



10 CFR 50.83(b)

June 27, 2016

LC-2016-0021

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

La Crosse Boiling Water Reactor  
Facility Operating License No. DPR-45  
NRC Docket Nos. 50-409 and 72-046

Subject: La Crosse Boiling Water Reactor Request for Partial Site Release

References:

- 1) Gerard van Noordennen, LaCrosseSolutions, Letter to U.S. Nuclear Regulatory Commission, "License Amendment Request for the License Termination Plan," dated June 27, 2016

LaCrosseSolutions, the licensee for the La Crosse Boiling Water Reactor (LACBWR), is requesting approval to remove a portion of the site from the Part 50 license (License No. DPR-45). Specifically, LaCrosseSolutions requests approval to remove the non-impacted survey units from its Part 50 license in accordance with 10 CFR 50.83(b), "Release of part of a power reactor facility or site for unrestricted use."

Attachment 1, "LACBWR Supporting Information for Request for Partial Site Release," provides the supporting information for a partial release of the site for unrestricted use before receiving approval of the License Termination Plan (LTP) in accordance with the provisions of 10 CFR 50.83(b). The LACBWR LTP was previously submitted as documented in Reference 1 and is currently under review by the NRC. Attachment 1 includes a description of the property and evaluation of the effect of releasing this property. The evaluation concludes that all applicable regulatory requirements will continue to be met and no change to the LACBWR Operating License or the Permanently Defueled Technical Specifications is required.

Reference documents supporting the summary and conclusions described in Attachment 1 were previously provided with the LTP submittal.

There are no regulatory commitments made in this submittal. LaCrosseSolutions requests NRC approval of this request by February 28, 2017. If you should have any questions regarding this submittal, please contact Joe Jacobsen at (608) 689-4259 or myself at 224-789-4025.

Respectfully,

A handwritten signature in cursive script that reads "Gerard van Noordennen".

Gerard van Noordennen  
Vice President Regulatory Affairs

NMSSD1  
NMSS24

LaCrosse*Solutions*

LCS-2016-0021

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**Attachment:**

- 1) Attachment 1, "LACBWR Supporting Information for Request for Partial Site Release"

cc: Marlayna Vaaler, U.S. NRC Project Manager  
Service List

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**ATTACHMENT 1**

**LACBWR**

**Supporting Information for Request for Partial Site Release**

## **PURPOSE**

The purpose of this report is to request Nuclear Regulatory Commission (NRC) approval to remove a portion of the La Crosse Boiling Water Reactor (LACBWR) site from the Part 50 license (License No. DPR-45). Specifically, LaCrosseSolutions intends to remove five (5) non-impacted survey units from its Part 50 License in accordance with 10 CFR 50.83(b), "Release of Part of a Power Reactor Facility or Site for Unrestricted Use" and 10 CFR 100, "Reactor Site Criteria." LaCrosseSolutions has also reviewed and assessed the subject property to ensure that the subject land area will have no adverse impact on the ability of the site in aggregate to meet 10 CFR Part 20, Subpart E, criteria for unrestricted release. This report contains a summary of the assessment performed, as well as a summary of the characterization surveys performed in these survey units. It is noted that this report does not contain the Final Status Survey (FSS) Report for this area because the survey units within this area are characterized as non-impacted and as such, no statistical tests, scan and static measurements or elevated measurement comparisons are required. Table 1 provides a classification and description list for the subject survey units. Figure 1 provides a depiction of the site's geographical location and Figures 2 and 3 depict an overview of the survey unit boundaries and the site boundary/non-impacted survey unit corner coordinates, respectively.

**Table 1 - Classification and Description List of Non-Impacted Open Land Survey Units**

<b>Survey Unit ID #</b>	<b>Survey Unit Description</b>	<b>Classification</b>	<b>Approximate Survey Unit Area (m<sup>2</sup>)</b>
L4012103	G-3 Plant and related Facilities Area Grounds	Non Impacted	66,869
L4012105	Coal Plant Coal Pile Area Grounds	Non Impacted	82,894
L4012106	South of Coal Pile Area Grounds w/o ISFSI Controlled Area	Non Impacted	111,899
L4012107	Grounds across Highway 35 to East	Non Impacted	81,254
L4012108	Right of Ways-Highway 35/Railroad	Non Impacted	9,444



