth of water in the lower pool, crediting the realistic ability of the bottom valve to provide containment isolation, and ensuring the IFTS transfer tube drain line can be isolated under all accident conditions, the IFTS containment penetration blind flange may remain open. The containment isolation function continues to be provided through these additional controls. Hence, Surveillance Requirement (SR) 3.6.1.3.3 is proposed to be modified. The SR currently reads, "Verify each primary containment isolation … blind flange that is … required to be closed during accident conditions is closed." A new NOTE 4 is proposed to be inserted, as follows:

> "Not required to be met for the Inclined Fuel Transfer System (IFTS) penetration when the associated primary containment blind flange is removed, provided that the Fuel Handling Building Fuel Transfer Pool water level is maintained greater than 23 feet above the top of the fuel, and the IFTS transfer tube drain valve and bottom gate valve remains closed. The IFTS transfer tube drain valve may be opened under administrative controls."

Additionally, a paragraph will be inserted into the Bases for SR 3.6.1.3.3 to explain the justification for the additional note. The proposed paragraph is included in Attachment 4 for information only, since Bases changes are processed per the Technical Specification Bases Control Program (Technical Specification 5.5.11).

JUSTIFICATION FOR PROPOSED CHANGE

The primary function for the containment is to maintain its integrity following accident conditions, including a design basis loss of coolant accident (LOCA) within the structure while also accommodating the dynamic effects of the pipe break coincident with a safe shutdown earthquake and a loss of offsite power (see USAR Section 6.2). With the IFTS blind flange removed, certain components of the IFTS will act as the primary containment boundary. Regarding a postulated design basis LOCA. However, the additional post-accident peak pressure load to be imposed upon the components in the IFTS if the blind flange is removed is a small fraction of their design capability. Thus the design margin of these components is more than adequate, and is not a concern. Even though only a portion of the IFTS at the containment penetration point was designed and built to the newer standards for a primary containment boundary (ASME Section III, Class 2), the remainder of the tube and its drain line piping is nonetheless specified and built to withstand the rigors of a commercial nuclear application (B31.1). This transfer system is reliable to permit safe movement of spent fuel bundles from containment into the fuel building. (NOTE: This proposed change does not include allowances for the IFTS to handle spent fuel bundles during periods when the plant is in MODE 1, 2, or 3.)

EOI performed numerous evaluations in order to substantiate the adequacy of the IFTS when performing its role as a containment boundary. The results of the evaluations are presented below, in individual subsections.

Evaluation of IFTS Piping

Removal of the IFTS tube blind flange during plant operation creates a potential for exposure on components below the flange to containment accident environmental conditions. These components, specifically, the IFTS tube, drain line and the wall penetrations, have been evaluated for the increase in pressures and temperatures. The evaluations consider a bounding pressure of 55 psig and a temperature of 285°F, corresponding to severe accident scenarios which envelope the containment design parameters of 15 psig pressure and 185°F temperature.

Pressure integrity of these components is assured by maintaining the stresses below the code allowables, under all anticipated loadings, including seismic and hydrodynamic loads under all plant operating conditions and the severe accident condition specified above. Each potentially affected component is discussed below.

IFTS Transfer Tube Wall Penetrations

Each wall penetration consists of sleeve that is anchored to the wall. The IFTS tube passes through the penetration sleeves and is attached to the sleeves through flexible bellows assemblies. As a result, the penetrations do not directly experience additional increases in pressures and temperatures. However, the higher temperature in the IFTS tube below the blind flange location would result in larger thermal expansion, which could affect the loads transmitted to the wall penetrations through the flexible bellows. The calculated thermal expansion values resulting from the increase in temperature on the IFTS tube are bounded by the 1-1/2" displacement used in the original design. The 1-1/2" displacement corresponds to movement imposed on penetration bellows by the IFTS tube during installation and removal of the blind flange. Therefore, the IFTS penetrations will maintain pressure integrity following removal of the blind flange.

IFTS Transfer Tube

Since the IFTS tube is restrained at one end (top) and free to expand thermally in the axial direction, the potential change in temperature as a result of removal of the blind flange will not produce an increase in temperature-induced stress. The existing IFTS tube qualification includes anticipated loadings, including seismic and hydrodynamic effects. The effect of an increase in pressure was addressed by adding the increase in pressure stress to the calculated stress values. The revised stresses were determined to be within the ASME/ANSI code limits.

IFTS Transfer Tube Drain Line

The drain line is classified as non-safety related; the piping is designed to the requirements of ASME Section III, but is installed to B31.1. In order to ensure pressure integrity following removal of the blind flange, the piping and associated supports have been qualified for increased pressure and temperature. In addition, the effects of seismic and hydrodynamic loading have been included. Structural modifications as a result of the increase in load, including additional pipe supports as needed, will be incorporated in the field prior to removal of the blind flange during power operation.

Furthermore, the transfer tube bottom gate valve (F42-F004) and the transfer tube drain line isolation valve (F42-F003) design specifications were reviewed. At a temperature of 185°F, the gate valve has a rated pressure of 500 psig. At the same temperature, the drain line valve has a rated pressure of 150 psig. Each of these valves is sufficient to withstand the pressures developed following a postulated design basis accident, and have a pressure capability greater than that of the containment design pressure of 15 psig. Calculations that coincide with the piping evaluations will be completed prior to implementation of the amendment.

Evaluation of IFTS Transfer Tube Seal

In order to maintain the containment function during periods of power operation with the IFTS blind flange removed, the transfer tube will be required to prevent release of containment atmosphere during post-accident conditions. The IFTS transfer tube itself has the potential to be a large release path. However, an inherent design feature of the tube allows the blind flange to be removed without jeopardizing containment integrity following a large break LOCA. The transfer tube is continually submerged in the water of the fuel building spent fuel storage pool (the lower pool). The potential for a water seal to exist was evaluated. (For the purposes of obtaining equivalent water pressure, the density of the water at a conservative 212°F was used in the calculations.)