**Figure 1, LACBWR Regional Location**

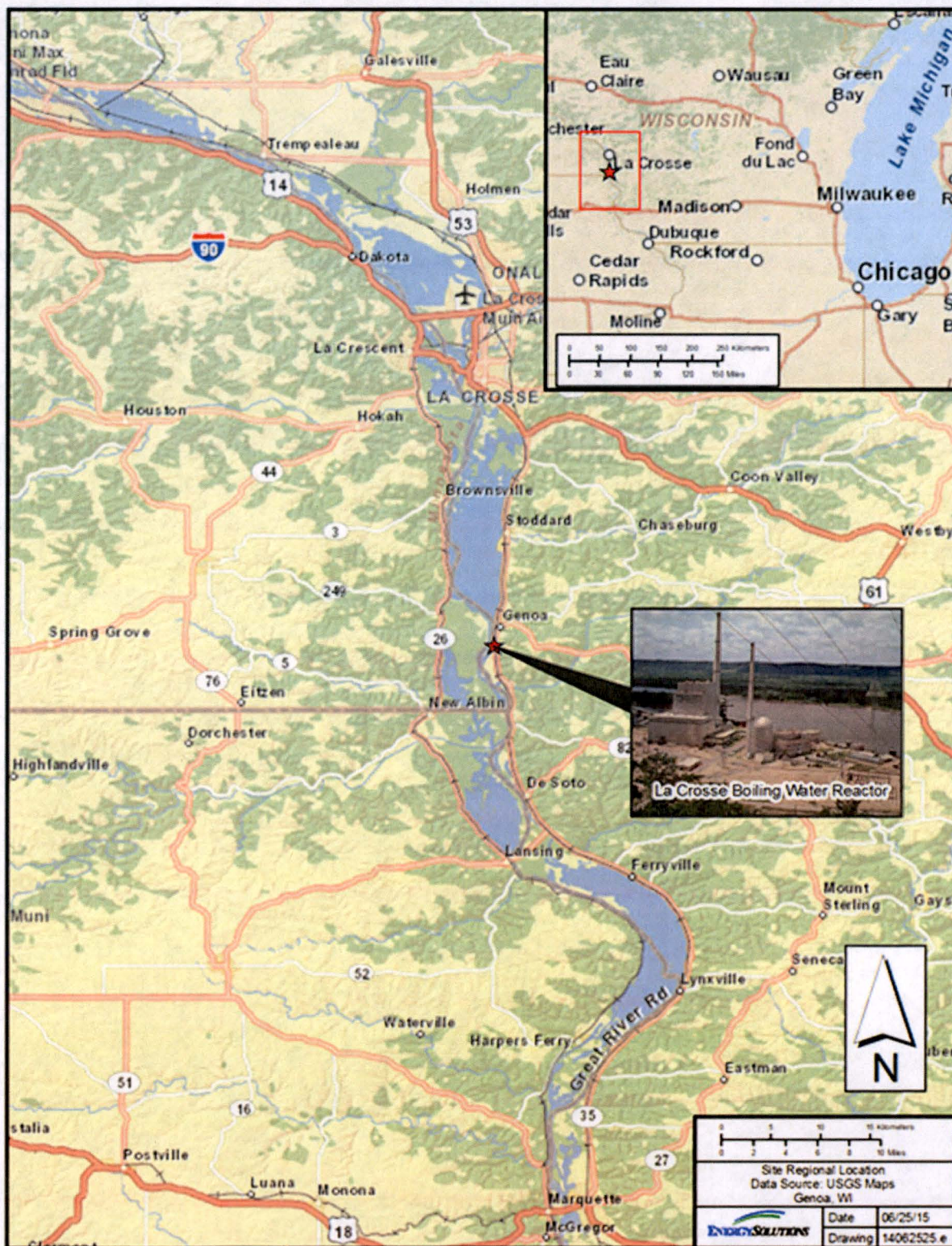
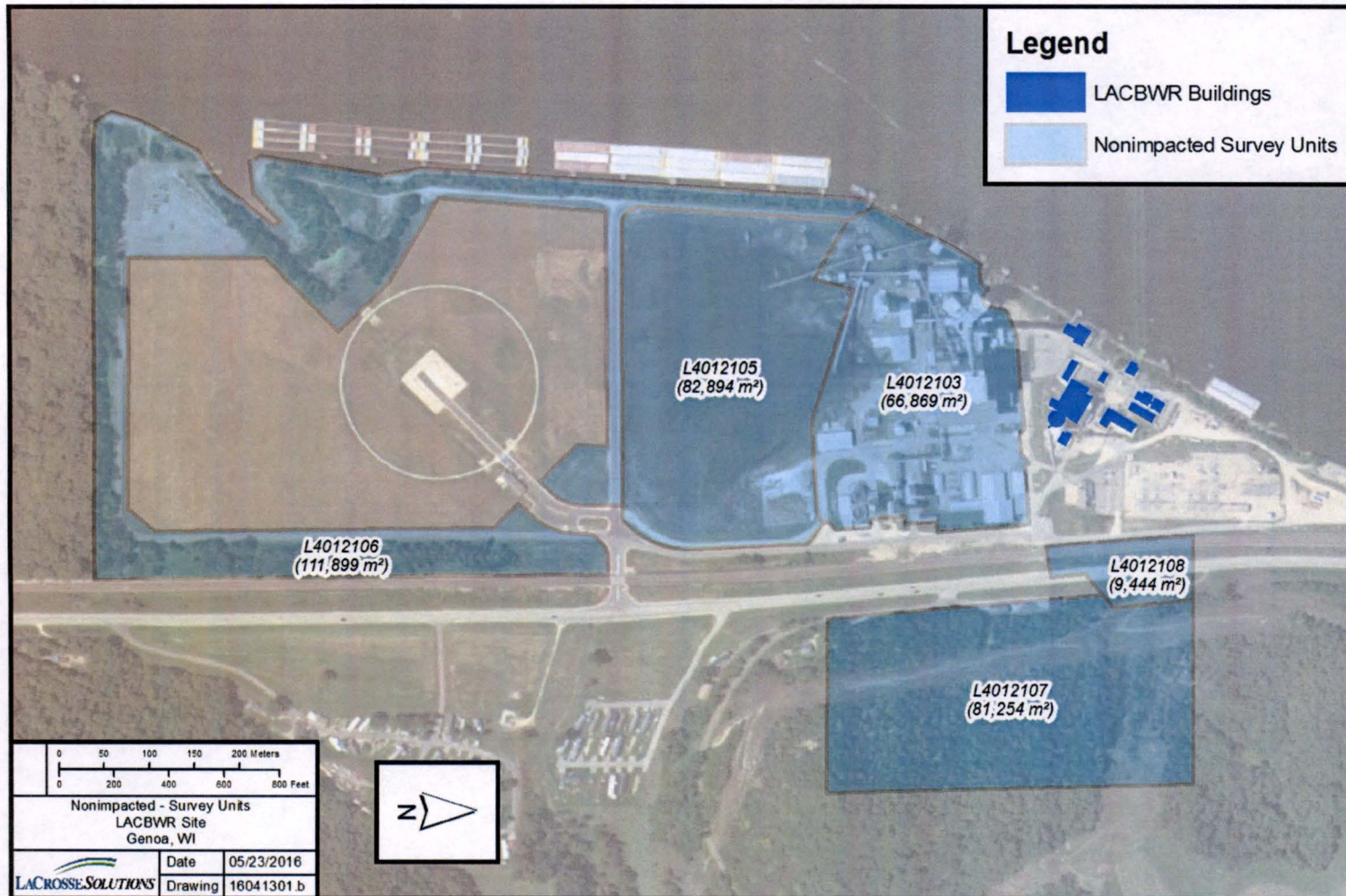


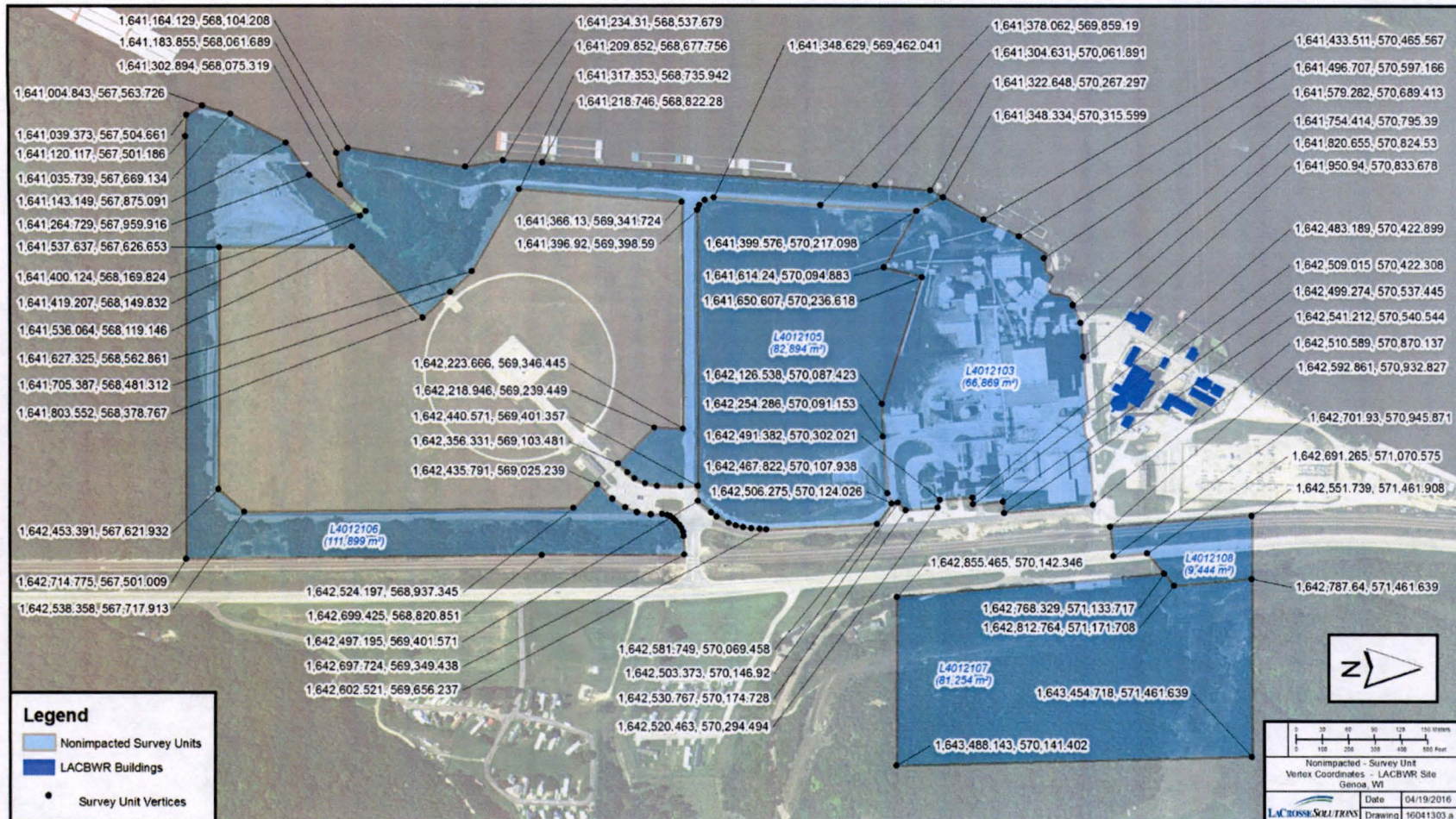


Figure 2, Boundaries of Non-Impacted Open Land Survey Units





**Figure 3, Site Boundary/Non-Impacted Survey Units Corner Coordinates**





**BACKGROUND**

The La Crosse Boiling Water Reactor (LACBWR) was a 50 Megawatt Electric (MWe) BWR that is owned by Dairyland Power Cooperative (DPC). This unit, also known as Genoa 2, is located on the DPC Genoa site on the east shore of the Mississippi River south of the Village of Genoa, Vernon County, Wisconsin.

The LACBWR was formerly owned by the Atomic Energy Commission (AEC) and operated by DPC under the provisions of an AEC contract and Provisional Operating Authorization No. DPRA-6 issued on October 31, 1969 (Docket No. 115-5). On August 28, 1973 the license was converted to Provisional Operating License No. DPR-45 (Docket No. 50-409) issued to DPC. The DPC operated the LACBWR until April 30, 1987 when it ceased power producing operations. By Amendment No.63 dated August 18, 1988, the license was changed to a Possession Only License No. DPR-45. ISFSI construction and spent fuel off-load to the ISFSI was completed in 2012. (Reference 1).

On October 8, 2015 Dairyland Power Cooperative and LaCrosseSolutions, LLC submitted an *Application for License Transfer and Conforming Administrative License Amendment* to the NRC requesting that the NRC consent to the transfer of the DPC Operating License from DPC to LaCrosseSolutions, LLC (Reference 2). The NRC approved the license transfer as documented in the *“Order Approving Transfer of License for the La Crosse Boiling Water Reactor from the Dairyland Power Cooperative to LaCrosseSolutions, LLC and Conforming Administrative License Amendment,”* dated May 20, 2016 (Reference 3).

## **EVALUATION OF EFFECT OF PROPOSED RELEASE**

LaCrosseSolutions has evaluated the effect of releasing the subject property from the Part 50 License in accordance with the criteria specified in 10 CFR 50.83(a)(1-3) in order to ensure that LACBWR will continue to comply with all applicable statutory and regulatory requirements that may be affected by the release of the subject property.

Specifically, LaCrosseSolutions evaluation confirmed the following with respect to each of the regulatory areas identified in 10 CFR 50.83(a) (1) (i)-(vi), (a) (2) and (a) (3):

***(a) (1) Evaluate the effects of releasing the property to ensure that:***

***i. The dose to individual members of the public does not exceed the limits and standards of 10 CFR Part 20, Subpart D.***

LaCrosseSolutions strictly controls effluents to ensure radioactivity released to the environment is maintained ALARA and does not exceed federal release limit criteria. Effluent controls include the operation of radiation monitoring systems within the plant as well as an offsite environmental analysis program. The release of the subject property does not change any controls used to comply with dose limits for individual members of the public and the conservatively estimated yearly dose to a member of the public is well below the 10 CFR Part 20, Subpart D limits and standards.

A review of the latest quarterly boundary TLD readings shows that the highest possible dose to a member of the public is 0 along the ISFSI fence line. Table 2 provides the yearly dose to a member of the public at the five locations closest to the site source term. Note this is the first quarter results of 2016 with all 5 Vertical Concrete Casks (VCCs) containing spent fuel on the ISFSI pad.