Water Seal of IFTS Transfer Tube during a Large Break LOCA

An evaluation was performed to determine if the water depth was adequate to withstand post-LOCA peak containment pressures. If the outlet of the transfer tube in the fuel building were to have a submergence depth equating to a water pressure greater than the peak calculated post-LOCA containment pressure, then there would be no direct communication between the containment atmosphere and the fuel building through the transfer tube. The conservatively calculated peak containment pressure as the result of a postulated design basis LOCA is 7.6 psig (see USAR Section 6.2), which is equivalent to approximately 18.3 feet of water. The proposed Technical Specification value for the fuel building spent fuel storage pool water level, at all times when the blind flange is removed during MODE 1, 2, or 3, is 23 feet above the top of fuel, or an elevation of 108'-4" above sea level. (see table 1, below). This elevation provides 21.48 feet of submergence down to the elevation of the transfer tube bottom valve outlet (el. 86.853 ft). This is approximately 3 feet more than is necessary to address the scenario presented above for the peak post-DBA LOCA containment pressure. This is more than adequate for leakage pathway protection for the transfer tube.

The normal water level in this pool is even higher; it is maintained between approximately 26'-9" and 27'-4" above the top of fuel. The water level can be monitored to verify that the proposed Technical Specification minimum water level is maintained, which in turn ensures that more than the necessary water submergence is maintained over the bottom valve. Safety-related instruments provide annunciation in the control room for monitoring spent fuel storage pool level, which alarm at approximately 26'-9". This allows detection prior to reaching the Technical Specification value. In addition, operators on their plant rounds or individuals involved in the operation of IFTS would detect pool leakage down to the Technical Specification value (more than 3.5 feet below the normal pool level). Administrative controls will ensure that the gate is open between the spent fuel storage pool and the region of the lower pool where the IFTS tube terminates. This will ensure that the safety-related level instruments in the spent fuel storage pool reflect the water level in the IFTS transfer pool. Even though the IFTS transfer pool has its own level indication, it is not safety related. Administrative controls will also ensure the gate is open between the spent fuel storage pool and the spent fuel cask pool. This will maximize the water inventory available above the IFTS transfer tube gate valve outlet.

Thus, the water seal created by the water in the lower pool is sufficient to protect against a containment breach in the event of a postulated design basis large break LOCA. This protection is provided without any credit for closure of the gate valve in the lower end of the transfer tube.

Table 1 - Elevations

	Elevation (Sea Level Reference)	Elevation (Top of Fuel Reference)	Difference (Delta) from Proposed Technical Specification Limit
Normal water level (a range)	112'-1" to 112'-8"	26'-9" to 27'-4"	+ 3'-9" to +4'-4"
Low level alarm setpoint	112'-1"	26'-9"	+ 3'-9"
Proposed Technical Specification limit	108'-4"	23'-0"	Same
Outlet of bottom valve in IFTS tube	~86'-10 ¼"	~1'-6 ¼"	- 21'-5 ¾" (1)
Top of fuel	85'-4"	0'-0"	- 23'-0"

NOTE (1) – This value is the amount of water coverage over the bottom valve up to the proposed Technical Specification limit. This as approximately 3'-2" more water than necessary to counteract the peak post-DBA pressure (7.6 psig – 18.3' of water)

The large break LOCA was used for evaluating the peak containment pressure in the preceding section since its radiological effects have the greatest potential for offsite releases, in the event the IFTS transfer tube can not maintain containment integrity. Other scenarios exist, however, in which the peak containment pressure is greater than the 7.6 psig assumed in the large break LOCA analysis. One such scenario is the small break LOCA. During a small break LOCA, the containment-to-annulus differential pressure peaks at 14.8 psid. (Remember that the annulus is maintained at a negative pressure, so the gauge pressure will be slightly lower.) Even with the revised decay heat model used for the power uprate process, the peak differential pressure remains several psi greater than the LBLOCA analysis results. However, the following discussion explains why the SBLOCA need not be considered for this amendment.

Exclusion of Small Break LOCA from IFTS Tube Water Seal

This scenario includes containment pressures resulting from a SBLOCA with a maximum steam bypass of the suppression pool. NRC documents describe containment design relating to steam bypass as a capability, as in Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," Section 6.2.1.1, Item 3.c, which states that the SAR will "Provide the results of the capability *(underline added)* of the containment to tolerate direct steam bypass of the suppression pool for the spectrum of break sizes." NUREG 0800, "Standard Review Plan", Section 6.2.1.1.C, Item I.5 includes a similar statement.

Previous submittals by licensees for removal of the IFTS blind flange used P_a (the peak calculated containment pressure) rather than a pressure related to their steam bypass analysis. Both the Perry Nuclear Power Plant and the Clinton Power Station licensees have USAR analyses showing bypass capability involving pressures approaching the design pressure of 15 psig. Both submittals, however, are based on P_a (the value of the peak calculated containment pressure calculated at worst case Technical Specification conditions) as the pressure against which the removal of the blind flange must be evaluated. The NRC reviewed and approved both of these submittals.

It should be noted that there are a number of factors that suggest even consideration of the conservative assumptions associated with steam bypass capability would not result in any significant loss of containment integrity. These factors include

a) As described in USAR 6.2.1.1.3.4, a small break LOCA in which the reactor remains pressurized longer is the worst case for steam bypass considerations. However as described in USAR 6.2.1.1.3.1.7.3, this type of accident results in a scram from high drywell pressure followed by "an orderly shutdown using the RHR heat exchangers and the main condenser while limiting the reactor cooldown rate to 100 deg F per hour." In this milder LOCA, it is reasonable to assume that fuel failure, if it even occurs, is significantly less than that assumed consistent with RG 1.3 for the DBA LOCA, and subsequent radioactivity levels inside containment are much less severe than those that must be assumed for the design basis event. Since any leakage that might escape containment would be filtered prior to release from the fuel building, the existing analysis results documented in the SAR for offsite doses, based on the large break LOCA, would not be approached.

b) Technical Specification 3.6.5.1.3 requires a drywell bypass leakage less than the acceptable design value of 1.0 ft^2. In order to conservatively allow for degradation during the surveillance interval, the Technical Specification requires as-left leakage (prior to startup) to be no greater than 10 percent of that, i.e., 0.1 ft^2. The most recent drywell bypass leakage surveillance produced a measured $A/\sqrt{K}$ of approximately 0.01 ft^2. To speculate that an event occurred with a bypass value at the allowable leakage limit would be extremely conservative.

c) The analysis described in USAR Section 6.2.1.1.3.4 assumes an $A/\sqrt{K}$ of 1.15 ft^2. The Technical Specification limit is a 1.0 ft^2 value, thereby providing additional conservatism.

d) Since bypass is not a concern for a large break LOCA (only of impact for the smaller break LOCA), the probability of having the right size LOCA event, combined with having a LOCA at the end of the allowable bypass leakage surveillance frequency, combined with the probability of the event occurring during the relatively short window expected for actual time the IFTS blind flange is removed with the reactor at power makes the occurrence of such an event a very low probability.