**Table 2, REMP Boundary TLD Readings for 1<sup>st</sup> Quarter of 2016**

TLD #	TLD (gross)	AVG BKG (mR)	Occupancy Estimates		mR/Qtr	mR/year
			Hours	Factor		
1	21 mR	25 mR	67	0.01	0.00	0.00
7	21 mR	25 mR	67	0.01	0.00	0.00
8	22 mR	25 mR	67	0.01	0.00	0.00
9	22 mR	25 mR	67	0.01	0.00	0.00
10	23 mR	25 mR	67	0.01	0.00	0.00



**ii. *There is no reduction in the effectiveness of emergency planning or physical security.***

No credit is taken for this land in either the Emergency Plan or Security Plan. Therefore, the release of the subject property has no adverse effect on either plan.

**iii. *Effluent releases remain within license conditions.***

The LACBWR programs to monitor and maintain effluent releases within license conditions remain in effect and the early release of the subject property does not impact those programs. Therefore, the effluent releases from LACBWR will remain within license conditions.

**iv. *The environmental monitoring program and offsite dose calculation manual (ODCM) are revised to account for the changes.***

The owner controlled boundary will remain the same and therefore, the Environmental Monitoring Program, ODCM and supporting documents are still valid and no changes are needed.

**v. *The siting criteria of 10 CFR Part 100 continues to be met.***

The release of the subject property has been reviewed with respect to the siting criteria in 10 CFR 100 and it has been determined that the requirements of 10 CFR 100 are either not impacted (e.g., 10 CFR 100.11, low population zone or population center distance or 10 CFR 100 Appendix A, Seismic and Geologic Siting Criteria) or are not applicable (e.g., 10 CFR 100, Subpart B, Evaluation Factors for Stationary Power Reactor Site Application on or after January 10, 1997). The reactor vessel has been defueled and removed from the site for disposal in 2008. The spent fuel has been relocated to the south end of the site into the licensed ISFSI area in 2012.

**vi. *All other applicable statutory and regulatory requirements continue to be met.***

There are no changes to the LACBWR policies and procedures to ensure that statutory and regulatory requirements continue to be met as a result of this early release of the subject property.

In summary, the proposed release of the subject property from the Part 50 License will not have any impact on the LACBWR facility's continued compliance with applicable NRC regulatory requirements and standards.

**(a) (2) *Perform a historical site assessment of the part of the facility or site to be released.***

In accordance with the guidance provided in NUREG-1575, “*Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*” (Reference 4), Section 3.0, a Historical Site Assessment (HSA) was performed and documented in November 2015 (Reference 1). Historical information, including any 10 CFR 50.75(g) files, employee interviews, radiological incident reports, pre-operational survey data, spill reports, special surveys (e.g., site aerial surveys, marine fauna and sediment surveys), operational survey records, and annual radiological operating reports (including sampling of air, groundwater, estuary water, milk, invertebrates, fish and surface vegetation) were reviewed and compiled for this investigation.

The HSA was a detailed investigation to collect existing information (from the start of LACBWR Station’s activities related to radioactive materials or other contaminants) for the site and its surroundings. The HSA focused on historical events and routine operational processes that resulted in the contamination of the plant systems, onsite buildings, surface and subsurface soils within the Radiologically Controlled Area (RCA) as well as support structures, open land areas and subsurface soils outside of the RCA, but within the owner controlled area. The information compiled by the HSA was used to establish initial area survey units and classifications and eventually, input into the development of potential site-specific Derived Concentration Guideline Levels (DCGL), development of remediation plans and the design of the Final Radiation Survey (FRS). The scope of the HSA included potential contamination from radioactive materials, hazardous materials, and state-regulated materials.

The HSA investigation was designed to obtain sufficient information to provide initial classification of the site land areas and structures as impacted or non-impacted. Impacted areas have a potential for contamination (based on historical data) or contain known contamination (based on past or preliminary radiological surveillance). MARSSIM defines non-impacted areas as those areas where there is no reasonable possibility of residual contamination.

Based on a review of the operating history of the facility, historical incidents, and operational radiological surveys as documented in the HSA, as well as subsequent additional site characterization surveys performed in 2015 to support a non-impacted classification, the subject open land areas and buildings were deemed not impacted by licensed activities or materials and therefore, it was determined that the “non-impacted” classification is appropriate. The HSA conservatively classified these areas as Class 3 subject to the results of the site characterization surveys. The areas were reclassified to non-impacted based on the results of the site characterization surveys. The surveys performed are discussed in the next section.



**(a) (3) *Perform surveys adequate to demonstrate compliance with the radiological criteria for unrestricted use specified in 10 CFR 20.1402 for impacted areas.***

MARSSIM Section 2.5.2 states, "Non-impacted areas represent areas where all of the information necessary to demonstrate compliance is available from existing sources. For these areas, no statistical tests are considered necessary." Additionally, Table 2.2 of MARSSIM, "Recommended Conditions for Demonstrating Compliance Based on Survey Unit Classification for a Final Status Survey," requires no elevated measurement comparison, no sampling and/or direct measurements and no scanning to be performed in non-impacted areas. Despite this available waiver, a comprehensive characterization survey was performed.

The site-release criteria for the LACBWR site correspond to the 10 CFR 20.1402 criteria for unrestricted use. The residual radioactivity, including that from ground water sources, that is distinguishable from background, must not cause the total effective dose equivalent (TEDE) to an average member of the critical group to exceed 25 mrem/yr. The residual radioactivity must also be reduced to levels that are ALARA.

The characterization survey was designed and executed using the guidance provided in MARSSIM and NUREG-1757, Volume 2, Revision 1, "*Consolidated Decommissioning Guidance-Characterization, Survey, and Determination of Radiological Criteria, Final Report*." (Reference 5) In addition, surveys were designed and executed in accordance with the EnergySolutions PG-EO-313196-SV-PL-001, "Characterization Survey Plan for the La Crosse Boiling Water Reactor" (Reference 6) and GP-EO-313196-QA-PL-001, "*Quality Assurance Project Plan LACBWR Site Characterization Project*" (Reference 7) which describes policy, organization, functional activities, the Data Quality Objective (DQO) process, and measures necessary to achieve quality data.

Land areas classified as non-impacted received surveys developed to include a combination of systematic and biased survey measurement locations and scan areas. Biased survey designs used known information to select locations for scan measurements and/or samples. Systematic survey design selected scan measurements and/or sample locations at random or by using a systematic sampling design with a random start. The decision of whether to use primarily a biased survey design or a systematic approach was addressed by the DQO process for each survey unit.

Buildings that were classified as non-impacted received surveys including scanning, direct, and removable contamination surveys. Beta scanning surveys using a Ludlum Model 2360 coupled to a 43-93 detector were conducted in two selected facilities that were in the vicinity of the LACBWR Facilities and had a timeline similar to the LACBWR Facilities with a history of high personnel usage. The selected facilities included the G-3 Coal Plant and the Central Warehouse. Based on the results of the beta scanning surveys, static measurements for alpha and beta were taken at the highest observed locations during the scanning surveys. Removable alpha and beta contamination surveys were performed at the location of each static measurement. From October 2014 to December 2015, sufficient survey coverage and an adequate

number of samples were obtained in the subject survey units to serve as the basis for the "Non-Impacted" classification. Within each of the land survey units specified, the survey focused primarily on surface (0 to 15 cm) soils and subsurface (15 to 100 cm) soil samples that were included in the survey design. The sample and gamma scan measurement locations were based on a random design to ensure an unbiased survey.

The characterization survey of each land survey unit consisted of both qualitative evaluations and quantitative analysis results. Investigative and verification gamma scans using a Ludlum Model 2350-1 and a Model 44-10 NaI detector were performed. Minimum Detectable Concentrations (MDC) and gamma scanning sensitivities were estimated based on the assumed geometry and the potential plant-derived gamma-emitting radionuclides that may be present. Quantitative analysis results were obtained from radionuclide specific analysis of soil media using a calibrated counting geometry. Analysis times were set to achieve the required MDCs that were based on the expected Cs-137 background due to global fallout.

Surface scanning using a NaI detector was performed in 1% of each land survey unit focusing on areas that have been disturbed in the past or low point areas when available. Elevated areas identified during surface scanning were flagged and monitored with a portable multi-channel analyzer to evaluate the elevated area for presence of LACBWR radionuclides of concern.

The "Non-Impacted" subject open land areas at LACBWR totaled 352,360 square meters of surface area. The non-impacted surface area was broken into 5 survey units in accordance with the area descriptions, sizes and boundaries presented in the HSA. Of the 352,360 square meters, approximately 70,000 square meters was deemed as "inaccessible" in L4012107 survey unit. In this context, "inaccessible" is defined as an area where personnel or vehicle transit was inhibited by the presence of, thick underbrush, trees or natural grasses where clearing would be prohibitive or where the slope of the land and related erosion over time was not conducive to performing surveys. The total surface area deemed "accessible" was 282,360 square meters.

Of the 282,360 square meters of surface area, 3,025 square meters were scanned by a Model 2350 paired with a Model 44-10 NaI detector. Alarm set-points for the instrument were set at the observed background plus the Minimum Detectable Count Rate (MDCR) of the instrument. With an average background of 7,364 cpm, the average observed scan result was 8,302 cpm. -Five (5) instrument alarms were logged with a maximum observed scan reading of 11,200 cpm. All alarms were investigated with the use of the portable multi-channel analyzer at the area where the elevated reading was verified. In all instances, the elevated readings were attributed to Naturally Occurring Radioactive Material (NORM).