Hence, effects of a small break LOCA have been excluded from consideration in the evaluation of a water seal existing above the bottom end of the IFTS transfer tube. Crediting the non-safety related transfer tube bottom valve, though, as discussed below, ensures the continued protection of public health and safety.

Beyond the large and small break LOCA scenarios, there exist severe accident scenarios for which the peak containment pressure rises above the 15 psig assumed in the containment design analysis. These scenarios led EOI to consider the need for a containment isolation mechanism capable of withstanding these higher pressures. Since a hydraulic gate valve is located in the bottom end of the transfer tube, the effect of maintaining the valve closed while containment integrity is required was evaluated. (Leak-tightness of the bottom valve is addressed in the section regarding leak rate testing of the drain line isolation valve.) To provide added assurance that the bottom valve remains closed, it will be hydraulically locked (i.e., deactivated).

Gate Valve Seal of IFTS Transfer Tube

Studies of the capability of the IFTS system to withstand containment pressurization under severe accident conditions have been conducted. These studies conclude that IFTS, including the transfer tube and its valves, has a capability to withstand beyond design basis severe accident containment pressures which is greater than that of the containment structure itself. The RBS Emergency Operating Procedures (EOPs) are based on an ultimate containment failure pressure capability of 53 psig, which represents a margin of safety of 38 psi above the 15 psig containment design pressure. This margin of safety is not impacted with the IFTS blind flange removed as long as the IFTS bottom valve remains closed. Maintaining the bottom valve closed prevents a vent path through the vent pipe connected to the sheave box can be established past the water seal under severe accident conditions, or whenever containment pressures exceed approximately 9 psig.

Administrative controls will be placed in the upper pool to ensure that the gates remain open between the upper pool region where the IFTS transfer tube terminates and the remainder of the upper pool. This will effectively maximize the available water inventory in the upper pool which would need to drain prior to creating a vapor vent path in the IFTS transfer tube. During the period of time immediately preceding a refueling outage, it is common practice to drain a percentage of the water from the cavity above the reactor vessel. In order to ensure sufficient water remains in the pools above the IFTS transfer tube, a nominal maximum of seven feet of water will be permitted to be drained.

The capability of the containment to withstand severe accident pressures is only an issue if the bottom valve is open, allowing for establishing such a vent path. With the bottom valve closed, the capability of containment to withstanding severe accident pressurization remains essentially unchanged. Thus, any impact of the proposed License Amendment is believed to be non-risk-significant, if not having negligible impact, upon the Level 2 containment performance PRA figure of merit of Large Early Release Frequency (LERF).

Hence, with the water seal created by the volume in the lower pool, and the closed bottom gate valve in the transfer tube, removal of the blind flange will not create an uncontrolled breach of containment integrity through the IFTS transfer tube itself.

Evaluation of IFTS Transfer Tube Drain Line Isolation

During blind flange removal or reinstallation, and during IFTS operation when the carriage has been lowered to the bottom portion of the transfer tube, the water in the tube needs to be drained to the level of the drain piping connection. When the transfer tube is drained, the vent pipe at the sheave box connects the containment atmosphere directly to the IFTS drain tank in the fuel building, via the path created through the transfer tube and the drain pipe.

Contingencies are being developed in the unlikely event that a LOCA, or any other event, would occur while the IFTS blind flange is removed during the drain-down of the IFTS tube. The preferred method of isolating the IFTS transfer tube drain line is for the motor operated valve to be electrically closed by the IFTS operator from the IFTS panel located near the spent fuel pool. However, a dedicated operator will also be stationed in a low dose area in the vicinity of the IFTS drain line isolation valves. This operator will be in communication with the control room, and available to immediately manually close an isolation valve either (1) at the direction of the control room or (2) upon a loss of off-site power. Walk-throughs have been performed, and it takes an average of 46 seconds for an operator, stationed in the low dose area, to isolate the valve. This operator will be in addition to the normal shift crew composition. The operator will be equipped with portable lighting (i.e., a flashlight) in the event he needs to isolate the valve following a loss of power. The operator will be fully trained to perform this action. A second motor-operated valve is located in this drain line downstream of the motor-operated valve described above. No credit has been taken for manual operation of the second valve.

Radiological Impact to Operator

A vital area access calculation was performed to determine the dose consequences to an operator directed to manually close the drain line isolation valve following a design basis LOCA. The sources considered were containment shine, suppression pool shine, and the airborne activity in the fuel building. Note that the drain line and IFTS tank itself were excluded based on NUREG-1465 Alternate Source Term (AST) considerations. Specifically, the NRC recently approved the GE Report, "Prediction of the Onset of Fission Gas Release from Fuel In Generic BWR," for use in all currently operating BWRs (see ref. 3). This report determined that the earliest that fuel damage would occur following a DBA-LOCA would be at least 121 seconds for any BWR. Therefore, while the drain line and tank could conceivably contain containment atmosphere the only activity of potential concern would be that of the reactor coolant which is assumed to not be significant. Note that because the time to isolate the drain line (46 sec) is bounded by the 121 sec time for fuel damage, AST was not quantitatively applied to the dose calculation.

Standard Regulatory Guide 1.3 assumptions were used to assess the doses from the three contributors considered. 100% of the core Noble Gases and 25% of the core Halogens are assumed to be available in the containment atmosphere from the onset of the event in determining the containment shine doses. For the suppression pool, 50% of the core halogens are assumed to be retained. For the fuel building dose, it is conservatively assumed that the fuel building integrity is intact from the onset of the event to maximize the activity retained in the fuel building. It is conservatively assumed that the operator takes 2 minutes to close the isolation valve, and an additional 5 minutes to egress the area. The resultant dose was calculated to be 3.8 rem, which is within the GDC 19 acceptance criterion of 5 rem. This resultant dose is a total effective dose equivalent (TEDE).