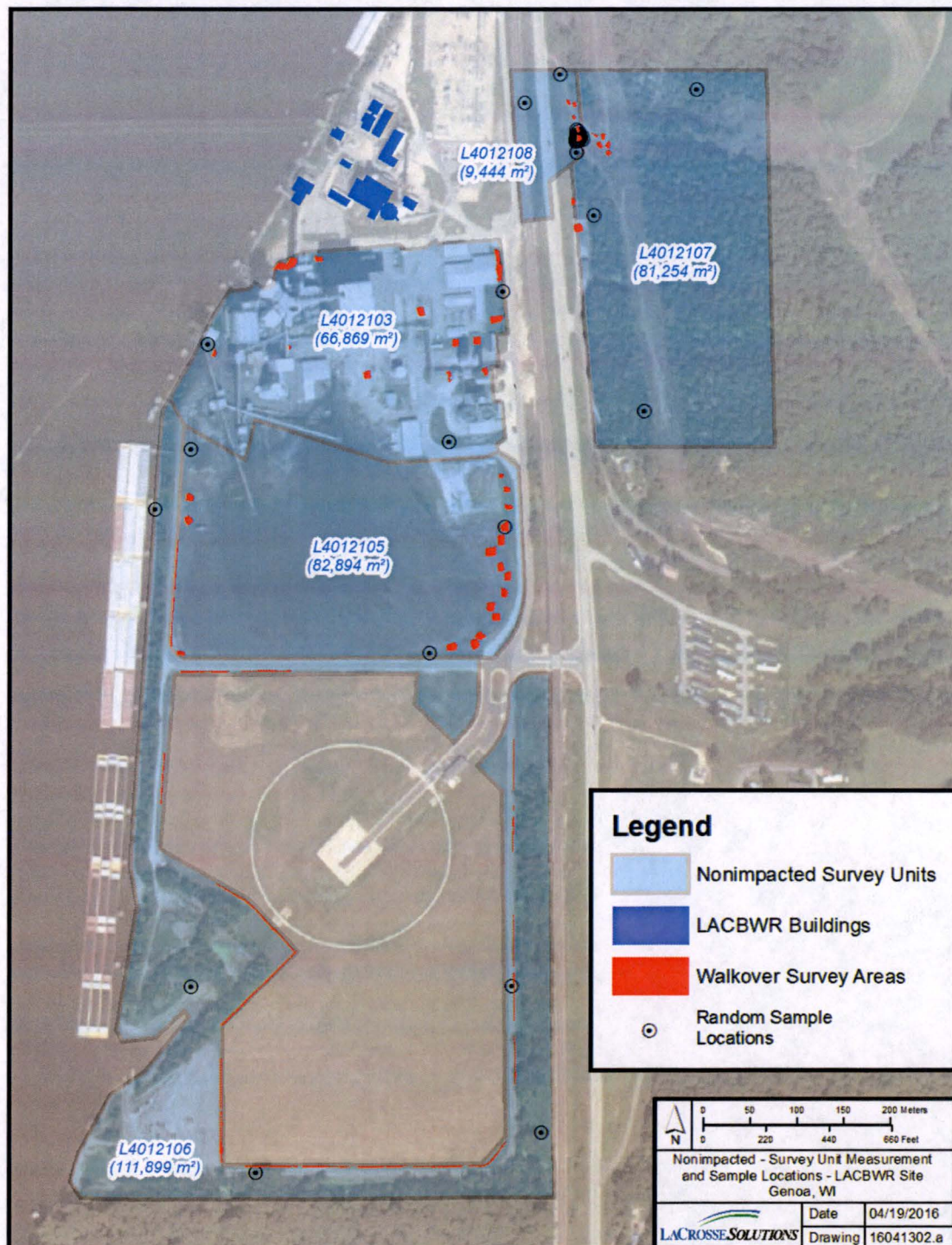


A total of thirty-two (32) surface and subsurface random type soil samples were taken in the land survey units. Of the total number of surface soil samples taken and analyzed, Cs-137 was identified at concentrations greater than the MDC of the instrument in (17) soil samples but not in excess of the established background levels. Additional detail on the survey and sampling methodology and results of the radiological analysis of each measurement and soil sample obtained during the characterization of non-impacted open land survey units are presented in EnergySolutions GG-EO-313196-RS-RP-001, "*LACBWR Radiological Characterization Report for October and November 2015 Field Work Genoa, Wisconsin*" (Reference 8), Chapter 2 of the LACBWR License Termination Plan (LTP), (Reference 9) and the EnergySolutions LC-RS-PN-164017-001 "*LACBWR Radiological Characterization Survey Report for June thru December 2015 Field Work Genoa, Wisconsin*" (Reference 10). Based upon the results of the characterization surveys performed of the non-impacted open land areas, it can be concluded that a non-impacted classification for these areas is appropriate. Cs-137 was the only consistently identified radionuclide that could potentially be classified as plant-derived. However, the concentrations observed are well within the range of activity defined as background due to global fallout (Reference 11). The locations of gamma walkover survey measurements and surface soil samples are illustrated on Figure 4. A summary of the findings of the survey for each individual survey unit are presented in Table 3.

The surveys of the two representative facilities, including the G-3 Coal Plant and the Central Warehouse, did not identify any beta scanned areas greater than the MDC. Representative static and loose contamination surveys were performed and the results of the surveys for the Coal Plant did not identify any surveyed areas greater than MDC. Representative static and loose contamination surveys were performed and the results of the surveys for the Central Warehouse did not identify any surveyed areas greater than MDC other than for the direct beta surveys which identified some locations greater than MDC but at levels less than 1500 dpm/100cm<sup>2</sup>.

Non-impacted areas are defined in MARSSIM as areas that have no reasonable potential for residual contamination, no radiological impact from site operations and are typically identified during the HSA. LaCrosseSolutions has found no evidence of using, storing, or burying radioactive material in the subject property. None of the event records in the HSA indicated the uncontrolled release of radioactive material to the subject property. Therefore, it can be concluded that the release of the subject property will have no adverse impact on the ability of the LACBWR site in aggregate to meet the Part 20, Subpart E requirements for unrestricted release.

**Figure 4, Non-Impacted Open Land Survey Units Measurement and Sample Locations**





**Table 3, Non-Impacted Open Land Survey Units – Characterization Survey Summary**

<b>Survey Unit</b>	<b>Survey Unit L4012103</b>		<b>Survey Unit L4012105</b>		<b>Survey Unit L4012106</b>		<b>Survey Unit L4012107</b>	
<b>Surface Area</b>	66,869 m <sup>2</sup>		82,894 m <sup>2</sup>		111,899 m <sup>2</sup>		81,254m <sup>2</sup>	
<b>Description</b>	G-3 Coal Plant Grounds		Coal Pile Grounds		Capped Ash Impoundment Grounds		Grounds East of Highway 35	
<b>Surface Soil</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	3	3	3	3	3	3	3	3
# >CL	0	1	0	1	0	2	0	3
Mean (pCi/g)	0.070	0.082	0.071	0.061	0.082	0.100	0.080	0.264
Median (pCi/g)	0.075	0.083	0.072	0.060	0.084	0.099	0.079	0.263
Max (pCi/g)	0.078	0.092	0.084	0.068	0.090	0.121	0.089	0.463
Min (pCi/g)	0.057	0.071	0.057	0.055	0.072	0.079	0.072	0.065
SD	0.011	0.011	0.014	0.006	0.009	0.021	0.009	0.199
<b>Subsurface Soil</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	4	4	3	3	4	4	3	3
# >CL	0	1	0	1	0	2	0	2
Mean (pCi/g)	0.060	0.048	0.061	0.042	0.081	0.088	0.081	0.068
Median (pCi/g)	0.056	0.038	0.063	0.040	0.083	0.084	0.069	0.057
Max (pCi/g)	0.084	0.081	0.068	0.056	0.102	0.130	0.106	0.091
Min (pCi/g)	0.047	0.036	0.052	0.030	0.056	0.054	0.068	0.056
SD	0.016	0.022	0.008	0.013	0.021	0.037	0.022	0.020



**Table 3, Non-Impacted Open Land Survey Units – Characterization Survey Summary (con't)**

<b>Asphalt</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	None Taken	None Taken	None Taken	None Taken	2	2	None Taken	None Taken
# >CL					0	0		
Mean (pCi/g)					0.073	0.062		
Median (pCi/g)					0.073	0.062		
Max (pCi/g)					0.082	0.084		
Min (pCi/g)					0.065	0.040		
SD					0.012	0.031		
<b>Surface Scans</b>								
% Scanned	1%		1%		1%		<1%	
Mean Scan (cpm)	6,086		5,915		8,613		7,892	
Max Scan (cpm)	6,700		8,800		12,000		9,080	



**Table 3, Non-Impacted Open Land Survey Units – Characterization Survey Summary**

<b>Survey Unit</b>	<b>Survey Unit L4012108</b>	
<b>Surface Area</b>	9,444 m <sup>2</sup>	
<b>Description</b>	Hwy 35/Railroad Right of Way Grounds	
<b>Surface Soil</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	3	3
# >CL	0	2
Mean (pCi/g)	0.079	0.119
Median (pCi/g)	0.075	0.108
Max (pCi/g)	0.095	0.156
Min (pCi/g)	0.068	0.093
SD	0.014	0.033
<b>Subsurface Soil</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	3	3
# >CL	0	2
Mean (pCi/g)	0.086	0.189
Median (pCi/g)	0.092	0.091
Max (pCi/g)	0.107	0.409
Min (pCi/g)	0.060	0.067
SD	0.024	0.191
<b>Asphalt</b>	<b>Co-60</b>	<b>Cs-137</b>
# of Samples	None Taken	
# >CL		
Mean (pCi/g)		
Median (pCi/g)		
Max (pCi/g)		
Min (pCi/g)		
SD		
<b>Surface Scans</b>		
% Scanned	1%	
Mean Scan (cpm)	8,662	
Max Scan (cpm)	9,200	