Impact to LOCA Doses

A vent path from the primary containment to the fuel building could exist if a LOCA occurs with the drain line valves open. This vent path has the potential to affect calculated off-site and control room doses. As discussed above the vent path (via the drain line) will be isolated prior to the onset of fuel damage at 121 seconds. A potential impact then lies with the increase in the positive pressure period (PPP) for the Fuel Building. The PPP is the time period which secondary containment exceeds the -0.25" w.g. recommended in SRP 6.2.3. (Note that it is essential for the drain line to be isolated in order for the fuel building ventilation system to draw the building pressure down to -0.25" w.g.) During the PPP it is assumed that any leakage from primary containment is released directly to the environment. The current LOCA dose calculation applies the shield building annulus PPP to all of secondary containment, including the fuel building, since it is the bounding time. While the actual PPP in the fuel building would increase, confirmatory calculations have been performed to ensure that it is bounded by the 216 seconds assumed in the current analysis. Therefore, there is no impact to the current calculated LOCA doses.

Use of a Dedicated Operator

The dedicated operator will be in continuous communication with the control room. Since he is already positioned in the plant and trained to perform his function of valve closure, the time restraints of ANSI/ANS 58.8-1984, "Time Response Design Criteria For Nuclear Safety Related Operator Actions," for an action outside the control room are not considered applicable to closure of this valve. Also, since the designated person is aware that post-accident, his only function is to close the valve, the likelihood of an omission or error in doing so is extremely unlikely. Since the valve can be closed manually, the only other failures of concern would be mechanical binding of the valve. This has not been a problem noted in the past for this valve. This valve has not exhibited mechanical binding concerns. Such concerns would become readily apparent during IFTS operation, since this valve is stroked on a regular basis during IFTS operation. A review of work order history on this valve did not identify issues regarding closure capability of this valve. Also, the valve will be maintained in accordance with the Primary Containment Leakage Rate Testing Program (Technical Specification 5.5 13), which helps to ensure its reliability and leak tightness. Appropriate Updated Safety Analysis Report (USAR) changes will be completed to describe the valve configuration and testing criteria for this containment penetration, coupled with a description of the designated individual's action.

RBS intends to consider removal of the "dedicated operator" for the IFTS drain lines in the future. Other options for isolating the drain valve will be pursued, such as equipping this valve with safety-related power. Any changes will be appropriately evaluated under 10CFR50.59, and maintained as an administrative control for opening the drain valve during modes of operation when primary containment integrity is required.

Leak Rate Testing of Drain Line Isolation Valve

The drain piping motor-operated isolation valve will be treated as a primary containment isolation valve and, as noted above, be added to the Primary Containment Leakage Rate Testing Program. This will ensure that leakage past this valve will be maintained consistent with the leakage rate assumptions of the RBS radiological analysis. The leakage rate on this valve will be controlled by the strict limits on potential secondary containment bypass leakage (SR 3.6.1.3.9). Due to the test methodology, the portion of the large transfer tube outboard of the blind flange (the portion of the tube which becomes exposed to containment air during the draining portion of the IFTS operation) will also be part of the leakage rate test boundary and will therefore also be tested. This leak rate test on the IFTS tube will also check other potential (but unlikely) leak paths such as past the liquid level sensors for the tube. Therefore, no unidentified leakage paths will exist from the piping and components that are outboard of the blind flange, and the leakage rate assumptions of the RBS radiological accident analysis will be maintained. A leakage rate test will be performed prior to removal of the IFTS blind flange before RF-09.

A second motor-operated valve is located in this drain line downstream of the motor-operated valve described above. No credit has been taken for manual operation of this valve.

Effect on Emergency Operating Procedures

With the blind flange removed, the water seal in the IFTS tube will only withstand a containment pressure of 8.92 psig at the Technical Specification minimum water level. After the containment pressure reaches 8.92 psig, the containment atmosphere will begin to bubble through the lower pool, essentially venting containment through the spent fuel pool, unless credit is taken for finite leakage past the bottom valve (assuming it is closed).

The current revision to the RBS EPG/SAG Appendix C calculation is based on a containment failure pressure of 53 psig, and a maximum venting pressure of 30 psig. Pressure suppression pressure (PSP), primary containment pressure limit (PCPL), heat capacity temperature limit (HCTL), and hydrogen deflagration overpressure limit (HDOL) are all affected by the pressure at which containment will fail and/or the pressure at which the containment can be vented. If the bottom gate valve were to be open (which it will not be, during MODE 1, 2, or 3), a revision to the containment failure pressure in the EPG/SAG Appendix C calculation might have been necessary for those times when the blind flange was removed and the bottom valve open. This revision would have lowered PSP, PCPL, HCTL, and HDOL, causing many of the operations (such as containment venting and RPV depressurization) in the EOP/SAG to be executed earlier than in the current EOP/SAG revisions. PCPL would have been reduced such that containment venting would occur prior to the containment pressure reaching the design pressure of 15 psig.

With the IFTS transfer tube bottom gate valve closed (as it will be, during MODE 1, 2, or 3), the EOPs are unaffected since the containment pressure capability is unchanged. Thus, the PCTL will remain above an acceptable value. Specifically, the PCTL will remain above the containment design pressure, and will approach the maximum venting pressure of 30 psig. Thus, the PCTL would be below the containment design pressure only when the bottom gate valve is opened. The proposed Technical Specification will require the bottom gate valve to remain closed while the blind flange is removed.

10 CFR 50, Appendix A, Criterion (GDC) 56

Criterion 56, "Primary Containment Isolation," states, "Each line that connects directly to the containment atmosphere and penetrates primary reactor containment shall be provided with containment isolation valves as follows, unless it can be demonstrated that the containment isolation provisions for a specific class of lines, such as instrument lines, are acceptable on some other defined basis: (1) One locked closed isolation valve inside and one locked closed isolation valve outside containment; or (2) One automatic isolation valve inside and one locked closed isolation valve outside of containment; or (3) One locked closed isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or (4) One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment. Isolation valves outside containment shall be located as close to the containment as practical and upon loss of actuating power, automatic valves shall be designed to take the position that provides greater safety."

Clearly, none of the proposed administrative controls or design features of the IFTS system constitute either a locked closed or an automatic isolation. In this case, however, the first "specific class of lines" is those IFTS penetrations which are water sealed against a containment pressure equal to the post-LOCA peak containment pressure and isolated by a valve capable of withstanding severe accident pressures (i.e., the IFTS transfer tube and its bottom gate valve). The second "specific class of lines" is those IFTS penetrations which are easily isolated by a leak rate tested valve, and controlled administratively so that the valve may be closed under all accident conditions (i.e., the drain valve).

Hence, the IFTS transfer tube and drain lines are acceptable on the defined basis contained in the preceding discussions.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Entergy Operations, Inc. (EOI) proposes to change the River Bend Station (RBS) Technical Specifications, to allow removal of the Inclined Fuel Transfer System (IFTS) blind flange during MODE 1, 2, or 3, when primary containment integrity is required to be maintained. EOI has reviewed the proposed change and has concluded that it does not involve a significant hazards consideration. The Commission has provided standards for determining whether an amendment involves no significant hazards consideration. These standards are stated in 10 CFR 50.92(c). A proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. EOI has evaluated the proposed license amendment in accordance with 10 CFR 50.91(a), and is providing its analysis of the issue of no significant hazards consideration using the three standards in 10 CFR 50.92(c).

1. **The proposed changes do not significantly increase the probability or consequences of an accident previously evaluated.**

   The proposed change permits removal of the blind flange on the Inclined Fuel Transfer System (IFTS) when primary containment operability is required in MODE 1, 2, and 3. This will permit operation of the IFTS while the plant is operating. With respect to the probability of an accident, this aspect of the containment structure does not directly interface with the reactor coolant pressure boundary. The removal of this blind flange does not involve modifications to plant systems or design parameters that could contribute to the initiation of any accidents previously evaluated. Operation of IFTS is unrelated to the operation of the reactor, and there is no aspect of IFTS operation that could lead to or contribute to the probability of occurrence of an accident previously evaluated. Removal of the blind flange and operation of IFTS does not result in changes to procedures that could impact the occurrence of an accident.

   With respect to the issue of consequences of an accident, the function of the containment is to mitigate the radiological consequences of a loss of coolant accident (LOCA) or other postulated events that could result in radiation being released from the fuel inside containment. While the proposed change does not change the plant design, it does permit alteration of the containment boundary for the IFTS penetration. Altering the containment boundary in this case (i.e., removing the blind flange) results in some IFTS components possibly being subjected to containment pressure in the event of a LOCA. However, the additional post-accident peak pressure load to be imposed upon the components in the IFTS if the blind flange is removed is a small fraction of their design capability. Therefore, they are considered an acceptable barrier to prevent uncontrolled release of post-accident fission products for this proposed change.

The proposed change required examination of two potential leakage pathways. The larger is the IFTS transfer tube, itself. The other, much smaller one, is a branch line used for draining the IFTS transfer tube during its operation. It is clear that the gate valve at the bottom of the transfer tube is always water sealed and maintained so by the submergence of the water in the transfer tube and in the fuel building spent fuel storage pool (the lower pool). The height of this water seal is greater than that necessary to prevent leakage from the bottom of the transfer tube during accidents that result in the calculated peak post-DBA LOCA pressure, P_a. Furthermore, the hydraulically operated gate valve in the lower end of the tube will remain closed, and has pressure retaining capability greater than that of the containment structure itself. The potential leakage pathway from the drain piping which attaches to the transfer tube will be isolated if required, via administrative controls on the drain piping isolation valve. Additionally, the drain piping isolation valve will be added to the Primary Containment Leakage Rate Testing Program (Technical Specification 5.5.13) to ensure that leakage past this valve will be maintained consistent with the leakage rate assumptions of the accident analysis. Due to the test methodology, the portion of the large transfer tube piping outboard of the blind flange (the portion of the tube which becomes exposed to the containment atmosphere during the draining portion of the IFTS operation) will also be part of the leakage rate test boundary and will therefore also be tested. Therefore, no unidentified leakage will exist from the piping and components that are outboard of the blind flange, and the leakage rate assumptions of the accident analysis will be maintained. Note that the bottom gate valve in the IFTS transfer tube will remain closed for this test evolution.

Therefore, the proposed change does not result in a significant increase in the probability of the consequences of previously evaluated accidents, provided the bottom gate valve remains closed during MODE 1, 2, or 3 operation.

2. **The proposed changes would not create the possibility of a new or different kind of accident from any previous analyzed.**

The proposed change consists of the removal of a passive component which is not part of the primary reactor coolant pressure boundary nor involved in the operation or shutdown of the reactor. Being passive, its presence or absence does not affect any of the parameters or conditions that could contribute to the initiation of any incidents or accidents that are created from a loss of coolant or an insertion of positive reactivity. Realigning the boundary of the primary containment to include portions of the IFTS is also passive in nature and therefore has no influence on, nor does it contribute to the possibility of a new or different kind of incident, accident or malfunction from those previously analyzed. Furthermore, operation of the IFTS is unrelated to the operation of the reactor and there is no mishap in the process that can lead to or contribute to the possibility of losing any coolant from the reactor or introducing the chance for an insertion of positive or negative reactivity, or any other accidents different from and not bounded by those previously evaluated.

Therefore, the proposed change does not result in creating the possibility of a new or different kind of accident from any accident previously evaluated, provided the bottom gate valve remains closed during MODE 1, 2, or 3 operation.

3. **The proposed changes do not involve a significant reduction in a margin of safety.**

The proposed change involves the realignment of the primary containment boundary by removing the blind flange which is a passive component. The margin of safety that has the potential of being impacted by the proposed change involves the dose consequences of postulated accidents which are directly related to potential leakage through the primary containment boundary. The potential leakage pathways due to the proposed change have been reviewed, and leakage can only occur from the administratively controlled IFTS transfer tube drain piping, and from the IFTS transfer tube itself. A dedicated individual will be designated to provide timely isolation of this drain piping during the duration of time when this proposed change is in effect. The conservatively calculated dose which might be received by the designated individual while isolating the drain piping is calculated to be 3.8 rem TEDE, which remains within the guidelines of General Design Criterion (GDC) 19 (10 CFR 50, Appendix A, Criterion 19). Furthermore, the drain piping isolation valve will be added to the Primary Containment Leakage Rate Testing Program (Technical Specification 5.5.13) to ensure that leakage from the piping and components located outboard of the blind flange will be maintained consistent with the leakage rate assumptions of the accident analysis.