## **DESCRIPTION OF THE PROPERTY**

For non-impacted areas, 10 CFR 50.83 (b) (2) requires a description of the part of the facility or site to be released. The owner-controlled site is approximately 163.5 acres in size. For LACBWR, the non-impacted open land areas includes Dairyland Power Cooperative owned land outside of the footprint of the (2.5) acre, fence-enclosed "Radiologically Restricted Area" and its surrounding approximate (4) acre Class 2 buffer area. The property that is subject to this release request is an approximately 88 acre parcel of land and active Coal Plant operation facilities that have not been negatively impacted by past LACBWR operations or current or future decommissioning activities.

The LACBWR property is located in southwestern Wisconsin, in Vernon County, on the eastern shore of the Mississippi River, about 1 mile south of the Village of Genoa, WI and approximately 19 miles south of the city of La Crosse, WI. The geophysical coordinates for LACBWR are longitude 91°, 13', 53.35"W and latitude 43°, 33', 36.22"N. There are no schools or hospitals within one mile and there are no residences within 1,000 feet of LACBWR station structures.

Non-impacted areas have no reasonable potential for residual contamination because historical information indicates there was no known impact from site operations. These include the outlying open land areas of the site, as well as contiguous areas and facilities that have no impact from site operations based upon the location(s) of licensed operations, site use, topography, site discharge locations, and other site physical characteristics. These areas are not required to be surveyed for demonstrating compliance beyond any characterization surveys performed to provide a basis for the classification.

Portions of the 88 acre parcel have limited access for personnel or vehicle transit due to the presence of thick underbrush, trees, natural grasses, or steep sloped eroded land. Survey unit L4012103 contains the Coal Plant as well as ancillary facilities and grounds areas. Survey unit L4012105 contains the coal yard and surrounding grounds. Survey unit L4012106, located in the southern most area of the site, is an open land area surrounding the capped coal ash pile area and is also a public access area to the Mississippi River for boaters which does not allow camping in the area. Survey unit L4012107 is a steep sloped area to the east of the LACBWR Site which is wooded and has no residences. Survey unit L4012108 is an area of open land with no residents that is east of the LACBWR Site and includes right of way access for the railroad and US Highway 35.

## **SCHEDULE FOR SUBJECT PROPERTY RELEASE**

For non-impacted areas, 10 CFR 50.83 (b) (3) requires the schedule for release of the property. LaCrosseSolutions intends to begin undertaking activities associated with the release of the subject property from the LACBWR Part 50 License on or before March 31, 2017. Therefore, LaCrosseSolutions requests that the NRC approve the acceptability of the release of the subject property from the Part 50 License by February 28, 2017.

## **RESULTS OF 10CFR 50.59 EVALUATION**

10 CFR 50.83(b) (4) requires for non-impacted areas that the licensee submit the results of the evaluation performed in accordance with 10 CFR 50.59. The assessment of the release of the subject property is as follows:

The partial site release involves approximately 88 acres of non-impacted land and Coal Plant related facilities out of the approximate 165 acres the site owns. The release does not involve property that is actively used by the LACBWR Plant for routine or decommissioning operations or that is needed for the site's emergency plan.

The 10 CFR 50.59 review assessed the impact of the change in the site boundary on offsite dose calculations and effluent releases and concluded that the change:

- does not adversely affect any design function as described in the Decommissioning Plan / Post Shutdown Decommissioning Activities Report (D-Plan/PSDAR), which is the Safety Analysis Report (SAR) equivalent at LACBWR (Reference 13)
- does not adversely affect how a design function as described in the D-Plan/PSDAR is performed or controlled
- does not revise or replace an evaluation method used to establish design basis or safety analysis, and
- does not involve a test or experiment not described in the D-Plan/PSDAR

## **ENVIRONMENTAL IMPACTS**

Under 10 CFR 50.83(b)(5), a request for NRC approval of a release of non-impacted areas must include the reasons for concluding that the environmental impacts associated with the proposed release of property will be bounded by appropriate previously issued Environmental Impact Statements. The Final Environmental Statement (FES) for the LACBWR was issued in April 1980. (Reference 12).

More recently, in connection with the development of the License Termination Plan (LTP), Chapter 8, "Supplement to the Environmental Report," was prepared to describe any new information or significant environmental changes associated with the site-specific decommissioning and site closure activities performed at LACBWR. The supplement includes a detailed description of the remaining decommissioning and site closure activities, the interaction between those activities and the environment, and the likely environmental impact of those activities. The supplement discusses whether the activities and their impacts are bounded by the impacts predicted in the original FES. Chapter 8 of the LTP concludes the non-radiological environmental impacts from decommissioning are temporary and not significant.

LaCrosseSolutions has evaluated the environmental impacts associated with the proposed release of the subject property and considered those impacts in light of the original FES and Chapter 8 of the LTP. The evaluation did not identify any significant new environmental impacts or any significant changes from the environmental impacts previously assessed, or currently assessed in the LTP. In particular, the evaluation found as follows:

- The land transfer will have no increase in offsite dose consequences and no change in effluent releases.
- The LACBWR radiological monitoring program will account for the revised site area boundary, and no increases in effects are anticipated.

Accordingly, LaCrosseSolutions concludes that the environmental impacts associated with the proposed release of the subject property are bounded by the NRC's previous or current reviews, of the LACBWR facility.

### **ADDITIONAL AREAS TO BE ADDRESSED TO SUPPORT RELEASE OF THE SUBJECT PROPERTY**

#### **Statement of Dismantling Activities**

No dismantlement activities are required in the subject survey units.

#### **Potential for Cross-Contamination from Subsequent Activities**

The potential for cross-contamination of the subject non-impacted areas due to subsequent decommissioning activities is diminutive. The subject areas are bounded on the north by right of ways for the railroad and US Highway 35, the west by the Mississippi River, the south by US Wildlife Fish and Game Refuge and the east by US Highway 35 and the railroad property. It is highly unlikely that radioactive materials could be introduced into the subject survey units via these borders. Characterization surveys performed in the Class 3 land areas to date show that residual contamination levels are below those established for unrestricted use. Since decommissioning activities are being conducted onsite in parallel with final status survey and release decisions, measures will be taken to protect these adjacent survey areas from contamination during and subsequent to the FSS. The LTP Section 5.6.3 describes isolation and control measures during and following the FSS. Isolation and control measures in owner-controlled areas adjacent to the subject property will be implemented and will remain in force throughout site final survey activities and until there is no undue risk of recontamination from decommissioning. In the event that isolation and control measures established for these survey areas are compromised, evaluations will be performed and documented to confirm that no radioactive material was introduced into the area that would affect the results of the FSS. Given the isolation and controls established for the FSS areas adjacent to the subject property it is highly unlikely that radioactive materials could be introduced into the subject property borders. Radioactive material generated during the decommissioning process will be handled and controlled in a manner to prevent contamination of the subject non-impacted areas. These controls include contamination containment, dust control measures, storm water runoff control measures, and proper radiological protection program implementation (including periodic



surveillances). Additionally, open-air demolition controls of primary side structures are implemented to limit the spread of contamination during demolition. Limits on residual contamination levels that allow for the open-air demolition of primary side structures without adverse effects on the environment have been established. Prior to structure demolition, a Contamination Verification Survey is performed to verify the residual contamination levels are below the established limits.

### **Impact of Releasing the Subject Property on Part 50 License Basis**

The license basis for the LACBWR includes the maintenance of certain programs to fulfill regulatory requirements and functional responsibilities. Throughout decommissioning, these programs are modified as necessary and terminated when the applicable concern is no longer relevant. These program changes are implemented using the change processes specified for each type of program. The methodology for releasing land requires a review and assessment of the impact on license program for the site lands remaining within the domain of the Part 50 License.

- The Technical Specifications are not impacted by the early release of the subject property.
- The Decommissioning Plan / Post Shutdown Decommissioning Activities Report, which is the Safety Analysis Report (SAR) equivalent at LACBWR, will not be impacted by the early release of the subject property.
- The Radiological Groundwater Protection Program will not be affected by early release of the subject property.
- The Fire Protection Program will not be affected by early release of the subject property.
- The Training Program will not be affected by the early release of the subject property.
- The License Termination Plan (LTP), will be revised to describe the reduced site area resulting from the release of the subject property.

### **CONCLUSION**

The release of the subject property is part of LaCrosseSolutions overall efforts to terminate the LACBWR Part 50 License and to achieve unrestricted release of the entire site (with the exception of the ISFSI area) in accordance with the criteria in subpart E of 10 CFR 20.

In addition, 10 CFR 50.82(a) (11) establishes the criteria to be used by the NRC for terminating the license of a power reactor facility. These criteria include (1) dismantlement has been performed in accordance with the approved license termination plan and, (2) the final radiation survey and associated documentation demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR 20, Subpart E. This early release of the subject property area also supports the process of license termination by demonstrating that this portion of the site lands can be released from the LACBWR license. This report along with future reports provides documentation that demolition activities have been performed in accordance with the LTP and the characterization survey confirms the residual radioactivity in each subject survey unit meets

the criteria established in the LTP. Thus this action of the early release of the subject land supports the overall license termination process in accordance with NRC regulations.

In summary, based on the considerations discussed above, this release of the subject property from the LACBWR Part 50 License has no impact on LaCrosseSolutions continued compliance with applicable NRC regulatory requirements and standards. LaCrosseSolutions has determined under 10 CFR 50.83 (a and b) that we have adequately evaluated the effect of releasing the subject property, and that the release area has been properly classified as “non-impacted.” Accordingly, LaCrosseSolutions is requesting the NRC to approve the requested release.

## **REFERENCES**

1. RS-TD-313196-003 “LACBWR Historical Site Assessment,” dated November 9, 2015. (Reference previously submitted with LaCrosse LTP)
2. Barbara Nick, Dairyland Power Cooperative, Letter to U.S. Nuclear Regulatory Commission, “Application for Order Approving License Transfer and Conforming Administrative License Amendments,” dated October 8, 2015.
3. Marlayna Vaaler, U.S. Nuclear Regulatory Commission, Letter to Barbara Nick, Dairyland Power Cooperative, “Order Approving Transfer of License for the La Crosse Boiling Water Reactor from the Dairyland Power Cooperative to LaCrosseSolutions, LLC and Conforming Administrative License Amendment,” dated May 20, 2016.
4. Nuclear Regulatory Commission NUREG-1575, Revision 1, “Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)” - August 2000.
5. U.S. Nuclear Regulatory Commission NUREG-1757, Volume 2, Revision 1, “Consolidated Decommissioning Guidance – Characterization, Survey, and Determination of Radiological Criteria, Final Report” - September 2003.
6. EnergySolutions PG-EO-313196-SV-PL-001, “Characterization Survey Plan for the La Crosse Boiling Water Reactor,” Revision 1 - June 2015. (Reference previously submitted with LaCrosse LTP)
7. EnergySolutions GP-EO-313196-QA-PL-001, “Quality Assurance Project Plan LACBWR Site Characterization Project,” Revision 0 - October 2014. (Reference previously submitted with LaCrosse LTP)
8. EnergySolutions GG-EO-313196-RS-RP-001, “LACBWR Radiological Characterization Report for October and November Field Work Genoa, Wisconsin,” Revision 0 - November 2015. (Reference previously submitted with LaCrosse LTP)
9. “LACBWR License Termination Plan,” Revision 0 - June 2016.
10. EnergySolutions LC-RS-PN-164017-001 “LACBWR Radiological Characterization Survey Report for June thru August 2015 Field Work Genoa, Wisconsin,” Revision 0 - May 2016. (Reference previously submitted with LaCrosse LTP)
11. ZionSolutions Technical Support Document 13-004, Examination of Cs-137 Global Fallout in Soils at Zion Station. (Reference previously submitted with LaCrosse LTP)
12. USNRC NUREG 0191, “Environmental Statement related to Operation of the La Crosse Boiling Water Reactor by Dairyland Power Cooperative” - April 1980.
13. LACBWR Decommissioning Plan / Post Shutdown Decommissioning Activities Report - June 2016. (Reference previously submitted with LaCrosse LTP)