Studies of the capability of the IFTS system to withstand containment pressurization under severe accident conditions have been conducted. These studies conclude that IFTS, including the transfer tube and its valves, has a capability to withstand beyond design basis severe accident containment pressures which is greater than that of the containment structure itself. The RBS Emergency Operating Procedures (EOPs) are based on an ultimate containment failure pressure capability of 53 psig, which represents a margin of safety of 38 psi above the 15 psig containment design pressure. This margin of safety is not impacted with the IFTS blind flange removed as long as the IFTS bottom valve remains closed. This capability to withstand containment pressurization under severe accident conditions envelops other non-DBA LOCA scenarios, such as the small break LOCA. For the large break LOCA, additional defense-in-depth is provided by maintaining a water seal greater than P_a above the outlet of the IFTS transfer tube in the lower pool.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The commission has provided guidance concerning the application of the standards of 10 CFR50.92 by providing certain examples (51FR7751, March 6, 1986) of amendments that are not considered likely to involve a significant hazards consideration. While the proposed change is not enveloped by a specific example, it has been shown that the proposed change changes to the Technical Specifications are safe and do not constitute a significant hazards consideration.

ENVIRONMENTAL IMPACT CONSIDERATION

EOI has reviewed this request against the criteria of 10CFR51.22 for environmental considerations. As discussed above, the proposed change does not involve a significant hazards consideration. Also, the type of effluent released from RBS is not changed, and the increase in amount of effluent remains not significant (i.e., a small fraction of the guidelines of 10 CFR100. Further, the amount of individual or cumulative occupational dose is not considered to increase significantly, since the doses themselves are not considered to increase significantly, and remain within appropriate guidelines (e.g., GDC 19 for the

IFTS operator). Therefore, based on the foregoing, EOI concludes that the proposed change meets the criteria given in 10CFR51.22 (c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

CONCLUSION

The containment safety function can be maintained during periods of IFTS operation, even with the blind flange removed with the plant at power. With the blind flange removed and certain restrictions and administrative controls in place, the IFTS penetration does not represent an uncontrolled breach of the containment boundary. This approach is similar to the existing NOTE 3 in SR 3.6.1.3.3, which allows for PCIVs to be open under administrative controls. The IFTS transfer tube terminates deep in the fuel transfer pool in the fuel handling building. This effectively seals the tube and precludes it from becoming a potential leak path from the containment atmosphere into the fuel building in the event of a design basis accident LOCA. The gate valve in the bottom end of the transfer tube will remain closed to provide assurance that the transfer tube will not become a breach of containment integrity during other pressure transients inside of containment. A small branch line off of the IFTS transfer tube, designed for draining the IFTS tube down to the level of the lower fuel pool, is also not of concern, since a leak rate tested valve in this piping will be maintained closed (with opening permitted only under administrative controls that will ensure its re-closure if required). A leak rate test on the IFTS tube will also check other potential (but unlikely) leak paths such as past the liquid level sensors for the tube. Thus a modification is proposed to the River Bend Station Technical Specifications that would allow the blind flange of the IFTS to be removed while the plant is operating in MODE 1, 2, or 3.

REFERENCES

1. River Bend Updated Safety Analysis Report (USAR), Section 9.1
2. GE Report, "Prediction of the Onset of Fission Gas Release from Fuel In Generic BWR," dated July 1996
3. NRC Letter Dated September 9, 1999, from S. Patrick Sekerak (NRC) to William A. Eaton (EOI) allowing use of the GE Report [ref. 2 above] for all currently operating BWRs

Figure 1. – IFTS Tube Details
(For Information Only)

No.	*Component Identification*
1	Winch
2	Hydraulic power supply
3	Fluid Stop
4	Vent pipe
5	Cable enclosures
6	Top horizontal guide arms
7	Upper pool upender
8	Trunnion box
9	Hydraulic cylinder
10	Upper pool framing
11	Sheave box cover
12	Hydraulic cylinder
13	Fill valve
14	Sheave box
15	Sheave pipe
16	Hydraulic cylinder
17	Manual gate valve
18	Containment isolation
19	Containment bellows
20	Transfer tube
21	Hydraulic power supply
22	Mid-support
23	Wire rope (cables)
24	Carriage
24A	Tilt tube
24B	Follower
25	Gate valve
26	Bellows
27	Drain valve
28	Horizontal guide arms
29	Valve support structure
30	Lower pool framing
31	Lower pool upender
32	Pivot arm framing control system

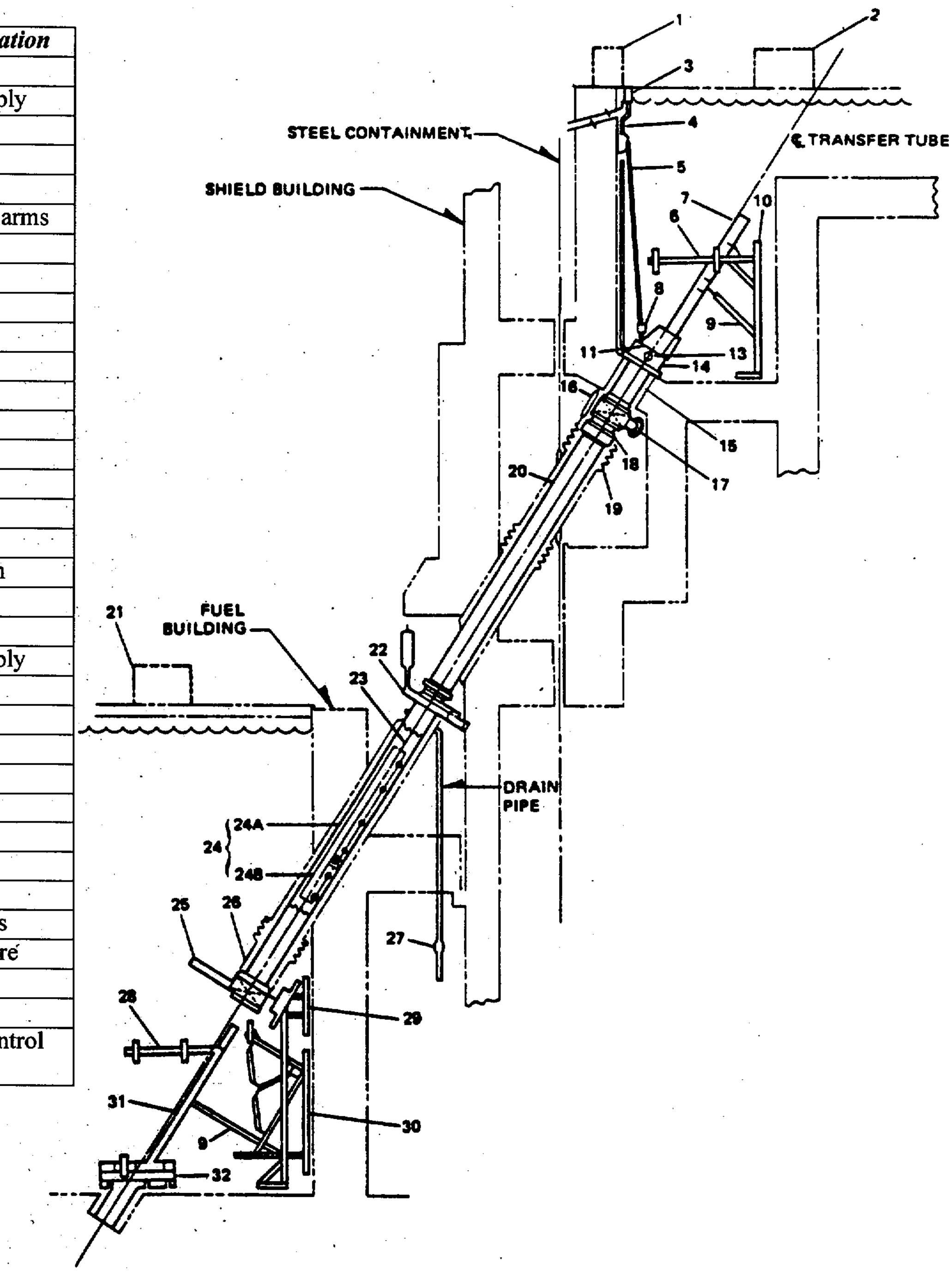
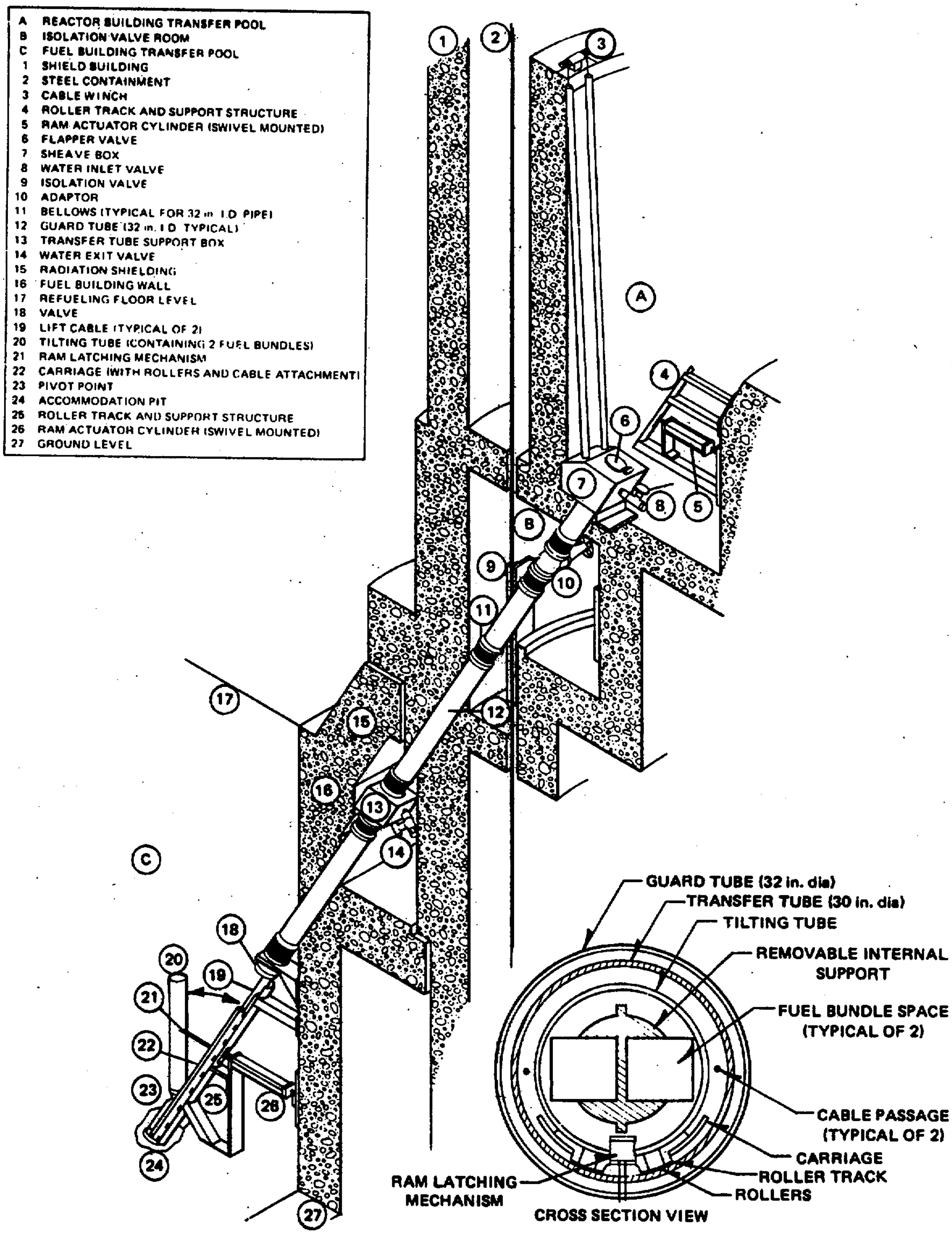


Figure 2. – Inclined Fuel Transfer System
(For Information Only)



Attachment 2
Commitment Identification Form

Commitment Identification Form

COMMITMENT	ONE-TIME ACTION*	CONTINUING COMPLIANCE*
Add a paragraph to the Bases for TS 3.6.1.3 to explain the addition of the fourth note to the surveillance requirement.	X	
Structural modifications as a result of the increase in load, including additional pipe supports as needed, will be incorporated in the field prior to removal of the blind flange during power operation. Calculations that coincide with the piping evaluations will be completed prior to implementation of the amendment. (i.e., calculation AX-144B Rev 1A and F42-D001, Rev 0A.)	X	
Implement administrative controls to maintain the gate open between the lower pool and the lower IFTS transfer pool, and between the lower pool and the cask pool, while the blind flange has been removed during power operations.		X
To provide added assurance that the bottom valve remains closed, it will be hydraulically locked (i.e., deactivated).		X
Implement administrative controls to maintain the gates open between the upper pool, the upper IFTS transfer pool, and the upper cavity, while the blind flange has been removed during power operations.		X
Implement administrative controls such that, when draining a percentage of the upper pool (e.g., pre-outage), a nominal maximum of seven feet of water will be permitted to be drained.		X
Implement administrative controls to ensure the IFTS transfer tube drain line can be isolated under any accident scenario. This involves stationing a dedicated operator in a low dose area in the vicinity of the IFTS drain line isolation valve whenever the drain valves are opened with the blind flange removed during power MODE 1, 2, or 3. This operator is to manually close the IFTS drain valve if it fails to close properly. This operator is in addition to the normal shift crew composition. The operator will be equipped with portable lighting, and will remain in continuous communication with the control room. The operator will be properly trained, and will be in addition to the normal shift crew composition required to be on site.		X
The IFTS transfer tube drain line isolation valve will be maintained in accordance with the Primary Containment Leakage Rate Testing Program (Technical Specification 5.5.13), which helps to ensure its reliability and leak tightness. Due to the test methodology, the portion of the large transfer tube outboard of the blind flange will also be part of the test boundary. This leak rate test on the IFTS tube will also check other potential (but unlikely) leak paths, such as past the liquid level sensors for the tube.		X
A leakage rate test will be performed prior to removal of the IFTS blind flange before RF-09.	X	
USAR changes will be incorporated which will describe the valve configuration and testing configuration, and also contain a description of the actions to be performed by the dedicated operator.	X	

*Check one only

Attachment 3
Marked-up Technical Specification Pages

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.1.3.2	------------------NOTES------------------ 1. Only required to be met in MODES 1, 2, and 3. 2. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 3. Not required to be met for PCIVs that are open under administrative controls. --- Verify each primary containment isolation manual valve and blind flange that is located outside primary containment, drywell, and steam tunnel and is required to be closed during accident conditions is closed.	 31 days
SR 3.6.1.3.3	------------------NOTES------------------ 1. Only required to be met in MODES 1, 2, and 3. 2. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 3. Not required to be met for PCIVs that are open under administrative controls. INSERT → --- Verify each primary containment isolation manual valve and blind flange that is located inside primary containment, drywell, or steam tunnel and is required to be closed during accident conditions is closed.	 Prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days

(continued)

Insert for SR 3.6.1.3.3

4. Not required to be met for the Inclined Fuel Transfer System (IFTS) penetration when the associated primary containment blind flange is removed, provided that the fuel building spent fuel storage pool water level is maintained greater than 23 feet above the top of the fuel, and the IFTS transfer tube drain valve and bottom gate valve remain closed. The IFTS transfer tube drain valve may be opened under administrative controls.

Attachment 4
Marked-up Technical Specification Bases Pages
(For Information Only)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3.3

This SR verifies that each primary containment manual isolation valve and blind flange located inside primary containment, drywell, or steam tunnel, and required to be closed during accident conditions, is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the primary containment boundary is within design limits. For devices inside primary containment, drywell, or steam tunnel, the Frequency of "prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days," is appropriate since these devices are operated under administrative controls and the probability of their misalignment is low.

FOUR ~~Three~~ Notes are added to this SR. Note 1 provides an exception to meeting this SR in MODES other than MODES 1, 2, and 3. When not operating in MODES 1, 2, or 3, the primary containment boundary, including verification that required penetration flow paths are isolated, is addressed by LCO 3.6.1.10, "Primary Containment—Shutdown" (SR 3.6.1.10.1). The second Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since access to these areas is typically restricted during MODES 1, 2, and 3. Therefore, the probability of misalignment of these devices, once they have been verified to be in their proper position, is low. A third Note is included to clarify that PCIVs that are open under administrative controls are not required to meet the SR during the time that the PCIVs are open.

INSERT →

SR 3.6.1.3.4

Verifying the isolation time of each power operated and each automatic PCIV is within limits is required to demonstrate OPERABILITY. MSIVs may be excluded from this SR since MSIV full closure isolation time is demonstrated by SR 3.6.1.3.6. The isolation time test ensures that the valve will isolate in a time period less than or equal to that assumed in the safety analysis. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program.

(continued)

Insert for B 3.6.1.3 (SR 3.6.1.3.3)

A fourth note is added to allow for removal of the Inclined Fuel Transfer System (IFTS) blind flange when primary containment operability is required. This provides the option of performing limited testing and maintenance of the IFTS system during MODE 1, 2, or 3. Requiring the fuel building spent fuel storage pool water level to be > el. 108′-4″ (23 feet above the top of the fuel in the lower pool) ensures a sufficient depth of water over the outlet of the transfer tube bottom valve. This water prevents direct communication between the containment building atmosphere and the fuel building atmosphere via the inclined fuel transfer tube under DBA LBLOCA conditions. The spent fuel storage pool gate to the IFTS transfer pool will remain open, in order for the safety-related spent fuel storage pool instrumentation to provide level indication for the transfer pool. The bottom valve is to remain closed while the blind flange is removed during MODE 1, 2, or 3, in order to ensure containment integrity during higher-pressure transients (e.g., under severe accidents). Since the IFTS transfer tube drain line is not isolated in a manner similar to the transfer tube, and the motor-operated drain valve may be opened while the blind flange is removed, administrative controls are required to ensure the drain line flow path is quickly isolated in the event of a LOCA. In this instance, administrative control of the IFTS transfer tube drain line isolation valve includes stationing a dedicated individual, who is in continuous communication with the control room, in the vicinity of the IFTS drain tank in the fuel building. This individual will initiate closure of the IFTS transfer tube drain line motor-operated isolation valve (F42-MOVF003) if a need for primary containment isolation is indicated. The pressure integrity of the IFTS transfer tube, the seal created by water depth of the fuel building spent fuel storage pool, and the administrative control of the drain line flow path create an acceptable barrier to prevent the post-DBA LOCA containment building atmosphere from leaking into the fuel building.